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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JUNE, 1913. NO.

PANHARD OIL

The cars you sell. The cars you repair.

Do you want them to make good? It means prestige for you if they do. If so, you must *know* that they are perfectly lubricated. Don't guess at it. Read this, from a dealer who has sold Panhard Oil exclusively for years:—

George A. Haws, New York City.

It may interest you to know that I guaranteed each Rambler car that I sold during 1912, free of repair for one year. I insisted on the use of Panhard Oil.

It cost me less than $5 to make good this guarantee on four cars, with a mileage of 4200 to 7600 each. This fall I took down the four engines, and got less than a small whiskey glass full of carbon from the *sixteen* cylinders after that mileage. *No bearing trouble whatever.*

Panhard Oil will do this for **you.** Talk is cheap, but test Panhard and see for yourself. Write for our proposition. We have many sales helps and many distributing stations, throughout the country.

GEORGE A. HAWS, 148 FRONT STREET, NEW YORK CITY.

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

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$1.00 BOSCH PLUGS

AS GOOD AS BOSCH MAGNETOS

BOSCH Plugs are the most advertised plugs in America. The publicity given them, the high quality of materials used and exclusive method of construction make them the best plug for the trade.

BECAUSE:

BOSCH PLUGS make satisfied customers, they don't need the cut price to move them, they make your profit all profit. Sell Bosch Plugs; you surely will be satisfied.

New Prices

According to quantity
write for them now

Bosch Magneto Company

216 West 46th St. New York

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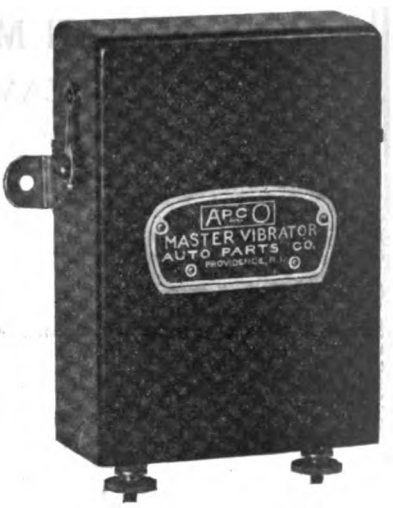
ord Dealers!—Ford Dealers!

TRADE APCO MARK

Master Vibrator No. 3

$6.00



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Mechanically Perfect in Every Detail and Absolutely Guaranteed to Give

Easy Starting---Hot Spark at Right Time---To Increase Speed and Power---To Consume Less Current---To Make Motor More Flexible Than You Ever Thought Possible.

DEALERS---YOUR OPPORTUNITY!

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THIS AD. WORTH DOLLARS TO YOU--- Tear out this page—send it with your order and get 5% cash discount for next 30 days.

AUTO PARTS COMPANY

Providence, R. I.

LARGEST FORD SPECIALTY MANUFACTURERS IN THE WORLD

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BLUE RIBBON EVENT

Thousands of Car Owners all over the world are using

BLUE RIBBON POLISHES

for the "SPRING clean-up"—because they have the quality.

BLUE RIBBON METAL POLISH

is the original "CREAM" Metal Polish and it still leads the procession.

BLUE RIBBON NICKEL POLISH

is the result of 20 years actual experience in manufacturing the finest gold and silver polishes. It is dangerous to use an experiment polish on fine nickel trimmings.

BLUE RIBBON AUTO BODY GLOSS

revives and keeps the original factory finish and gloss on the body of the car—Shines like a mirror—No grease to catch dust—Leaves no coating.

BLUE RIBBON RADIATOR LEAK-PROOF CEMENT is a quick and permanent remedy for leaks. Does not clog the circulating system; prevents scale and rust; preserves the metal and increases the cooling capacity.

All **BLUE RIBBON** products strictly high class and fully guaranteed.
BLUE RIBBON moves quick for the dealer—works fast for the consumer.
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INTERNATIONAL METAL POLISH CO.

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W. A. BLACKBURN, Eastern Distributor, 335 Broadway, Moffat Building, New York City

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JUNE, 1913. No. 1

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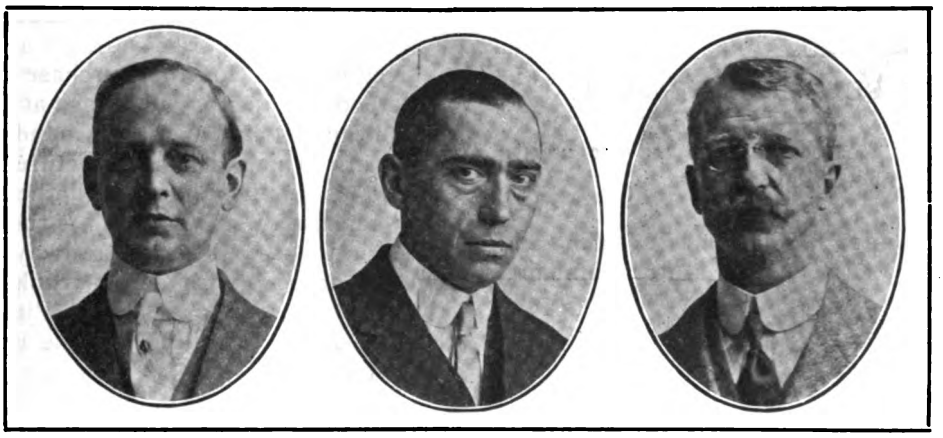
BRITISH ENGINEERS VISIT AMERICA.

Event of Decided Importance to Automobile Industry of Both Countries—Guests Being Entertained with Elaborate Programme During Stay of Three Weeks.

AN EVENT that is of decided importance to the automobile industry in this country and in Great Britain is the visit of about 30 members of the Institution of Automobile Engineers and the Society of Motor Manufacturers & Traders of Great Britain as the guests of the American Society of Automobile Engineers. The party reached New York City on the Minnewaska Monday, May 26.

A tour of inspection of the various automobile factories and allied industries, and the midsummer meeting of the American society, in which the British engineers will participate, will occupy the succeeding three weeks. The trip was planned as a return visit for that which was enjoyed by the members of the Society of Automobile Engineers while abroad in November and December, 1911.



Members of American Committee of Arrangements: Left to Right, A. B. Cumner, Chairman; Allen L. McMurtry and Robert McA. Lloyd.

The arrangements for the entertainment of the visitors is most elaborate and complete and there is scarcely an idle moment from the time of arrival until the close of the official tour, June 14. The committee of arrangements which has charge of events, includes A. B. Cumner, chairman; Allen L. McMurtry and Robert McA. Lloyd, who are shown in an accompanying illustration, assisted by General Manager Coker F. Clarkson. The members of the visiting party include the following:

Institution of Automobile Engineers—President T. B. Browne, London; Secretary Basil H. Joy, London; Councillors T. C. Pullinger, Paisley, and Charles Wheeler, London; F. S. Bennett, H. Massac Buist, F. E. Filer, London; Carl F. Benson, T. A. Mackle, Lucien Bollack, Coventry; C. A. Branston, Cambridge; T. Clarkson, Chelmsford; J. B. Ferguson, Belfast; J. Inglis Ker, Glasgow; J. A. Prestwich, Tottenham; R. W. Smith, Redditch; E. B. Wood, E. Wooler, Bristol.

Society of Motor Manufacturers & Traders—J. B. Dunlop, Dublin; C. Gilbert Moore, Twickenham; Tom Norton, Llandrindod Wells; E. C. Paskell, Birmingham.

Relatives—Mrs. T. B. Browne, London; Mrs. T. Clarkson, Chelmsford; Mrs. T. C. Pullinger, Paisley; Mrs. E. B. Wood, Bristol; Mr. Smith, Jr., Redditch.

After a tour of New York City, the guests will go to Pittsburg, where they will visit the Carnegie-Homestead Steel Works, and inspect the plant of the National Tube Company at McKeesport, Penn. At Indianapolis, Ind., they will attend the 500-mile international sweepstakes, May 30, and the following day will inspect the Wheeler & Schebler and Prest-O-Lite plants. The arrival at Detroit will be June 1 and the next day will be spent in going through plants of the Ford Motor Company and the Cadillac Motor Car Company. The Packard Motor Car Company's plant will be inspected the following morning and in the afternoon a visit will be made to the factory of the Timken-Detroit Axle Company.

The Hudson Motor Car Company, the Continental Motor Manufacturing Company and the

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Chalmers Motor Company will all be visited in turn, after which on the afternoon of June 4 the party will embark on the steamer City of Detroit III for the three-day midsummer outing and meeting of the S. A. E. After leaving Detroit the engineers will visit in turn Cleveland, O.; Buffalo, N. Y.; Providence, R. I.; Bridgeport, New Haven and Hartford, Conn., after which the return will be made to New York. The plants of the Peerless Motor Car Company, Winton Motor Car Company and the White company will be visited at Cleveland; the Goodyear Tire & Rubber Company at Akron, O.; Pierce-Arrow Motor Car Company at Buffalo; Brown & Sharpe Manufacturing Company at Providence; Potter & Johnson Company at Pawtucket; Locomobile Company of America and Spring Perch Company, Bridgeport; New Haven Carriage Company, New Haven; Pratt & Whitney, Pope Manufacturing Company and Hartford Rubber Works at Hartford.

ERECTING LARGE ADDITION.

Rauch & Lang Carriage Company to Increase Plant for Production of Electrics.

The Rauch & Lang Carriage Company, Cleveland, O., maker of the Rauch & Lang electric automobile, has broken ground for a four-story building at West Twenty-sixth street and Chatham avenue. The new structure will have a frontage of 199 feet on West Twenty-sixth street and 112 feet on Chatham avenue. It will be of brick and steel and will have an unusual amount of light, the walls being largely a framework for the windows.

GILBERT SUCCEEDS JEWETT.

Latter Retires as Lozier Head to Devote Entire Time to Paige Cars.

Joseph M. Gilbert has become president and general manager of the Lozier Motor Company, Detroit, maker of Lozier cars, having resigned the general management of the United States Tire Company to engage directly in the manufacture of the automobile. At the election of new officers of the Lozier company held at Detroit, Mr. Gilbert was chosen to succeed Harry M. Jewett of Detroit, who for some months has been president of the company, making a considerable sacrifice of time and business interests to act in that capacity until the contemplated reorganization could be carried into effect.

TO CROSS THE CONTINENT.

Maker of Haney Fire Apparatus to Remove from California to Florida.

The Haney Fire Fighting Apparatus Company, Stockton, Cal., through its president, Edward H. Haney, and its general manager, Edward Olds, announces that it will move to Tampa, Fla., where it will manufacture fire fighting apparatus and motor trucks. The company, which is incorporated for $2,000,000, is said to have purchased 31 acres of land southwest of Tampa and has contracted to build a plant at a cost of $50,000.

GARAGE OWNERS ORGANIZE.

Massachusetts Concerns Form Association to Benefit Conditions.

The Massachusetts Garage Association, Inc., was formed in Boston, May 1, the object being to place the garage owners of the state on a much higher plane than they have occupied heretofore. It also is expected that the organization will aid greatly in impressing the automobile owner that by dealing with a member he will be safeguarded against overcharge for service rendered or supplies furnished. Any garage owner in the state, who is vouched for by a member of the association, is eligible to membership.

Officers and directors have been elected:

President, J. S. Hathaway, White Company, Boston; vice president, J. E. Savell, Motor Car Service Company, Boston; secretary-treasurer, Chester I. Campbell, Boston; directors, V. A. Charles, Inter-State Automobile Company, Boston; F. W. Boynton, Hyde Park Auto Station, Hyde Park; John F. Fleming, Brookline Garage, Brookline; J. S. Hathaway; C. E. Harris, Harris Garage Company, Easthampton; J. W. Robertson, Robertson Motor Car Company, Taunton; R. H. Hartley, Church Street Corporation, Lowell, and J. E. Savell.

SELECTS CLEVELAND SITE.

Plans Completed for Location of Chandler Plant on New Belt Line Property.

Negotiations for the purchase of a site and the erection of factory buildings at Cleveland, O., have been concluded by the Chandler Motor Car Company, which will manufacture the Chandler car. The ground upon which the plant will be built consists of six acres and is the first to be located on the new Belt Line railway, a $20,000,000 line connecting with seven trunk railroads, as follows: Lake Shore, Nickel Plate, Big Four, Erie, B. & O., Wheeling & Lake Erie and Pennsylvania.

EMPLOYEES SHARE PROFITS.

Studebaker Corporation Adopts Plan Which Permits Them to Become Shareholders.

Operating large plants at Detroit, Mich.. and South Bend, Ind., the Studebaker Corporation, maker of Studebaker pleasure cars and trucks, has put into effect a plan whereby certain of its employees may become stockholders and share in the profits of the concern. The plan, which was adopted at a meeting of the board of directors, is ample. It provides, after dividends shall have been earned on the common and preferred stock, that a fund shall be set apart for the pur-

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chase, at market prices, of common stock of the corporation to be held in trust for three-year periods and then distributed with its earnings among participating employees.

TO PRODUCE MOTOR TRUCK.

Los Angeles Concern Organized to Manufacture Worm Driven Vehicle of New Design.

The Los Angeles Motor Truck Manufacturing Company, Los Angeles, Cal., has been formed to build a new type of motor truck, with underslung chassis, with a low centre of gravity and loading platform 21 inches above the ground, but having 11 inches road clearance. The concern has purchased a 30-acre tract of land at Bangle Station, near Wilmington, Cal., at Los Angeles harbor. Plans are being drawn for five large, reinforced concrete buildings, which will cost, together with machinery, materials, etc., over $300,000. About 250 men will be employed at the plant.

SPRING WHEEL CONCERN.

Invention of Chicago Man to Be Produced by New Company in South Bend, Ind.

A corporation composed of capitalists of South Bend, Ind., to be known as the South Bend Spring Wheel Company, is in process of formation to manufacture a new automobile wheel, in which the spokes are displaced by springs. The rights to the invention, which is by E. A. Nelson of Chicago, have been secured by the South Bend men.

ERECTING NEW BUILDINGS.

Motor Foundry Company Increases Capital to Meet Demands of Enlarged Business.

Stockholders of the Motor Foundry Company, Detroit, at the annual meeting, gave approval to the plan for increasing the company's capital from $35,000 to $100,000 to provide funds for extensions of the plant necessitated by enlarged business. The additional capital has been fully paid in and work has begun on the erection of new buildings adjoining the present plant, which covers 2.5 acres on Hart avenue.

GEDDES SUCCEEDS KELLY.

President of Kelly-Springfield Motor Truck Company Retires on Account of Ill Health.

The many friends of E. S. Kelly, president of the Kelly-Springfield Motor Truck Company, Springfield, O., maker of Kelly trucks, will regret to learn that his health is such that he has felt compelled to retire from the active detailed management of the company. Mr. Kelly becomes chairman of the board of directors and will continue to exercise a general oversight over the affairs of the concern, but the details of the management will devolve upon James L. Geddes, who succeeds Mr. Kelly as president. He will be assisted by O. S. Kelly, who continues to be general manager.

TO PRODUCE MOTOR HEARSES.

Understood That Grand Rapids Concern Will Engage in New Line of Activity.

According to information from Grand Rapids, Mich., the Michigan Hearse & Carriage Company of that city will enter the automobile field, producing motor hearses, principally, and motor trucks. It has long been engaged in the manufacture of funeral cars, undertaker's wagons, ambulances, etc.

LEAVES INTERNATIONAL MOTOR.

R. W. Hutchinson, Jr., Well Known Motor Truck Writer, Resigns.

Rollin W. Hutchinson, Jr., advertising manager of the International Motor Company, New York City, maker of Mack, Saurer and Hewitt trucks, has resigned his position, to take effect June 1. His future plans are not yet announced. Mr. Hutchinson has had charge of the advertising and publicity of the International company and its predecessor, the Saurer Motor Company, since their establishment, and has acquired a unique reputation among motor writers for his broad and comprehensive knowledge of motor truck subjects and the attitude of business interests toward them.

MARKET OF THE FUTURE.

Cartercar Official Foresees Ever Increasing Demand for Product of the Industry.

America is able to afford more automobiles today than ever before, according to Harry R. Radford, vice president and general manager of the Cartercar Company, Pontiac, Mich., maker of the Cartercar line. He says that the ever increasing prosperity of the country will take care of all the really good cars that can be manufactured at a reasonable cost. He adds:

If this country were the same financially and industrially today that it was some 10 or 15 years ago, there might be some excuse for the assumption that the market might be slackening a bit. But everywhere there is a great boom, and people are buying motor cars today who would not have thought of such a thing only a few years ago.

And another great thing is the improvement in roads and streets that is going on in all parts of the country. Of course these improvements help in the selling of cars, but they must and will be used almost universally whether there are any roads or not. Almost every day we get letters from Cartercar owners telling of the successful use of their machines even on roads which seemingly are impassable for a horse drawn vehicle.

When the first motor car was made the people were not ready for it and they had to learn what it would do and to get used to it. Today they recognize it as one of the important essentials of industry and pleasant living. Automobiles will be sold as long as people continue to live and make money.

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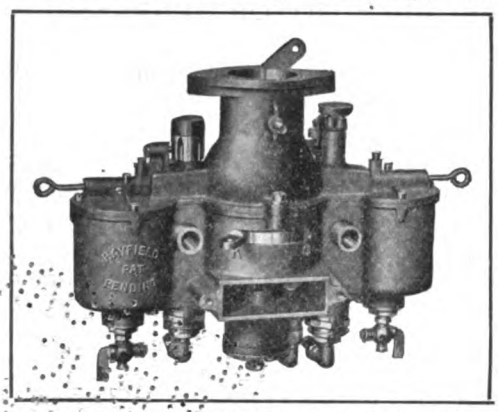
NEW RAYFIELD CARBURETOR.

Combination Vaporizer Utilizing Gasoline or Kerosene Independently.

Announcement is made by the Findeisen & Kropf Manufacturing Company, Chicago, of a new combination Rayfield carburetor. It is the invention of Chas. Rayfield, who also designed the conventional Rayfield carburetor, and is for use on traction, stationary and marine engines, although it is understood that the inventor is conducting a series of experiments with a similar instrument applicable to automobile motors.



Rayfield Combination Kerosene and Gasoline Carburetor.

The operation of the new carburetor is automatic, and it is held that a perfect mixture is supplied to the cylinders at all speeds and under varying loads when using kerosene, distillate or other low grade fuels. Water is automatically fed with the kerosene.

As will be noted by the accompanying illustration, two float chambers are employed. The shifting of a small lever by the operator shuts off the supply of gasoline and opens the kerosene port, instantly changing the mixture from one fuel to the other. Two separate adjustments are provided. The required heat for vaporization is obtained from the exhaust manifold, a pipe connecting the latter to the air intake of the kerosene member.

BOSCH SPARK PLUG HOOD.

Simple and Easily Attached Device for Preventing Short Circuits, Due to Moisture, Etc.

The tendency of a high-tension current to stray from its intended path is augmented when terminals, such as those of the spark plug for example, are exposed to dampness or moisture. Water is a well known conductor of electricity and during heavy rain storms the spark plugs are subjected to moisture unless the hood of the motor is water tight. To prevent short circuits and to protect the plug as well, the Bosch Magneto Company, New York City, has perfected and is marketing a hood which is easily and quickly attached or removed, and without interfering with the usual plug.

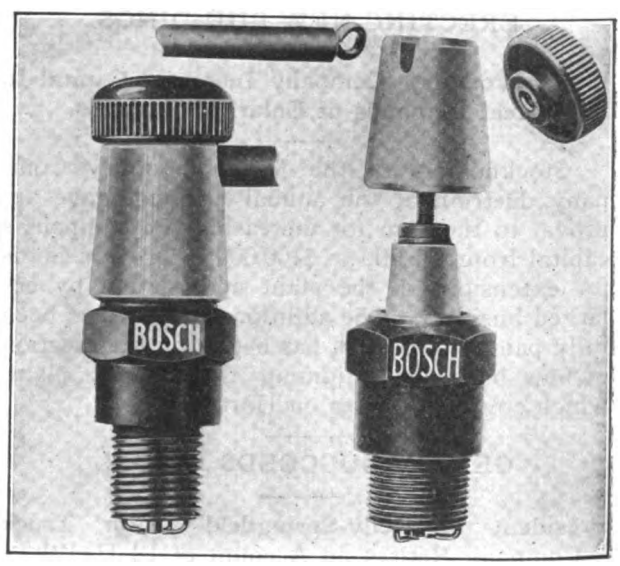
The spark plug hood is shown in an accompanying illustration and comprises but three parts, the hood, asbestos washer and an insulated terminal thumb cap. To apply it the usual plug terminal is removed and the asbestos ring pressed into the groove at the base of the hood, after which the latter is slipped over the regular plug. The cable is then set in the recess of the hood with its terminal over that of the electrode or central pin of the plug. The insulated thumb cap is next screwed in place, it not only serving to retain the parts, but its large inside diameter bearing against the insulation of the cable, expanding it sufficiently to seal the opening. The hood is of steatite.

The construction of the hood is such that the parts carrying the high-tension current to the gap of the plug or ground side of the shell, are insulated, and it would be possible to obtain perfect ignition even if the hood were subjected to a stream of water. A feature of the device is that the cable may be detached with the motor operating, and without danger of shocks, by removing the thumb cap. The hood may be displaced and reassembled by the fingers and locking as it does the connections, makes for convenience. It is made in all sizes for Bosch plugs, including those for motorcycles.

TARRYTOWN COMPANY FORMED.

A. R. Gormully Heads Concern Engaged in Producing Parcel Delivery Wagons.

Papers have been filed at Albany, N. Y., incorporating the Tarrytown Motor Car Company, a $250,000 concern organized for the purpose of building light commercial automobiles. The new company will be headed by A. R. Gormully, recently of the United States Motor Company, as president. Wallace Odell of Tarrytown, N. Y., a new comer in the industry, is named as vice president and treasurer, and B. J. Knerr, auditor of the United States Motor Company, is secretary.



Bosch Spark Plug Hood, a Practical and Simple Construction for Completely Insulating High-Tension Current Carrying Parts of Spark Plug.

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TRADE INFORMATION EXCHANGE BUSINESS PROPOSITIONS.

Opportunities Are Offered Below for Agents to Secure New Lines, for Manufacturers to Extend Their Representation, and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. All Are Opportunities for Live Men and Firms Seeking Profitable Relations.

The Following Details of Trade Opportunities Presented by Members of the Trade Information Exchange Are Published Without Names, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for forwarding.

CAR AGENCIES DESIRED.

4683—Michigan Concerns, recently merged, are in the market for pleasure cars listing between $800 and $2500, and motor trucks selling from $800 to $1800.

5008—Illinois Company, recently formed, is desirous of taking the agency for pleasure cars selling between $1000 and $2200 and motor trucks listing from $1000 to $2500.

7854—Missouri Firm, strongly established, is interested in securing the agencies for pleasure cars and trucks selling at all prices.

3719—New Jersey Company is seeking a line of commercial vehicles selling from $800 to $3000; also will take agency for motor fire fighting apparatus selling up to $10,000.

1130—Illinois Firm, conducting automobile agency, supply and garage business, is interested in agencies for pleasure cars selling up to $3500, and motor trucks listing from a low figure to $2000.

4966—Pennsylvania House, recently established with good line of cars, is desirous of adding a good pleasure vehicle selling between $1425 and $1850.

ACCESSORY AGENCIES.

9664—New York State Firm, occupying new, modern garage, desires agencies for all kinds of accessories and supplies for commercial and pleasure vehicles.

3019—Iowa Concern is interested in automobile and repair shop supplies and accessories.

2679—Tennessee Company, recently formed, is seeking agencies for all lines of accessories for pleasure and commercial vehicles; also garage and repair shop supplies.

9768—New York State House, with modern supply store, is interested in a general line of automobile accessories and supplies and garage and repair shop supplies.

8160—Georgia Firm, doing substantial business, is desirous of taking agency for automobile accessories and supplies.

2268—Michigan Company, under new management, is interested in new lines of automobile accessories and supplies and repair shop supplies.

6764—Kentucky Concern, in new establishment, will accept agencies for accessories for pleasure and commercial vehicles, also garage supplies.

7465—Indiana House, under progressive management, is interested in all kinds of accessories and supplies for automobiles and trucks and supplies for repair shop and garage.

6965—Minnesota House, would like agency for automobile accessories and supplies.

7306—Massachusetts Company is interested in all kinds of accessories and supplies for garage, repair shop, automobiles and trucks.

3191—New Jersey Concern, doing good business, is in the market for accessories of all kinds for automobiles, trucks, garage and repair shop, including machine tools.

2619—California Firm, in new plant, is interested in automobile accessories and garage and automobile supplies.

4078—New York Concern, doing good business, would take agency for accessories and supplies for pleasure and commercial vehicles and for repair shop supplies.

3961—Colorado Firm, with new place of business, is in the market for automobile accessories and supplies and garage supplies.

4266—Missouri House, handling accessories exclusively, has space for additional lines of accessories and supplies.

1019—Iowa Concern, recently occupying new building and doing an exclusive wholesale jobbing business in automobile accessories and supplies, is interested in supplies for repair shop and garage, and accessories and supplies of every description for pleasure cars and motor trucks.

6492—Kansas Firm would like information relative to garage and repair shop supplies.

6855—New York Company, recently incorporated and doing a good business in big plant, would take agency for garage and repair shop supplies and supplies for power wagons.

1473—New York Firm is interested in supplies for garage, repair shop and automobiles.

6237—Minnesota Concern, under new management, would like agency for accessories and supplies and for supplies for garage and repair shop.

1035—Oklahoma Company, which has opened a supply store to specialize in that feature of the business, is in the market for accessories and supplies for automobiles and power wagons.

3612—California Firm, which has just completed a new building, desires to receive catalogues of various lines of automobile supplies and accessories.

4591—Pennsylvania Motor Car Company, under new management, will take agency for garage supplies and automobile accessories and supplies.

SPECIAL OPPORTUNITIES.

3123—Rhode Island Concern desires information with reference to all kinds of portable garages.

EQUIPMENT NEEDED.

7463—New York State Concern is in the market for all kinds of equipment for automobiles and trucks, garage and repair shop, including machine tools.

3911—Iowa Firm is interested in first class equipment for garage and repair shop.

9211—Michigan Company, building factory of brick and steel, wants information relative to machine tools and supplies and equipment for repair shop.

2796—Tennessee House, established in modern plant, desires automobile, garage and repair shop equipment and supplies.

4746—New York State Firm in new quarters is interested in supplies for garage and repair shop.

1668—Georgia Concern is seeking information pertaining to automobile and garage equipment.

3645—Michigan Company, in new plant, wants supplies of all kinds for repair shop.

4766—Kentucky Firm, doing good business, wants agency for equipment of all kinds for trucks and pleasure cars.

6745—Indiana Concern, with new management, is interested in pleasure and commercial car equipment; also equipment and supplies for garage and repair shop.

9261—California House, in enlarged quarters, is in the market for garage and automobile equipment.

7110—New Jersey Association, formed in the interests of motorists, is interested in all kinds of garage, repair shop and automobile equipment.

6736—Massachusetts House, under new management, is in the market for all kinds of equipment for repair shop, garage and automobiles.

6690—Minnesota Firm, in new plant, wants information relative to garage equipment.

6884—California Concern, in new quarters and doing a night and day business, is interested in anything pertaining to the equipment of garage, repair or blacksmith shop.

8020—Massachusetts Concern wants information regarding all kinds of machine tools, garage equipment and parts.

4651—Texas Firm states its needs as being principally for garage equipment and machine tools; also supplies for repair shop and garage.

6194—Minnesota Company, in good field, needs repair shop equipment, including machine tools and supplies for garage and repair shop.

2185—Michigan Concern, handling big business in several lines, requires machine tools, automobile equipment and garage supplies.

8705—Pennsylvania House, under new management, is in the market for machine tools, repair shop equipment and supplies.

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NEWS NOTES OF THE INDUSTRY

RECENT INCORPORATIONS.

The following concerns have been incorporated recently to manufacture and deal in automobiles, accessories, etc.:

Ivey Motor Truck Company, Inc., Buffalo, N. Y.; $10,000; Charles A. Ivey, A. L. Rustling, Frank S. Heller.

Lowell Buick Company, Lowell, Mass.; $15,000; Milo W. Hale, Jr., Fred B. Emerson, Daniel D. O'Dea.

Signal Motor Truck Company, New York City; to manufacture motor trucks, cars, coaches, etc.; $350,000; R. H. Grimes, L. B. Case, R. Gibson, Jr.

Hutchinson Motor Company, Woodbury, N. J.; $100,000; general automobile business; T. Hutchinson, J. A. Hutchinson, M. F. Cattell.

Rochester-Mais Commercial Car Company, Rochester, Ind.; $25,000; J. A. Mais, A. C. Davisson, Earle A. Miller, J. M. Ott, R. P. True.

Automobile College of Salesmanship, Indianapolis. Ind.; $10,000; Charles H. Hettinger, Turner D. Bottoms, Fred G. Braden.

Chicago Auto Painting Company, Chicago; $1000; M. H. Allen, Alexander Wolf, C. B. Staffner.

Smith Motor Car Company, Newark, N. J.; $25,000; J. L. Smith, J. W. Mason, L. W. Smith.

B. B. Motor Car Company, Conway, S. C.; $2000; T. J. Bell, E. T. Blecker, E. J. Sherwood.

Edwards-Knight Sales Company, Newark, N. J.; $125,444; Arthur J. M. Edwards, Howard Isherwood, W. Eugene Turton.

Pender Auto Company, Burgaw, Va.; $15,000; C. H. Sodergrist, I. N. Brown, F. M. Lewis, W. O. Sodergrist.

Stapleton Motor Sales Company, Okmulgee, Okla.; $2000; L. S. Skelton, J. Belford, E. M. Stapleton.

Church Motor Car Company, New York City; $1,000,000; H. E. Latter, W. J. Maloney, N. P. Coffin.

Easy Starter & Speeder Company of New York, New York City; $25,000; F. R. Hansell, G. H. B. Martin, S. C. Seymour.

Santa Ana Electrical Company, Santa Ana, Cal.; $10,000; J. G. Quigg, Anna Helen Neely, Thomas Neely.

Hampton Manufacturing Company, Indianapolis, Ind.; $35,000; to make automobile accessories; W. F. Hadley, S. B. Nusbaum, S. Rubens, M. Moskin.

Gustav Schaefer Wagon Company, Cleveland, O.; $55,000; to manufacture automobile bodies; Ernest Schaefer, Charles E. Moritz, Arthur Kruse, Henry G. Schaefer, Anna M. Schaefer.

Derrickson Manufacturing Company, Muncie, Ind.; $125,000; to make automobiles; Harry S. Osborn, H. L. Kitselman, R. C. White.

Auto-Signalite Company, New York City; $2000; D. E. Koblish, R. C. Norton, A. D. Chersan.

F. & P. Auto Transportation Company, Inc., Brooklyn, N. Y.; $70,000; to manufacture and trade in vehicles propelled by electricity, gas, etc.; W. O. Goddard, F. K. Fairchild, G. A. Logan.

Date-Mode Tire & Tube Company, Gas City, Ind.; $5000; automobile tires; M. J. Hontz, O. V. Shober, Jesse L. Hontz.

Page-Lester Company, Chicago; $2500; to make and deal in automobile accessories; Harry L. Page, M. Frisch, Anna Hess.

Galveston Motor Car Company, Galveston, Tex.; $3000; William Fricke, L. Hornung, A. Kahn.

Blandinsville Garage Stock Company, Blandinsville, Ill.; $3500; H. L. Argenbright, A. Humphrey, E. E. Voorhees.

Bitely-Thortop Company, Chicago; $10,000; automobile accessories; Robert C. Shea, Alfred J. Bailey, Oliver J. Bailey.

Pacific Auto Truck Company, Los Angeles, Cal.; $250,000; W. S. Wheaton, Allen J. Pedersen, David M. Carroll. Ellis G. Brode, W. R. Swartwood.

Schenectady Autocar Company, Schenectady, N. Y.; $10,000; motor 'buses, etc.; Emmet Fisher, A. Langeneuer, L. Buonfiglis.

Taxicab Auto Company, Birmingham, Ala.; $2500; A. P. Dewberry, R. A. Manning, Charles J. Hotchstadter.

Autocraft Company, Boston, Mass.; $75,000; to manufacture and repair motor vehicles; C. W. Jones, George G. Hinsdale, W. Somerville, W. E. Duncanson.

Mystic Auto Station, Inc., Stonington, Conn.; $50,000; John F. Noyes, Abbie E. Noyes, Robert A. Noyes.

Sauermann Motor Company, Rock Island, Ill.; $2500; Fred W. Sauermann, W. T. Hartz, E. W. Schoede.

Park View Garage, Los Angeles, Cal.; $13,000; J. D. Scouller, Harold S. Boerstler, Eugene H. McCirkle.

Hampshire Garage, Romney, W. Va.; $5000; John J. Cornwell, Thomas F. Martin, E. V. Parker.

Motor Sales Company, Romney, W. Va.; $25,000; G. M. Emory, Newton Giles, C. C. Frederick.

Paige-Detroit Auto Company, Little Rock, Ark.; $10,000; A. C. Webb, W. M. Rankin, J. A. Weiman.

Arby Automobile Company, Mt. Pleasant, S. C.; $200,000; Santo Sottile, M. R. Rivers, L. M. Pinckney.

Park Garage, Victoria, Tex.; $10,000; John Frazer, J. T. Linebaugh, W. H. Crain.

Waynesboro Automobile Company, Waynesboro, Va.; $150,000; B. E. Watson, J. B. Yount, H. M. Hanger, David T. Coiner.

King City Motor Sales Company, Kansas City, Mo.; $10,000; W. S. Hathaway, C. E. Hathaway, H. C. Page.

Auto Tire Sales Company, Newark, N. J.; $10,000; George W. Bristol, Marie Devore, Oscar F. G. Magie.

Springfield Buick Company, Springfield, Mass.; $15,000; Charles T. Nelson, David B. Roberts, Thomas F. O'Loughlin.

Wortham Auto Supply Company, Wortham, Tex.; $600; A. N. Weaver, Roy Simmons, K. W. Sneed.

Ford Taxicab Corporation, Portland, Me.; $100,000; manufacture, sell and deal in motor vehicles; N. R. Dexter, J. B. Reed.

Liquid Tire Company, Kansas City, Mo.; $125,000; Charles S. Wright, George L. Schfiled, Clay W. Prewett.

Long Beach Motor Supply Company, Long Beach, Cal.; $100,000; Reuben F. Ingold, Samuel D. Weil, Edward Cooper.

St. Louis Motor Bus Company, St. Louis, Mo.; $2000; Robert J. Kirkwood, James A. Rector, Walter R. Mayne.

Martell Motor Company, Boston, Mass.; $10,000; Albert A. Martell, Clotilde E. Jones, Peter McPherson.

Atlantic Auto Company, Lynn, Mass.; $10,000; C. J. Goldman, W. A. Bishop.

New England Car Company, New Haven, Conn.; $100,000; T. M. Steele, H. T. Sheldon, A. D. Osborne.

Automobile Leather Manufacturing Company, Newark, N. J.; $150,000; W. A. Smith, F. I. Ennis, T. G. Woodruff.

Swinehart Tire & Rubber Company, Newark, N. J.; $10,000; I. D. Stone, C. S. Kingsbury, C. L. Codinez.

Approved Auto Specialties Company, New York City; $10,000; J. B. Brandreth, K. D. Brandreth, E. C. Phelps.

New York & New Jersey Seaton Wheel Company, New York City; $350,000; to manufacture spring wheels; J. T. Landis, W. C. Mack, W. T. Rainey.

Central Motor Supply Company, Rochester, N. Y.; $30,000; electrical and mechanical devices; P. B. Barager, R. F. Close, W. Wood, C. W. Galliger.

Wilcox-McKim Company, Saginaw Mich.; $125,000; to manufacture steering gears and accessories.

John Berry Automobile Company, St. Louis, Mo.; $20,000; to manufacture and repair motor cars; J. Berry, A. Sommer, L. J. Koenigstein.

Ohio Valley Rubber Company, Steubenville, O.; $50,000; C. L. Williams, H. L. Wickersham, R. D. Lloyd, E. L. Parker, J. C. Smythe.

Keystone Automobile & Garage Company, Titusville, Penn.; $20,000; A. E. Lambert, W. T. Funk, T. Hall.

Hobart Manufacturing Company, Troy, O.; $1,600,000; to manufacture motor driven machinery; H. L. Johnston, W. E. Boyer, E. E. Edgar, W. W. Cope, J. M. Spencer, J. S. Combs.

Pearl Motor & Marine Supply Company, Warwick, R. I.; $50,000; G. E. Gibbs, S. C. Burlingame, A. J. Richardson.

Greater New York Motor Company, New York City; $10,000; Amil Muruel, Samuel Feldman, Caesar Pianisani.

Auto Vulcanizer and Specialty Company, Pittsburg, Penn.; $5000; Frank Stern, Alfred Dickson, H. W. Graib.

Detroit Motordrome & Amusement Company, Detroit, Mich.; $20,000; E. H. White, A. J. Bath, E. R. Martin, John A. Wilson.

Excel Jack Company, Portland, Me.; $200,000; to manufacture and deal in automobile jacks; N. A. Thurston, H. P. Sweetser, A. F. Meserve.

Okanohan Valley Automobile Stage Company, Wenatchee, Wash.; $8000; H. H. Stewart, Frank Phillip.

Motor Car Sales Company, Accident, Md.; $25,000; to manufacture and deal in all kinds of engines; G. N. Emory, C. C. Frederick.

Peerless Tire Company, Inc.; New York City; $15,000; Michael Schiavone, George P. Calenda.

Plymouth Rubber Company, New York City; $150,000; A. Sydeman, J. E. Stone, W. H. Sydeman.

Stafford Illuminated Auto Lamp & Number Company, Chicago; $50,000; to make automobile accessories; F. S. Stafford, W. Doran, F. W. Schaub.

Norwalk Motor Car Company of New York, New York City; $35,000; P. Lyndon Bryce, Alfred L. Kirby, Edward S. Murphy.

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Shepherd Auto Company, Inc., New York City; $5000; Irving R. Shepherd, Fannie R. Shepherd, Joseph A. Shepherd.

Robert Murphy's Sons Company, Ayer, Mass.; $30,000; garage; Robert Murphy and others.

M. B. M. Motor Company, Boston, Mass.; $30,000; George B. Bollinger, Emery H. Masters, Charles A. Malley.

Curtis Motor Repair Company, Boston, Mass.; $2000; George E. Crampton, Arthur W. Crampton, Rey W. Curtis.

General Auto Trucking Company, New York City; $25,000; Albert A. Benedise, Thomas G. Gannon, George W. Freeman.

Manufacturers' Rubber & Supply Company, Detroit; $10,000; H. N. Culberton, Walter Rennecker.

Brightwaters Garage Company, Inc., Islip, N. Y.; $1000; William H. Corwin, Stewart L. Fanning, Russell M. Fanning.

American Manufacturing & Distributing Company, Louisville, Ky.; $10,000; H. L. Archey, P. H. Block, H. B. Morrow.

Dickinson Motor Car Company, Providence, R. I.; $50,000; to repair and deal in automobiles; Russell L. Scott, Dwight M. Dickinson, Harold R. Curtis.

T. C. Beach Auto Turntable Company, St. Johns, Mich.; $10,000; to manufacture turntables for motor vehicles; T. C. Beach, W. J. Moss, R. H. Chapin, R. S. Clark.

Latham-Phelps Company, New York City; $50,000; motor vehicles; Harry E. Phelps, Charles H. Latham, Nellie B. Latham.

Peabody Square Garage Company, Boston; $5000; J. P. Duke, J. J. O'Keefe, M. A. Duke.

Newkirk Avenue Automobile Company, Brooklyn, N. Y.; $5000; to buy and sell motor vehicles; J. Huntoff, W. Backus, W. D. Maxwell.

Ackerman & Baird, Brooklyn, N. Y.; $10,000; to manufacture motors; M. Stadler, L. Schapiro, A. D. Baird.

International Automobile Supply Company, Chicago; $5000; to manufacture supplies; W. L. Loeffel, M. T. Adams, W. E. Stephens.

Esco Auto Locks Company, Cleveland, O.; $5000; W. G. Wells, R. W. Fellows, C. Pugh, M. P. Carrig, S. Hart.

Amper Electric Company, Lockport, N. Y.; $25,000; T. D. Robinson, E. W. Jones, C. L. Nicholls.

Automatic Puncture Stop Company, Marion, O.; $10,000; C. E. Merkel, M. McKinstry, F. C. Smith, A. C. Queen, E. A. Eibling.

Gas Tank Recharging Company, Milwaukee, Wis.; $25,000; J. J. McJeskey, W. R. Ebert, F. J. Pagel.

Creek Motor Sales Company, Milwaukee, Wis.; $25,000; R. A. Creek, N. M. Creek, W. M. Spooner.

Esco Auto Lock Sales Company, Cleveland, O.; $5000; to deal in motor car locks and accessories; C. I. Bird, J. J. Fillous, S. C. Gladwin, C. A. Burke, W. M. Byrus.

Albert E. Eldredge Corporation, New York City; $7000; to manufacture motors; A. E. Eldredge, J. J. Poillon, J. M. Wilkinson.

Club Garage, New York City; $5000; J. J. Davis, T. A. Killoil.

Tioma Oil & Grease Company, New York City; $50,000; E. J. Forham, F. B. Knowlton, J. J. Harper.

Star Taxicab Company, New York City; $2500; H. T. Silverman, N. Waxman, J. B. Vaughey.

Stein Auto Supply Company, Rochester, N. Y.; $3000; A. E. Stein, H. E. Pramer, L. M. Stein.

Seaside Garage, Rockaway Beach, N. Y.; $5000; P. H. Morrison, A. Hauser, J. Morrison, L. Schilling.

Zimbrich Taxicab Company, Rochester, N. Y.; $3000; F. Simmons, A. G. Wall, H. J. Zimbrich.

Far Rockaway Motor Vehicle & Cab Owners' Association, Rockaway, N. Y.; $500; J. Harris, E. T. C. Kelly, H. Traver.

Carthage Auto Company, Rochester, N. Y.; $5000; F. A. Kuhnert, W. Alderman, C. L. Pierce.

Fitzgibbon & Crisp, Trenton, N. J.; $100,000; to manufacture motor cars; L. L. Woodward, W. E. Smith, L. Williams, Jr.

Montauk Motor Company, Albany, N. Y.; $10,000; L. F. Ahse, James Webber, M. Foster.

Lyerly Motor Company, Asheville, N. C.; $15,000; D. K. Lyerly, W. K. Lyerly, P. H. Lyerly.

Harhack Auto Heater Company, $300,000; C. L. Andrews, L. J. Coleman, R. S. Buzzell, E. M. Hussey, E. M. Leavitt.

American Ignition Company, Boston, Mass.; $10,000; to manufacture ignition devices; A. F. Richards, P. Catino, F. Leveroni.

Consumers Auto League, Boston, Mass.; $50,000; G. A. Ham, R. H. Willard, H. H. Ham.

John Hann Company, Brooklyn, N. Y.; $25,000; to manufacture gasoline engines; J. Hann, D. Douglas, F. J. Waters.

Mitchell & Smith, Boston, Mass.; $10,000; motor car supplies; F. R. Mitchell, W. E. Smith, A. E. Smith.

Auto Combination Manufacturing Company, Chicago; $50,000; to make supplies; H. M. Snow, G. W. Nevine, W. J. Liddy.

Westcott Motors Company, Boston, Mass.; $5000; G. H. Leonard, H. L. Kemp, C. H. Poole.

Washington Motor Car Company, Denver, Col.; $300,000; W. F. P. Lofland, W. I. N. Lofland, J. S. Collins, Jr.

United States Motor Vehicle Association, Boston, Mass.; $50,000; W. F. Smith, H. C. Morse, C. H. Poole.

Pressed Steel Motor Car Company, Cleveland, O.; $200,000; to manufacture parts and accessories; W. H. Milliken, F. M. Ossman, A. M. Heimberger, C. L. McConnell, L. C. Heimberger.

David M. Connell Company, Fall River, Mass.; $5000; W. H. V. Connell, D. M. Connell, C. E. Connell.

Tottenville Garage Company, Tottenville, N. Y.; $500; I. A. Silver, Jr., G. W. Carfoot, E. L. Silvie.

Richmond Hill Garage & Machine Company, Richmond Hill, N. Y.; $8000; M. E. Tunon, C. H. Ryan, Jr., A. F. Ryan.

Nodens Auto Trucking Company, Brooklyn, N. Y.; $10,000; A. Noden, B. H. Noden, L. F. Senkel.

Chambray Carburetor Company, Detroit; $50,000; to manufacture carburetors and motor car accessories.

National Automobile School of Cincinnati, Cincinnati, O.; $50,000; G. A. Hawley, H. G. Williamson, W. A. Evans, C. R. McComas, J. D. McCracken.

Worcester County Automobile Owners' Association, Leominster, Mass.; $5000; J. W. Healey, E. H. Divoll, H. A. Wood.

Auto Accessory Manufacturing Company, Holyoke, Mass.; $25,000; W. J. Shannon, E. A. Frary, E. N. Frary.

Vehicle Storm Apron Company, Hoboken, N. J.; $12,000; W. G. Lentz, D. Herr, A. Herr.

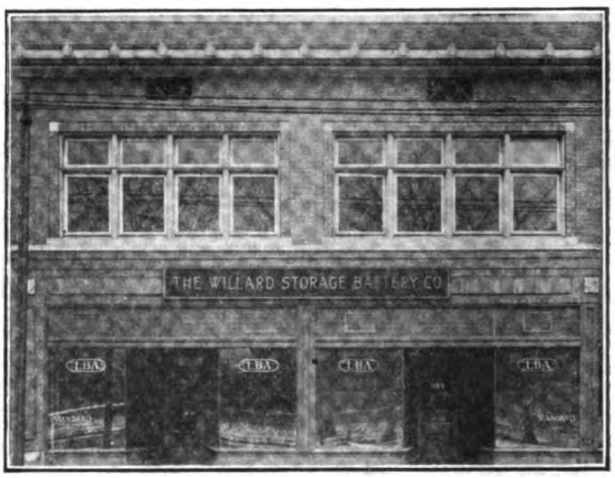
Platte Center Automobile Company, Platte Center, Neb.; $15,000; E. J. Macken and others.

Wagner Specialty Company, New York City; $5000; to deal in motor cars; A. F. Wagner, F. Walsh, M. Morris.

F. P. Motor Wagon Company, Pierre, S. D.; $250,000; L. L. Stephens, T. F. Graham, E. E. Slade, W. G. Price, R. J. Reynolds.

National Spark Plug Company, New York City; $10,000; R. L. Cherburg, C. B. Bennett, A. Boselman.

Auburn & Moravia Auto Bus Company, Moravia, N. Y.; $7000; E. C. Weaver, E. D. Parkhurst, F. W. Ackerman.



Willard Storage Battery Company's Detroit Branch.

Mottlau Transmission Company, New York City; $250,000; to manufacture transmissions; A. J. Mottlau, Walter L. Post, T. F. Conrad.

Card Taxicab Company, Nashville, Tenn.; $1000; C. C. Card, G. Taylor, W. O. Taylor, C. W. Harle, C. S. Mayfield.

Still's Automobile & Accessories Company, New York City; $10,000; G. M. Still, G. Edwin Still, J. H. Still.

Carlough & Mallon, Newark, N. J.; $50,000; general motor car business; E. D. Carlough, F. V. Carlough, W. L. Mallon.

Elastic Tread Tire & Wheel Company, Cleveland, O.; $25,000; J. A. Murrey, R. E. Mollenkopf, F. J. Axel, P. Schneider, F. O. Joss, W. J. Young.

Schermerhorn Garage Company, New York City; $20,000; J. Ginsburgh, L. Rosett, P. A. Lee.

Cincinnati Alco Motor Car & Truck Company, Cincinnati, O.; $25,000; W. H. Peters, J. E. Kelding, G. S. Macduff, W. M. Macduff, H. W. Warren.

Imperial Auto Livery Company, Cincinnati, O.; $2000; S. F. Glassemeyer, W. Shullman, N. A. Michaelson, J. Lemkuhle, C. T. Ryan.

WITH THE MANUFACTURERS.

W. A. Zimmerman, general manager of the Mercury Manufacturing Company, Chicago, maker of Mercury commercial vehicles, has established a branch at Boston, where George F. Kehew will look after the New England interests of the company. The service station and salesrooms will be established at 239 Massachusetts avenue, Cambridge, Mass.

The Willard Storage Battery Company, Cleveland, O., maker of Elba storage batteries, has a number of branches located throughout the country, that at 1191-

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1193 Woodward avenue, Detroit, being shown in an accompanying illustration. This branch is in charge of Max G. Hillman, who is assisted by H. S. Gardner and E. F. Vincent, and like those at New York, Chicago and San Francisco, is prepared to charge batteries and do anything in the way of repairing. All the company's branches carry constantly in stock a large number of the most commonly used types of storage batteries and are in a position to fill orders promptly.

The Electric Products Company, Cleveland, O., maker of the Wotton automatic battery charging panels, has moved from its congested quarters at 6536 Carnegie avenue, to its new building at 10514 Dupont avenue.

The Weller-Thomas Company, Zanesville, O., was recently incorporated by capitalists of that city and will erect a plant in which to manufacture motor fire apparatus.

The Swinehart Tire & Rubber Company, Akron, O., maker of Swinehart tires, has established a branch at 726 Main street, Buffalo, N. Y., to be known as the Swinehart Tire Agency. It will be under the management of E. F. Howell and C. A. Cough.

The Kissel Motor Car Company, Hartford, Wis., maker of KisselKar trucks and pleasure cars, has opened what is said to be the largest building in the United States devoted to the sale and care of one make of automobiles. The service station provides 70,000 square feet of floor space and in addition to the separate salesrooms for the trucks and pleasure vehicles, contains a garage, machine shop, paint shop and stockroom. The structure is three stories high.

The Archibald Wheel Company, Lawrence, Mass., an old established firm, which makes automobile wheels, has been newly incorporated with an authorized capital of $800,000. The officers are: President, Frank M. Andrew; treasurer, Everett H. Archibald; secretary, Fred H. Eaton.

The Dreadnaught Tire & Rubber Company, Baltimore, Md., recently organized to manufacture automobile casings, with authorized capital stock of $1,000,000, has started work on its three-story plant. The president of the company is A. F. Gilbert; vice president and general manager, Wilmer Dunbar; treasurer, C. P. Triplett; secretary, Walter E. Hill.

The Veerac Motor Truck Company, has opened a branch at 247 West 47th street, New York City, with H. B. McGinley as manager.

The Borland-Grannis Company, maker of Borland electric cars, has moved its executive offices into its new building at 310 East Huron street, Chicago.

The Motor Accessories Manufacturers has elected three new members as follows: William H. Brown, Cleveland, O., maker of Travelog time clocks; Fedders Manufacturing Works, Buffalo, N. Y., builder of radiators; National Lead Company, New York City, manufacturer of lead products, white metal alloys and die castings.

The Schoen-Jackson Company, Media, Penn., has opened a New York City branch at 1777 Broadway under the management of W. E. Wardlaw, a practical carburetor man well known in the trade. He will look after the New York interests of the Feps carburetor.

The Auto Crankshaft Company, Detroit, is preparing to construct an addition to its plant at 192 Piquett street. The addition is to be used for the making of camshafts, which the company has added to its production of crankshafts.

The Edward G. Budd Manufacturing Company, Detroit, has moved its offices to the factory of the Grabowsky Power Wagon Company, which it recently acquired.

The Walpole Tire & Rubber Company, with sales offices at 757 Boylston street, Boston, Mass., has three well equipped factories located in Walpole and Foxboro, Mass., and Granby, Que. A general view of the main plant is shown herewith, and it may be stated that the others are quite as modern in every particular, being fitted to produce tires and tubes to meet the requirements of motorists and to have a standard for quality and service which is unsurpassed.

The Wheeler-Schebler Carburetor Company, Indianapolis, Ind., maker of Schebler carburetors, has established a publicity department in connection with its advertising department. Joseph Kelly, a well known Indianapolis newspaperman, a specialist in automobile work, has been placed in charge.

The Weed Chain Tire Grip Company, maker of Weed chain tire grips and anti-skid devices, 28 Moore street, New York City, has located a plant on Logan street, Bridgeport, Conn.

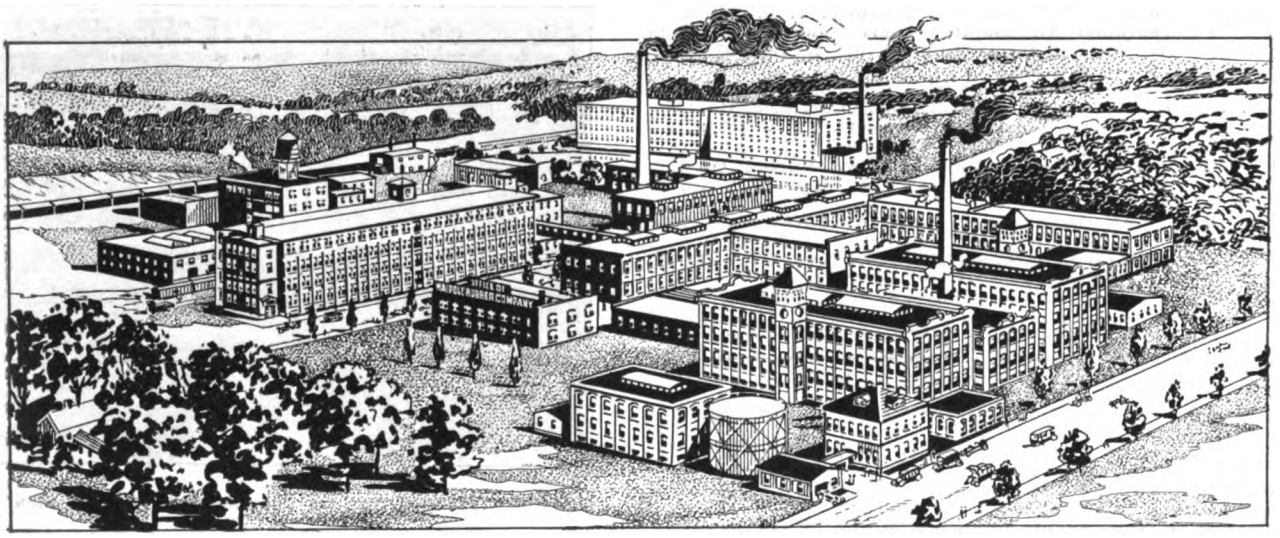
The Motometer Company, Inc., New York City, has appointed W. D. Reeves of Franklin, Ky., the sole distributing agent of the company's radiator heat indicators, known as Motometers, for the entire state of Kentucky. Mr. Reeves will make his headquarters at Franklin.

The United States Tire Company has opened its new branch at Worcester, Mass., in the Graphic Arts building. L. C. Havener has been made manager.

The International Motor Company, New York City, maker of Mack, Saurer and Hewitt trucks, has made some changes in the executive personnel. They were announced by Chairman W. C. Dickerman of the directors' executive committee, as follows: First vice president, John Calder; second vice president, L. H. French; third vice president, E. C. Fink; assistant to first vice president, F. R. Phillips; general sales agent, R. E. Fulton, assistant general sales agent, George H. Hodges.

The Hupp Motor Car Company, Detroit, maker of Hupmobile cars, has found it necessary to establish a parts depot in central Europe to meet the demands of European motorists. This depot has been established at Hamburg, Germany, under the direction of C. H. Dunlap, export manager of the company, and is in charge of George Chailley of Paris, who was secured by John L. Poole, the company's export manager at Paris.

The Miami Cycle & Manufacturing Company, Middletown, O., maker of Merkel motorcycles, and the Davis Sewing Machine Company at Dayton, O., maker of Dayton motorcycles, escaped damage in the recent floods, both factories being out of the flood zone. However, many of the employees of the concerns had their homes submerged and lost heavily. The factories mentioned are shown in accompanying illustrations.



General View of the Main Plant of the Walpole Tire & Rubber Company, Where Walpole Tires Are Produced.

NEW CONCERNS AND PROPRIETORS.

The Oldsmobile Company of Missouri has been formed to carry on a repair shop business and quarters have been secured on Locust street, St. Louis, Mo.

W. A. Christensen and A. D. Christensen, Antioch, Cal., have dissolved partnership, the former having purchased his brother's interest in the garage business.

J. H. MacAlman, Boston, Mass., president of the Boston Automobile Dealers' Association, has taken over the garage on Newbury street, formerly occupied by the Maxwell Company. He will operate it in connection with his agency for Stearns and Columbia cars.

W. L. Cooke, Plainville, Conn., has opened a new garage on East Main street, that town.

The Strauss-Dilcher Company has opened an automobile supply house at 767 Main street, Buffalo, N. Y.

The Modern Garage Company, Yonkers, N. Y., has opened a new garage near Central avenue, that city.

J. C. Oliver, Hollywood, Cal., has established a garage

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business at 728 North High street, Los Angeles, Cal., under the name of the Hollywood Garage.

The Central Garage, Long Beach, Cal., has been opened

General View of the Miami Cycle & Manufacturing Company's Merkel Plant in Middletown, O.

on Fifth avenue by Stall & Bros. & Hedley of that place.

E. G. Evans and Dr. J. G. Ham have purchased the Heintz garage on F street, San Bernardino, Cal. They will operate it under the firm name of the Auto Service Company. All kinds of repair work will be undertaken.

George Ihrig has leased the Park Hotel garage, Janesville, Wis. He handles the Michigan cars, in addition to doing a general automobile business.

The Murray County Auto Company has been formed at Slayton, Minn., and will erect a modern garage building on Main street, that city. All modern apparatus for repair work, etc., will be installed. The company will handle the KisselKar, Studebaker, Buick, Paige and Mitchell lines.

Zika & Co., Le Sieur, Minn., has established a modern garage and repair shop and is now ready to care for all kinds of work.

The Case Motor Company has taken over the Klos Motor Company, Third street, St. Joseph, Mo., and C. R. Livergood has been made manager of the consolidated concerns.

A. E. Riggs, formerly with the Harvard garage, Cambridge, Mass., will open the Austin Garage & Auto Repair Shop, 139 Austin street, Cambridge.

Lewis M. Camp, Hartford, Conn., has taken the agency for Metz cars, made by the Metz Company, Waltham, Mass., and has located his quarters at 37 Mulberry street.

Klock & Dietrich, Washington, D. C., has opened an automobile repair shop at 1333 14th street, N. W.

William Connor and W. M. Coolsby have purchased the business of the Corsicana Motor Company, Corsicana, Tex., and will operate the same.

The Wood Lake Auto Company, Wood Lake, Minn., has sold all its machinery in its garage to Hans Hall. A new company, to be known as Erickson & Schlenner, will be formed to operate an up-to-date machine and repair shop.

O. A. Ontjes and F. C. Schmidt, Grundy Center, Ia., have formed a company to engage in a general automobile business. The company will handle Buick cars, made by the Buick Motor Company, Flint, Mich.

Eugene A. Hart will open an electrical shop and garage on West High street, Jefferson City, Mo., the firm to be known as the Capital Equipment Company.

A. P. Sallander and R. C. Cruckson have opened a new automobile repair shop at 219 North First street, Phoenix, Ariz. In addition to their repair business they will handle second hand cars.

L. P. Cedarholm, Sacramento, Cal., has located a repair shop at 1609 M street, that city. He handles the Rambler car, made by the Thomas B. Jeffery Company, Kenosha, Wis.

The Motor Wagon Delivery Company, St. Louis, Mo., will maintain and operate a garage at 2737 Olive street.

Elton S. Jones of Riverton, Conn., has purchased the Canaan garage, Canaan, Conn., of George M. Bullock, the former proprietor.

The David S. Hendrick Company, Washington, D. C., has opened a supply department and salesrooms at 1024 Connecticut avenue, that city.

Brown & Halsey, Rochester, Minn., has opened a new garage and livery on Broadway, having invested $25,000 in the business.

J. G. Ball and E. Laubengayer, Brookville, Kan., have opened a garage in the Hoard building. They are prepared to handle all kinds of repair work.

J. R. Rushtol, Arcata, Cal., agent for Cole cars, made by the Cole Motor Car Company, Indianapolis, Ind., has formed a partnership with Bert Reed and they have established business on Fifth street.

Edward Wallace and C. A. Brown have taken over the Tire Service Company, Alhambra, Cal., and in future it will be known as the Alhambra Vulcanizing Company, with headquarters at 13 South Garfield avenue.

H. E. Master and H. H. Heilber, Shenandoah, Penn., have formed a partnership and have leased a garage on North Pearl street. They will conduct a first class garage and repair shop.

The Martins Ferry Garage, Grant avenue, Martins Ferry, W. Va., conducted by Martins & Oliver, is now open for business.

W. M. Wells, Carroll, Ia., has established a garage and repair shop business in a building he recently leased on Fourth street.

The Reliable Garage, Cherokee street, Hollywood, Cal., has been taken over by R. G. Van Houten and Harry Bains of Los Angeles, Cal.

A. B. Neyhart and Niles Green have formed a partnership in the automobile business and have taken over the Sixth Avenue garage, Stroudsburg, Penn., to which they will have extensive alterations made. Modern machinery of all kinds will be installed.

G. W. Pool, Corning, Cal., has taken over the Corning garage and will conduct it under an improved system of management.

W. C. Callender and Lewis Blake, Manteca, Cal., have formed a partnership and will conduct an up-to-date repair shop in a new building to be erected.

Brooks F. Martin of Shinniston, W. Va., is to open a garage in the Holt building on Walnut street, Grafton, W. Va. He will handle the Oakland and Mitchell pleasure cars and the Bessemer and Gramm motor trucks.

Oscar M. Corderman has purchased a half interest in the livery business of his brother, Luther H. Corderman, Oak Spring alley, Hagerstown, Md., and will conduct an automobile business in connection with the other line.

Norman & Murphy is a new partnership formed at Peoria, Ill., for the purpose of conducting an automobile repair and machine shop at 206 South Washington street.

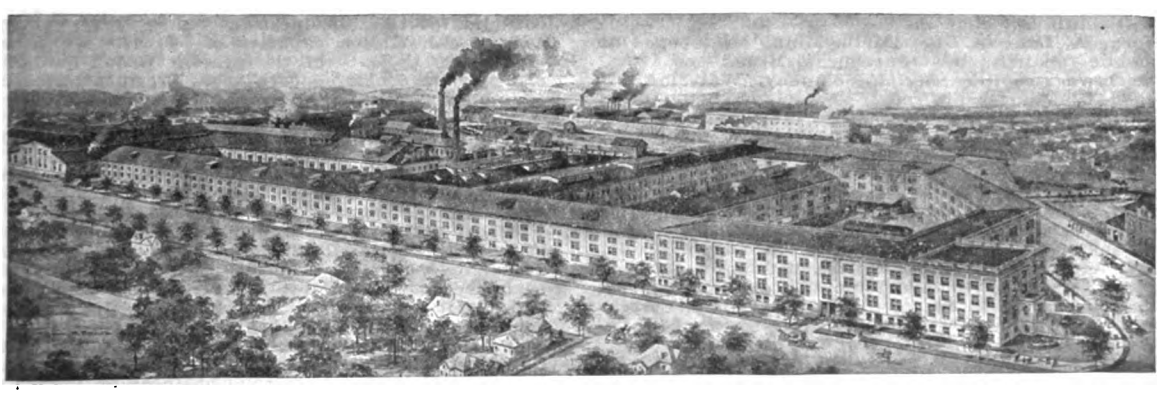
Scott Bros., automobile dealer of Gallatin, Mo., has opened a garage and repair shop in the Isherwood building.

William Lusendorf has taken control of the Bagley garage and livery business at Welcome, Minn.

Elise MacIntosh has leased the garage owned by Willard A. Evers and located on West Washington street, Los Angeles, Cal.

J. G. Coburn and associates have purchased the garage business formerly owned by A. H. Woodward at Whittier, Cal.

The Alling Motor Company, New Haven, Conn., has



Factory of Davis Sewing Machine Company, Dayton, O., Maker of Dayton Motorcycles, So Located That It Was Not Affected by Recent Flood.

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leased part of its showrooms to the Holard Auto Tire & Repair Company, and an up-to-date garage has been established.

The Cleveland Motor Lamp & Radiator Company, Cleveland, O., has been formed and has taken over the Guide Motor Lamp Company of that city. The former quarters of the Guide company in the Graves building has been leased by the new concern, which will handle all kinds of lamps and radiators for automobiles and do repair work.

S. Goyette, Lowell, Mass., has located his repair shop at 592 Broadway, that city.

The Dawson Machinery Company, 2 Sargent street, Worcester, Mass., has purchased property at 140 Foster street and will operate a machine shop and automobile salesroom.

The Auto Supply Company, Newington, Conn., of which Walter L. Foss is manager, has opened a garage and repair shop.

E. A. Bleck, Lima, O., has opened a garage at 125 South Elizabeth street. He handles the Overland cars and carries a full line of accessories.

The Southwest Motor & Garage Works on West Third street, Joplin, Mo., has been taken over by E. Zilerand and T. V. Grieb.

MacFarlane & Meyhem, Berkeley, Cal., has opened a first class repair shop at 1919 Allston way.

The Anderson-Pierce Auto Company, Eugene, Ore., has rented rooms in the Chambers Power block and has established salesrooms for Overland cars.

Fochetti & Son recently opened the Bear Flag garage on Spain street, Sonoma, Cal. It is equipped for all kinds of automobile repair work.

Simpson & Huffman and Earl Moore of Columbus, O., have opened a garage on College avenue and will do automobile, farm machinery and general repair work. The firm's office is at 237 North Fourth street.

tor Supply Company, Minneapolis, Minn., have merged their interests and the new concern is capitalized at $300,000. It is planned to enlarge the present quarters of the Fenstermacher Company at 311 Fifth street and to carry such a large line of supplies that the entire northwest trade can be supplied by the Minneapolis concern instead of by the Chicago houses. The active men in the company will be O. Fenstermacher and T. O. Fenstermacher, and the officers of the United Motor Supply Company, G. H. Riebeth and C. T. Mortonson.

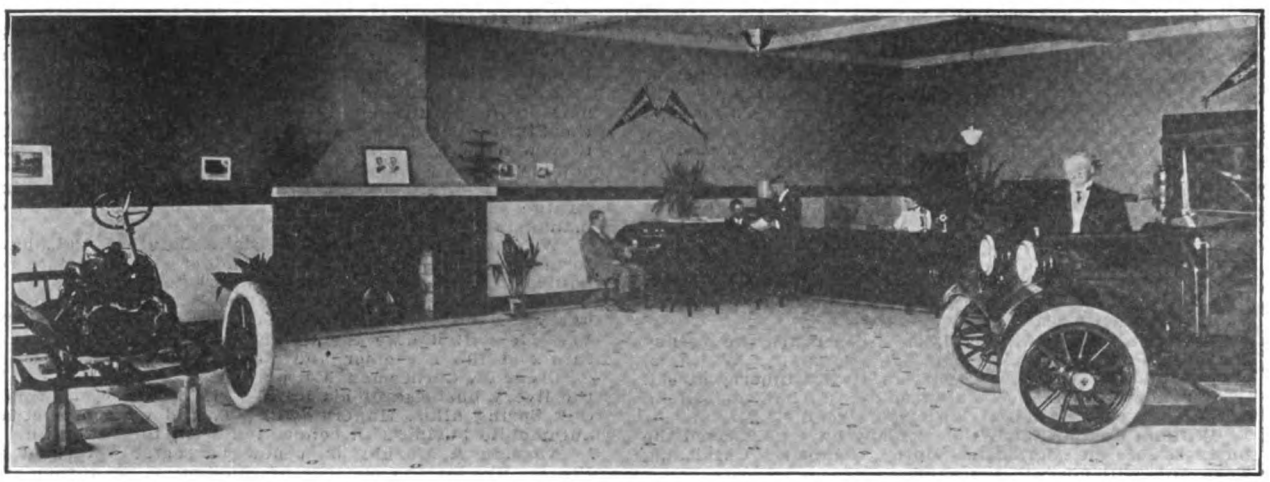
The Ilium Garage, Troy, N. Y., has been opened at Liberty and Third streets, succeeding the livery conducted for many years by Bord Bros. George S. Bord and James N. Bussey are the managers of the new garage, which is modern in every detail.

W. A. Ritter, formerly of Westfield, Penn., has recently purchased the business at 40 South Main street, Wellsville, N. Y., heretofore conducted by Young & Rice, and he is now finely equipped for all repair work on automobiles.

The Brady-Murray Motors Corporation was recently incorporated at Albany, N. Y. Arthur C. Brady is president, Arthur T. Murray is vice president and sales manager, and J. M. Breitenbach is secretary, treasurer and service manager. The corporation will act as eastern distributor of Smith-Milwaukee and Maccarr gasoline trucks, Lansden electric trucks and Chandler pleasure cars. The general offices of the concern are at 30 Church street, New York City.

F. L. Towle, who has been manager of the Elton Garage on Harrison avenue, Waterbury, Conn., has severed his connection with that firm and has begun alterations to the Williams Garage on Spring street, which he has purchased. The new Towle garage will accommodate 20 cars.

The Auto Supply Company, Beloit, Wis., has opened a store at 422 State street, in a building leased of Peet



Henderson Salesrooms, Recently Opened in Los Angeles, by J. W. Willcox, Southern California Distributor.

The Brock Garage, Inc., Trenton, N. J., has taken the agency for the Autocar truck, made by the Autocar Company, Ardmore, Penn. He also carries a full line of parts and accessories.

John King and C. D. Spaulding have joined forces in operating the Cleveland garage at Poughkeepsie, N. Y., and will do first class repair work. The company has the agency for Peerless cars, made by the Peerless Motor Car Company, Cleveland, O.

Garlen Bryant has purchased the Elmore garage with all its machinery at Temple, Tex. New equipment will be added and a first class repair shop will be maintained.

Guy Knapp has purchased the interest of G. A. Macosky in the firm of Macosky & Knapp, St. Croix, Wis., and will continue the business.

George A. Lake of Blue Earth, Minn., has opened an automobile repair shop at Sherburne, Minn.

The Iowa Gasoline Engine Company, Waterloo, Ia., has opened an up-to-date repair shop.

Thomas W. Metcalf has purchased the Palace Automobile garage at Hartford, Conn., formerly conducted by F. W. Dart, the well known automobile show manager, and has taken charge.

Hawn & Frost, Grundy Center, Ia., has rented part of the Bense & Lamar store and will open a garage. In addition to repair work the company will handle Marion, Abbott and K-R-I-T cars.

J. W. Willcox, Southern California distributor for Henderson cars, made by the Henderson Motor Car Company, Indianapolis, Ind., has occupied his newly completed garage and salesroom at 1053 South Olive street, Los Angeles, Cal. The building is one of the largest motor car structures in Los Angeles and is equipped with the most modern appliances. The accompanying illustration of the interior of the showroom indicates the excellent appointments now enjoyed by the Henderson.

The O. Fenstermacher Company and the United Motor Bros., for a term of years. The concern operates big automobile supply houses at Rockford, Ill., and Columbus, O., as well as a plant at Freeport, Ill., and has achieved considerable success.

The F. C. Loesch Auto Company has purchased the garage owned by W. M. Spitzer on Alamo avenue, and will continue the business.

The Detroit Nassau Tire Company, 621 Woodward avenue, Detroit, of which James Dillon is manager, has inaugurated a new departure and will in future furnish tires in a day and night service.

Charles Hecox, who has conducted an automobile and repair business, and A. F. McCune, a plumbing business at Belgrade, Mont., have formed a stock company and consolidated their business interests. They will operate a garage having a capacity of 50 cars, which will be erected on the site of the present Hecox garage. The officers of the new concern are: President, Charles Hecox; vice president and manager, A. F. McCune; secretary, George Heck; treasurer, C. H. Morse.

The Hirsch Motor Car Company will succeed Hirsch Bros. as agents for the Cole car at Chattanooga, Tenn., and garage quarters have been taken on Broad street. With the formal organization of the company an active sales campaign was started by J. D. Hirsch.

H. A. Phillips, well known in automobile circles, has organized the Hamilton Rubber Company, Chattanooga, Tenn., of which he is active manager. Quarters have been secured on West Sixth street and a general tire and repair business will be conducted. Mr. Phillips will act as agent for Ajax tires.

Patrick McHugh, who has been in business in Atlanta, Ga., for the past 28 years, has purchased a half interest in the Canfield oil and garage business on Second street, Macon, Ga. The new firm will be known as Canfield & McHugh. The stock has been increased and the garage is one of the best in the city.

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Porter M. Travis and brother of Greenville, Tex., recently organized the Travis Automobile Company in that place to handle the Little cars.

The R-C-H Sales Company, Detroit, has been formed to handle the local sales of R-C-H cars, made by the R-C-H Corporation of that city. The concern is an old one under a new name its members, D. C. Richardson, C. L. O'Donnell and G. E. Bleil, having been associated for some time in conducting a general garage business at 736-740 Woodward avenue.

The City Garage & Sales Company is the name of a new concern which has secured a location at the corner of Grenade and Cedar streets, St. Augustine, Fla. The repair shop is finely equipped.

Theodore Moody has resigned his position with the Moody Company and has opened a garage in the Keating building at 162 Douglas avenue, Elgin, Ill.

The Rogers Supply & Tire Company, Columbus, O., has increased its capital stock from $10,000 to $25,000. It is understood the additional capital will be used to enlarge the company's stock of supplies and materials.

The Sabine Sales Company is a new concern located at Orange, Tex. It will act as state agent of an automobile attachment newly patented.

The Nashville Tire Company, Nashville, Tenn., has opened a place of business at 901 Church street with W. D. Caldwell and E. W. Craig at its head. Both men have had wide experience in the automobile business. They will handle Kelly-Springfield tires exclusively.

Harry J. Isham, Coffeyville, Kan., has opened what is claimed to be one of the largest garages in Kansas. It will be known as Isham's garage and the firm will handle Marion cars. The officers of the concern are: President, Harry J. Isham; vice president, Charles B. Riggs; manager, Gus Bayless.

The Keystone Auto Company, 5905-5913 Center avenue, Pittsburg, Penn., has taken over the interests of the United Motor Pittsburg Company, formerly of Forbes and Meyran avenues, and in future one firm will operate from the Center avenue establishment as the Keystone Auto Company, which was incorporated in 1904. Both concerns sold Maxwell cars and as two agencies in Pittsburg were deemed unnecessary, it was decided to combine them.

The Zip Automobile Filler Company is a new concern that has located at Fargo, N. D., and has opened an office in the Huntington block on Broadway.

The "Ike" Auto Supply Company has opened one of the best equipped automobile supply and accessory stores in western New York at 725 Main street, Buffalo, N. Y. Fred Schoenthal, known among a large circle of friends as "Ike," will manage the business. He states that the letters of the name indicate that "I Keep Everything."

Norman de Vaux, head of the Reo Pacific Company, coast agents for Reo and Apperson cars, announces that he has opened a branch house at Stockton, Cal., in charge of E. S. Logan, formerly of Fresno.

The Daughters-King Auto Specialty Company, St. Louis, Mo., has occupied the remodelled building at 3323 Locust street. Manager Daughters announces facilities to do all kinds of specialty work, such as seat covers, tops, dust hoods, retrimming, etc.

Henry E. Riker & Co., distributor of the Stewart delivery car in Ohio and Indiana, made by the Stewart Motor Corporation, Buffalo, N. Y., has purchased the Windermere garage building at 1356 Euclid avenue, Cleveland, O., together with a 35-year lease on the land. It will be known as the Windermere-Euclid garage and will be headquarters of the firm.

David Rogers and L. B. Fort have purchased the San Juan garage at Orlando, Fla., of Harry L. Beeman, and they will conduct one of the most up-to-date automobile salesrooms and repair shops in central Florida.

Charles S. Mashburn, Springfield, Ill., has opened a salesroom at 325 North Sixth street. He handles the Marion and Stutz lines.

Barney Graham and Henry Haas, Jr., have formed a partnership at Decorah, Ia., and have opened a garage and salesroom on East Water street. A first class repair shop also has been installed.

Fred T. Hendee, formerly a business man of Beloit, Wis., has engaged in the motor car and garage business at San Bernardino, Cal. Associated with him is Clem D. Perkins of the latter city, a nephew of Mr. Hendee.

E. A. Rahfeld, Passaic, N. J., dealer in automobile accessories, tires and tubes, has opened a completely equipped tire vulcanizing and sales depot at 37 Lexington avenue.

Charles J. Young, Galveston, Tex., who has conducted a general supply house in the Builders' Exchange building, that city, has established an automobile supply house in connection with a general repair and overhaul shop. He is planning to erect one of the most completely equipped garages in the South.

S. C. Bradford & Son, Storm Lake, Ia., has opened a garage in that city and will maintain a modernly equipped repair shop. Bernice Bradford will have direct charge of the business.

F. W. Sauermann, for the past 14 years cashier for the Gansert Candy Company, has resigned to embark in the automobile business at Rock Island, Ill. A service station will be established in a location to be determined later. Henry Wochner, an experienced automobile man, who has been identified with the industry for a number of years, is a partner in the concern. The firm will handle the Colby car, made by the Colby Motor Car Company, Mason City, Ia.

Meeley & Pressman has opened a tire store at 1659 Broadway, New York City, with a stock of high grade goods.

John Milsom, well known in automobile circles at Salem, Ore., has purchased the Embry garage at 246 State street. A complete repair shop is included in the purchase and Mr. Milsom will carry a full line of accessories and supplies.

The Motor Sales Company, Philadelphia, Penn., has been formed by Frank Le Flem, Charles Parker and Richard Kindig, and will handle the National, Henderson and Empire cars. All three members of the firm have seen many years' experience in the automobile business in Philadelphia and their success is assured.

The Columbia Garage, 421 North 54th street, West Philadelphia, Penn., has been opened by Ashton S. Rea & Co. The repair shop is completely equipped. Mr. Rea was until recently affiliated with the United Motor Philadelphia Company and is well known in the industry.

The Auto Tire & Vulcanizing Company, Grand Rapids, Mich., has been incorporated with a capital of $3000. The plant will be located on Island street. A patent has been applied for on a sub-casing which the company will make. Emil Tisch is president, L. N. Space is vice president, and O. H. Goldsmith is secretary and treasurer.

Oscar L. Auselm of St. Louis, Mo., has purchased the Croddy carriage factory at Arcola, Ill., and will operate a painting and repair plant. The storage room will be converted into a garage.

John Padgett has purchased the old L. D. S. church at Knob Noster, Mo., for $600. Mr. Padgett is a well known machinist and repair man and will open a first class garage and repair shop.

C. L. Whitney & Co., Kansas City, Mo., has opened headquarters at 1829-1831 McGhee street, with a complete stock of parts for Michigan cars, which the company will distribute throughout the entire southwest territory. C. L. Whitney, the head of the concern, is well known throughout that territory, having for 19 years been connected with the Columbus Buggy Company of Kansas City, the latter part of his time as general manager.

The Ents Automobile & Battery Company, St. Louis, Mo., has opened its new electric garage and storage battery repair station in the downtown section of the city. The company will make a specialty of caring for electric trucks. Mr. Entz was for over 12 years with the Electric Storage Company as engineer and manager of the Baltimore and St. Louis offices and for the past four years has been the western representative of the Philadelphia Storage Battery Company.

G. W. Feits has taken the interest of Mr. Bacon in the firm of Langford, Bacon & Myers, distributor of Lauth-Juergens trucks, and has been appointed vice president of the concern. He has established a branch house at Los Angeles, Cal., which he is managing, being assisted by Harry C. Collins, formerly head of the office of the Allis-Chalmers Company.

The Streuber-Mooney Company, Erie, Penn., and Buffalo, N. Y., has been formed to handle the sales of Keeton cars, made by the Keeton Motor Company, Detroit, for six counties, including Erie and five others in Pennsylvania, and six counties in New York State, including Genesee county, in which Buffalo is situated. The members of the firm are Lewis Streuber and Frank J. Mooney.

C. W. Whitson and C. O. Usborne of Detroit have formed the Usborne-Whitson Sales Company to handle in Michigan the Keeton car, made by the Keeton Motor Company of Detroit. A large salesroom has been secured at 730 Woodward avenue, Detroit. Both men are well equipped by experience to handle Keeton sales successfully.

The M. B. M. Motor Company, Boston, Mass., a recently incorporated concern, has made final arrangements to handle the Maxwell car at 1116-1118 Boylston street, under the management of Charles Addison Malley, father of the present Massachusetts vehicle lighting law and other legislation of advantage to motorists.

E. R. Bennett and G. Lemaster have opened their garage at 113 North Main street, Ottawa, Kan., under the firm name of the Redlight garage. Modern machinery has been installed and a general automobile and repair business will be conducted.

R. A. Vos of East Saugatuck, Mich., has acquired the property formerly owned by the Holland Umbrella Company, Holland, Mich., and the building will be equipped for a first class garage, which Vos will conduct.

C. W. Evans and W. A. Rose have taken over the Boulevard garage at 29 Webster street, Brookline, Mass., and will conduct a general garage and repair business. A complete electric charging equipment has been installed and the firm will handle supplies.

The Garrett Garage Company, Wallace, Idaho, has started in business in a new garage on Pine street. The machine equipment is complete and shafting was installed of sufficient length to permit of extension of facilities from time to time.

The McAden Automobile Company, 106 Fayetteville street, Raleigh, N. C., has taken over the business of the

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Jackson Tri-State Motor Car Company, Louisburg, N. C., and will conduct it at Raleigh. The McAden company acquires the garage and accessory business and Jackson distributing agency for the same territory. R. Y. McAden is the sole owner of the company and has had many years' experience in the automobile business.

The Kolb Sales Company, with offices in the United States Rubber building, Fifty-eighth street and Broadway, New York City, has recently been organized to represent the interests of different automobile accessory and specialty manufacturers in the eastern territory. Milton B. Kolb, who has been identified with various branches of the motor car industry in the past 10 years, is at the head of the new organization.

The James Bailey Company, Portland, Me., has been appointed state distributor of the well known Invader lubricants, made by the Invader Oil Company, New York City. The company expects to greatly enlarge its oil sales by handling this brand of lubricants.

The G. R. Cowie Company, Inc., Washington, D. C., distributor of Cole cars, made by the Cole Motor Car Company, Indianapolis, Ind., has taken over the G. R. Cowie Company, and the following officers have been elected: President, G. R. Cowie; vice president, L. Bert Nye; treasurer, E. S. Wolt; secretary, W. H. Bennett. The new concern also acquires the Standard garage, 2121 Fourteenth street, to which improvements will be made.

The Case Motor Sales Company, St. Joseph, Mo., was recently formed and is located in the garage formerly occupied by the Klos Motor Car Company at Second and Faron streets. G. R. Livergood is manager of the concern and J. C. Gifford is secretary and treasurer.

Harry J. Twitchell, who in 1911 and 1912 represented the Cole Motor Car Company, Indianapolis, Ind., maker of Cole machines at Portland, Ore., and who helped form the Christofferson Aviation Company at San Francisco, Cal., has returned to the industry. He has joined partnership with E. B. Snyder at Spokane, Wash., and they will operate under the name of Cole-Spokane Company.

The W. D. Sweet Motor Car Company, Binghamton, N. Y., has purchased the business of W. A. Crandall Company, 233 Water street, and will make that city its distributing point for Speedwell cars in Pennsylvania and New York.

George M. Bullock, Great Barrington, Mass., has sold his garage business to Elton S. Jones.

Batdorf & Stampfle, Paterson and Detroiter agent, Columbus, O., has dissolved. W. H. Batdorf will continue as the Paterson agent and has joined with Frank P. Corbett, state distributor for Detroiter machines.

F. W. Trowbridge, Thomaston, Me., has purchased the Stackpole buildings on Green street, which he will convert into a garage to conduct in connection with his hotel, the Knox house.

J. W. Tyler and Walter Fisk, Harvard, Ill., have purchased the business of the Economy Garage Company. Numerous improvements will be made.

TRADE PERSONALS.

J. Cross, cartage expert, has joined the Universal Motor Truck Company, Detroit, maker of Universal trucks.

M. O. Crawford has been appointed engineer of the Hibbard Engineering Company of Detroit.

L. Frank Wilson has left the factory sales department of the Buick Motor Company, Flint, Mich., maker of Buick cars, to join the Detroit branch of the company.

Albert L. Bennett, eastern representative of the Abbott Motor Company, Detroit, maker of Abbott-Detroit cars, has been made sales manager of the Abbott-Detroit Company of New York, New York City.

C. A. Rockwell has resigned from the Utica Auto Supply Company to become manager of the Sears Auto & Supply Company, 12-14 Genesee street, Utica, N. Y.

C. E. Van Vleck, Jr., has become interested in S. J. Wise & Co., 1794 Broadway, New York City, and will assist in the sales of the Touraine and Paige cars. He will also handle the Parsons scientific gas saver.

Harry N. Sullivan has joined the sales force of the Park Garage, 852 Blue Hill avenue, Dorchester, Mass., and has charge of the used car department of the company.

H. E. Parent, who has had charge of the repair and service department of the Cadillac Company of Boston, has taken a position in a similar capacity with the Republic Motor Company of that city.

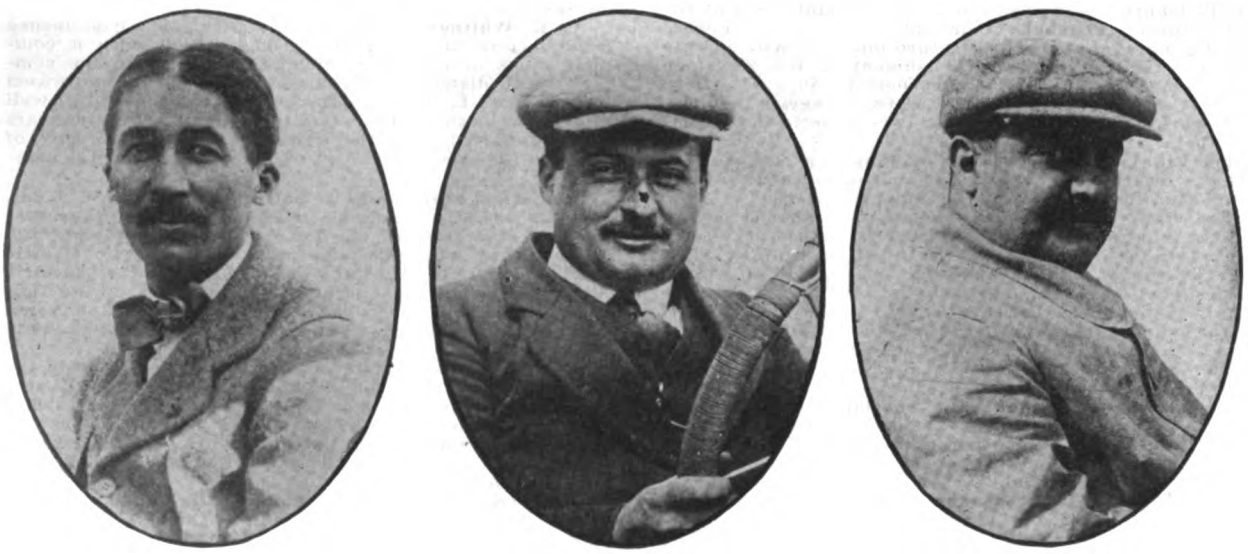
Joseph Stern, formerly connected with Wyckoff, Church & Partridge, New York City, has taken the American rights for the sale of Commer trucks, and has opened an office in the Thoroughfare building, 57th street and Broadway, New York City.

C. T. Schaefer has resigned as chief engineer of the Palmer-Myer Motor Car Company, St. Louis, Mo.

John A. Graham, recently sales manager for the Westfield Motor Truck Company, Westfield, Mass., has entered the employ of the Sanford Motor Truck Company, Syracuse, N. Y., as district manager, with headquarters at Boston. Mr. Graham is a mechanical engineer and was formerly a resident of Boston.

W. D. Kelly is the new factory manager of the Oakland Motor Car Company, Pontiac, Mich., maker of Oakland cars. He succeeds S. H. Humphreys, who formerly held the position.

W. W. Garrison, assistant to C. C. Winningham in the advertising department of the Hudson Motor Car Comuany, Detroit, maker of Hudson cars, has resigned.



Three Foreign Drivers Who Will Compete in Indianapolis Memorial Day Race: Left to Right, Jules Goux, Peugeot; Albert Guyot, Sunbeam; Paul Zuccarelli, Peugeot.

Otis C. Friend, assistant sales manager of the Mitchell-Lewis Motor Company, Racine, Wis., maker of Mitchell cars, has sailed for Europe in connection with business of the London and Paris branches of the company. Henry C. Plow, who has been in charge of the foreign department for the past two years, is making arrangements to return to the United States.

W. H. Whiteside, president of the Stevens-Duryea Company, Chicopee Falls, Mass., maker of Stevens-Duryea cars, made a recent visit to California, looking after the interests of the western representatives of the company.

W. H. Schwartz, sales manager of the Metz Company, Waltham, Mass., maker of Metz cars, recently visited the Pacific Coast and a factory branch of the company has been opened at 1025 South Broadway, Los Angeles, Cal., with C. A. Lown as manager.

Otto Stoll, formerly manager of the St. Louis branch of the General Motors Truck Company, has been appointed assistant sales manager, succeeding E. J. Kilborn, who has become general manager of the Chicago district.

C. P. Hennessey, formerly secretary to George E. Daniels of the Oakland Motor Car Company, Detroit, maker of Oakland cars, has been appointed manager of the company's branch at Nashville, Tenn. Monte Stone, formerly manager in Nashville, has been transferred to the branch at Little Rock, Ark.

Albert Guyot, Jules Goux and Paul Zuccarelli are foreign automobile drivers of international reputation who have entered the 500-mile race at Indianapolis, Ind., Memorial Day, and the American drivers will have to look well to their laurels to avoid defeat. Guyot will drive a Sunbeam, made in England, while Goux and Zuc-

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carelli will pilot Peugeot cars, made in France. In 1908 Guyot won in the light car class for the French Grand Prix and has taken hundreds of medals and trophies by his scientific driving. Goux is best known as the winner of the Sarthe Grand Prix last year, although he has won many other important events. Zuccarelli is also a winner of many events and is a fitting teammate for Goux.

Charles M. White, Jr., who has been representing the Firestone Tire & Rubber Company, Akron, O., maker of Firestone tires, in Syracuse, N. Y., has located at Detroit as pneumatic tire representative to the automobile manufacturers of Michigan. While in Syracuse Mr. White was particularly active in the interests of the company, and it was due largely to his efforts that it was deemed wise to open a new branch and service station there, which will be located at 502-504 East Genessee street. His removal to the heart of the motor car industry is looked upon in the nature of a well deserved promotion. E. A. Hoffman, formerly manager of Wyckoff, Church & Partridge in New York City, has been appointed manager of the new Firestone branch in Syracuse. Mr. Hoffman has lived most of his life in Syracuse, where he has a host of friends, and his selection to take up the work now laid down by Mr. White is considered particularly fortunate.

Charles M. White, Jr., with Firestone Tire & Rubber Company.

V. Link, chief engineer of the Universal Motor Truck Company, Detroit, maker of Universal trucks, has resigned. He is said to be the original designer of the Universal truck and is reported to contemplate entering business for himself.

Clarence O. Sacks is to become advertising manager of Gray & Davis, Boston, maker of starting apparatus, and he will assume his duties July 1, at which time the plant at Cambridge, Mass., will be completed. He will make his headquarters at Cambridge.

Charles T. Schoen of the Schoen-Jackson Company, Media, Penn., has returned from a trip abroad, where he went in the interests of the Feps carburetor, made by the company.

Joseph D. Porter, who has been sales manager for the Garford Company, Elyria, O., maker of Garford trucks and pleasure cars, has retired and has been succeeded by George F. Russell, who has been acting as supervisor of Willys-Overland district managers east of the Mississippi river.

Rene Petard, chief engineer of the Mitchell-Lewis Motor Company, Racine, Wis., has retired from that position, having completed the work for which he was engaged. It is probable he will return to Paris, France, where he has other interests, although he may also represent the Mitchell foreign department, which has reached considerable proportions.

Ernest Brandt, sales manager for the Maxwell car interests, after the taking over of that company by the new Maxwell Motor Company, could not go to Detroit from New York City, owing to business interests requiring his presence in the East, and so he retired from the company with the very best wishes of Walter E. Flanders and other officials.

W. B. Miller, vice president and director of the B. F. Goodrich Company, Akron, O., maker of Goodrich tires, has been replaced by D. M. Goodrich, Mr. Miller having withdrawn from the company.

Dr. Charles G. Percival, the well known automobile world tourist, recently attempted to enter Mexico, but was barred at Laredo. Dr. Percival said there was fighting going on there continually.

Henry B. Anderson has been elected president of the Automobile Club of America to succeed Frederick W. Whitridge. He was chosen at a special meeting of the board of governors, held at New York City. Mr. Anderson has been a governor for some years and was one of the earliest members of the club.

M. H. Stimpson has become general manager of the United States Radiator Company at Dunkirk, N. Y. He was formerly manager of two of the plants of the Buick Motor Company at Flint, Mich.

Charles Eliot Ware Woodward, head chemist for the Fisk Rubber Company, Chicopee Falls, Mass., almost since the establishment of the concern, died very suddenly at his home at Chicopee Falls recently. His many friends in the industry sent their condolences to the Fisk company and to his family.

T. A. Peck has become affiliated with the engineering corps of the Vacuum Oil Company, Rochester, N. Y. He is thoroughly familiar with lubrication work and has been connected with the technical and engineering end of the automobile industry for the past 13 years.

Frank R. Tate, formerly with the United Motor St. Louis Company and more recently with the Ford Motor Company, has been elected vice president of the Hudson-Phillips Automobile Company, 1025 North Grand avenue, St. Louis, Mo. He will be general manager of the company, which distributes Hudson cars, made by the Hudson Motor Car Company, Detroit.

Hayden Eames, well known in the automobile industry and at one time prominently identified with the affairs of the Studebaker Corporation, Detroit, maker of Studebaker pleasure and commercial vehicles, has become general manager of the Standard Electric Car Company, Jackson, Mich., maker of Standard electrics. C. F. Kreuger has resigned active connection with the company, but will remain a director. Carl Morgan, formerly the Cleveland branch manager, has become factory sales manager.

George Veasey, well known in Boston automobile circles, has joined the selling department of the Premier Motor Car Company of New England, distributor of Premier cars in that territory.

G. S. Salaman of Mishawaka, Ind., is preparing to bring out a light, low-price car in the near future. He is being joined by J. L. M. Howe, who has resigned as assistant engineer in the electrical truck department of the Studebaker Corporation, at South Bend, Ind.

James Anderson of Detroit, an expert in gas engine and automobile work, has taken a position as foreman of the repair department of the Little Rock Auto Company, Little Rock, Ark., agent for the Chalmers, American and Buick lines.

D. D. Phillips has been secured as manager of the Bell Automobile Company, Nashville, Tenn., distributor of Apperson cars, made by the Apperson Bros. Automobile Company, Kokomo, Ind.

J. C. Austin, former chief engineer of the Regal Motor Car Company, Detroit, maker of Regal machines, has become engineer of the passenger car department of the Studebaker Corporation, and assistant to James G. Heaslett, chief engineer.

Manager L. A. Halley of the Chicago branch of the Motz Tire & Rubber Company, Akron, O., maker of Motz tires, has added Charles R. Serfass and S. F. Frensdorf to his sales staff. Both men are considered among the foremost tire salesmen in the country.

J. F. Richman, for the past four years factory superintendent for the Hudson Motor Car Company, Detroit, has been appointed factory production manager of the Cole Motor Car Company, Indianapolis, Ind., following the announcement of George H. Strout's resignation from the Cole organization to become general sales manager for the Haynes Automobile Company, Kokomo, Ind. Mr. Richman goes to his new duties with the good wishes of a host of friends in Detroit and throughout the industry. Before becoming associated with the Hudson company he was for a long time with the Maxwell-Briscoe Motor Company's plant at Newcastle, Ind., and he also served for a time with the Olds Motor Works, Lansing, Mich., and with a number of machine factories. He is particularly well fitted for the position and his selection is in keeping with President Cole's announced intention of securing men of the highest ability to head the various departments of his organization.

J. F. Richman, Production Manager, Cole Motor Car Company.

Fred T. Johnson, formerly with the Fisher Auto Company and the Marion Motor Car Company of Indianapolis, Ind., has joined the forces of the Ford Motor Company, Detroit, maker of Ford cars, and has been made manager of the branch in Omaha, Neb.

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Charles W. Newhouse, one of the most prominent automobile men of San Francisco, Cal., has joined the sales staff of the Haynes Auto Sales Company, Western distributor of Haynes cars, made by the Haynes Automobile Company, Kokomo, Ind. Mr. Newhouse will be special representative for the company.

Philpott & Baker is a new firm at Niagara Falls, N. Y., formed for the purpose of manufacturing a tire filler to be known as E-Z-R-N-AIR. It is the invention of E. E. Philpott, a well known chemist of Niagara Falls.

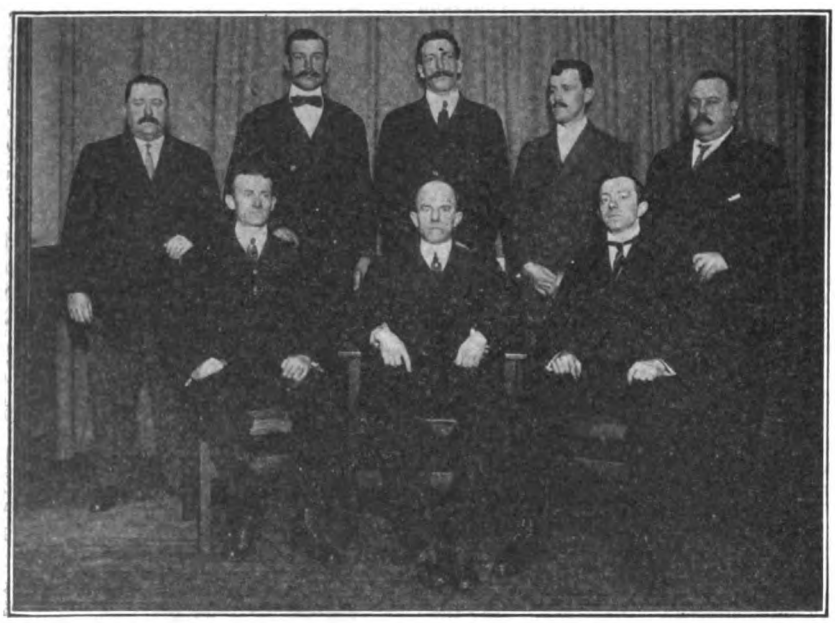
L. F. Marshall, who was formerly with the United States Tire Company, is now with the solid tire department of the Swinehart Tire Company, Akron, O., maker of Swinehart tires.

C. C. Edwards, who for some time managed the Boston branch of the Louis J. Bergdoll Motor Company, has severed his connection with that concern to take charge of the eastern territory for the Midland Motor Company, East Moline, Ill., maker of Midland cars.

J. Carroll Cone has taken the position of manager of the automobile department with the J. T. Lloyd Company, Little Rock, Ark., succeeding Eugene Polk, who resigned recently to join the White Auto Company of Texas.

Harry S. Houpt, who recently resigned as sales manager of the American Locomotive Company, New York City, maker of Alco cars, has been elected vice president of the Gurney Elevator Company. He will have charge of sales of installations of more than $50,000 and will locate his office in New York City.

Alfred Reeves and S. D. Waldon have resigned as members of the executive committee of the National Association of Automobile Manufacturers. J. N. Gunn and Alvin Macauley have been chosen in their places.



Faculty of the Bedford Branch Y. M. C. A. Automobile School: Left to Right, Standing, John F. Ryan, Frank Exner, Prof. George Meyerhoff, H. D. Webster, W. C. Benjamin; Sitting, John Lettenberger, Jr., Prof. Carl F. Schuls, Frank Berry.

Paul V. Clodio, a veteran of New York City automobile circles, has joined the selling force of the F. B. Stearns Company of New York, distributor of Stearns cars. Mr. Clodio formerly was connected with the sales department of the Mercedes and Benz companies.

G. F. Weaver of Philadelphia, J. G. Fulton of Omaha, Neb., and J. L. Stanley of the State of Washington, are the three salesmen of the Thomas B. Jeffery Company, Kenosha, Wis., maker of Rambler cars, who have become stockholders in three of the leading railroads of the country as the result of making the best sales record in a contest in the Jeffery organization, lasting three months.

Guy Vaughn, automobile designer and engineer, well known throughout the country, has joined the engineering forces of the F. B. Stearns Company, Cleveland, O., maker of Stearns-Knight cars.

William Van Den Plas, general manager of the Van Den Plas body factory at Brussels, Belgium, and Emile D'Ieteren of D'Ieteren Bros., automobile builder of Brussels, recently passed two days as the guests of the Hayes Manufacturing Company, Detroit. They were particularly interested in sheet metal parts for bodies, hoods, fenders, etc., and arranged to have the Hayes company do considerable work for them. They spent much time inspecting the plants of the Hayes company, the Packard Motor Car Company and the Ford Motor Company, and were greatly surprised at the magnitude of the industry in this country.

William Pickens, representative of the Western Automobile Association, was in New York recently making arrangements for holding a race meet at Brighton Beach this summer. Mr. Pickens said that $50,000 in prize money will be offered.

Daniel E. Whitman, formerly with J. W. Leavitt & Co., Los Angeles, Cal., is now with the Reo Pacific Company at San Francisco, Cal., where he will have charge of the Apperson department of the Norman De Vaux business.

C. J. Hagerling, manager of the Dahl Punctureless Tire Company, Chicago, maker of Dahl tire filler, has closed a contract with the New Jersey Car Spring & Rubber Company, Jersey City, N. J., for the distribution of its tires in Illinois and Indiana.

Harry E. Marvel has associated himself with the Fiat Motor Sales Company, Boston, Mass., which handles the product of the American Fiat factory, Poughkeepsie, N. Y., which has been in operation the past three years.

Frederick C. Benson, who was formerly associated with C. A. Benjamin in the Packard garage at Syracuse, N. Y., has taken an important position in the sales department of the American Locomotive Company, New York City, maker of Alco cars, to which place he was appointed by Mr. Benjamin since the latter became general sales manager.

O. C. Hutchinson has resigned as general manager of the Olds Motor Works, Lansing, Mich., maker of the Oldsmobile, and has gone to Detroit, where he will represent the company. General Sales Manager J. V. Hall, who several months ago went to San Francisco to take charge of the California branch, has returned to occupy his former position as general manager, temporarily.

The Bedford Branch, Y. M. C. A., Bedford avenue and Monroe street, Brooklyn, N. Y., has an automobile school which is one of the oldest in the country, having been organized in January, 1908, and it is one of the largest and best known. It graduates over 600 students a year, many of whom are owners or prospective owners, while others are garage mechanics, chauffeurs, salesmen, etc. Several are now holding responsible positions in the industry, a large percentage of these having been secured through the efforts of the school in behalf of the men. The equipment is thoroughly in keeping with the reputation of the institution, the latest features of automobile design and fittings being added as fast as their practicability has been established. Four and six-cylinder engines are kept in working order so that the students may wire, adjust and operate them; all types of ignition systems, both magneto and battery, and all kinds of carburetors, both mechanical and automatic, are utilized; even a 1913 electric motor starter is included, making everything complete and up-to-date. An interesting feature of the course is the Friday night lecture, for which the whole school assembles once a week to hear some expert, who often illustrates his talk by stereopticon views. An accompanying illustration presents some of the instructors, the full list being as follows: Supervisor, Prof. Carl F. Schulz, M. A.; shop teachers, Prof. George Meyerhoff, M. E.; John Lettenberger, Jr., H. D. Webster and Frank Berry; road instructors, Frank Exner and W. Davies; registrar, W. G. Benjamin; school office assistant, John F. Ryan. Messrs. Schultz, Lettenberger and Berry are members of the Society of Automobile Engineers.

H. F. Martin, who for 10 years has been general sales manager of the Pennsylvania Steel Company, has resigned to become general sales manager of the Eveland Engineering & Manufacturing Company, 2324 Market street, Philadelphia, Penn. William H. Baldwin, for a number of years treasurer of the Standard Roller Bearing Company, Philadelphia, has taken the position of controller of the Eveland company.

William P. Kennedy and Joseph A. Anglada, consulting engineers, are to open headquarters in the United States Rubber building, 1790 Broadway, New York City. Mr. Kennedy, who is a transportation expert, has for several years been prominently identified with the American Locomotive Company and the Baker Motor Vehicle Company as a consultant, while Anglada is probably best known for his work in developing demountable rims.

A. B. Barkman of the sales department of the Maxwell Motor Company, Detroit, has been sent to Europe on special work.

G. T. Lownsbery, recently from the East, will assist R. B. Tracy, who is Michelin district manager at Chicago, and will take the post of manager of the branch of the Michelin Tire Company at 1106 Hennepin avenue, Minneapolis, Minn.

T. F. Kilmartin, until recently connected with the sales staff of the San Francisco branch of the Lozier Motor Company, Detroit, maker of Lozier cars, has taken

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a position with Don Lee's northern California Cadillac organization.

Edward S. Babcox, formerly advertising manager of the Yawman & Erbe Manufacturing Company, Rochester, N. Y., maker of filing systems, is now advertising manager of the Firestone Tire & Rubber Company, Akron, O., maker of Firestone tires. J. S. Sleeper, former advertising manager of the Firestone company, is now general sales manager of the Colonial Printing Company, Cleveland, O.

E. Louis Kuhns, who for the past 18 months has been manager of the Studebaker interests in New York and New England, has retired from active service, although he will remain as a director of the Studebaker Corporation, Detroit, maker of pleasure cars and trucks. Mr. Kuhns went to New York from Chicago, where he had charge of the corporation's interests for four years. Altogether he has been 20 years in the service of the concern. He will reside in Chicago. R. T. Hodgkins is now in charge of the horse vehicle business for the Studebaker in New York City, and George H. Phelps is in charge of the automobile division.

C. Arthur Benjamin has been appointed general sales manager of the American Locomotive Company, New York City, maker of Alco cars and trucks. Before joining the latter company he was for four years sales manager of the H. H. Franklin Manufacturing Company, Syracuse, N. Y., two years sales manager of the Babcock Electric Company, and subsequently a distributor for Packard and Hudson cars in Syracuse, N. Y.

William Whipple, Genoa, Ill., lays claim to the honor of being the youngest real agent in the United States who has a regular contract as an automobile dealer. He recently passed his 16th birthday and although his father is the possessor of five prosperous farms in Illinois, he has a decided preference for building up a bank account strictly by his own energy. He is the duly accredited agent for Michigan cars, made by the Michigan Motor Car Company, Kalamazoo, Mich., in Genoa. The young man has a youthful enthusiasm which is backed by an accurate knowledge acquired by actual experience in the Michigan factory at Kalamazoo, having spent considerable time as a helper to make himself thoroughly familiar with automobile construction. He is in his third year at the high school at Sycamore, Ill.

William Whipple, Genoa, Ill., Youngest Automobile Agent.

Samuel Weston Scott, who was for some time connected with the Boston branch of the Velie Motor Vehicle Company, Moline, Ill., maker of Velie cars, has joined the sales force of the W. H. Stevens Company, Boston distributor for National cars, made by the National Motor Vehicle Company, Indianapolis, Ind. Mr. Scott is well known in motor car circles and will make a valuable addition to the National force.

Harold D. Bornstein, well known in Boston and New England motor car circles, is with the Premier Motor Car Company of New England, where he has joined the sales department.

O. J. Rhode, treasurer and manager of the Splitdorf Electrical Company, Newark, N. J., maker of Splitdorf magnetos, has returned from a business trip to England, during which he established a branch in London. The new Splitdorf quarters are located at 6 City Road, Finsbury Square. Other Splitdorf stations are to be opened at Toronto, Can., and Atlanta, Ga.

Louis M. Baker has been appointed sales manager for Clarence N. Peacock & Co., for whom he will direct the sales of the Ames shock absorbers. Two years ago Mr. Baker established the Baker Rim Company and retains his financial interest in that concern, although he will devote his entire time to the Peacock company's business.

Adolph Daimler, president and general manager of the Daimler Motoren Gesellschaft, Untertuerkheim-Stuttgart, Germany, died recently at the age of 42 years. He was a son of Gottlieb Daimler, a pioneer in the automobile industry in Germany and one of the leading men in the industry in that country.

The Continental Motor Manufacturing Company of Detroit and Muskegon, Mich., has appointed Albert H. Doolittle as advertising manager. Mr. Doolittle is well known in the industry and goes to the Continental company from the staff of the J. Walter Thompson Advertising Agency of Detroit. After studying engineering at Cornell University Mr. Doolittle became a member of the engineering force of the Pope Manufacturing Company, Hartford, Conn., in 1904. Less than a year later he entered the shops of the Electric Vehicle Company of that city for a thorough course in automobile building. There he went through every department of mechanical construction. In 1909 he made a 7000-mile tour of Europe, during which he gained a good insight into the methods of the foreign motor car makers. Upon his return he entered the employ of the Knox Automobile Company, Springfield, Mass., and in six months became advertising manager. His copy was conceded to be of special value and his publicity stories were widely used. In this manner he was brought to the attention of the Journal Company of Troy, N. Y., where he aided in directing the advertising campaigns of various automobile concerns and became automobile editor of the Carriage Dealers' Journal. While engaged in special work for this company on behalf of a factory in Moline, Ill., he became associated with the Thompson agency.

A. H. Doolittle, Advertising Manager, Continental Motor Manufacturing Company.

F. N. Schwab was recently placed in charge of the Chicago branch of the Speedwell Motor Car Company, Dayton, O., maker of Speedwell cars and motor trucks. He was formerly connected with the organization of the National Cash Register Company of Dayton.

R. W. Meacham recently took the position of Detroit sales manager for the Herreshoff Motor Company, maker of Herreshoff cars. He will have charge of the sale of these cars in Wayne county and his offices will be located at the Herreshoff factory in Detroit.

George H. Strout, for the past year district sales manager for the Cole Motor Car Company, Indianapolis, Ind., maker of Cole cars, has been appointed general sales manager of the Haynes Automobile Company, Kokomo, Ind., maker of the Haynes line. He succeeds Webb Jay, who with several others has organized the Haynes Motor Car Company, with headquarters at Chicago, to take over the sales of Haynes cars in the Middle West. Mr. Strout is one of the best known men in the industry and his change of plans came as a complete surprise, even to his associates with the Cole company, who join with his many friends and acquaintances in wishing him success in his new position. For a long time he was sales manager of the Apperson Bros. Automobile Company of Kokomo, maker of Apperson cars, and therefore will be entirely at home in that city. While with the Cole organization he did much to

George H. Strout, Sales Manager, Haynes Automobile Company.

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strengthen the sales force east of the Mississippi river. The officers of the new Haynes sales company in Chicago are as follows: President, A. E. Starbuck; vice president, Webb Jay; secretary and treasurer, A. G. Seiberling.

George Y. Bentel, head of the Pacific Coast agency for Simplex and Mercer cars, has announced the appointment of Bert Latham as manager of the San Francisco branch of the agency. Mr. Latham succeeds Rene J. Marx, who retired to become the Pacific Coast distributor of the Mercedes line.

T. J. Megear has been made branch manager and F. von A. Cabeen, Jr., sales manager of the new Philadelphia branch established by the American Locomotive Company, New York City, maker of Alco cars and trucks. Mr. Megear was formerly secretary and Mr. Cabeen vice president of the Longstreth Motor Car Company and both have long been connected with Philadelphia territory.

J. R. Coleman, formerly connected with the E. R. Thomas Motor Company, Chalmers Motor Company, Hudson Motor Car Company and Packard Motor Car Company, has resigned as chief engineer and designer of the Atterbury Motor Car Company. Mr. Coleman is well known to the trade, having started with the Thomas company in 1904, when that concern was in its infancy. His most prominent previous connection was with the Hudson company as assistant chief engineer to C. H. Taylor. The distinct change of design in the Atterbury line of trucks is representative of his class of work.

M. A. Magee, who for several years has been connected with the Motz Tire & Rubber Company, Akron, O., maker of Motz tires, has been appointed sales manager of the company, succeeding P. M. Pontius, who is specializing in the work of the electric pleasure car tire and is now in the position of manager of that department.

J. C. Quimby, formerly connected with the Peerless Motor Car Company, Cleveland, O., maker of Peerless trucks and pleasure cars, and for a time manager of the Thomas factory used car department, has joined the sales force of the Packard Motor Car Company of Boston as assistant manager of the used car department.

NEW BUILDINGS AND REMOVALS.

The California Electric Garage, Long Beach, Cal., has located in its handsome, modern building, recently completed on American avenue.

George Dobbins, 392 Belleville avenue, Newark, N. J., contemplates an addition to his garage in the near future.

H. T. Cartmel and H. E. McMillin, Glendale, Ariz., are having a new garage building erected on Grand avenue. It will be modern throughout and the company will carry a complete assortment of automobile accessories.

The American Auto Top Company, New York City, is now located in new quarters at 224 West 49th street.

The Texas Motor Car & Supply Company, Houston, Tex., is having a new garage built for its future occupancy on Irvine street.

Bryon & Cunningham, Waseca, Minn., is having a substantial addition erected to its garage.

John H. Fleming, owner of the City Hall garage, Scranton, Penn., has moved to the Farr building, 220 Adams avenue. He handles the Hudson and American lines.

Dr. C. G. McManay, proprietor of the McManay garage, has purchased the building at 4 East Sixth street, Charlotte, N. C., and will remove his garage business there.

The Colby Auto Company, Mason City, Ia., has moved into new quarters on Fifth street.

J. S. Allason, Seattle, Wash., has leased the business block at 854 Third street, San Bernardino, Cal., and will establish the Exchange garage.

George W. Bush, Newton Center, Mass., is remodelling a portion of his stable into an automobile garage and will be prepared to care for all lines of business.

The Bowe Carriage Works, Meriden, Conn., is building a modern garage. The company is agent for Overland cars, made by the Willys-Overland Company, Toledo, O.

The Regal Automobile Company, 1278 Bedford avenue, Brooklyn, N. Y., is enlarging its offices and salesrooms. A repair shop and machine shop are also being installed.

The Mundy Garage & Machine Company, Newark, N. J., has leased the building at 102 Greene street, which will give the company increased quarters to care for growing business.

The Central Auto Repair Company, St. Louis, Mo., will occupy the building at 3221 Olive street, which is being remodelled as a modern garage and repair shop.

Jacob Roth, Erie, Penn., distributor for Cadillac cars, made by the Cadillac Motor Car Company, Detroit, will soon occupy his new garage on West 10th street, which is nearing completion.

Moir & McMullen, Le Mars, Ia., will erect a modern garage on Main street, work now being in process.

C. A. Gable, Mt. Carmel, Penn., expects to erect a garage 18 by 20 feet.

A. E. Martin, Willow Grove and Stenton avenue, Philadelphia, Penn., is to build a one-story garage at a cost of $3000.

E. E. Cole and associates of Marysville, Cal., will occupy a building on Second street, which is being remodelled for use as a sales, supply and garage business.

Moulter & Franklin, Red Bluff, Cal., has occupied a new, modern garage on Walnut street, that place.

R. B. Rich will soon occupy a new garage, being erected for him on Fourth street, Riverbank, Cal. He will install modern equipment throughout.

Schaeffer & Laudenslager, Allentown, Penn., is having a modern garage erected at 37 South 17th street, that city.

The Auto Tire & Vulcanising Company of Newark, N. J., will move into the William Flory building, East Stroudsburg, Penn. An up-to-date vulcanizing plant and repair department are being installed.

H. G. Guenther, San Antonio, Tex., is having a modern building erected in which to locate his automobile business. He will carry on repair work and handle a full line of motor car accessories, etc.

Frank P. Clark, 30th and Race streets, Philadelphia, Penn., is planning to build a new garage.

The George C. Brinkman Motor Car Company, St. Louis, Mo., has located in its new building at 2818 Locust street.

The J. A. Zeman Auto Company, 310 Main street, Davenport, Ia., is making extensive improvements and enlargements to its garage and salesrooms.

The Washington Cartercar Company, Seattle, Wash., has established quarters at 1516 Broadway. The company distributes Cartercar machines, made by the Cartercar Company, Pontiac, Mich.

The Howard Motor Car Company, Los Angeles, Cal., is now located in its large new service building at 1148 South Olive street.

The Pennypacker Engine Starter Company, Los Angeles, Cal., has opened a service station at 2210 South Main street, that city.

The Los Angeles Alco Motor Sales Company, 1256 South Flower street, Los Angeles, Cal., has materially enlarged its quarters to care for increased business.

The Clark Motor Car Company, Louisville, Ky., distributor of Premier and Reo cars, will soon occupy its new sales and service station at Broadway and Brook street, which is nearing completion.

The H. O. Harrison Company, Los Angeles, Cal., has moved into its spacious new building at 1323-1327 South Flower street. The building is fireproof and modern in all its appointments. It contains a garage and complete machine shop, which is fitted with all requisite machinery for automobile work. The company handles the Peerless, R-C-H and Waverley electric lines..

The Don Lee Company, San Francisco, Cal., has moved into its new five-story building on upper Van Ness avenue and California street. The building contains 62,000 square feet. The Don Lee Company now has distributing branches for Cadillac cars at Los Angeles, San Francisco, Oakland, Sacramento, Fresno and Pasadena, Cal.

The English Motor Car Company is located in its new salesroom at 1132 South Grand avenue, San Francisco, Cal. The new quarters are as beautifully finished as any in that city. The company handles Stevens-Duryea cars.

The Central Auto & Supply Company, Waterloo, Ia., has moved into its large new garage at Sixth and Franklin streets. The machinery, supplies and other property have been moved from the old building opposite. The new structure is thoroughly equipped with all necessities.

The Cartercar Automobile Company, Omaha, Neb., has moved from 1113 Farnam street to the former home of the United Motor Omaha Company at 2115 Farnam street. The latter company has gone to 1122 Farnam street, formerly occupied by the Freeland Auto Company, and the Freeland company has moved to the place vacated by the Cartercar company.

The Lucia Bros. Motor Car Company, 218-220 North Adams street, Green Bay, Wis., has begun the work of removing a frame building in the rear of that now occupied by the company, and a concrete and brick structure will take its place. The first floor will be used for garage purposes only, while the second floor will be used for the service and repair departments.

The International Harvester Company, St. Louis, Mo., has leased the garage building at 3944-3946 Olive street as a sales and display room for automobiles and trucks. The building is in one of the automobile centres of St. Louis and was designed for such tenancy.

H. C. Metzger, Logansport, Ind., distributor of Ford and Overland cars, will soon occupy his new garage building at 111-115 Sixth street, which is rapidly nearing completion. The storage space is 11,000 square feet and the up-to-date repair department will be in the capable hands of Arthur Grund.

C. E. Wright & Co., Norfolk, Va., for a number of years located on Monticello avenue, has moved into its new building on the same street. The structure is three stories high and contains excellent appointments for the various departments.

The Locomobile Company of America, Pittsburg, Penn., has plans under way for alterations to its garage to cost $3000.

The Birmingham Motor Company, Birmingham, Ala., has started the erection of its new garage building at 20th street and Avenue F. It will be two stories high and thoroughly equipped.

The Edison Electric Illuminating Company, Crescent and Montello streets, Brockton, Mass., has opened its new

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garage at that address. The plant contains room for storing the several electric vehicles and trucks of the local company and is equipped to give public service to electric vehicles of all kinds.

Wilson & Griese, proprietors of the Crescent garage, Goodsell and High streets, Evansville, Ind., have occupied their new garage and repair shop.

The Studebaker Automobile Corporation, Atlanta, Ga., has moved temporarily into 324-326 Peachtree street, awaiting the completion of its handsome new building at Harris and Peachtree streets.

The Binghamton Motor Car Company, Binghamton, N. Y., has had its offices enlarged and altered to meet its increasing business. During the alterations the firm occupied temporary offices.

The Locomobile Company of America, distributor of Locomobile cars on the Pacific Coast, has been forced to move from its palatial quarters on Fulton street, San Francisco, Cal., to make room for the new civic centre. The company has contracted for a new building on Fulton street, west of Van Ness avenue. It will be four stories high, of heavy reinforced concrete and will be treated in the mission style of architecture.

Howard L. Lamprey has occupied his new garage, to be known as the Firestone garage, on West Central street, Manchester, N. H. It is equipped for all kinds of work.

The White Company, Boston, Mass., has under construction one of the largest and best equipped motor car and motor truck establishments in New England. It will be located on Commonwealth avenue and will contain every modern appliance known to the automobile industry.

The Glenwood Garage Company, Riverside, Cal., is completing improvements to its plant on Seventh street and it will be a model in southern California when finished. Seven departments will be provided for, the blacksmith and forging, painting, top making and upholstering, nickel plating, vulcanizing and electrical, besides the offices and sales departments. The nickel plating, vulcanizing and electrical departments are additions to the plant.

David Reid, proprietor of the Reid Auto Company of Kalamazoo, Mich., who has a garage at South Haven, Mich., has leased from M. T. Vanden Bosch the new garage on the site of the Bridge Street House, Michigan street and Bond avenue, Grand Rapids, Mich.

J. H. Burns & Son, Janesville, Wis., agents for the Commerce trucks and the Cartercar pleasure vehicles, is building a garage on Prospect avenue. Room will be provided for a repair department and competent help will be kept at all times to care for its lines.

The Janesville Motor Company, Janesville, Wis., has in process of construction a new garage and service building, which will embody every feature in modern garage service. Many special features of repair work will be cultivated. The company handles the National, Overland, Rambler, Cutting, Borland electric, Stutz, Chevrolet, Little, Herreshoff and Stanley steam pleasure cars, and Jeffery and Service motor trucks.

The Howard Automobile Company, Portland, Ore., has moved from Broadway and Couch street to 14th and Davis streets, which location formerly was occupied by the Becker Automobile Company, now removed to 14th and Burnside streets.

The W. E. Bell Auto Company, Little Rock, Ark., has installed a complete charging plant in its garage, which will be under the direction of Wardell Jukes, a factory expert.

The Advance Garage Company has leased the recently completed two-story garage at 672-680 Woodward avenue, Detroit, built by the Caille Realty Company, the rental being $6000 a year. Several parts of the building have been sub-leased to other concerns.

The Down Town Garage, 1418 Howard street, Omaha, Neb., which has been in course of construction, has been occupied by R. M. Harris, who will manage the business.

The Twin City Motor Car Company, St. Paul, Minn., northwestern distributor for Saurer, Mack and Modern trucks, and the complete line of Maxwell cars, recently moved into its new quarters, 163 West Sixth street, where one of the finest garages in that city is located. The service department is now fully complete and the company is easily able to care for its trade. Gustav Michaud is in charge of the pleasure car sales, while A. F. Williams handles the truck department.

The Alsten & Goulding Company, Foster street, Worcester, Mass., has installed a manufacturing plant devoted to the making of inner sleeves and linings for pneumatic tires and other tire equipment.

Black & Robbie, Dallas, Ore., distributor for Overland cars, made by the Willys-Overland Company, Toledo, O., has occupied a new garage on Main street, recently erected at a cost of $2000 by George Clanfield.

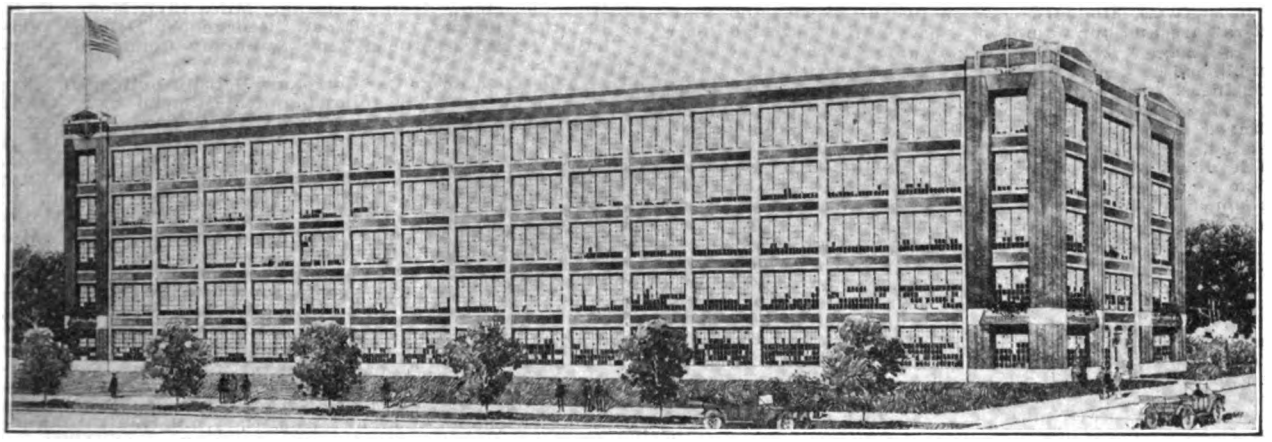
The Salt Lake City Auto Exchange, Salt Lake City, Utah, is having a modern garage erected for its use. The latest appliances will be installed.

The Nebraska Cartercar Company, Omaha, Neb., has located in its new home at 2115 Farnham street.

West & Postler is making improvements to its garage on South Main street, Rochester, Minn. The company handles the Michelin tires and other accessories.

The Collins Garage, 22d street, Omaha, Neb., has increased its facilities for handling an augmented business.

Gray & Davis, Boston, Mass., has prepared plans and is having erected in Cambridge a handsome modern factory building, five stories high, 381 feet six inches long by 81 feet wide on the first floor and 61 feet wide above that. The design has been prepared with a view to permitting additions in the future. An accompanying illustration presents a general view of the plant, which will be so constructed that nearly 70 per cent. of the wall area will be of glass, using steel sash. There will be a large showroom on the first floor and the offices will be located on the second, occupying the full width for a length of 200 feet. The entire building will be modern in every particular.



New Factory Building Now Being Erected in Cambridge, Mass., by Gray & Davis, Boston.

The Schad Garage, Benwood, W. Va., has moved into its new garage, which was recently completed. The establishment is modern throughout.

The American Garage, South Orange street, El Paso, Tex., is to undergo extensive improvements and enlargement.

The Elliott Auto Supply Company, Great Bend, Kan., has moved into new and commodious quarters on Williams street.

H. C. James of the James Automobile Company of Ogden, Utah, has announced that his firm will erect a new garage, which will be equipped with a complete repair department.

The New Berne Garage Company, New Berne, N. C., is planning improvements to its garage building.

The Automobile Supply Company, Racine, Wis., is to occupy a new garage which is now in course of construction.

The Barton Motor Car Company, Janesville, Wis., is having a new garage built, which will be occupied as soon as completed.

The Jackson Boulevard Garage Company, Chicago, distributor for Michigan machines, made by the Michigan Motor Car Company, Kalamazoo, Mich., is now located in its new service building at 1303 Jackson boulevard.

The Meyer-Busch Motor Car Company, St. Louis, Mo., has leased the building at 2005 Locust street and will locate its business at that address.

The Consumers Auto Supply Company, Pittsburg, Penn., has moved into new quarters at 302 Wood street, from 412 Diamond street.

Vick Bros., Salem Ore., has opened its new, modern garage at 260-274 High street, opposite the city hall. A first class repair shop and service station will be main-

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tained and care will be given to all makes of cars. Vick Bros. handles the Ford car exclusively and the northwest room of the new building will be occupied by Chamberlain Bros., which has the agencies for the Cole car and the Menominee truck.

John and Robert Gilbert, proprietors of the Imperial garage, Jacksonville, Fla., are building a new garage on Laura street, which will contain a modern repair shop.

The Brown Car Corporation, New York City, distributor of Brown trucks, made by Brown Commercial Car Company, Peru, Ind., has opened offices in the United States Rubber Company building. The members of the company are Harry W. Torney and W. P. Fargo. They were formerly in business at 52 William street and have a salesroom at 2000 Broadway.

The New York Selling Branch of the De Dion-Bouton cars, of which Emanuel Lascaris is the head, has moved from 51st street and Broadway to the northeast corner of 52d street and Broadway.

The United New York Company is now settled in its new quarters at 1932 Broadway, New York City, with a full line of Columbia cars. The new salesroom is one of the most attractive in Broadway and the service department, extending through to 65th street, is modern and fully equipped in every respect. R. L. De Lisser, as manager of the company, continues in full charge of the new Columbia home.

The Elizabeth Automobile Company, North Broad street, Elizabeth, N. J., is causing the erection of a substantial addition to its plant to cost $4100. Work has been started and will soon be completed.

The Detroit Auto Exchange has opened quarters at 676 Woodward avenue, Detroit, instead of at 292 Jefferson avenue, as at first intended.

The United Motor New York Company, New York City, has taken 20,000 square feet of floor space in the Galvin building at 18th street and East avenue, Long Island City, N. Y., for a service station. The latter can easily be reached by way of Queensboro bridge. Repair parts for Maxwell, Stoddard-Dayton, Brush, Everitt and Flanders cars and for Sampson trucks will be carried there.

Johnson & Iverson Auto Company, Kiron, Ia., has established a repair shop in connection with its garage business.

The Schrup Motor Car Company, Dubuque, Ia., has leased four sections of the Conolly building on Seventh street, to be used as a salesroom for Premier, Locomobile and Studebaker pleasure cars and G. M. C. trucks. The four sections will be converted into one spacious room and the company will add a complete line of tires and supplies.

The Pittsburg Motor Service Corporation, Pittsburg, Penn., has opened a magnificent storage depot building, completely equipped for the care and maintenance of trucks, an institution that was badly needed in that city. Many business men failed to install motor equipment because of lack of storage facilities, but so fine an impression has the new building made that many of those already operating machines are said to be contemplating doing away with their private garages and availing themselves of its service. Pleasure cars can also be left there during the day instead of parking along the city curbs.

The Merwin Gasoline Company, Pittsburg, Penn., which was recently granted a state charter, has awarded the contract for the building of its new home in Grant boulevard, near Thirty-third street. The building will cost $3500. A large plot of ground was purchased and the unused portion will be held to await further development.

Louis Jandorf, dealer in second hand cars, has taken a lease of the United States Motor Company building on Sixty-first street, near Central Park West, New York City, and will combine his various establishments under one roof. The building has seven stories, each floor being 200 by 75 feet. It is understood that the annual rental is about $40,000. This deal, coupled with the fact that the Times Square Automobile Company not long ago took over and remodelled the Wyckoff, Church & Partridge building at Fifty-sixth street and Broadway, is significant of the importance of the second hand automobile business. Jansdorf's former place has been taken by the Cadillac company, which will have its salesroom diagonally across the street on the Broadway corner. The factory at Fifty-eighth street and Eleventh avenue has been taken by the United States Rubber Company.

C. W. Robinson has completed extensive alterations to his Cole service station and electric garage at Peoria, Ill., making it one of the most modern automobile homes in the state outside of Chicago.

The Metz Company, Waltham, Mass., maker of Metz cars, is erecting a new factory which will have 55,000 square feet. It will be completed and ready for occupancy in June. It will be modern in every way, being built of concrete and glass, making it as sanitary as possible. With the additional equipment the Metz Company will be able to turn out 50 cars a day, whereas 25 is the output at present.

The Cole Motor Car Company, Indianapolis, Ind., maker of Cole cars, will erect an addition to its plant to cost $150,000. Work will begin at once and the plant will be ready for occupancy by Oct. 1.

NEW AGENCIES.

The Johnson-Gewinner Company, Atlanta, Ga., agent in that city for the Motometer Company, Inc., 1784 Broadway, New York City, maker of radiator heat indicators, has had its territory extended to cover Georgia, Florida, Louisiana, Alabama, Mississippi, Tennessee, Kentucky, North and South Carolina and West Virginia.

William J. Meyers & Co., Baltimore, Md., has closed a contract with the Jackson Automobile Company, Jackson, Mich., maker of Jackson cars, to distribute that car in Baltimore and vicinity.

C. C. Eichelberger, Oakland, Cal., prominent automobile dealer, will act as direct factory distributor for Moline cars, made by the Moline Automobile Company, Moline, Ill., for the Pacific Coast territory. He will establish numerous branches in different cities.

The Foraker Motor Truck Company, 1700 Wabash avenue, Chicago, one of the best known agencies in Chicago, has taken the agency for the Sternberg trucks, manufactured by the Sternberg Manufacturing Company, Milwaukee, Wis.

W. L. Daly, sales manager of the King Motor Car Company, Detroit, has closed an agency contract with the Heinrich Automobile Company, St. Louis, Mo., which will handle King cars in that territory.

Walter Beale, formerly with the White Company, Cleveland, O., maker of White machines, as its representative in Bakersfield, Cal., and vicinity, has been appointed sales agent for the Cadillac Motor Car Company, Detroit, and will handle the Cadillac product in the same field.

The Kissel Motor Car Company, Hartford, Wis., maker of KisselKar pleasure cars and trucks, has appointed the following new agents: Rio Grande Auto Company, El Paso, Tex.; P. H. Harrington, Slayton, Minn.; H. E. Webber, Fergus Falls, Minn.; Central Auto Company, Faribault, Minn.; O. H. Taralveth, Warren, Minn.; F. P. Smith, Missoula, Mont.; Holmes Garage, Miles City, Mont.; C. H. Buford, Virginia City, Mont.; George W. Delisle, Walhalla, N. D.; Aberdeen Auto & Supply Company, Aberdeen, S. D.

The King Motor Car Company, Detroit, builder of King cars, announces the following dealers who have taken King agencies: Monroe Motor Car Company, Buffalo, N. Y.; Holsman Sales Company, Des Moines, Ia.; Miller & Williams, Los Angeles, Cal.; M. G. Beckner, Indianapolis, Ind.; Isaac Pepper, South Bend, Wash.; Barclay Auto Company, Minneapolis, Minn.; Tice & Lasley, Canton, O.; Dyche & Duncan, Columbus Junction, Ia.; Diehl Motor Car Company, Medicine Hat, Alberta; King Motor Sales Company, Kansas City, Mo.

The Stewart Motor Corporation, Buffalo, N. Y., has appointed the following agents for the Stewart light delivery commercial cars: W. H. Heinzerling, Seattle, Wash.; Lougheed & Webster, Calgary, Alberta; George H. Hack, Saskatoon, Saskatchewan; M. Zilbermann, New Orleans, La.; Christiansen Company, Galveston, Tex.; Empire Automobile Company, Glens Falls, N. Y.; E. L. Jordan, Auburn, Me.; Syracuse Garage, Syracuse, N. Y.; John Van Benschoten, Poughkeepsie, N. Y.; Power City Auto Company, Niagara Falls, N. Y.; J. E. White, Jamestown, N. Y.

The Cole Motor Car Company, Indianapolis, Ind., maker of Cole cars, has appointed the following distributors: C. E. Simmons, Adrian, Mich.; Enterprise Machine Company, Asheville, N. C.; Cole Sales Company, Baltimore, Md.; William H. Hopkins, Bath, N. Y.; Lahr Motor Sales Company, Bismarck, N. D.; Breese Garage, Breese, Ill.; J. E. Osborne, Carroll, Ia.; Thompson Anderson, Charleston, Miss.; Hitsch Bros., Chattanooga, Tenn.; Walter Haynie, Covington, Tenn.; Crestline Garage Company, Crestline, O.; N. R. Herrick & Co., Eustis, Fla.; Mrs. Laura Heintz, Hammond, Ind.; Patterson Auto Sales Company, Hamilton, Ont.; M. J. Bliss, Hartford, Conn.; S. J. Harrigan, Joliet, Ill.; Ayer Manufacturing Company, Keokuk, Ia.; N. B. Bronner, Little Falls, N. Y.; Cole Motor Company, Milwaukee, Wis.; John N. Taylor, Moberly, Mo.; Osmanson Bros., Morris, Ill.; Barngrover Auto Company, Newton, Ia.; W. J. Freeling, Oakland, Cal.; Ford Auto Company, Paterson, N. J.; Gulf Coast Garage & Sales Company, Pensacola, Fla.; I. A. Silvie, Jr., Port Richmond, L. I.; Tuler Auto Company, Pueblo, Col.; J. S. Casey, Sacramento, Cal.; Kinsey & Danielson, Sherrard, Ill.; Shean Auto Station, Springfield, Mass.; Burnham & Body, Watseka, Ill.; D. & H. Auto Company, Wilkesbarre, Penn.; Gate City Garage, Winona, Minn.

The Githens Bros. Company, Chicago, has been given the distributing rights in the Middle West territory for the Maxwell cars.

W. E. Jackson has been appointed by the Henderson Motor Car Company, Indianapolis, Ind., maker of Henderson cars, as territory manager for southern Illinois, with headquarters in Indianapolis. Mr. Jackson is well known in his territory, having covered it since August, 1912, for the American & Marion Sales Company of Indianapolis.

E. W. Fowler, who was connected with the Stoddard Motor Company, New York City, previous to its suspension, has joined the Ward Leonard Electric Company, Bronxville, N. Y., maker of automobile starting and lighting equipment.

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PROPOSED NEW GARAGES.

The California Motor Company, Los Angeles, Cal., will erect a large, modern garage building on 10th street.

The E. & H. Garage Company, Sheboygan, Wis., will occupy a new garage building which is to be erected on North 10th street by William Beerman.

George Brown, Volga, S. D., has purchased property on which he will erect a modern garage. In addition to having an up-to-date repair shop he will carry a full line of accessories and supplies.

The Burns-Ransden Motor Car Company, St. Louis, Mo., has plans for the erection of a modern garage and repair shop at 5035 Delmar avenue.

M. Larrabee, manager of the Tenney Service, Montpelier, Vt., has plans for a new fireproof garage near Langdon avenue.

The J. W. Maguire Company, 745 Boylston street, Boston, Mass., agent for the Pierce-Arrow line, is to have an automobile repair shop erected on Charles River Parkway, for which plans have been prepared.

The National Motor Vehicle Company will build a large addition to its building on 22d street, Winnipeg, Can.

H. E. Huntington, owner of the large Huntington hotel at Oak Knoll, Los Angeles, Cal., recently completed, has plans for a garage to cost $75,000 and which will have a capacity for housing 100 cars.

The Miami Cycle Manufacturing Company, Middletown, O., maker of Flying Merkel motorcycles, has secured the Prest-O-Lite building at Indianapolis, Ind., for an auxiliary factory to the already large plant at Middletown. The announcement was made by K. R. Jacoby, president and general manager of the concern, and it came somewhat as a surprise, despite the rapid growth of the Miami company, which has been one of the notable features of the motorcycle industry. In January the company occupied its new concrete and steel building, the addition embracing 55,000 square feet of floor space, but this extra room was insufficient for its operations. The building at Indianapolis has just been vacated by the Prest-O-Lite Company, which has acquired a new and larger plant near the speedway. The motorcycle concern will use it for the production of complete motors, two-speed gears and band brakes. These will be the only items manufactured at the Indianapolis plant and in order to take care of the work President Jacoby has let the contracts for $100,000 worth of new machinery. The Indiana factory will be in charge of C. S. Barkelew, who has been engaged as mechanical engineer and 800 men will be employed there. It is planned to have the new factory in operation by Aug. 1, when the 1914 models of Merkel motorcycles will be ready for the market. The output of the company for 1914 will be 25,000 machines.

Indianapolis Auxiliary Plant Acquired by Miami Cycle & Manufacturing Company.

The Blue Ridge Motor Company, 62 South Main street, Asheville, N. C., will erect a modern garage. The company handles the Marathon cars, made by the Marathon Motor Works, Nashville, Tenn.

Sewell N. Stevens, 598 Main street, Worcester, Mass., has secured land in Essex court and will erect a large, modern garage, to be occupied by the firm of Terrell & Stevens.

The LaFrance Motor Car Company, Elmira, N. Y., has plans for the erection of a new garage in the central part of the city.

A. J. Keys, Marshall, Mo., has purchased land on North street and will have a garage erected. It will be equipped with modern appliances.

The Bekins Spears Motor Company, Los Angeles, Cal., agent for Lozier and Abbott-Detroit cars, will occupy a large, modern garage building which will be erected at a cost of $50,000.

W. R. Chamberlain, Wabash, Minn., is to have a large garage erected on Main street, to be modern in every detail.

The Western Motor Car Company, Los Angeles, Cal., has made arrangements with Charles E. Anthony for the erection of a four-story building, which the company will utilize for its headquarters when completed.

A. H. Bannon, Portsmouth, O., is to erect a two-story garage, 88 by 100 feet, at a cost of $12,000. Upon completion it will be occupied by R. S. Pritchard.

A. Pinchot, 60 Broadway, New York City, has had plans drawn for an 11-story garage building to be erected at 61st street and Columbus avenue.

Rusk & Remster, Hoopeston, Ill., has broken ground for a modern brick garage near the company's present automobile works, on Market street.

The Sioux Rapids Auto Company, Sioux Rapids, Ia., is to have a large garage erected in that city. The company handles the Studebaker and Cole cars.

John R. Heater and F. L. Smith have formed a company at Mandan, N. D., to establish a garage, for which a new building will be erected.

J. J. Tetrault has purchased property at Eureka, Mont., and will erect a modern garage. He will conduct a general automobile business.

J. R. Hilt, 297 West Webster street, Muskegon, Mich., has awarded the contract for the construction of a two-story garage and apartment building.

John Mowatt, 336 Cherry street, Grand Rapids, Mich., has given the contract for a one-story garage he will have erected.

Lafayette Phelps, 440 Colt avenue, Grand Rapids, Mich., has let the contract for a large one-story public garage.

John Gardella, Grand Rapids, Mich., has plans under way for the erection of a three-story garage and clubhouse.

John Herzog, manager of Herzog Art Furniture Company, Saginaw, Mich., has received bids for the erection of a garage.

Mrs. F. L. Pece, Pontiac, Mich., will build during the summer a two-story garage to cost $8500.

Tony Stelacio will build a one-story garage on the west side of 57th street, north of Chestnut street, Philadelphia, Penn., to cost $27,000. It will be occupied by Harry J. Hart.

The Western Auto Company, 384 Cedar street, St. Paul, Minn., is to build a one-story garage to cost $8000.

C. S. Henry, 7 Water street, Boston, Mass., has completed plans for the erection of a one-story public garage to cost $18,000 at Manchester, N. H.

The Old Reliable Motor Car Company, 5232 Evanston avenue, Chicago, will lease the new two-story garage and mercantile building, for which Robert M. Fair, 2222 Calumet avenue, Chicago, has plans. The foundation will be built to permit of additional stories being constructed if necessary.

Linde Air Products Company, H. D. Edwards, manager, Cleveland, O., has let the contract for a one-story garage to cost $4000.

E. J. Hedden will build a two-story garage to cost $2000 on southwest corner of 53d street and Overbrook avenue, Philadelphia, Penn.

J. Paul Emery will erect a two-story garage to cost $800 at 2101 North 49th street, Philadelphia, Penn.

Joseph Thurman & Co., has a permit for a garage at 420 East Mt. Airy avenue, Philadelphia, for Michael Tigau.

F. Deere & Co., Philadelphia, will erect a garage to cost $3000 at the south side of Bridge street, east of Frankford avenue.

The William J. Gruhler Company is estimating on plans for a garage to be built at 6019 Germantown avenue, Philadelphia, for the First Methodist Church of Germantown.

C. H. Morgan, 3462 Evanston avenue, Chicago, has awarded the contract for a one-story garage to cost $5000.

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A. C. Lehman, Westinghouse building, Pittsburg, Penn., has received bids for the erection of a one-story garage to cost $2500.

W. R. Furness, Wallingford, Penn., has awarded the contract for a 1.5-story garage at Upper Providence, Penn.

Frederick Jones, Scranton, Penn., has plans in progress for the erection of a 1.5-story garage to cost $2000.

C. A. Gable, Mt. Carmel Penn., has received estimates for a small garage to be built there.

Ernest Hillman, Oliver building, Pittsburg, Penn., is having plans prepared for a garage to cost $7000.

S. W. Dotterrer, 170 North Hanover street, Pittstown, Penn., is to build a two-story garage, 20 by 30 feet.

Joseph Horne & Co., which conducts a large department store on Penn avenue, Pittsburg, Penn., is to add to its equipment a one-story garage at a cost of $40,000.

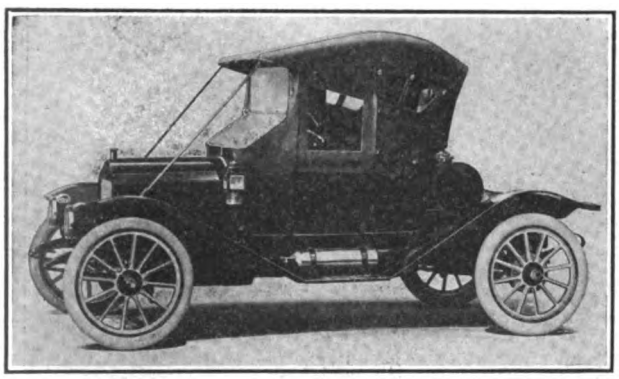
The Central Motor Car Company, Fifth and Cherry streets, Reading, Penn., is taking sub-bids for the erection of a three-story garage to cost $15,000.

Dietrich Lamade, Williamsport, Penn., has completed plans for the building of a one-story garage and machine shop to cost $2500. The new garage will accommodate 42 cars.

Charles Kopp, 250 Dove street, Albany, N. Y., will soon start work on a one-story private garage.

W. G. Thompkins, 376 Second avenue, Albany, N. Y., will build a one-story private garage at an early date.

The Studebaker Corporation, Detroit, believes that with the increased use of roadsters and runabouts by physicians, contractors and others, there has arisen a demand for some kind of storm protection which may be attached easily and which does not interfere in any manner with constant entrance and egress. An accompanying illustration shows the design recently presented by one of the company's engineers, as fitted to a 20-horsepower Studebaker roadster. It will be noted that the side curtains in question are so fitted that they swing with the door of the car, thereby affording the required protection from the elements in summer or the cold in



Studebaker Roadster with New Type of Side Curtain.

winter without changing any of the characteristics of the machine's standard equipment.

H. H. Bender, 33 Greenwich avenue, White Plains, N. Y., has let the contract to E. H. Harrington to build a small garage.

John Edmons, Wayne avenue and Upsal street, Philadelphia, Penn., has let the contract for a one-story garage to cost $4000.

L. E. Jeffers, 1 Grove place, Schenectady, N. Y., expects bids in a short time for the construction of a one-story garage to cost $20,000.

The Times Square Auto Company, 1710 Broadway, New York City, has plans under way for a two-story addition to its garage to cost $70,000.

Archibald D. Russell, 30 Pine street, New York City, contemplates the erection of a six-story garage to cost $250,000.

Audley Clarke, 527 Smith street, Brooklyn, N. Y., is taking sub-bids for an extension to his garage to cost $4000.

The Mayhew Construction Company, Brooklyn, N. Y., has invited bids for the building of a one-story garage to cost $30,000.

Salvatore Bonagina, 1815 Eastern Parkway, Brooklyn, N. Y., is taking bids for a one-story garage to cost $3000.

Dr. W. H. Kahn, 1720 Washington avenue, New York, N. Y., will build a one-story garage, 14 by 21 feet.

S. Liebmann's Sons' Brewing Company, 36 Forrest street, Brooklyn, N. Y., will build an addition to its garage to cost $10,000.

Mary Louigan, 654 Franklin avenue, Brooklyn, N. Y., has let the contract for the erection of a two-story garage, 40 by 90 feet, to cost $15,000.

C. G. Meaker, 41 Wall street, Auburn, N. Y., is having plans prepared for a three-story garage, store and office building.

James O'Connell, 44 Court street, Brooklyn, N. Y., has completed plans for a two-story garage and store building to cost $35,000.

J. P. Indorf, 160 St. Ann's street, New York City, will build a three-story garage to cost $20,000. It has been leased to F. J. Hinners, 585 East 135th street.

Wallace Greenalch, Albany, N. Y., is preparing plans for a garage to be built in connection with the Quackenbush pumping station for the department of public works.

The Jewish Hospital, Brooklyn, N. Y., has received bids for the construction of a one-story garage and dwelling to cost $6000.

The Adirondack Motor Company, 143 Central avenue, Albany, N. Y., of which W. R. Rose is manager, will build in the near future a two-story garage, machine shop, office and store room to cost $35,000.

Forge & Swarts, proprietor of the Dudley house, Salamanca, N. Y., contemplates building a garage in connection with the plans for an addition to the hotel.

Andrews Bros., 508 O'Brien building, Cleveland, O., will build by day labor a one-story garage to cost $12,000.

H. H. Griffith, Sabina, O., has received estimates for a two-story garage and apartment building to cost $9500.

J. Voss, Hartley, La., will build a one-story garage, 52 by 122 feet, to cost $10,000.

L. C. Lessenich, president of the Pioneer Motor Car Company, 504 Douglas street, Sioux City, Ia., will make repairs to the company's garage building, which he owns, at a cost of $1800.

E. W. Grow, Dover, Mass., has let the contract to a Boston firm for the erection of a one-story garage to cost $6000.

L. W. Roe, Seattle, Wash., has received estimates for the building of a two-story garage to cost $30,000.

Bowes Bros., Aberdeen, Wash., expects to build during the summer a two-story garage at a cost of $10,000.

Mrs. Hugo Hill, 98 Rowena street, Detroit, Mich., has received bids for the building of a one-story garage, 50 by 190 feet.

The Auto Sales Corporation, care of Eugene A. Kinsly, La Salle, N. Y., will soon let the contract for a two-story garage to cost $10,000 to be built at Niagara Falls, N. Y.

Emma Reichle, 695 North Division street, Buffalo, N. Y., will soon let the contract for the erection of a private garage.

Charles Mocher, 986 Sterling place, Brooklyn, N. Y., will make alterations and additions to his garage to cost $2500.

Pouty & Howard, Port Chester, N. Y., will soon let the contract for a one-story garage to cost $7500.

J. Harvey Waite, Brooklyn, N. Y., contemplates building a one-story garage to cost $6000.

Martin Lowenthal, East 17th street and Avenue J, Brooklyn, N. Y., will build a one-story garage to cost $4000.

Edward Morin, 101 Grau street, Albany, N. Y., has let the contract for a one-story garage, on which work will soon begin, to cost $8500.

Henry M. Telford, 42 Broadway, New York City, has let the contract for the building of a one-story garage at Monroe, N. Y., to cost $40,000.

G. G. Ackerson, 251 Summit avenue, Hackensack, N. J., has let the contract for alterations to his two-story garage.

Fred M. Burr, Dana place, Englewood, N. J., is to build a two-story garage to be 31 by 43 feet.

John Pell & Son, Hermon and Tichenor streets, Newark, N. J., has awarded the contract for a one-story garage and stable building.

Thomas E. Goode, 23 South Bethel street, Baltimore, Md., has let the contract for a two-story garage.

John Heinrichs, Oakdale road and Shadow lane, Baltimore, Md., has let the contract for a one-story garage to cost $1500 to J. Henry Smith, 1426 Light street.

The Stoddard Motor Car Company, Worthington street, Springfield, Mass., has let the contract to Fred T. Lay & Co., 499 Main street, for an addition to its garage.

The Oakland Realty Association, Springfield, Mass., has awarded the contract for a one-story garage to cost $15,000.

Dr. John H. Gavin, 346 Dudley street, Roxbury, Mass., has given the contract for the erection of a one-story garage to cost $10,000.

The Hammond Real Estate Trust Company, Boston, Mass., has let the contract for a three-story public garage to Thomas F. Cullinana, 86 Weybosset street, Providence, R. I.

Smith & Cotter, 18 Summit avenue, Lawrence, Mass., has received estimates for a one-story garage to cost $8000.

J. B. Haggin, Elmendorf stock farm, Lexington, Ky., has let the contract for the erection of a three-story garage and office building to cost $75,000.

DeHaven Morris, 1 West State street, Wilmington, Del., has awarded the contract for a one-story garage to cost $3000.

Dr. D. P. Eastman, 330 South Main street, South Bend, Ind., has received estimates for the construction of a private garage.

H. I. Isbell, 410 Monger building, Elkhart, Ind., will soon take bids for a private garage.

Judge J. H. Eggeman, 614 Shoaff building, Fort Wayne, Ind., is having plans prepared for a garage.

Roger I. Fisher, Fort Wayne, Ind., has invited bids

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from contractors for the erection of a private garage.

Max I. Irmscher, 907 Eliza street, Fort Wayne, Ind., contemplates the erection of a garage during the coming summer.

Henry Dollman, 1302 Merchants' National Bank building, Indianapolis, Ind., is receiving bids for the building of a three-story garage on Capitol avenue.

George E. Conrad, 812 North West street, Indianapolis, Ind., has plans completed for a one-story garage.

F. J. Noll, Jr., clerk of the board of public works of Indianapolis, Ind., is planning for the erection of a municipal garage to cost $9000.

Louis Blinde, Johnson, Neb., has invited bids for the erection of a one-story garage to cost $4000.

Dr. E. T. Manning, 5107 Underwood avenue, Dundee, Neb., has plans completed for the building of a residence and garage at a cost of $7000.

John M. Landenberg, 2430 Fairchild avenue, Fort Wayne, Ind., has plans for a one-story garage to be erected soon.

A. A. Anderson, 1915 South 34th street, Omaha, Neb., has plans completed for a garage 53 by 100 feet, to cost $12,000.

Frederick Hamilton, 608 South 38th street, Omaha, Neb., has let the contract for a two-story garage to cost $3500.

F. D. Mead, 18th and Fairmount streets, Omaha, Neb., is to build a two-story garage and office building to cost between $15,000 and $20,000.

A. H. Cramer, Hastings, Neb., has plans in progress for a two-story garage to cost $8000.

The Overland Company, 238 South Market street, Wichita, Kan., has leased the new two-story garage being erected by A. M. Weinschank.

E. Morris, 421 Campbell street, Wichita, Kan., has let the contract for the erection of a one-story garage, work on which has already begun. It will be leased to George W. Denton, 114 North Topeka street.

Dr. O. E. Griffin, Girard, Kan., is receiving estimates for a two-story garage to cost $8000.

R. C. Fay, Olathe, Kan., has plans under way for a one-story garage, 60 by 90 feet, to cost $6000.

William Latham, Delphos, Kan., contemplates building during the summer a two-story garage and store building to cost $15,000.

George S. Couch, 1602 Kanawha street, Charleston, W. Va., has invited bids for a two-story garage to cost $3500.

The Lucia Bros. Motor Car Company, Green Bay, Wis., has let the contract for a garage estimated to cost $4050.

R. S. Nichols, Webb City, Mo., has plans for a private garage which he will build near Waco, Mo.

C. M. Barnard, 5378 Maple avenue, St. Louis, Mo., has received bids for a one-story garage to be 20 by 23 feet.

Edward Jacobs, 6193 Westminster place, St. Louis, Mo., has invited bids for a one-story garage to cost $2000.

R. A. Long, Long building, Kansas City, Mo., has invited estimates for the erection of a two-story garage at Hickman Mills, Mo.

Mrs. Josephine Johnson, 3200 East 12th street, Kansas City, Mo., has plans in progress for the building of a one-story garage to cost $10,000.

J. A. Hutchinson, 602 Olive street, St. Louis, Mo., will build during the summer a two-story automobile supply house.

Isaac Goldman, 5062 Westminster boulevard, St. Louis, Mo., contemplates building a private garage in the near future.

George Burkhardt, 4943 Woodlawn avenue, Chicago, Ill., has let the contract for the erection of a two-story garage, 23 by 31 feet.

Wassell & Bramberg, 5526 West Chicago avenue, Chicago, is to erect a one-story garage to cost $7000.

Dr. E. W. Goembel, 313 Second street, Rockford, Ill., has let the contract for a private garage, work upon which will begin soon.

J. B. Eaton, 1620 Van Buren street, Chicago, has awarded the contract for a one-story garage.

Central Manufacturing Company, Chicago, is to erect a four-story garage, warehouse and paint factory at the northwest corner of 37th and Iron streets. The contract for the construction work has been awarded and the building has been leased to John Lucas & Co., 1521 North Wabash avenue, Chicago.

William Wrigley, 5 North Wabash avenue, Chicago, will erect a one-story garage containing a balcony.

Joseph P. Brien, 436 Ogden avenue, Chicago, has let the contract for the erection of a one-story garage to cost $3000.

The St. Clair County Gas & Electric Company, 414 Missouri avenue, East St. Louis, Ill., is to build a one-story garage at Collinsville, Ill.

Felt & Tarrant Manufacturing Company, 1717 North Paulina street, Chicago, is having plans prepared for a one-story garage and warehouse.

L. Dalton, Elmwood, Ill., has received estimates for the erection of a two-story garage and hall building, 50 by 75 feet.

E. A. Mann, Mendota, Ill., has made plans to soon build a one-story garage to cost in the neighborhood of $10,000.

Dr. Peter Fahrney Estate, 3321 Warren avenue, Chicago, has let the contract for the erection of a 1.5-story garage to cost $3000. Work has been started.

Mrs. M. O'Shaughnessy, Chicago, has awarded the contract to the M. E. Baldwin Construction Company, 140 South Dearborn street, for the building of a one-story garage to cost $9000.

W. S. Wallbridge, Perrysburg, O., has awarded the contract for a two-story garage with sleeping apartment. Excavation work for the foundation has been begun.

John McBeth, Main street, Upper Sandusky, O., has let the contract for a public garage to be 2.5 stories high and measure 25 by 150 feet.

S. P. Fenn, Cleveland, O., has awarded the contract to the George A. Rutherford Company, 2160 East 18th street, to remodel a two-story building into a garage and chauffeur's apartment at a cost of $35,000.

J. F. Vogel, 2056 Parkwood avenue, Toledo, O., has let the contract for a two-story garage to cost $3200.

Owens Bros., 188.5 West Market street, Lima, O., will soon award the contract for the construction of a three-story garage and repair shop to cost $20,000.

The Radel Auto & Carriage Company, 652 State street, Cincinnati, O., has plans for a two-story garage to cost $15,000.

The Wise-Green Motor Car Company, West 10th street, Canton, O., has plans in preparation for a one-story garage to cost $15,000.

A. L. Rogers, Deshler, O., has the foundations constructed for a small garage four miles from Deshler.

William Barries, Second street, Zanesville, O., has received bids for the erection of a one-story garage to cost $6000.

E. and H. Hawisher, 21 Public Square, Lima, O., will soon invite estimates for the construction of a two-story garage and apartment building.

P. L. Cobb, chief engineer of the Cleveland Electric Illuminating Company, 77 Cuyahoga building, Cleveland, O., has received bids for the erection of a two-story garage to cost $40,000.

W. H. Albers, assistant secretary of the B. H. Kroger Grocery & Baking Company, Gilbert and Florence avenues, Cincinnati, O., has completed plans for the erection of a two-story garage, 150 by 200 feet, to cost $50,000.

The Trumbull Steel Company, Warren, O., has preliminary plans under way for the building of a one-story garage to accommodate eight cars.

R. H. Sweetser, 66 Hoffman avenue, Columbus, O., will build during the summer a one-story garage to cost $2500.

William Ohlhauser, 698 West Fifth avenue, Cincinnati, O., is to erect a one-story garage at a cost of $1000.

Telford Graesbeck, 417 Johnson building, Cincinnati, O., has let the contract for the erection of a one-story garage to cost $15,000.

C. R. Parrish of the Parrish Furniture Company, Columbus, O., has completed plans for the building of a garage.

Henry W. Stecher, secretary and treasurer of the Pearl Street Savings & Trust Company, 3094 West 75th street, Lakewood, O., has plans completed for the building of a small garage.

Samuel Hird, Shelter Island, N. Y., has given the contract to Thomas M. Burns for the erection of a large garage, in connection with a residence, windmill, dock and bathing pavilion. The buildings will cost $25,000.

H. Weissager, McKinley Square Casino, New York City, is to build a garage in connection with his theatre and office building.

J. T. Miller, King building, Seneca Falls, N. Y., contemplates erecting a garage with about 3000 square feet of floor space.

Peter Rielly, 618 Dean street, Brooklyn, N. Y., is to build a two-story garage to cost $4000.

Frank Tuttle, 378 Western avenue, Albany, N. Y., has let the contract for a two-story garage and show room. Work will start soon and the building will cost $15,000.

Edward Helmus and William Weidenberger, 1470 Bristol avenue, Brooklyn, N. Y., will erect a one-story garage, which will cost $6000.

The Orono Motor Company, Orono, Me., has opened a garage on Pine street, in that town. The building is finely equipped for repair work and painting.

The Atlantic Garage Company, 32 Hampton place, Brooklyn, N. Y., has plans under consideration for a one-story garage to cost $7500.

E. G. Whitman, 2209 Venango street, Philadelphia, Penn., is having a garage built at Cynwyd, Penn.

Steven Gyrfas, 12 Frelinghuysen avenue, Newark, N. J., is to build a two-story garage and machine shop at a cost of $5000.

Frank E. Clayton, Montclair, N. J., will expend $4000 in the erection of a one-story garage and shop, 40 by 46 feet.

S. Rosenbaum, 17 Speedway avenue, Newark, N. J., will build a one-story garage at East Orange, N. J., at a cost of $5000.

White Motor Car Company, Newark, N. J., is having plans prepared for a two-story garage.

John J. Stanlar, First avenue and Delaware street, Elizabeth, N. J., has plans for a one-story garage to cost $2000.

J. Lebourts, 46 Baldwin avenue, Newark, N. J., has let the contract for the erection of a new garage in that city.

Franz Pere, West Hoboken, N. J., contemplates erecting a two-story garage, 46 by 100 feet, to include living quarters and a paint shop. The cost will be $7000.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

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THE USED CAR PROBLEM.

The automobile dealers of St. Paul, Minn., like those of other cities, have been confronted by the problem of disposing of used or second hand cars, but they recently formulated a plan which they believe will be effective. It is suggested that all the dealers join in purchasing a garage which merely will be the distributing point for second hand machines and this is expected to relieve the situation materially.

Many dealers refuse to consider taking a used car other than the make which they handle, while others will accept machines of any make, provided they are in good condition, and thus accumulate a large supply of second hand cars. Salesmen naturally do not desire to talk about the merits of the machine made by another company, at least while the prospect of disposing of a new vehicle at first hand is even remotely possible.

Should the plan to establish a garage in which all the St. Paul dealers will be interested, be carried out, a unique innovation in the matter of selling used cars will have been inaugurated. The idea will be to let the public know that a large line of second hand vehicles is open to inspection, a customer to have his pick from the assortment. It is believed that a larger number of used cars will be disposed of than at present. The plan will be watched with interest by the trade and it at least has the merit of an experiment that is worth trying.

GARAGE DISPLAYS.

Too much importance cannot be attached to the display of stock in a garage where such facilities are available. Many garage owners apparently have given the subject but little thought and have placed in their windows such articles as might happen to be handy, thereafter leaving them on perpetual display.

This gives an establishment an appearance of stagnation to one who has occasion to visit it frequently. It is undeniable that variety and seasonableness lend an atmosphere of progressiveness to a business place and it is just as certain that the public is ever seeking new things. Therefore, it would be well if a garage owner changed his display quite often, bearing in mind the season of year and giving preference to new things of merit which he may have added to his stock. They attract attention and consequently trade is given an impetus that might otherwise be lacking.

REPAIR SHOP EQUIPMENT.

While considering various methods and systems making for greater efficiency, it would be well not to neglect the matter of repair shop equipment. Upon this depends a large share of the success in handling difficult jobs. It is not always necessary to have an elaborate and expensive equipment, but stress should be laid upon securing serviceable tools that are of every day utility.

A workman can perform good work with good tools and makeshift apparatus will rarely, if ever, meet requirements. Machinery should be arranged with an idea of conserving space and none should be purchased for the moderate sized shop which is used only once or twice a year. Extremely intricate jobs, which are so infrequent as to require a certain tool at long intervals, can with more profit be taken to a large shop for treatment and the money invested in an expensive piece of apparatus saved. If such tools as are of constant necessity are purchased with regard to quality, they will last long enough to pay for themselves, while a fair workman can turn out better work with them than can a first class mechanic with mediocre equipment. For this reason machinery that costs slightly more at first cost is infinitely preferable to cheap equipment.

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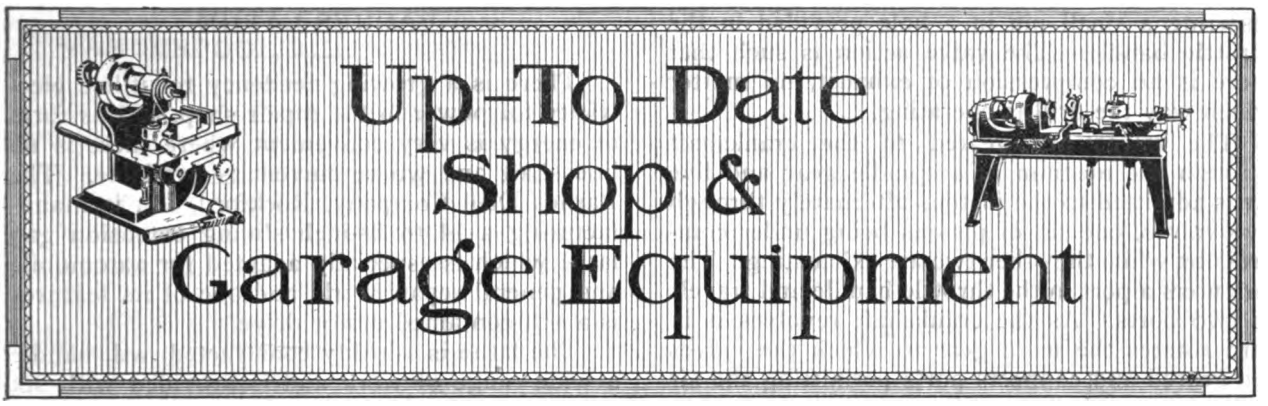
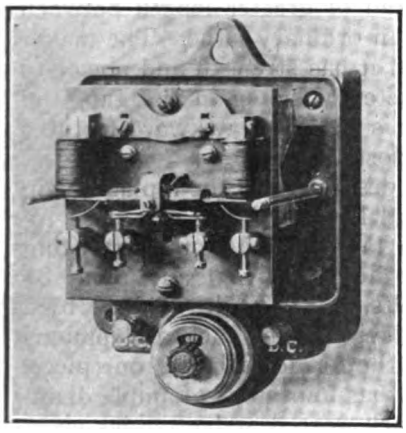


WESTINGHOUSE RECTIFIER.

A number of small garages have customers utilizing storage batteries for ignition or lighting and when the car is not equipped with a dynamo these must be sent to a charging station unless the garage has a charging panel. The amount of such work does not warrant the installation of a large panel, consequently when attention is needed the batteries are carried to the nearest service station.



Westinghouse Type G Vibrating Rectifier.

The Westinghouse Electric & Manufacturing Company, East Pittsburg, Penn., is producing what is termed its type G vibrating rectifier, designed for charging three-cell lead batteries from an alternating current circuit. The rectifier can be operated on any 60-cycle alternating current lighting circuit of 100 to 120 volts, and will charge three cells at a rate of six to eight amperes. The apparatus is simple to operate, requiring no other attention than connecting the attachment plug to a lamp socket and the lower binding posts to the battery. Polarity need not be observed. The interruption of the flow of current does not interfere with its operation as the rectifier will restart as soon as the power comes on again. This makes for convenience, especially when the cells are to be charged during the night.

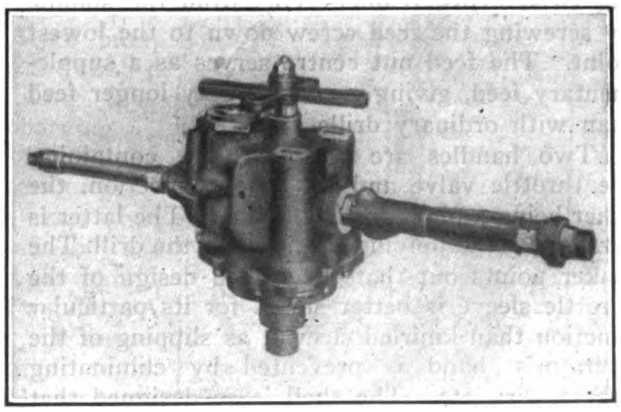
The rectifier shown in an accompanying illustration consists practically of a polarized relay acted upon by two alternating current magnets, so that it vibrates in synchronism with the alterations of the current, and arranged to reverse the connections of the circuit as the current reverses. The vibrating arm is magnetized by current from the direct current side, so that one end is permanently north and the other south, depending on which way the battery is connected. When the alternating current is in one direction the upper poles of both stationary magnets are north, attracting the south end of the vibrating arm and repelling the north end. When the current reverses, the poles of the magnets become south, attracting the north end of the vibrating arm and repelling the south end. This reverses the connection of the alternating current to the direct circuit, but as the direction of current has also been reversed, it flows into the direct current circuit in the same direction as before. The reversal of the connections thus takes place every time the current reverses, so that the result is a pulsating direct current. A transformer reduces the voltage to the proper value.

Five feet of lamp cord and an attachment plug are furnished, and six feet of similar cord with connecting clips for use between the battery and the rectifier, also a snap switch.

LITTLE DAVID PNEUMATIC DRILL.

Little David pneumatic drills are manufactured by the Ingersoll-Rand Company, 11 Broadway, New York City, and are designed to be operated by compressed air. That shown in an accompanying illustration is the No. 2, adapted for medium drilling, reaming, tapping, etc., and is fitted with a No. 3 Morse taper socket and .6875-inch square tap socket. Simplicity and interchangeability of parts are features emphasized in the tool, also convenience in handling and control.

The motor or engine is of the angular, four-cylinder, single-acting, reciprocating type, each



Little David Pneumatic Drill Which Is Held to Possess Many Advantages.

pair of pistons being attached to opposite throws of a double crankshaft, each acting in balance, insuring smooth running. The drill is built reversible, but may be made non-reversible by simply

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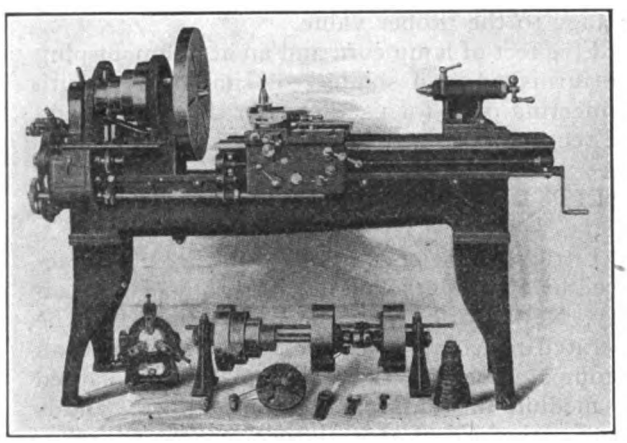
inserting a small pin in a hole provided in the throttle handle. The valve action is such that there is no compression of exhaust, no matter which way the drill is operating.

The valves are geared to the crankshaft through the medium of a spindle gear and live air is admitted to the pistons alternately through two valves, one set of pistons being under compression while the other two are exhausting. The air enters a port in the throttle handle and travels to two ports. As the crankshaft revolves it in turn rotates the main gear to which the valves are geared and connects ports permitting the air to pass into a cylinder. Both cylinders take air for 120 degrees of the stroke. The piston also uncovers an exhaust slot in the side of the cylinder, allowing the drill to exhaust directly to the atmosphere.

High grade material and workmanship are incorporated and the crankshaft rotates in F. & S. ball bearings of liberal size. The spindle is provided with a thrust bearing interposed between the shell and feed spindle. It is machined to receive standard Morse taper shanks and is threaded on the end so that chucks or other special attachments can be utilized. An ejector pin is provided with the feed screw attachment for ejecting twist drills, reamers, etc., from the spindle by screwing the feed screw down to the lowest point. The feed nut centre serves as a supplementary feed, giving a considerably longer feed than with ordinary drills.



Barnes 14 to 24-Inch Sliding Extension Gap Lathe, Constructed with Self-Contained Motor Drive for Utilizing Electricity.

Two handles are provided, one containing the throttle valve and air hose connection, the other being a plain or dead handle. The latter is arranged for supplying lubricant to the drill. The maker points out that the ribbed design of the throttle sleeve is better suited for its particular function than knurled sleeves, as slipping of the operator's hand is prevented by eliminating grease, dirt, etc. The shell is so designed that the entire motor apparatus is assembled or disassembled through the crankcase by the removal of the cover. The company will forward a booklet on its drills upon application. This publication is suitably illustrated and contains information of numerous types of drills manufactured.

BARNES LATHE.

There is a growing tendency to utilize electricity for power in the repair shop, as this form of energy is very convenient where there is no line shaft and where current is available. The Barnes Drill Company, Rockford, Ill., is manufacturing a 14 to 24-inch sliding extension gap lathe which is especially adapted for automobile and general repair work, and one of its features is a self-contained motor drive.

The lathe is sturdily constructed, will handle a wide range of work and is provided with six quick change geared feeds. The spindle is of ample size, being 2.9375 inches in the front bearings and has a 1.5625-inch hole in it. The sliding bed top is valuable for general repair work in that it allows the swinging of pieces of larger diameter through the gap and of greater length between centres than with an ordinary lathe. The maker also points out that it has strength and power to turn the full diameter of swing in the gap, and at the same time it is free from awkward features when the gap is closed.

The bed is well designed and the top and main beds are planed full length. They are fitted together by a dove tail construction, permitting the top bed to be held firmly at any point by means of clamp bolts, and to be drawn back by a screw and crank device. The rack and pinions are cut from steel, the former being in one piece.

The cone pulley has four steps of ample diameter, is strongly back geared and provides eight changes of speed. A push pin on the head gear allows the cone to be locked or unlocked without the use of a wrench. The tail stock is of the offset type, allowing the compound rest to set parallel with the bed, and has set-over adjustment for taper work. The compound rest has a graduated base and has sufficient travel for the largest capacity of the lathe.

EASTERN RUNABOUT OUTFIT.

The Eastern Oil Tank Company, Lowell, Mass., is marketing a runabout outfit for service in garages and for filling car tanks with fuel from the sidewalk. The tank is cylindrical in shape, sturdily constructed and the wheels upon which it rolls are located underneath. They are of the swivel type, ball bearing and are fitted with rubber tires.

The tank is equipped with a pump having a dial indicating the amount of fluid discharged, and one turn of the crank registers one-half gallon. The equipment includes nine feet of one-inch flexible hose which is provided with a shut-off cock. The capacity of the tank is 60 gallons. Complete specifications will be forwarded upon request.

To temper steel very hard, take water, four parts, and salt, two parts, mixed to a paste. Heat the steel until a coating adheres when dipped into the mixture. Next heat to a cherry red and cool in cold, soft water.

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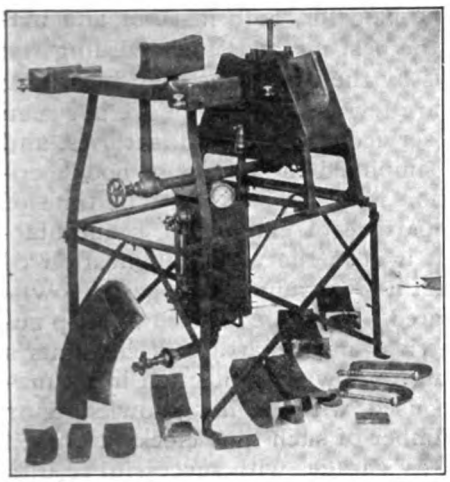
VANDERPOOL VULCANIZERS.

Vulcanizers embodying the latest improved patents for the treatment of inner tubes and shoes are made by the Vanderpool Company, Springfield, O., which produces apparatus adapted to all kinds of vulcanizing, from the mending of small punctures to the repair and installation of sections in tire casings.



Standard Vulcanizer Made by the Vanderpool Company, Springfield, O.

An accompanying illustration shows the standard vulcanizer made by the company and as can be noted molds of various sizes are provided for the treatment of the smallest as well as the largest tires. These machines are constructed so that steam or gas flame can be utilized to secure the necessary heat, according to the desires of the purchaser. Work on ordinary punctures and breaks can be done expeditiously and at small cost, which the maker claims to be one of the strongest features of the apparatus.

The Van steam portable vulcanizer, made to repair tires without removing them from the rim, when the damage is light, is a noteworthy specialty of the company. It is sold at an extremely low price and is a labor saving device that recommends itself highly to garagemen as an indispensable auxiliary to the main vulcanizer, adding materially to the efficiency of the equipment. The standard vulcanizer is also provided at reasonable prices, and the high grade of workmanship and material contribute to its durability in service.

HARDY RATCHET WRENCH.

A wrench operating upon the ratchet principle is the Hardy, being marketed by the Hardy Manufacturing Company, Pendleton, O. It is an all steel tool having five parts, these comprising a handle, two side plates, a ratchet socket and a rivet. The latter is employed to secure the side plates to the handle.

The Coes Wrench Company, Worcester, Mass., is the maker of all-metal wrenches for the repair shop which possess strength without clumsiness, a quality which has found favor among workmen owing to the ability of the tool to withstand severe usage. Instructive literature concerning these wrenches will be forwarded upon request.

DETECTORPHONE.

An instrument for locating mysterious knocks or noises by an adaption of the microphone principle is being produced by the Boston Talking Machine Company, 41 West street, Boston. The device comprises a receiver, similar to that employed by telephone operators, and the phone member. The latter is provided with a microphone button, changing the position of which is held to magnify the sound through the vibration travelling up the rod through the button, thence to the receiver and the ear.

J. M. MOBILENE PACKING.

The H. W. Johns-Manville Company, New York City, is marketing the J-M mobilene sheet packing which is designed for service where extremely high temperatures are encountered, such as at the exhaust manifold, etc. The packing is constructed of asbestos with fine brass wires intertwisted in each strand. It does not burn or char and one side is graphited. It is pliable, easy to cut, and being compressible makes for a tight joint. It comes in rolls 40 inches wide and .03125 thick.

EASTERN RUNABOUT FUEL OUTFIT.

The Eastern Oil Tank Company, Lowell, Mass., maker of oil and gasoline storage systems, tanks, cabinets, etc., is manufacturing the Eastern runabout system, especially designed for service in garages. As will be noted by an accompanying illustration it is of the portable type and being fitted with ball bearing, rubber tired wheels, may be moved easily about the garage and even to the sidewalk. The wheels are of the swivelling type, mounted beneath the tank proper and suitable handles are provided. Its capacity is 60 gallons.

Eastern Runabout Gasoline Outfit.

The pump is of the double-acting type, discharging a continuous stream of gasoline and one turn of the crank pumps half a gallon. A dial is incorporated, registering accurately the amount of fuel discharged, and the discharge nozzle is well adapted to any type of fuel tank. It is also fitted with a shut-off valve, preventing waste from overflowing.

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TIME CLOCKS IN SERVICE STATIONS.

Methods of Utilizing These Recorders in Connection with Repair Shop System—Registering Employees' Time and Arrival and Departure of Cars.

SERVICE stations and garages present many problems to their owners in the matter of maintaining the business on a basis of efficiency and it requires considerable ability to eliminate the possible leaks. There are many places where these are liable to occur and a proprietor must pay close attention to his business details to devise ways and means to prevent them. Frequently, the expenditure of a little money at the outset will enable a garage owner to save many times the amount originally laid out, by simply stopping leaks here and there that would doubtless cause a considerable loss in the course of a year if they were allowed to continue undetected.

Fig. 1—The Cincinnati Time Clock Recorder.

Too often business men that are accounted shrewd in other ways, are lamentably lacking in that quality when they consider suggestions for installing apparatus or system that will make for better efficiency in their establishments. They are somewhat inclined to lose sight of the fact that such outlay will return itself two-fold in dividends saved, and to pay more attention to the immediate expenditure.

However, to approach the subject logically, a garage man should remember that it is as important to retain customers as it is to secure them in the first place. Good workmanship is not the sole requisite. Once a car owner becomes possessed by the idea that he is being overcharged for work done on his machine, it is a difficult matter to disabuse him of the notion. Indeed, he may become so strongly obsessed with the opinion that he will take his trade elsewhere.

It would be well in the first place if the garage owner installed a system which would record the time at which work on a given job was begun and ended. Then he would be in a position to show the owner that the latter was receiving exactly what he paid for, both in labor and material. One of the best methods for recording the time of labor is by the use of the time recording clock. There are few persons who have not seen such clocks in service in offices and factories, and it has greatly simplified the matter of bookkeeping in connection with the payroll. The time of arrival and departure of employees is automatically kept, but it is in the varied application of such a clock that its real value to the garage owner is demonstrated. It can be utilized to keep account of the arrival and departure of customer's cars, thus giving the owner protection if his machine is beng used without his knowledge or consent. A number of such time clocks are used in New York City garages with successful results and their cost is not excessive.

At Fig. 1 is shown the product of the Cincinnati Time Recorder Company, Cincinnati, O. It is known as the standard cost keeping machine, style 14, and has been designed especially for automobile garage uses. The mechanism contained within the polished oak case is operated by an eight-day Seth Thomas clock movement, and it is constructed to last an ordinary business lifetime. The length of the clock is 34.75 inches, the width

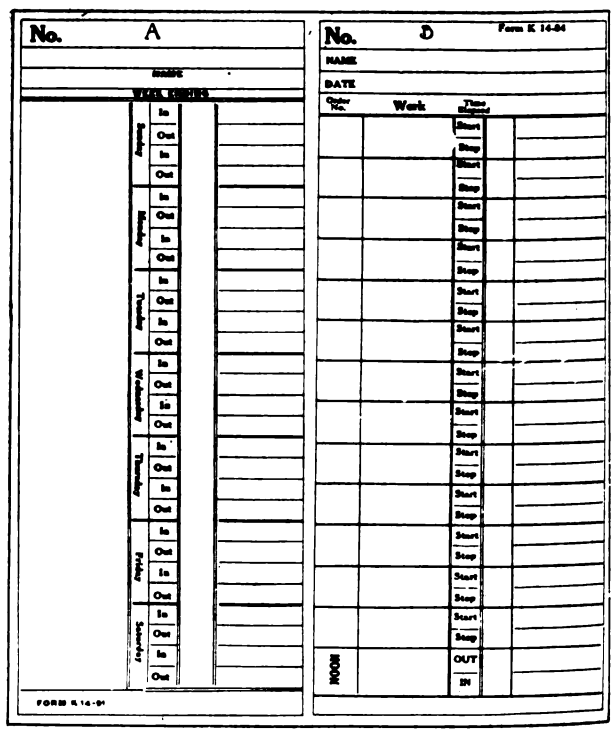

Fig. 2—Cards Used in Cincinnati System: A, Employee's Blank Stamped by Recording Device; B, Card Used for Keeping Track of Work.

15.75, and the depth eight inches. It is claimed to be entirely automatic and no shifting device of any kind is attached. It prints the day, A. M.

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or P. M., hour and minutes, and a decimal wheel can be supplied in place of the minute wheel if desired.

The accompanying blanks show how the clock can be utilized. That at Fig. 2 A shows the employee's record card. On the obverse side provision is made for noting the time of arrival and departure of the workman for seven days. Thus it is possible for the proprietor to know exactly at what time the workman reported for work in the morning, went to lunch at noon, returned from lunch and left at night. It can be told at a glance whether the workmen are prompt and efficient. The loss of time on the part of garage employees is important. The possibility of losing a customer through inability to convince him that the entire time for which he has been charged was expended upon his car, cannot be overlooked.

Fig. 2 B presents the card utilized in keeping track of the work. When the repairman starts work on a job he runs the card through the clock, thereby securing an impression of the exact minute at which work was begun. If he is called to another job or leaves the work for any purpose, he first runs the card through the clock, then puts it in a case provided for the purpose, where it is readily accessible when he resumes work on this job, first having secured another impression of the time on the card. It is possible to utilize this card for one job or for several, as there is a space in which to insert the order number opposite the impressions of time at which work started and ended. It is better, however, to use but one card for each job, thereby securing a history of the work on that job, which can be filed in the repair envelope when the work is finished. It is then easily available for ready reference, either when the customer's bill is being made up or in case of an item being questioned. It can also be checked against other slips in the repair envelope to show accuracy in the accounts.

Garage owners have been troubled considerably in keeping watch of cars entrusted to their care, so that none but those entitled to use them shall do so. Here again the time clock can be utilized to advantage. No garage owner can be held responsible for damages resulting to a car while being driven by a person having no authority to use it except that gained by fraud upon the garage. Nevertheless, garage proprietors take great pains to protect the owner in this respect, for only by so doing is trade retained. Careless or negligent garagemen's success in business is shortlived. But while not assuming any responsibility for machines left in their care, a garage owner with a time clock in his establishment is in a position to render extremely valuable service to his patrons. The method is shown by the card at Fig. 3.

The card is divided into daily spaces, providing for the seven days of the week. In ordinary garages, experience has indicated that six trips a day is about the largest number required of a car. Each time the machine is driven out of the garage the card is slipped in the clock and a record is secured. This is repeated when the car returns. At the end of a week the record is submitted to the automobile owner, or it can be shown to him every day if desired. It is intended as a report, but the original card may be copied for a record to be placed on file, while the printed original is sent to the owner. In this way the latter knows when his car has been taken from the garage and how long it has been absent each

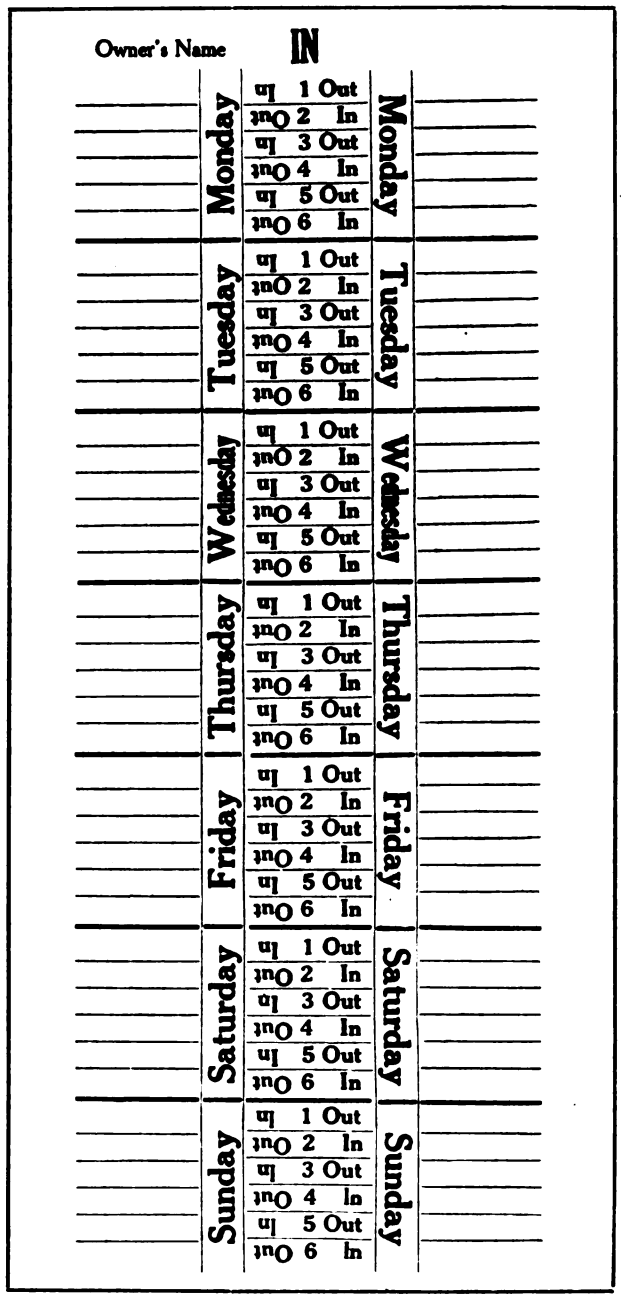

Fig. 3—Showing Card Used to Check the Arrival and Departure of Each Machine—Copy of Record Is Sent to Owner.

time. It is thus easy for him to detect whether it is being used illegitimately.

The form of this card can be changed to suit the garage owner's particular needs and in some instances a space is provided in which to record the speedometer readings when each car leaves the building and again when it returns. Thus not only is the owner apprized of each time that his car leaves the garage and the length of time

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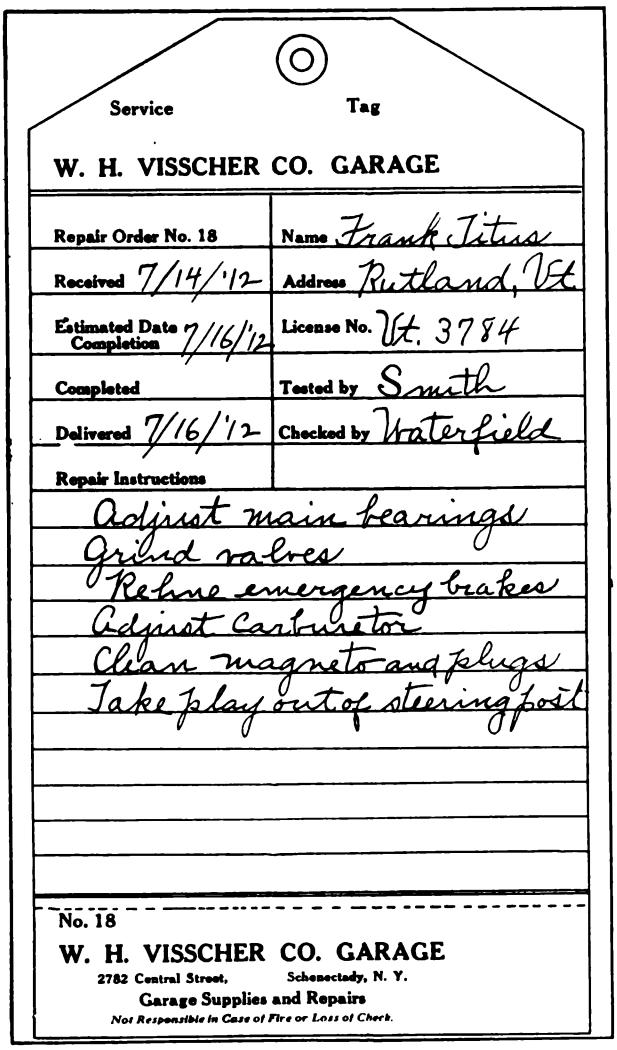
it is absent, but also the distance it has travelled in the interim. If the chauffeur is sent with the car to a certain point, the approximate distance to which is known, the owner can tell, with the aid of the garage system, whether his employee has enjoyed any side trips en route. The time elapsed upon the journey will also tell him how fast his car has been driven, thus indicating whether it is being properly handled.

The duty of taking the records of the departure and arrival of cars, naturally devolves upon an employee of the garage, since the effectiveness of the system would be destroyed were the owner or chauffeur given the privilege of making records. This duty is generally performed


Service Tag

W. H. VISSCHER CO. GARAGE

Repair Order No. 18	Name Frank Titus
Received 7/14/'12	Address Rutland, Vt
Estimated Date Completion 7/16/'12	License No. Vt. 3784
Completed	Tested by Smith
Delivered 7/16/'12	Checked by Waterfield

Repair Instructions

Adjust main bearings
Grind valves
Reline emergency brakes
Adjust Carburetor
Clean magneto and plugs
Take play out of steering post

No. 18

W. H. VISSCHER CO. GARAGE
2782 Central Street, Schenectady, N. Y.
Garage Supplies and Repairs
Not Responsible in Case of Fire or Loss of Check.

Fig. 4—Repair Order Tag, Showing Detachable Stub at Bottom.

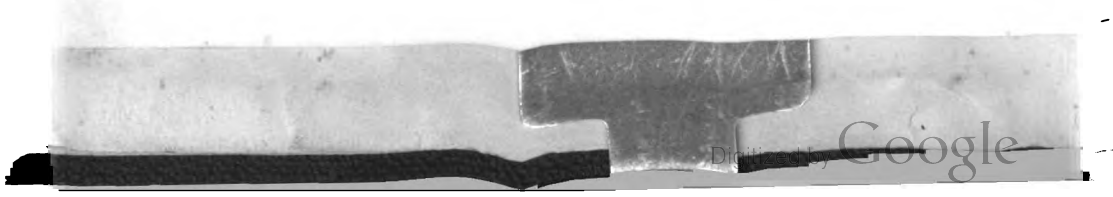
by the bookkeeper or the young woman who attends to the telephone exchange, where such convenience is operated. With this system in use it is seldom that a chauffeur takes the risk of borrowing the car for a joy ride, so-called, and if the report indicates that he is in the habit of taking more time than is necessary to deliver the machine to the garage, the owner is notified and the possibility of a damaged automobile is minimized.

Of course most garage owners supplement the time keeping clock by a secondary system of keeping account of repair jobs in the matter of stock and parts used and the nature of the work performed. This can be accomplished by a suitable system of cards which can be filed and checked up every day, each card acting as a voucher for the others. Assuming that the workman has reported for duty and registered his time on the time clock, he is confronted by a repair job which is numbered 18 on the service tag, as shown at Fig. 4.

Upon this card, the color of which is red, is placed full instructions as to the work required to be done. The employee takes a card similar to the one shown at Fig. 2 B and after inserting the number 18 in the space provided for the order number, he places the card in the clock and secures an impression of the time at which he started work on the job. Accompanying the repair service tag is a second tag upon which are provided spaces for recording orders for supplies and other work not specified on first tag. This card is white and is shown at Fig. 6. It is an indispensable convenience in quickly recording orders of transient owners. When the latter enter the garage and order gasoline, washing, polishing or storage, an X mark is placed in the space immediately opposite these items. In the wider space the amount of the order is placed, or the length of time in the case of storage, with the amounts charged against each in the spaces at the extreme right of the card. These items are quickly and easily transferred to a completed bill which is given to the customer as a receipt for payment, the service tag being filed away in an alphabetically arranged index so that it is easily accessible for reference at any time.

While a number of garages use the red and white cards, if it is desirable for purposes of economy to have them combined in one tag, the forms shown at Figs. 4 and 6, which are the same size, can be so made by having Fig. 6 printed on the reverse side of Fig. 4. This would perhaps be preferable as condensing the system into more convenient compactness. It will be noted that at the bottom of each tag there is a stub which bears the same number as is found at the top of the card. This stub is detached at the dotted line and given to the patron. When the latter appears for his car this stub is presented to the proper authority and the car is identified by the corresponding numbers on both cards. The entries upon the repair or supply tags show that the job has been completed, while the stock requisition blank gives the parts and stock that may have been used. These cards are taken to the office, where the completed bill is made up and presented to the owner, if a transient, or if a regular customer, the items can be placed upon the monthly account and the cards filed away in the repair envelope for future reference if needed.

If in the course of a job the repairman finds it is necessary to obtain stock, supplies and parts, he secures these necessities on requisition, the form of blank used being shown at Fig. 5. This requisition also applies to the sale of gasoline, oil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and other supplies, so that it is at all times possible to tell who made a sale and whom to hold responsible for the cash collected. Each requisi-

Service Division — Date July 15, 1912

STOCK and PARTS REQUISITION — Order No. 18

Quantity	Part No.	Part Name	Am't.	
5 lbs	341	Transmission grease	1	25
10 ft	X11	Rayfestos 1½ wide	2	00
1	32	#5 Cotter pin		05
1	071	Pin for Carburetor Conn		10
2	B97	New Camshaft bear.		75
2 lbs		Waste @ .20		40
			4	55

O. K. Waterfield Foreman — Received by Hersey

Fig. 5—Stock and Parts Requisition Blank, Made in Duplicate.

tion is made in duplicate, one being kept by the repairman and the other being retained in the stock department. The repairman's slip is placed in the repair envelope with the other tags at the conclusion of a job and can be compared with that kept in the stock department. The last named will at all times indicate the status of the stock on hand and an accurate estimate can be made of the cash taken in as compared with the amount of depleted stock. Each requisition must be countersigned by the foreman, who is held directly accountable for all stock and supplies. In charging up stock on repair work, account is taken of everything, including waste, cotter pins and other small goods.

The matter of the care of tools is no small one to most garages, for it has been demonstrated that unless some method of guarding them is in force, tools will be handled carelessly and be thrown hither and thither by employees. Oftentimes they will be lying conveniently at hand for anyone to use who may happen along, with the result that if a tool is broken the garage must stand the expense of a new one, while having no way of placing the blame upon anyone. An effective system to check this loss is found by the use of small, numbered brass checks. They are inexpensive and each employee is furnished with a suitable number of them, each bearing a number assigned to the workman. The tools are kept in the stock room under the charge of the foreman. Wrenches, bits, drills, etc., are kept in separate compartments and when an employee desires a wrench, for example, he gives the foreman a numbered tin check in return for which he receives the tool. The check is placed in the wrench compartment, and when the tool is returned the employee demands the return of his check. If a tool is lost and it is found that No. 22, for instance, has failed to return it, as evidenced by the tin check in the compartment, which shows that he borrowed it, he is requested to account for it. If he cannot, he must pay the price of a new one. This system has been found to create care and proper accounting of tools by employees and effectually stops a considerable source of expense to the garage.

It has also been found to inculcate in the employees a sense of business acumen. The return of a tool without receiving the tin check may prove costly, for should the tool afterwards be lost by another and the check is located, the workman would be charged for it nevertheless, his carelessness being to blame. One may be sure it will not occur again. This habit of care once contracted, extends to other branches of the work.

Numerous other seemingly minor matters may be taken care of in a similar manner, the net result of which is not only beneficial to the garage itself, but to the employees as well.

The system here outlined has been successfully tried by one garage and others are utilizing a similar method of account keeping with variations which will readily suggest themselves to a garage proprietor. The accurate keeping of employees' time and the safeguarding of the interests of the garage patrons is of moment and cannot be overestimated. The interests of the service station are also adequately protected and

Service Tag

W. H. VISSCHER CO. GARAGE

No. 18 — Date

Ordered by Frank Titus — To be Ready July 14, '12, 1:30 p.m.

Storage	X	2 nights @ 1.00	2	00
Washed	X		1	60
Polished	X			50
Gasoline	X	15 gals @ .20	3	00
Kerosene				
Carbide				
Cyl. Oil	X	2 qts @ .20		40
Grease	X	5 lbs. @ .25	1	25
Adjust				
Clean				
Batteries				
License No. Vt. 3784		Name Titus Total,	8	15

Order filled by Hersey

No. 18

W. H. VISSCHER CO. GARAGE

2782 Central Street, Schenectady, N. Y.

Garage Supplies and Repairs

Not Responsible in Case of Fire or Loss of Check

Fig. 6—Supply Tag, Which for Purposes of Economy Can Be Made Reverse of Fig. 4.

the garageman is secure in the knowledge that he is receiving his proper return on the investment he has made.

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Mechanical Pointers for Garagemen and Repairmen

NEW DAIMLER CARBURETOR.

ANNOUNCEMENT is made of a new Daimler carburetor, an English design, which presents interesting features in that there are

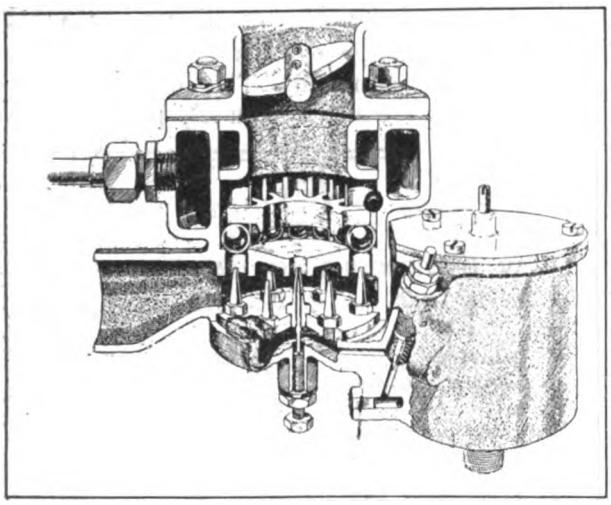

Fig. 1—Sectional Sketch of Daimler Seven-Jet Carburetor, Making for a Flexible Motor.

seven jets supplied with gasoline at a constant level from the conventional type of float chamber. A part sectional sketch of the vaporizer is shown at Fig. 1 and it will be noted that six of the jets are arranged in a circle with the seventh in the centre. The last named jet is utilized for starting and when the motor is operating at a slow rate of speed. Its opening is adjustable by a taper needle valve much in the same manner as with American carburetors, although with the Daimler provision is made for locking the adjustment by means of a nut. This prevents jarring loose of the low speed adjustment or tampering with it.

The main supply of gasoline from the float chamber to the fuel space below the multiple jets is also variable as to the quantity which can pass by another needle valve, adjustable in a similar manner as the starting needle member. The carburetor illustrated is designed for six-cylinder motors, and the needle is held off its seat normally by a spring, but is depressed by a contact lever, not shown in the drawing, which can be connected to the throttle lever or operated from the dash or other point convenient to the driver.

The arrangement of the six concentric jets is shown at Fig. 2 A and the utilization of the steel balls is similar to that employed by a well known make of American carburetor. The tip of each of the six jets in the Daimler is in its own choke tube, which is normally closed by a steel ball, this being lifted from its seat by the suction of the piston. There are also six air passages arranged alternately with the chokes, and each of these has a ball to close it normally. A bottom view of the choke tubes and air passages with their balls, and showing their arrangement in relation to the position of the central jet choke, is presented at Fig. 2 B.

Resting on all except one of the 12 steel balls is a spider weight with 11 arms, the 12th being represented by a gap past which one of the balls may be lifted by the initial increase of suction as the throttle is opened. In other words, when the motor is operating on the central jet and the throttle is opened one each of the balls covering a jet and choke tube has a lead over the others in responding to the increased suction. The remaining balls are lifted subsequently, but before they can rise the weight of the spider must be overcome to a greater or less extent. Each ball has a groove of its own, so that when it is lifted it must rise vertically, and when it falls it drops directly back on its seating.

The mixture from each of the jets and air passages combines immediately it leaves the various choke tubes, and passes up to the butterfly valve throttle placed across the induction pipe just

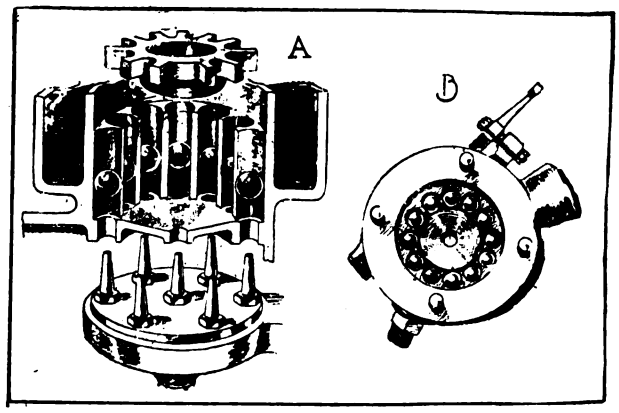

Fig. 2—Daimler Carburetor: A, Showing the Steel Balls Raised Above Their Seatings and the Spider Weight; B, Bottom View of Choke Tubes and Air Passages Covered by the Steel Balls.

above a hollow distance piece, which prevents the balls from rising above the top of their respective grooves.

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The carburetor is hot water jacketed at a point above the normal position of the balls, as shown in the drawings. The float chamber and fuel chamber carrying the jets may be removed easily when desired by disconnecting the feed pipe and slacking two wing nuts on hinged bolts. The advantage claimed for the carburetor is its quick response to varying positions of the throttle.

SOFTENING CAST IRON.

To soften cast iron for drilling, heat the part to a cherry red, and have it lie level in the fire. Then with the tongs put on a piece of brimstone, a little smaller in size than the hole to be drilled. This softens the iron entirely through. Let the piece remain in the fire until cooled. It will then be ready to work and soft enough to drill.

FITTING WIRES OR CABLES.

In rewiring the car and when the leads pass through the battery box, floorboards, etc., it is sometimes difficult to start the wire through the opening because the diameter is less than that of the lead. The usual practise is to ream the hole larger. When wires are slightly smaller than the opening they may be started by placing the end to be inserted on a flat, hard surface and rolling the insulation with another piece of hard, flat material. This will constrict the end of the insulation so that it may be readily inserted and drawn through.

DYNAMO CLUTCH ADJUSTMENT.

It is only natural to assume that the owner of a car fitted with electric lighting and motor starting systems will turn to the garage repairman when trouble is experienced with the equipment. But it is possible that the owner may tamper with the adjustments in an endeavor to secure maximum efficiency from the lamps when these members are at fault or have been replaced and not focussed properly.

Some lighting systems provide for regulating the output of the dynamo, among which is the Gray & Davis, fitted to a large number of 1913 models. Although it should not give trouble, it is possible through tampering by the owner that the output of the generator may be altered.

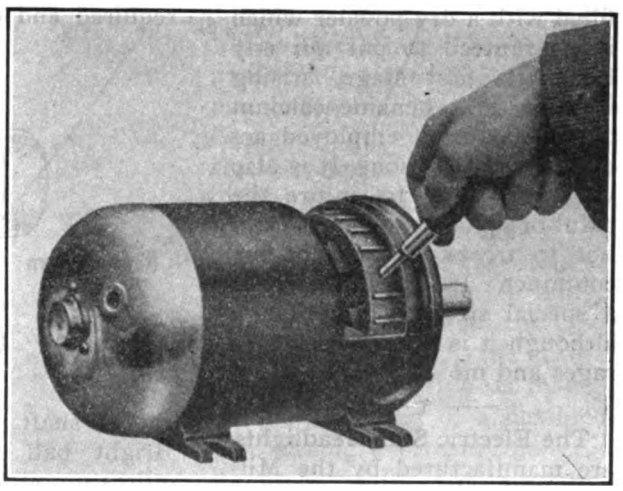
Before arriving at the conclusion that the dynamo is at fault the wiring should be examined thoroughly. Grounds occur when any two wires of opposite polarity come in contact with any conductive material and are indicated by the lights appearing to go out, although really glowing very faintly. One of this type will very soon discharge the battery.

The best method for testing is by utilizing a voltmeter. Disconnect and remove the battery from the car. Connect one side of the battery to the frame and the other to one wire of the voltmeter. Next touch with the free wire of the voltmeter each terminal of the junction box. If any deflection is noted, it indicates a ground. Disconnect each wire from the junction box, repeating the above test as each is displaced.

It is best to disconnect wires marked "to lower terminal of ammeter" and "to series dynamo." If the junction box then shows a ground, the trouble is in the lamp wires, and can be located by tracing the defective wire its entire length. If the ground is indicated when touching the wires leading from the junction box to the ammeter and dynamo, disconnect them at the ammeter and dynamo and repeat the voltage test. In this way, proceeding from terminal to terminal, the defective connection or worn place in the wire can be located without difficulty.

A slight ground may be due to the ground connection having such high resistance that only a small amount of current is lost. This is indicated by the battery not holding its charge and in some instances being entirely discharged over night. This trouble is first noticed when the lights seem to be dim at low car speeds, but brighten as the dynamo cuts in.

If, upon the conclusion of all tests it is shown that the dynamo is not giving its designed output, the clutch may be adjusted. This is accomplished by removing the outside cover and revolving the governor inside the shell until the opening in the shoe marked with a notch coincides with the drill hole in the shell. To increase the driving force of the clutch; that is, to augment the output of the dynamo, the screw is turned to the right. A screw driver .1875 inch wide is best adapted for the work. The method of adjusting the clutch is shown in an accompanying illustration. The governor action is very sensitive, and a full turn of the screw driver will make a considerable difference in the output of the dynamo. If not familiar with the operation of the dynamo, it is best to study the maker's instruction book, which should accompany each equipment.



Showing Method of Adjusting Clutch of the Gray & Davis Lighting Dynamo.

Aluminum may be blackened. The surface of the material to be colored is polished with very fine emery powder or finest emery cloth, after which a thin layer of olive oil is poured over and the part heated slowly over an alcohol flame.

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DESIRABLE ACCESSORIES FOR THE DEALER.

Descriptions of the Newest and Most Popular Lines Which the Up-to-Date Agent May Handle with Profit.

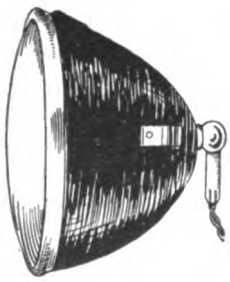
The J-M Fire Extinguisher, marketed by the H. W. Johns-Manville Company, New York

J-M Fire Extinguisher

City, is a compact metal tube filled with a dry powder which is guaranteed to put out any fire in its first stage, arising from gasoline, benzine, calcium carbide, etc., if employed according to directions. It is also warranted not to injure the paint or upholstery of a car and not to freeze or cake in the container. It is constructed in a special size for motor cars, although it is produced for garages and motor boats.

—— ★ ——

The Electric Star Headlights are manufactured by the Milwaukee Bronze Casting Company, 119 Clinton street, Milwaukee, Wis., and are high grade and moderately priced lamps. A quality of these members, which are made in various styles to meet individual requirements, is that but one screw is utilized in their entire construction, rivets and solder being dispensed with.



ELECTRIC STAR HEADLIGHT

The material employed is cast aluminum, highly finished and silvered, and the convex lenses are laid in rubber, which makes the lamps dust and water proof, eliminating opportunity for tarnishing. The company manufactures a wide variety of electric lights, including tail, side, dash, etc.

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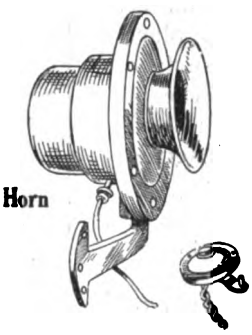
The Newtone Type N Horn, produced by the Automobile Supply Manufacturing Company, Brooklyn, N. Y., is designed for those who desire a compact, high grade, efficient signal. It operates on a six-volt storage battery or five dry cells and a quality emphasized is the small amount of current required and consumed. The



Newtone Horn

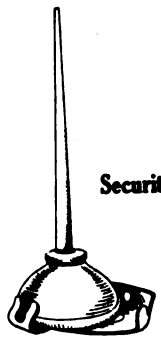
motor shaft rotates on Hess-Bright ball bearings and requires no oiling or adjustment. It is finished in black enamel, nickel or gun metal and comes complete with push button and cable.

—— ★ ——

The Security Oil Can Holder is marketed by the Mayo Manufacturing Company, Chicago, and is designed for retaining the oiler under the hood. The clamp is so constructed that the can may be removed easily by tipping it, and it may be replaced in a similar manner. It will hold cans from three to 3.5 inches in diameter and is finished in copper.

The company is prepared to accept special orders as to finish, variety being available at the option of the purchaser. The best of workmanship and material is used in the manufacture of the holders, which give most durable service.

The Nelson Primer is marketed by the Nelson Manufacturing Company, Randolph and



Security Oil Can Holder

Jefferson streets, Chicago, and is utilized for priming the gasoline motor from the seat and making easy the starting of the engine. The vessel holding the fluid is small and compact and is attached to the dashboard by screws. The lower extremity of the device is equipped with a manually operated valve, also a sight feed glass, the latter being for the purpose of enabling the operator to measure the quantity of gasoline being used. The fuel is conveyed to the intake manifold or desired place by copper tubing which is equipped with a coupling. The maker states that it is attached easily, does not require soldering, and that by its use the motor may be primed readily.

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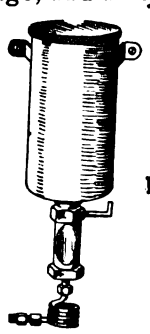
Silverkote is manufactured by the Page-Lester Company, 125 West Van Buren street, Chicago, and a little of the fluid



NELSON PRIMER

placed upon a cloth will, the maker states, convert the brass lamps and other accessories of

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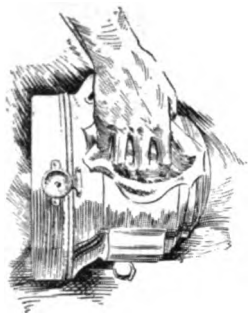
the car into a brilliant silver finish. The material is not injurious to the hands or metal,



SILVERKOTE

is applied easily and is said to have very durable wearing qualities. It comes in a bottle the contents of which will silver plate the brass work of the average car twice.

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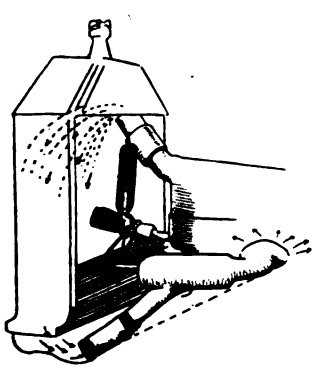
The Ford Water Circulator is manufactured by the Fulton-McCutchan Company, 1146 Michigan avenue, Chicago, and as the names implies, is designed for attachment to Ford motors cooled by the thermo-syphon system. It comes complete and includes in addition to the circulator, a split pulley and a spring belt. The former is secured to the fanshaft, which actuates another pulley operating a worm screw located in the intake water manifold. The rotation of the screw member forces the cooled fluid taken from the bottom of the radiator through the water jackets, thence to the cooler. The rate of flow is augmented with increasing motor speeds and the maker



FORD WATER CIRCULATOR

states that the efficiency of the power plant is increased thereby. The circulator is constructed of aluminum and weighs but three pounds.

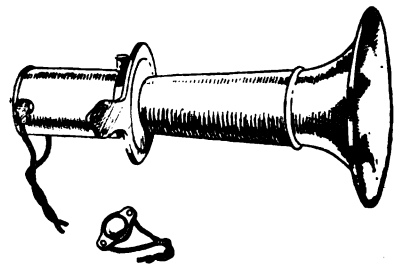
—— * ——

The Automatic Screw Jack, marketed by the Garage Equipment Manufacturing Company, Milwaukee, Wis., will appeal to motorists desiring a light weight, compact, folding jack. It combines the advantages of the screw and lever devices and is equipped with an automatic release which makes it possible to drop the head to a normal position by a simple movement of the hand. It also permits of raising the head to the desired position. This is accomplished by spring jaws engaging with the steel screw member. Release of the jaws is secured through compression. The actuating lever or handle is pivotally mounted, making it possible to stow the jack in a very small space in the tool box. It is made in three sizes having lifting capacities ranging from two to five tons.

AUTOMATIC SCREW JACK

—— * ——

The Newtone Superior Horn is produced by the Automobile Supply Manufacturing Company, 220 Taaffe Place, Brooklyn, N. Y. It is designed to meet the demand for a popular priced signalling device and in it are incorporated the same high grade workmanship and material noticeable in the product of this company. The design is attractive, well finished and economical of current, requiring about 2.5 amperes. The company states that a battery

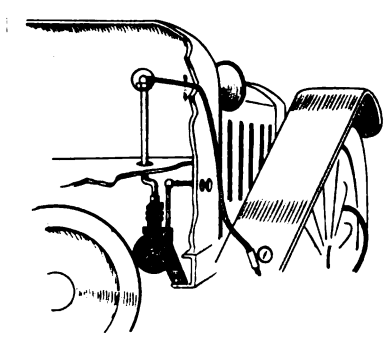


NEWTONE SUPERIOR HORN

will supply current for five months without recharging and as the working parts of the horn are enclosed they are not affected by road dust. The horn comes complete with ample length of flexible cord, push button, etc., and the design of the securing bracket is such that it may be attached easily.

—— * ——

The Two Minute Tire Pump, produced by the Racine Engine & Machine Manufacturing Company, Racine, Wis., is a small, compact device actuated by the flywheel of the motor. It is permanently attached to the frame of the car underneath the footboard. A suitable tubing leads from the cylinder of the pump to the dashboard and provision is made for the attaching of a flexible hose having a pressure gauge, etc. Normally the friction wheel of the pump is not in contact with the periphery of the flywheel. When the service of the pump is desired, a small brass knob on the side of the car is turned, which throws the pulley of the pump into contact



TWO MINUTE TIRE PUMP

with the flywheel, the rotation of which operates the pump developing pressure.

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The Toledo Spark Plug Tester is a product of the Toledo Auto Devices Company,

TOLEDO SPARK PLUG TESTER

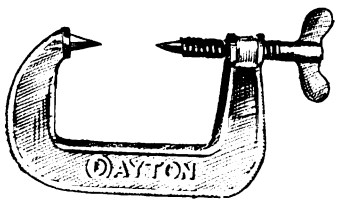
Toledo, O. As the name implies it is designed for locating faulty ignition and a quality claimed of it is that the operation requires but a few seconds. The handle is well insulated and a terminal is provided for attachment. The tester is equipped with a spark gap device by means of which the action of the secondary or high-tension current may be observed.

—— ★ ——

The Dayton Spring Spreader, manufactured by the Dayton Malleable Iron Company, Dayton, O., is a practical and inexpensive tool for the owner as well as the garage man. It comprises a clamp having a fixed point and a similar member on a threaded rod which is actuated by a winged handle. The points are placed between the leaves and the threaded rod turned by hand, a movement spreading the leaves so that the members may be cleaned and lubricated without loosening the spring clips or jacking up the body. The spring spreader is adjustable to any standard size spring.

—— ★ ——

Joseph J. McGuinness, Waterbury, Conn., is manufacturing the De Luxe glass cleaner and polisher, which is specially adapted for removing deposits from windshields, lenses, mirrors, lamps, etc. The maker states it will not scratch the



DAYTON SPRING SPREADER

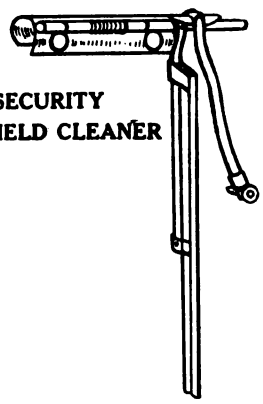
surface and does not contain whiting, oils, acids, etc., and that the polish imparted is lasting. The polisher is soaked in water, wrung out and the burlap side applied to the glass.

—— ★ ——

The Security Windshield Cleaner is marketed by the Eclipse Specialty Company, 250 West 54th street, New York City. By a simple movement of the hand dust, moisture, etc., are quickly removed by a cleaning arm provided with suitable material. The design of the cleaner is such that it will fit any type of windshield and the maker states that it does not interfere with the folding of the sections. Being actuated by one hand it does not disturb the operation of the car and the cleaning arm automatically returns to normal position.

—— ★ ——

The Holtzer-Cabot Electric Company, Boston and Chicago,

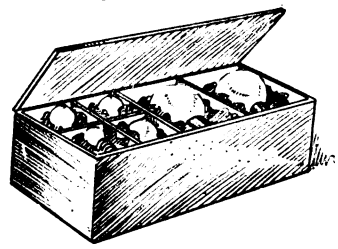


SECURITY WINDSHIELD CLEANER

maker of the Holtzer-Cabot dynamo system of electric lighting, has established a department at the factory in Brookline, Mass., installing its dynamo on private cars. The company is prepared to equip any type of gasoline vehicle and a large number of owners have taken advantage of the opportunity to install electric lighting systems on machines not thus fitted. Estimates will be furnished upon application.

—— ★ ——

The Howard Lamp Chest is the product of the Howard Miniature Lamp Company, 237 Academy street, Newark, N. J., and is designed for the safe keeping of electric bulbs utilized with the lighting system of the motor car. The box is sturdily constructed and covered with cloth. Six compartments are provided, two for the



HOWARD LAMP CHEST

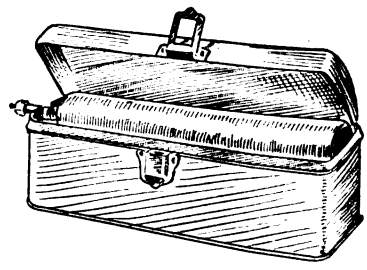
headlights and one each for side, tail and speedometer globes, and the lamps rest in shock proof material. The case accompanies each outfit of Mazda lamps purchased of the company.

—— ★ ——

The Hayes Gas Tank Box is the product of the Hayes Manufacturing Company, Detroit, maker of battery and tool boxes, and is designed for storing the gas tank out of sight as well as preventing its theft. It is constructed of sheet steel and all joints are electrically welded, making for sturdiness. It is finished in baked, black enamel and equipped with a special lifting lock. The tank is made in two sizes for model B and E Prest-O-Lite tanks, and in designs suitable for attachment on either running board and in both directions insofar as the lead from the tank is concerned. The boxes are made plain or with aluminum mats as desired.

—— ★ ——

The Samson Motorcycle Horn is manufactured by the American Electric Company, Chicago, and current is supplied by two or three dry cells. It is a very neat and compact signalling device and produces



HAYES GAS TANK BOX

a large volume of sound, upon pressing a button. A clamp is provided for mounting.

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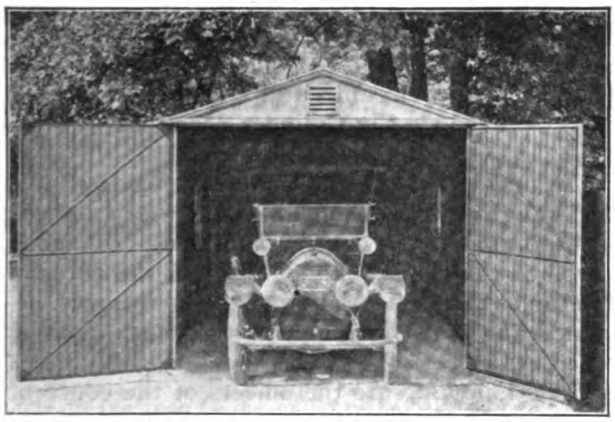
FEATURES OF EDWARDS PORTABLE GARAGES.

CONSIDERING the number of machines that are stored on the owner's premises, it is not surprising that the problem of the private garage is given serious attention. With the more general use of automobiles, many of those who do not own their own homes have acquired cars and with a large percentage of these the portable garage makes a decided appeal. And there is the motorist who has a summer home in the country or at the seaside, where it is not deemed advisable to erect a substantial permanent structure, although there is quite as much need for a fireproof building as in localities where the fire protection is of the best.

The field offers a particularly attractive opportunity for the dealer, inasmuch as the buildings are supplied in sections, each properly marked, so that it is a simple matter for the purchaser to assemble and erect the structure. The dealer does not need to carry a sample in stock and his business investment is not affected. Every car he sells opens the way to secure a prospect. The buildings are attractive in design and can be secured in all standard sizes and with special dimensions as well.



Edwards All-Steel Garage Owned by Mayor Henry T. Hunt of Cincinnati.

One of the oldest producers of steel garages is the Edwards Manufacturing Company, Cincinati, O., which marketed its first structures of this design in 1905. These are built to meet the varying requirements of motorists in any size desired, although not all are listed as standards, and in two distinct types, one being the Steelcote and the other the All-Steel.

The former has a frame of seasoned wood, usually pine, covered with non-rusting galvanized steel. The entire structure, save beams, uprights, etc., on the inside, is steel, and this is made weather proof by the Edwards Tightcote process, in which each sheet of steel is resquared after stamping and before galvanizing. It is then dipped in molten lead and zinc, which thoroughly covers the edges as well as the sides, a condition which is held to absolutely prevent rusting.

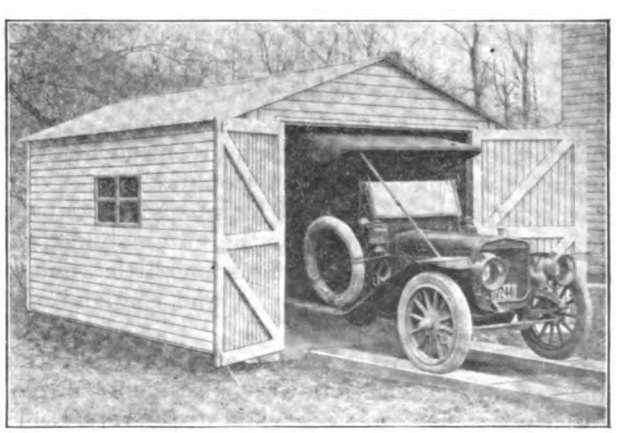
The All-Steel model, as its name implies, contains no wood at all. The roofing, siding, window frames and doors are of non-rusting galvanized steel and the frame of open hearth or Bessemer steel. The siding is Edwards patent beaded lock joint, 26-gauge, each section being equipped with a patented interlocking device, which locks into the stiffening bars, forming air tight joints between sections. The roofing is of the same material, securely locked by slipping into the folded part of the ridge cap and into the turned-up edge of the eave flange. The roof is further reinforced by two extra angle steel purlins, extending the entire length from gable to gable.

Edwards Steelcote Model with Two Windows on Side.

Metal fireproof windows are furnished in two of the side sections, each 27 by 36 inches, with two galvanized steel hinges securely riveted to each frame. These sections being interchangeable, the windows may be placed in any position along the side or end of the building. A Yale & Towne three-tumbler lock securely fastens the door and a combination lock and patented galvanized opening rod is supplied for each window.

It is understood that the Motor and Accessory Manufacturers will soon take steps in opposition to the new tariff schedule on tires, and that several of the tire makers in Trenton, N. J., and vicinity are organizing for this purpose.

Manufacturers of commercial and pleasure electric vehicles are to meet at Boston in a convention to be held May 20-21.



Edwards Design Provides Ample Room for Big Winton.

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IS PRODUCING TURNTABLES.

Michigan Concern Incorporates and Secures Enlarged Facilities for Manufacturing.

The T. C. Beach Auto Turntable Company, St. Johns, Mich., has incorporated with capital stock of $10,000 for the purpose of manufacturing automobile turntables. The incorporators and stockholders are: T. C. Beach, R. S. Clark, W. J. Moss and Robert H. Chapin, all of St. Johns.

The cement factory at the crossing of Lansing street and the Grand Trunk railway has been leased, a provision being included for the purchase of the building later if desired. The concern proposes to increase its scope and equipment as fast as the business warrants.

HERMES CAR IN CINCINNATI.

New Company Considering Offers from Many Cities as Location for Its Plant.

The Hermes Motor Car Company, with preliminary capital of $30,000, that shortly is to be increased to $300,000, is a new concern organized at Cincinnati, O., with its preliminary experimenting plant at 1625 Blue Rock street. Although the company is said to be desirous of locating permanently in Cincinnati, it is understood that offers from 15 cities are being considered.

A test motor car, which will be called the Hermes, has been completed by the company and it has been in operation in and around Cincinnati. The machine is equipped with Beaver motor, wire wheels, electric starting and lighting system, and has a 124-inch wheelbase. The promoters have not been named as yet, but will be announced when the company decides definitely upon its future plans.

TO INTEREST FRENCH CAPITAL.

Herrington Resigns as President of Wheel Company to Visit European Makers.

L. Herrington of Chicago, inventor of the automobile wheel which is being manufactured by the Fort Wayne Universal Wheel Company, Fort Wayne, Ind., has resigned the presidency of that concern after being re-elected to that office three months ago. He plans to visit France for the purpose of demonstrating his invention before a number of capitalists in that country with a view to organizing a $1,000,000 company which will manufacture the wheel for the automobile trade in Europe. After spending some little time in France he will go to Germany and England on a similar mission.

New officers were elected at a recent meeting of stockholders as follows: President, J. W. Wisehart; vice president and treasurer, L. H. Moore; secretary, J. C. Thornburgh; superintendent, W. F. Davis; assistant secretary, H. P. Moses; attorney, E. G. Hoffman; directors, J. W. Wisehart, L. H. Moore, J. C. Thornburgh, H. P. Moses, W. F. Davis, E. F. Davis, E. G. Hoffman, Edwin Irle and Dr. G. A. Leach.

STILL ANOTHER TIRE COMPANY.

Morgan & Marshall Concern Will Erect Plant in East Liverpool, O.

The Morgan & Marshall Co-Operative Rubber & Tire Company, East Liverpool, O., which was organized recently, will erect new buildings, instead of purchasing the old Warner-Keffer property as was at first contemplated. It was decided that the best policy was to secure a modern plant in every particular.

It is expected that the factory will be ready for the manufacture of automobile tires and rubber sundries by July 1, and that about 100 skilled workmen will be employed at the start. The equipment will be of the very latest type in every particular and the company announces its intention to specialize in tires for heavy duty cars.

VAUGHN CAR REDESIGNED.

New Company Organized in Kingston, N. Y., to Produce Six-Cylinder Machine.

A new company has been formed to build the Vaughn car at Kingston, N. Y. It has been incorporated for $1,350,000 and numbers among its officers some well known men of the automobile industry. The Vaughn has been newly designed and will be brought out as a six-cylinder machine.

The following are the officers of the concern: President, A. B. Cordner, formerly manager of the General Motors Truck Company, New York branch; general manager, F. E. Moscovics of the Remy Electric Company; secretary-treasurer, Harry W. Jones, formerly connected with the E-M-F organization.

TO LOCATE IN NASHVILLE.

Evans Motor Car Company Will Succeed Detroit Concern in New Surroundings.

The Evans Motor Car Company of Nashville has been chartered at Nashville, Tenn., with capital stock of $50,000, for the purpose of manufacturing commercial motor vehicles and the Evans gas engine. The incorporators are: Everett Philpot, George R. Anthony, Howell Brandon, Clarence Woodcock, A. P. Foster and R. H. Evans.

The concern will take over the business of the Automobile Manufacturing & Engineering Company of Detroit, in which Mr. Evans is interested. It is the intention of the company to locate the factory five miles from Nashville on the Gallatin pike.

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RECENT PATENTS OF INTEREST.

Engine Hood Cover—Clinton D. Miller, Washington, D. C., No. 1,054,592. The cover is designed to envelop the hood and has a pliable flap adapted to swing over an opening in front.

Automobile Seat—Arthur F. Draper, Berkeley, Cal., No. 1,054,755. A casing is secured to the body of the car and the seat proper is hinged thereto. Means are provided for folding the seat member into the casing.

Bumper—George E. Legendre, Chicago, No. 1,055,057. Spring socket heads are attached to the extension of the frame and a link member is also employed in the connection. The plunger rods are equipped with springs.

Resilient Wheel—William Frederick Doll, Liberty, N. Y., assignor of one-half to Lee McClung, Washington, D. C., No. 1,053,976. The wheel comprises a continuous piece of spring metal coiled to form an inner member, a felloe and supporting member.

Automobile Pump—Richard Anton Goeth, Robert B. Rodgers and John Albert Dittmar, San Antonio, Tex., No. 1,054,762. The pump is designed to be secured to the wheel of the automobile and the piston is actuated by gears which are rotated by the wheel.

Detachable Tread—Junius A. Bowden, Los Angeles, Cal., No. 1,064,820. The shoe is provided with a detachable tread which has projections fitting recesses in the main tread. A wire is employed on each edge of the detachable tread for securing the parts.

Cushion Tire—Dexter J. Thayer, Pittsburg, Penn., No. 1,051,465. The tire is solid and is fitted to a channel shaped rim. Cushioning springs are mounted in the rim beneath the tread and retained by beads. An air space is provided between the springs and rims proper.

Shock Absorber—Fulton A. Green, Kittanning, Penn., No. 1,055,164. The device comprises a cylinder containing a non-expansible fluid, and a hollow piston. The downward movement of the car spring compresses the fluid and the recoil is compensated for by a spring member.

Dirigible Lights—Julius Marion Raiky, Coffeeville, Miss., assignor of one-half to C. K. Bailey of the same place, No. 1,055,225. The headlights are pivotally mounted and are actuated by a pair of arms which in turn are moved by a third arm connected to the steering mechanism.

Wrist Pin Device—Foster C. Rhoads and Hugh A. Leis, Dayton, O., No. 1,054,942. One of the bosses retaining the wristpin is fitted with an aperture carrying a spring and a retaining member. The latter is so constructed that it locks the wristpin, which has a shallow cavity.

Fender and Lamp Support—Richard Tyrell, Missoula, Mont., No. 1,049,946. The fender is made in two sections, partially covers the wheel and is secured in such manner that it moves when the front wheels are deflected. Provision is also made for the mounting of the headlights.

Electrical Connector—Richard H. Welles, Kenosha, Wis., assignor to the Badger Brass Manufacturing Company of the same place, No. 1,054,810. The device is a connector for electric lamps and comprises two shells or casings within which is the connector proper. A spring gripping member is employed having arms for locking the parts.

Auxiliary Steering Gear—John D. Maxfield, Hemet, Cal., No. 1,054,975. The steering device is detachably connected to the forward wheels of a car and projects in opposite directions. A hanger bar is secured to each of the members. Connection is by a cable which is led to a drum. Winding the cable upon the drum moves the wheels as desired.

Muffler—William J. Griffith, Plymouth, Mich., No. 1,055,270. The conventional shell has a number of circumferential grooves and the baffle plates are slidably mounted on rods extending longitudinally through the cylinder. The plates are held in a normal position by a spring and the arrangement of the parts is such that movement of the plates from normal increases the unrestricted area within the shell.

Anti-Skidding Device—Michael C. Harris, Philadelphia, No. 1,053,504. The device comprises a circular series of levers, each member projecting rearwardly between its ends in general V shape, the ends of each lever extending beside each side of the shoe for a short distance. Links are utilized for connecting the levers and a chain for retaining the device.

Tire Filling Machine, Elmer Oliver, Daytona, Fla., No. 1,057,451. A machine for filling tires comprising a hopper, a feed screw operating therein, a feed pipe leading from the hopper outlet, a manually operable cut-off valve in said pipe, a pressure controlled valve in said pipe between the hopper and the first named cut-off valve.

FORMULAE AND USEFUL MECHANICAL TABLES.

Decimal Equivalents of Millimeters.

The accompanying table of decimal equivalents of millimeters and fractions thereof will be of service when the metric measurement is utilized.

Leather and Iron Cement.

To face a cast iron pulley with leather apply acetic acid to the face of the pulley with a brush, which will roughen it by rusting. When dry apply a cement made of one pound of fish glue and half a pound of common glue, melted in a mixture of alcohol and water. The leather should be placed on the pulley and dried under pressure.

Removing Rust from Nickel.

Rust may be removed from nickel by smearing the parts with grease and allowing it to remain several days. If the rust be not deep it will come away with the grease when the latter is removed by a cloth dipped in ammonia. If the rust be very deep, apply a diluted solution of hydrochloric acid, taking care that it does not touch the metal. Wash and polish in the usual manner.

Testing Steel and Iron.

Nitric acid will produce a black spot on steel, the darker the spot the harder the steel. Iron, on the contrary, remains bright if touched with nitric acid. Good steel in its soft state has a curved fracture and a uniform gray lustre; in its hard state it is a dull, silvery uniform white. Cracks, threads or sparkling particles denote poor quality. Good steel will not bear a white heat without falling to pieces, and will crumble under the hammer at a bright, red heat, while at a mild red heat, it may be drawn out under the hammer to a fine point.

Aluminum Solder.

An aluminum solder may be prepared from 50.03 parts zinc, 47.99 parts tin, 1.76 parts aluminum and .22 parts phosphorus. The phosphorus should be added to the other materials in the following manner: Take a piece of one-inch gas piping, about 12 inches long, and screw a cap on at one end. A tin plug may be utilized to close the other opening. The phosphorus should be dried between blotting paper and exposed to the air as little as possible. Remove the cap from the tubing, drop in the phosphorus and replace the cap. The tinned end of the pipe is next dropped into molten tin, the heat of which will be sufficient to melt the plug, and the phosphorus will be mixed with the molten metal without danger. The zinc and aluminum can then be added until the whole forms an alloy. The prosphorus acts as a flux, and consequently, no sal ammoniac or spirits will be required when making a joint. Ordinary copper bits should be used.

mm.	Inches.	mm.	Inches.	mm.	Inches.	mm.	Inches.
1/100	=.00039	33/100	=.01299	64/100	=.02520	95/100	=.03740
2/100	=.00079	34/100	=.01339	65/100	=.02559	96/100	=.03780
3/100	=.00118	35/100	=.01378	66/100	=.02598	97/100	=.03819
4/100	=.00157	36/100	=.01417	67/100	=.02638	98/100	=.03858
5/100	=.00197	37/100	=.01457	68/100	=.02677	99/100	=.03898
6/100	=.00236	38/100	=.01496	69/100	=.02717	1	=.03937
7/100	=.00276	39/100	=.01535	70/100	=.02756	2	=.07874
8/100	=.00315	40/100	=.01575	71/100	=.02795	3	=.11811
9/100	=.00354	41/100	=.01614	72/100	=.02835	4	=.15748
10/100	=.00394	42/100	=.01654	73/100	=.02874	5	=.19685
11/100	=.00433	43/100	=.01693	74/100	=.02913	6	=.23622
12/100	=.00472	44/100	=.01732	75/100	=.02953	7	=.27559
13/100	=.00512	45/100	=.01772	76/100	=.02992	8	=.31496
14/100	=.00551	46/100	=.01811	77/100	=.03032	9	=.35433
15/100	=.00591	47/100	=.01850	78/100	=.03071	10	=.39370
16/100	=.00630	48/100	=.01890	79/100	=.03110	11	=.43307
17/100	=.00669	49/100	=.01929	80/100	=.03150	12	=.47244
18/100	=.00709	50/100	=.01969	81/100	=.03189	13	=.51181
19/100	=.00748	51/100	=.02008	82/100	=.03228	14	=.55118
20/100	=.00787	52/100	=.02047	83/100	=.03268	15	=.59055
21/100	=.00827	53/100	=.02087	84/100	=.03307	16	=.62992
22/100	=.00866	54/100	=.02126	85/100	=.03346	17	=.66929
23/100	=.00906	55/100	=.02165	86/100	=.03386	18	=.70866
24/100	=.00945	56/100	=.02205	87/100	=.03425	19	=.74803
25/100	=.00984	57/100	=.02244	88/100	=.03465	20	=.78740
26/100	=.01024	58/100	=.02283	89/100	=.03504	21	=.82677
27/100	=.01063	59/100	=.02323	90/100	=.03543	22	=.86614
28/100	=.01102	60/100	=.02362	91/100	=.03583	23	=.90551
29/100	=.01142	61/100	=.02402	92/100	=.03622	24	=.94488
30/100	=.01181	62/100	=.02441	93/100	=.03661	25	=.98425
31/100	=.01220	63/100	=.02480	94/100	=.03701	26	=1.02362
32/100	=.01260						

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TO AID GARAGE KEEPERS.

Senator Bailey of Maine Legislature Explains Need for His Measure.

The bill introduced in the legislature of Maine by Senator Bailey, seeking to protect garage owners, has passed both branches and becomes effective July 12. The text of the bill is as follows:

Whoever puts an automobile in a public garage or any other place where automobiles are stored for hire, and without having an express agreement for credit, procures supplies, accessories or accommodation for himself or said automobile, and with intent to defraud the owner or keeper of said garage, removes or causes to be removed any such automobile from such garage without paying the proper charges due for repairs, supplies, accessories and accommodations furnished thereon, shall be punished by imprisonment not exceeding three months or by a fine not exceeding $100.

In explaining the need for this legislation Senator Bailey cited the fact that the courts of this country have held that a public automobile garage is practically in the same position as a public inn keeper, and must receive any person who comes there with his automobile for accommodation. The supreme court of Michigan has expressly stated that this is the law. Senator Bailey holds that with the increasing number of motoring tourists it has become necessary to afford the garage keeper protection in this respect.

RADIATOR LEAK-PROOF CEMENT.

New Nickel Polish Also Being Produced by the International Metal Polish Company.

The International Metal Polish Company, Quill street and Belt railway, Indianapolis, Ind., maker of the well known Blue Ribbon cream metal polish and auto body gloss, has brought out a new material known as the Blue Ribbon radiator leak proof cement, which the manufacturer claims will stop any ordinary leak. It is introduced into the radiator when the latter is full of water, and the engine is operated until the cement is thoroughly circulated. If the radiator is dirty and rusty it is necessary to first flush it out and clean it, after which it is refilled before introducing the cement, which is guaranteed to close up every crevice. As the solution comes into contact with the air at the leak point it immediately closes the fracture and mends it by forming a permanent and lasting cement filling. It also is held to clean out the circulating system and to prevent scale and rust from forming, thus preserving the metal and increasing the cooling capacity.

The International company also is producing a new polish especially adapted to nickel surfaces which will be appreciated by motorists. To dress the car up right the maker recommends this article as being high class in every respect. The many years of experience of the company in the manufacture of gold and silver polishes and other polish specialties has enabled it to produce a nickel polish which is not an experiment and one which is guaranteed to give perfect results.

The company's Blue Ribbon auto body polish is held to be particularly desirable for use on a high class automobile. It dries dust proof immediately, leaving no grease on the surface and makes the machine look like new. It is also valuable for cleaning, preserving and brightening leather trimmings. The well known Blue Ribbon cream metal polish does not require shaking, the ingredients being carefully blended and in the form of an emulsion. The liquid is greaseless and being free from any sediment it is said not to collect in crevices no matter how liberally applied. It is designed to remove quickly and easily all tarnish from metals and not to soil fabric. It is put up in five and 10-gallon cans for garage and service stations and in smaller containers for car owners.

PULLMAN BUYS FACTORY SITE.

All Question of Possible Removal Now Eliminated and Work of Expansion Planned.

The Pullman Motor Car Company, York, Penn., has purchased the complete land and properties on which its plant is located, together with the three adjoining buildings. The addition of the latter gives ample scope to further the company's expansion policy and plans are now being perfected for the rearrangement of many departments which will facilitate the manufacture of Pullman cars and expedite their prompt delivery.

The Pullman company by this purchase makes itself absolutely independent and eliminates the possibility of future removal because of property conditions over which it would have no control. The various departments are being expanded and brought to the highest point of efficiency. Improvements started several months ago are now rapidly being completed.

McCUE RESIGNS PRESIDENCY.

Understood That Manufacture of McCue Wire Wheels Will Be Under New Policy.

C. T. McCue, former president and founder of the McCue Company, Buffalo, N. Y., has resigned his office and severed all connection with the company's affairs. His action was the outcome, it is said, of matters following the reorganization of the concern. W. T. Evans has been chosen general manager and it is expected that he will succeed to the presidency.

Mr. Evans was formerly manager of the Metal Products Company, Detroit, and for nine years was with the Westinghouse Machine Company. He will reopen the McCue drop forge plant, under the direction of George Desautels, and it is understood that separate concerns will be formed, probably in Indiana, Michigan and Ohio, for the production of McCue wire wheels, etc.

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GARAGES MECHANICS REPAIR SHOPS

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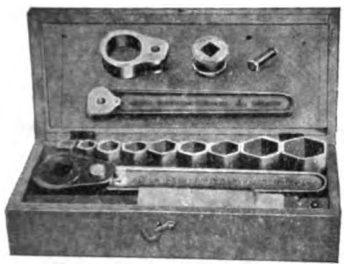
31 Sockets (Pressed Steel)
1 Universal Joint. 1 Screw Driver.
1 Short and 1 Long Extension



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Because Motor Truck is promotive, educational and presents only authentic information, it is subscribed for and read by men who are making a study of highway transportation.

Motor Truck has quantity as well as quality of contents and circulation, making it 100 per cent. value to readers and advertisers.

The concerns on the mailing list of Motor Truck are representative of and include the leading concerns in all lines of the commercial life of the country. The makers of vehicles, parts and equipment, whether buying or selling in the East or West, can secure results through publicity in Motor Truck.

The next issue of Motor Truck will be mailed June 10.

THE MOTOR TRUCK
Times Building PAWTUCKET, R. I.

Advertising Not a Problem

¶ When you know that you want to reach all Makers, Garagemen, Agents, Accessorymen and Repairmen in the Industry.

The Accessory & Garage Journal

Does reach 12,000 trade interests each month.

A Guaranteed Service and Distribution

No Other Clientele—All Buyers and Sellers

LET US TELL YOU how to save 90% of your present trade advertising cost.

LET US TELL YOU how to do away with your costly trade mailing list.

Service Is What You Want
What You Pay For

THE JUNE 15 NUMBER of the ACCESSORY & GARAGE JOURNAL will be read by the heads of 12,000 Live Concerns in the Trade.

Where Is the Problem When the Service Is Guaranteed?

Accessory & Garage Journal
Publishing Office
Times Building PAWTUCKET, R. I.

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YOU CAN MAKE MORE MONEY SELLING

FRONTIER TIRES

than you can on any other. Desirable territory open. Discounts upon application.

Our new non-skid has created a sensation and sells itself.

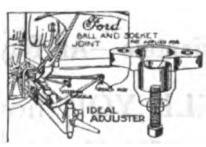
WRITE FOR DETAILS

FRONTIER TIRE & RUBBER CO.

1054 Main Street, Buffalo, N. Y.

Equip Your FORD with IDEAL ADJUSTERS
BALL AND SOCKET JOINT

Easy to Install
Easy to Adjust
Made Especially for the FORD Car



Stop All Noise and Rattle
FORD Radius Rod and Steering Rod

The largest size is used for adjusting front end of radius rod, and enables you to take up at any time all lost motion on these parts, also eliminates the rattle and noise. All this is done by a turn of the setscrew which tightens the bearing on the inside.

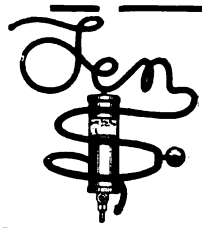
The small size is used for adjusting the ball and socket joints on the steering gear connecting rod.

We guarantee all adjusters for the life of a car and they are so simple they can not work out of adjustment or need repair.

WILL FIT ANY FORD MODEL. Will give territory and special discount to dealers. List Price, Large Size, $2.00; Small Size, $1.75. If unable to purchase from your dealer, order direct. Manufactured by

JOHN A. VANSICKLE, 2122 East Washington St. INDIANAPOLIS, IND.

NO "EXTRAS" TO PAY FOR



The Dewey Power Tire Pump Costs Only $10 Complete

Sold Strictly On Efficiency, Yet Is The Lowest Priced Complete Power Pump.

Do you know that the guaranty on your tires is based upon their correct inflation at all times?

Do you know that their greatest enemies are under-inflation, over-inflation and oil?

Do you know that the Dewey is not only a perfect---complete---power pump, but the only one that is never oiled?

These facts mean money to you. Air costs less than rubber, but it must be pure.

The Dewey, with high grade *Dial* and all connections, including 12 ft. of *Special Hose*, tested to 1,000 lbs., sold everywhere with a year's rigid guaranty on *Every Part*. **$10**

If your dealer isn't supplied, we will sell you direct—but ask your dealer first

THE DEWEY-ANDERSON CO., 450 Woodruff Ave., Toledo, Ohio

ABSOLUTE TIRE PROTECTION
GIVEN ONLY BY THE
Hopewell Tire Case

It prevents any water entering the spare tire (either from rain or hose used in washing). Water rots the fabric and causes blowouts.

$3.00 to $4.00 according to size

Hopewell Brothers Newton, Mass.

"PASS THEM ALL"

Knox
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX AUTO CO., Springfield, Mass.

New Departure
"TWO-IN-ONE"
Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.
Bristol, Connecticut

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You ought to share in the profits of TIRE REPAIRING

Forty Million Dollars will be spent during 1913 for tire repairs. Every hundred cars will produce at least $3500.00 worth of this profitable business. Every motorist must have tires repaired. Every motorist in your vicinity is a possible customer.

There are large profits in tire repairing. Requires little capital to equip a shop with the best repairing outfit made. The equipment can be paid for and a good profit earned in a short time.

Get the right kind of equipment—one that produces work you can guarantee—

The Akron-Williams Equipment,

the kind used by nine out of ten such manufacturers as Firestone, Goodyear, Diamond, Republic, Shawmut, Walpole, Federal, Pennsylvania, Kelly-Springfield, Empire, Ajax-Grieb, Swinehart, etc. Ask your tire maker about us.

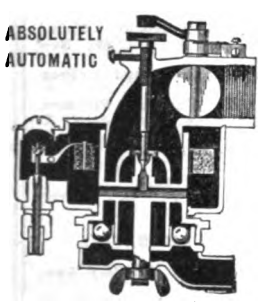
These people know what is practical. We can equip a repair plant of any desired capacity. Don't delay getting into this profitable business. Write today for catalogue No. 12.

IF IT IS USED TO REPAIR TIRES WE MAKE IT

THE WILLIAMS FOUNDRY & MACHINE COMPANY

ASH STREET, AKRON, OHIO

PLANHARD CARBURETOR



Note Simplicity

If you sell to one man he will sell to all of his friends for you.

Satisfaction or money back is the only basis on which Planhards are sold.

Send for interesting charts showing saving of gasoline on a basis of 20 cents a gallon.

Planhard Carburetors make new engines of old ones.

The flexibility and control amazes new users. No springs, levers or cams. Absolutely automatic. Permanent adjustment. Easily adjusted.

Shows 10% to 25% saving in gasoline, tremendous power, increased speed.

4300 miles without a miss on the "Dream"

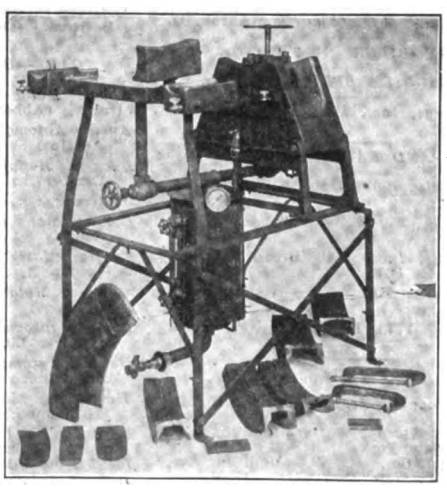
A. N. Smith, Portland, Me., uses about one gallon less per hour on Hartford III.

G. A. Schmidt, Lawrence, Mass., gets over 20 miles to a gallon on his automobile.

R. Webb Braham, Texas, "Two years without adjustment."

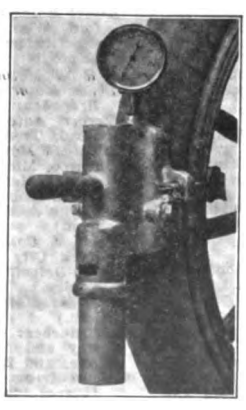
Dealers: Get Our Proposition

PLANHARD MFG. CO., 1790-2 Broadway, N. Y.



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit, cost $60, less 5% cash. Ask for Catalogue C. Tells how to do the work.



Van Steam Portable

$4.50 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver.

Weight, 8 pounds

VANDERPOOL CO.

Springfield, Ohio

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Hawthorne Mfg. Co., 29 Spruce St., Bridgeport, Conn.

Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Miller, Chas. B., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight streets, Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree Street, Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.

Shaler Co., C. A., Waupun, Wis.

Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

ADJUSTERS.

Vansickle, John A., Indianapolis. (Ford Ideal Ball and Socket Joint.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Sumner, George, Inc., 1926 Broadway, New York.

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Bretz Co., J. S., 250 W. 54th St., New York. (F. & S.)

Marburg Bros., Inc., 1790 Broadway, New York. (S. E. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)

Waite Auto Supply Co., 81 Exchange place, Providence. (Success.)

Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA.)
Branches: 136 West 52nd St., New York; 1191 Woodward Ave., Detroit; 2241 Michigan Ave., Chicago; 243 Monadnock Bldg., San Francisco.

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BLOW-OUT PATCHES. (See Patches.)

BODIES, TRUCK.

Lynch Manufacturing Co., Hammond, Ind.
Branches: East Chicago, Ind.; South Chicago, Ill.

Motor Truck Body Co., 320 Franklin St., Detroit.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Raybestos.)

Standard Woven Fabric Co., Worcester, Mass. (Multibestos.)
Branches: 903 Boylston St., Boston; 276 Canal St., New York; 720 Main St., Buffalo; 422 River St., Troy, N. Y.; 1427 Vine St., Philadelphia; 1480 Michigan Blvd., Chicago; 1598 Woodward Ave., Detroit; St. Louis; San Francisco.

BRAKES.

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Duplex.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBURETORS.

Planhard Mfg. Co., 1790 Broadway, New York. (Planhard.)

Sumner, George, Inc., 1926 Broadway, New York. (S. U.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

CARS—GASOLINE PLEASURE.

Abbott Motor Co., 141 Waterloo St., Detroit. (Abbott-Detroit.)

Austin Automobile Co., Grand Rapids, Mich. (Austin.)

Buckeye Manufacturing Co., Anderson, Ind. (Lambert.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Cole Motor Car Co., Indianapolis, Ind. (Cole.)

Croxton Motor Car Co., Washington, Penn. (Croxton.)

Cutting Motor Car Co., Jackson, Mich. (Cutting.)

Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)

Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)

Henderson Motor Car Co., Indianapolis. (Henderson.)

Herreshoff Motor Co., 620 Harper Ave., Detroit. (Herreshoff.)

Ideal Motor Car Co., Indianapolis. (Stutz.)

Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)

Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)

Knox Automobile Co., Springfield, Mass. (Knox.)

K-R-I-T Motor Car Co., Detroit. (K-R-I-T.)

Lenox Motor Car Co., Inc., Boston. (Lenox.)
Branches: New York, Boston, Chicago.

Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)

Michigan Motor Car Co., 147 Lay St., Kalamazoo, Mich. (Michigan.)

National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Peerless Motor Car Co., Cleveland. (Peerless.)
Branches: 660 Beacon St., Boston; Broadway and 57th St., New York; Michigan Ave. and 26th St., Chicago.

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Selden Motor Vehicle Co., Rochester, N. Y. (Selden.)

Speedwell Motor Car Co., 80 Essex Ave., Dayton, O. (Speedwell.)

Studebaker Corporation, Detroit. (Studebaker.)

Warren Motor Car Co., Detroit. (Warren-Detroit.)

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.

Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Available Truck Co., 2834 Hamilton Ct., Chicago. (Available.)

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Blair Mfg. Co., Newark, O. (Blair.)

Brown Commercial Car Co., Peru, Ind. (Brown.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Clark, E. S., 242 Freeport St., Dorchester Dist., Boston. (Clark.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Grand Rapids Motor Truck Co., North St., Grand Rapids, Mich. (Hoosier Limited.)

Knox Automobile Co., Springfield, Mass. (Knox.)

Mais Motor Truck Co., Indianapolis. (Mais.)

Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)

Peerless Motor Car Co., Cleveland. (Peerless.)
Branches: See Cars—Gasoline Pleasure.

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Sullivan Motor Car Co., 611 East Ave., Rochester, N. Y. (Sullivan.)

Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 10 Postoffice Sq., Boston. (Atlantic.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.

General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.

Knox Automobile Co., Springfield, Mass. (Knox.)

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

Willys-Overland Co., Toledo, O. (Overland.)

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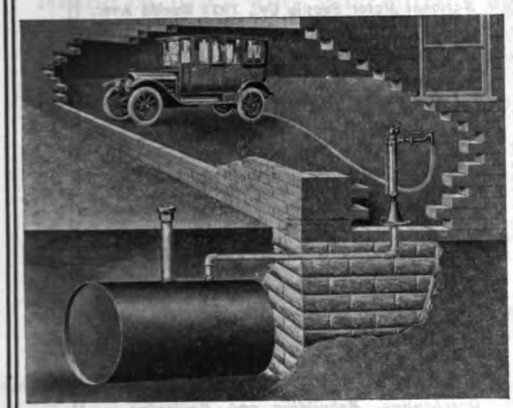
If You Use HARRIS
TRADE MARK REG. U.S. PAT. OFF.
OILS

Your motor will respond by giving better service.

A little goes a long way and every drop counts.

A. W. HARRIS OIL COMPANY

326 S. Water St., PROVIDENCE, R. I. 143 No. Wabash Ave., CHICAGO, ILL.



Cheapest Thoroughly Safe and Practical Outfit Made

Every part of this apparatus is listed by the Underwriters' Laboratories.

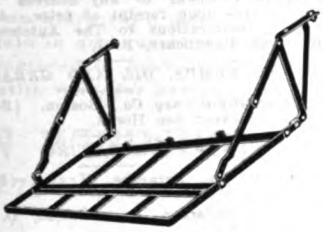
Send for Catalogue

Wm. B. Scaife & Sons Co., Pittsburgh, Pa.

(New York Office: 26 Cortlandt Street)

"SPECIAL" 1913 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of **TRUNK RACKS** For all makes of Automobiles



1913 Ford Rack

This Rack Will Fit Any 1913 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

STOLEN AUTOS

Can be prevented with our **AUTOLOCK SWITCH**

Put on Coil or Dash in ten minutes. Yale key for plug. One operation. Write for descriptive folder and price.

BLACKBURN SPECIALTY CO., 1132 Prospect Ave., Cleveland, O.

THE AUTOMOBILE JOURNAL

24 Issues $1.00 the Year

Private Garages $30 and Up

For Automobiles and Motorcycles

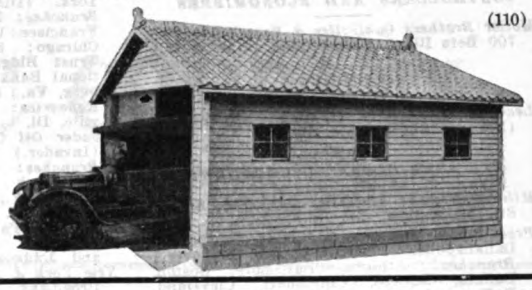
Write us the make and model of your machine and we will quote you a most astonishingly low, direct-from-factory price on an Edwards private, fireproof, portable steel Garage of the size you'll need.

The "Edwards" These beautiful, fireproof steel structures give absolute protection from sneak thieves, joy riders, fire, carelessness, etc. Our Auto Garage saves $20 to $30 monthly in garage rent. Saves **time, work** and **trouble.** Comes ready to set up or take down. All parts cut and fitted. Simple, complete directions furnished. Absolutely rustproof. Joints and seams permanently tight. Practically indestructible. Locks securely. Made by largest maker of **portable** fireproof buildings. Prompt, safe delivery and satisfaction guaranteed. Postal sent today brings Garage Book and Factory Prices **by return mail.**

THE EDWARDS MFG. CO.

716-766 Eggleston Ave. CINCINNATI, OHIO

(110)



USE NO ACIDS

"Simplex" Aluminum Solder

WILL DO ALL THIS FOR YOU:

It has the holding grip on all soft metals; is non-corrosive and is a good conductor of electricity. Will solder everything---aluminum to brass, copper, etc. We will give $100 for any aluminum casting brought to us we cannot solder. We solder with an ordinary iron, and what we do solder, "STICKS" because it is in OUR SOLDER.

30 Cents

will bring you a sample to prove it to you.

Special Inducements to the Trade.

Simplex Aluminum Solder Co., Inc.

108 Broadway, Long Island City, N. Y.

Tel. 988 Astoria.

Try the New Aluminum Solder. Ask for "Simplex."

"SIMPLEX" Solder has the stick.

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BUYERS' GUIDE---Continued

CATALOGUE SYSTEMS.

Catalogue Systems Co., Fisher Bldg., Chicago, Ill.

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. H., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

CLOCKS FOR DASHBOARDS, ETC.

Boston Clock Co., 16 State St., Boston.
Chelsea Clock Co., 16 State St., Boston.

CLUTCHES—AUTOMOBILE FRICTION.

Bretz Co., J. S., 250 W. 54th St., New York. (Hartford Cone.)

COILS.

Heinze Electric Co., Lowell, Mass.

CONTROLLERS AND ECONOMIZERS.

Moller Brothers Controller & Economizer Co., 700 Betz Bldg., Philadelphia. (M. & M.)

CUSHIONS.

Leavens & Co., Wm., 32 Canal St., Boston. (Leavens Shock Absorbing.)

CYLINDER CLEANING COMPOUND.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

GAUGES.

Goodnow Manufacturing Co., 754 Old South Bldg., Boston. (Gasoline Gallon.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Tire Pressure and Gasoline Tank.)
Branches: In all principal cities.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HEADLIGHTS.

Sumner, George, Inc., 1926 Broadway, New York City. (Diva.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)
Randall-Faichney Co., Boston. (Jericho, Jubilee.)
Branch: 918 Eighth Ave., New York.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

LAMPS.

Hawthorne Manufacturing Co., 29 Spruce St., Bridgeport, Conn. (Old Sol.)

LICENSE NUMBER BRACKETS.

Hawthorne Manufacturing Co., 29 Spruce St., Bridgeport, Conn.
National Motor Supply Co., 1911 Euclid Ave., Cleveland, O.
Branches: In all principal cities.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apico.)
Dean Electric Co., Elyria, O. (Dynalux.)
Geissler Bros. Storage Battery Co., 514-520 W. 57th St., New York.
Remy Electric Co., Anderson, Ind. (Remy.)

LOCK SWITCHES. (See Switches.)

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)
Branches: Boston, Fall River, Philadelphia.
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)
Branch: 143 No. Wabash Ave., Chicago.
Hews, Geo. A., 77 Pine St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)
Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.
Refineries: Georgetown, Ky.; Lawrenceville, Ill.
Invader Oil Co., 80 Broad St., New York. (Invader.)
Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 3556 11th St., N. W., Washington, D. C.
Miller, Chas. H., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Texas Company, The, 7 West St., New York.
Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Bretz Co., J. S., 250 W. 54th St., New York. (U. & H.)
Marburg Bros., 1790 Broadway, New York. (Mea.)
Remy Electric Co., Anderson, Ind. (Remy.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 868 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

MIXING DEVICES, GASOLINE.

Approved Auto Specialties Co., 1731-37 Broadway, New York. (Wolf.)
Royal Equipment Co., 422 Housatonic Ave., Bridgeport, Conn. (Gyrex.)

MOTORCYCLES AND SUPPLIES.

American F. N. Co., Boston. (F. N.)
Branches: 49 Union St., Providence; 415 Trumbull St., Hartford, Conn.
Emblem Manufacturing Co., Angola, N. Y. (Emblem.)
Branches: Los Angeles, San Francisco.
Hawthorne Manufacturing Co., 29 Spruce St., Bridgeport, Conn. (Old Sol Lamps.)
Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTORS AND POWER PLANTS.

Continental Motor Mfg. Co., Detroit. (Continental.)
Rutenber Motor Co., Marion, Ind. (Rutenber.)

PACKING, FIRE

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Anti-Rust Paint Co., Dept. 7, Akron, O. (Thomas.)

PATCHES.

Invincible Puncture Proof Tire Co., 53 Sabin St., Providence. (Invincible.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland.

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PRIMERS.

Interstate Auto Accessory Co., Indianapolis. (Ideal.)

PUBLICATIONS, AUTOMOBILE.

The Automobile Journal, 24 issues, $1.00 the year.
The Motor Truck (Commercial Car) Monthly, $1.00 the year.
The Accessory and Garage Journal, Monthly, $1.00 the year.
The A B C of Aerial Navigation.....$1.00
The A B C of Motor Car Operation..... .50
Overhauling, Rebuilding and Equipping the Motor Car..... .50
Lighting the Motor Car by Electricity.. .50
The A B C of Internal Combustion Engine Maintenance and Repair..... .25
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The A B C of Motor Car Chassis Maintenance and Repair..... .25
Maintenance and Repair of Motor Car Tires..... .25
Sent Postpaid to any address in United States upon receipt of price. Address all communications to The Automobile Journal, Pawtucket, R. I.

PUMPS, OIL AND GREASE.

Randall-Faichney Co., Boston. (B-Line.)
Branches: See Horns.

PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)
Dewey-Anderson Co., Toledo, O. (Dewey Power.)
Hawthorne Manufacturing Co., Inc., 29 Spruce St., Bridgeport, Conn. (Hawthorne.)

RADIATOR CONNECTORS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
Firestone Tire & Rubber Co., Akron, O.
Branches: In all principal cities.
Standard Welding Co., Cleveland. (Stanweld.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

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H. E. Co. Priming Spark Plugs

Make Cranking of Motor Easy in the Coldest Weather

The simplest and most Scientific Priming Spark Plug yet devised.

Made of mica and guaranteed against leaking compression.

A set of one-half inch for ... $4.00

List Price $1.25

We have an interesting proposition which we are making to jobbers and dealers. *Write.*

HEINZE ELECTRIC COMPANY

LOWELL, MASS. **DETROIT, MICHIGAN**

Seventy Five High Grade Windshields

FOR SALE—Clear Vision, Rain Vision and Ventilating. Size 12x12x40. Finish, Black Enamel with Nickel Trimmings and Brass. These were left on our hands owing to the failure of an automobile manufacturer. Will sell at a decided bargain in any quantity. These windshields cannot be manufactured at price we have put on them. Write, or better still, wire, for particulars.

BROWN WINDSHIELD CO.

74-78 East Fort Street

DETROIT - MICHIGAN

GUARANTEED Radiators for All Cars

The following is our stock list of radiators for the cars mentioned, subject to immediate shipment. Compare our prices with other lists:

Ford Model "T"	**$18.00**
Buick 10-32-33-14	**27.50**
Buick F-16-17-19-26-27-28	**35.00**
Buick B-K-S-38-39	**42.50**
Hudson 20	**33.00**
Chalmers F-40	**30.00**
Lion 40	**25.00**
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Terms: One-third cash with order, balance C. O. D., or five per cent. discount for cash with order. **Autoparts Manufacturing Co.**, 455 Trombly avenue, Detroit, Mich.

A CATALOGUE OF AUTO SUPPLIES

will pay for itself in a few weeks through the extra profits it brings the Dealer. We furnish Jobbers and Dealers with these catalogues.

CATALOGUE SYSTEMS CO., FISHER BLDG., CHICAGO, ILL.

PATENT YOUR INVENTION—FREE SEARCH and opinion. Send for Inventors' Primer; free. MILO B. STEVENS & CO., Established 1864. F Street, Washington, D. C. Third Floor, Monadnock Block, Chicago.

KEROSENE FOR AUTOMOBILES—Our new model B uses successfully half and half mixture lowest grades kerosene and gasoline. Satisfaction guaranteed or money refunded. Greatly increased power, very slow speed on high. Starts easy at Zero. Special Agents' prices. Dept. T, THE AIR-FRICTION CARBURETOR CO., Dayton, Ohio.

FOR SALE—Attention of Truck Makers—We have on hand about 500 jack shafts for a 1000 to 1200-pound truck. These we will not be able to use owing to a change in design and to an interested party that can use these parts we will make a sacrifice price. Box 50, Accessory & Garage Journal.

AUTOMOBILE MAILING LISTS.

13,191 Automobile Dealers	$25.00
9,627 Automobile Garages	20.00
5,681 Automobile Repairs	12.50
3,541 Automobile Supplies	10.00

Neatly typewritten, showing Financial Rating in Dollars of each one, alphabetically by States and Towns, 1913 compilation.

Ask for certain States if you do not want all.

877,000 Automobile Owners by States. Price on application.

Ask for our "Silent Salesman" showing 2000 other lists, etc.

Send check with order.

TRADE CIRCULAR ADDRESSING COMPANY,
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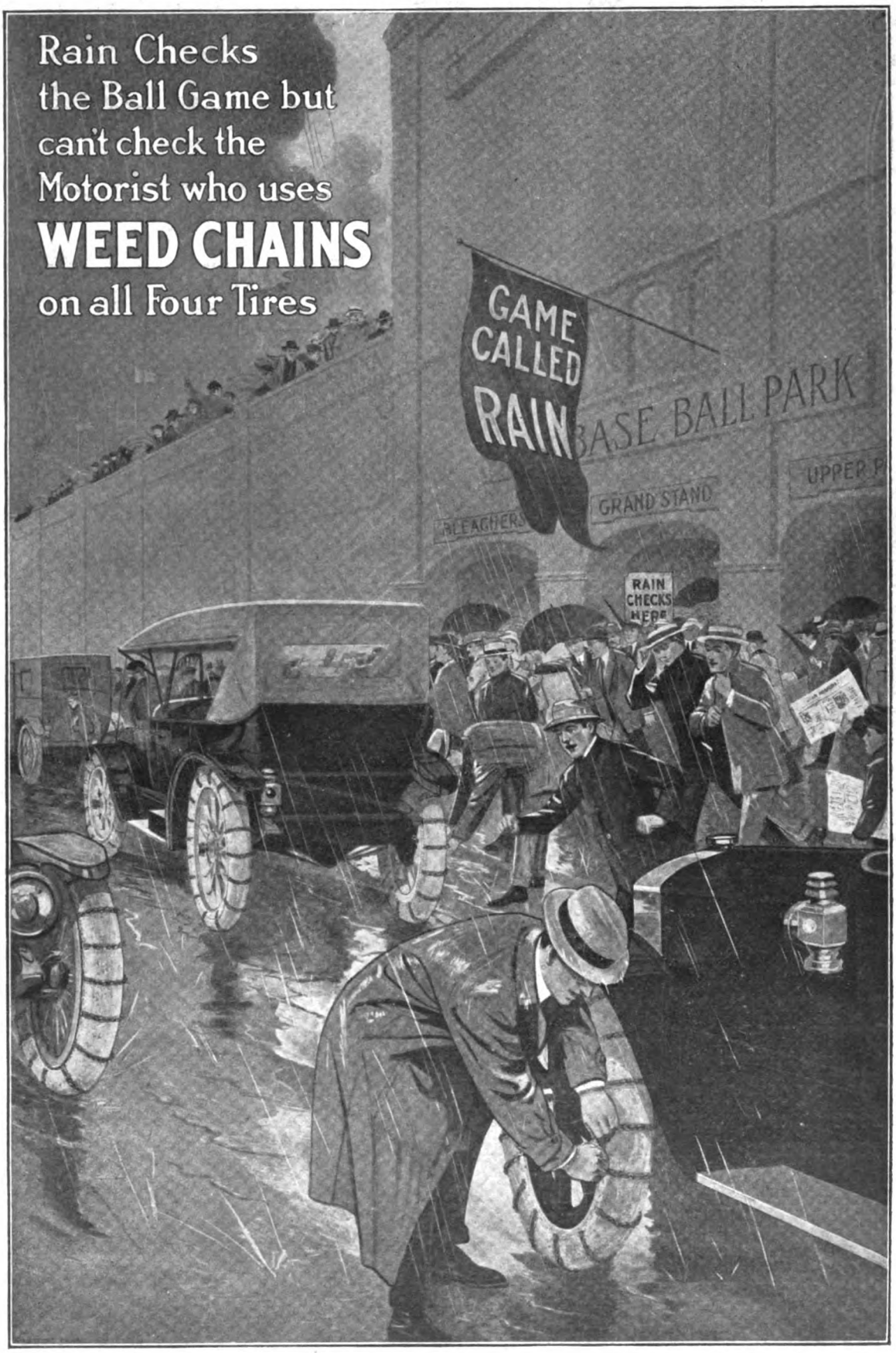

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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JULY, 1913. NO.

PANHARD OIL

The cars you sell. The cars you repair.

Do you want them to make good? It means prestige for you if they do. If so, you must *know* that they are perfectly lubricated. Don't guess at it. Read this, from a dealer who has sold Panhard Oil exclusively for years:—

George A. Haws, New York City.

It may interest you to know that I guaranteed each Rambler car that I sold during 1912, free of repair for one year. I insisted on the use of Panhard Oil.

It cost me less than $5 to make good this guarantee on four cars, with a mileage of 4200 to 7600 each. This fall I took down the four engines, and got less than a small whiskey glass full of carbon from the *sixteen* cylinders after that mileage. *No bearing trouble whatever.*

Panhard Oil will do this for **you.** Talk is cheap, but test Panhard and see for yourself. Write for our proposition. We have many sales helps and many distributing stations, throughout the country.

GEORGE A. HAWS, 148 FRONT STREET, NEW YORK CITY.

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

HOPEWELL WINS

NOTICE!

To The Trade:

We have won our Patent suit against the Linscott Supply Co., for selling spiral spring tire covers, manufactured by Vehicle Apron & Hood Co., of Columbus, Ohio, who defended the suit. Neither their defenses of "want of patentable novelty" or "prior use" was sustained by the Court, and covers manufactured by them were held to infringe Hopewell patent.

We wish to warn the trade against buying, selling, or having in stock, spiral spring tire covers infringing our patents as we intend to fully protect our rights. Copy of decision mailed on request.

We wish to thank those who have stood by us.

HOPEWELL BROS.

HOPEWELL

THE ONLY

Absolutely Waterproof

TIRE CASE

Best Possible Protector

FOR SPARE TIRES

AND

DEMOUNTABLE RIMS

IMPROVES

APPEARANCE OF THE CAR

MADE BY

HOPEWELL BROS.

NEWTON,

MASS.

TIRE CASE

Avoid Infringements

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FORD DEALERS!—FORD DEALERS!

TRADE APCO MARK

Master Vibrator No. 3

$6.00

Here is a Master Vibrator produced by the largest manufacturers of Ford specialties in the world, whose name is a by-word to every Ford owner. It is built right, looks right and acts right. Not a big, bulky instrument that is forever getting out of order, but a SMALL, COMPACT, POWERFUL machine that will make a Ford car perform under any and all conditions as never before.

POSITIVELY GUARANTEED—

APCO products are known wherever a Ford car is used. This instrument bears the same guarantee that all our goods do---MONEY BACK IF NOT SATISFIED.

We positively guarantee the Master Vibrator No. 3 to:

Start the Car Easier
Give a Hotter Spark
Give More Speed
Consume Less Current
Make Motor More Flexible

Than any vibrator on the market today.

Order Today—
This Ad. Worth Dollars to You

We want every Ford dealer to get one of these instruments at once. We know they are the biggest seller of the day. To be without them means loss of profits. In order to get you to write at once we are going to allow you an extra 5% discount for mentioning this ad. That is, for the next thirty days, one of these instruments is yours for 30% off list price.

AUTO PARTS COMPANY

PROVIDENCE, RHODE ISLAND

Largest Manufacturers of Ford Specialties in the World

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This Calendar Advertises Your Garage in 4999 Other Garages

That is, of course, if you carry Texaco Motor Oil. This handsome calendar is displayed in 5000 garages. It advertises two things – first, Texaco Motor Oil, second, *The garage that sells* Texaco Motor Oil.

On every one of the twelve monthly pages is shown a cut of the Texaco sign with the familiar slogan, "When Touring Look for this Sign."

During the great touring months, July and August, these lines appear in bold face type: "When Touring Look for the Texaco Motor Oil Sign. It Means A Good Oil at a Good garage:" and, "When Touring Experienced Motorists Watch for the Texaco Motor Oil Sign. Do you?"

You ask how all this affects you. Consider a moment. How many men who store their cars with you go touring during the summer? To be on the safe side let us say only thirty. Suppose thirty go from each one of 5000 garages—150,000 tourists.

The great majority of these car owners have been in and about the garages they patronize just as your customers are in and about your garage. Also the majority of them use Texaco Motor Oil. But if only half of them do and only half of them read the calendar and follow the advice given, we have 75,000 touring car owners looking for the garage with the Texaco sign.

Remember that the publicity created for the Texaco sign by this calendar is only a very small part of a very large whole. The whole consists of some 700,000 car owning readers of the the publications in which we advertise, of hundreds of dollars worth of direct mail matter, of the work of our large staff of salesmen, of the recommendations of thousands of dealers and consumers who are familiar with Texaco Motor Oil.

This brings us to the leading question. Do you sell Texaco Motor Oil and display the Texaco Sign? You will find it worth your while. If you haven't lined up us a Texas dealer do so now. Write us today for prices and discounts. Address Dept 7.

THE TEXAS COMPANY

WHITEHALL ANNEX NEW YORK CITY

EXECUTIVE OFFICES:

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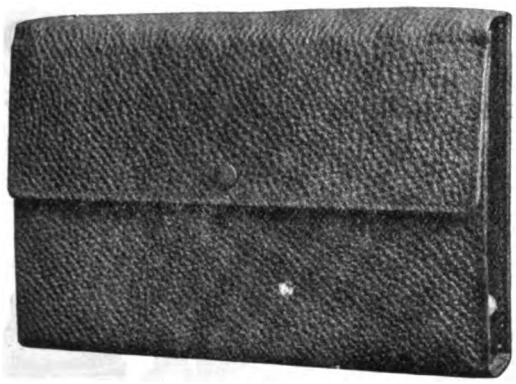
You can sell this at a profit

to Every Owner of a

Ford - Maxwell - Metz

or any medium priced car



Genuine Goat Skin Leather

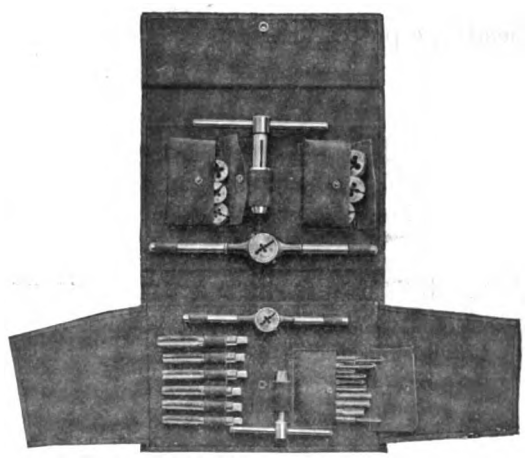
"Lightning"

Auto Repair Kit

Contents:

16 Taps,
16 Dies,
2 Die Stocks,
2 Tap Wrenches.

Assortment selected with special reference to Screw Threads found on Ford Automobile, Model T; but also adapted to any moderate priced car.



Weight 2 1-2 lbs.
Size 6 1-4"x 9 1-2"x 1"

A complete Screw Cutting Assortment

Retails for $15.00

This is not a cheap, bargain-counter eye-catcher. The Taps, Dies, Stocks and Tap Wrenches are of the same high standard that has kept Wiley & Russell Mfg. Co. in the front rank for over 40 years as makers of first quality screw cutting tools.

This Repair Kit has our Guarantee and Reputation back of it

Write for Prices

Wiley & Russell Mfg. Co., Greenfield, Massachusetts

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BLUE RIBBON EVENT

Thousands of Car Owners all over the world are using

BLUE RIBBON GOODS

—because they have the quality.

BLUE RIBBON METAL POLISH

is the original "CREAM" Metal Polish and it still leads the procession.

BLUE RIBBON NICKEL POLISH

is the result of 20 years actual experience in manufacturing the finest gold and silver polishes. It is dangerous to use an experiment polish on fine nickel trimmings.

BLUE RIBBON AUTO BODY GLOSS

revives and keeps the original factory finish and gloss on the body of the car—Shines like a mirror—No grease to catch dust—Leaves no coating.

BLUE RIBBON RADIATOR LEAK-PROOF CEMENT is a quick and permanent remedy for leaks. Does not clog the circulating system; prevents scale and rust; preserves the metal and increases the cooling capacity.

All **BLUE RIBBON** products strictly high class and fully guaranteed.
BLUE RIBBON moves quick for the dealer—works fast for the consumer.
Ask for sample, giving us name of Dealer or Jobber.

INTERNATIONAL METAL POLISH CO.

QUILL AND NAOMI STREETS, INDIANAPOLIS, INDIANA

W. A. BLACKBURN, Eastern Distributor, 335 Broadway, Moffat Building, New York City

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JULY, 1913. No. 2.

NUMEROUS CHANGES IN THE INDUSTRY.

Standard Welding Reorganizes Executive Force---Chevrolet Buys Little---Barkman Joins Hupmobile---Blanchard Elected Director of Lenox Company---Other News.

THE changes in the official personnel of the Standard Welding Company, Cleveland, O., maker of Stanweld rims, etc., as announced recently, place at the head of the various departments men who are well known throughout the industry. J. C. Manternach, the new general manager, has been sales manager since 1910. He began his automobile experience with the Pope Manufacturing Company, Hartford, Conn., in 1897, and subsequently joined the forces of the Shelby Steel Tube Company and the National Tube Company. With the last named organization his promotion was so markedly rapid that it brought him to the attention of a number of concerns, among which was the Standard Welding Company. He succeeds Tracy W. Guthrie, resigned, formerly president of the Republic Iron & Steel Company, Youngstown, O.

S. W. Hartley, the new sales manager, has been prominently identified with the engineering end of the automobile industry since its inception in the United States. He is a graduate of Cornell University and has held responsible positions with the Peerless Motor Car Company, Cleveland, O.; the Garford Company, Elyria, O., and the A. O. Smith Company, Milwaukee, Wis.

R. S. Bryant, who becomes consulting engineer, claims to have designed the first quick detachable rim in America. He has been with the Standard Welding Company for the past two years. He formerly was the founder of the Bryant Rim Company, Columbus, O., which was purchased outright by the Diamond Rubber interests some years ago.

F. R. Wilhelmy remains as auditor and credit manager, to which position he has arisen by successive steps through 14 years of service with the company. C. C. Gressel is made superintendent. He has held high positions with the factory organization of the company since its inception some 15 years ago. H. E. Butcher remains in charge of the tube department.

Department Heads with the Standard Welding Company: Left to Right, J. C. Manternach, General Manager; S. W. Hartley, Sales Manager; R. S. Bryant, Consulting Engineer; F. R. Wilhelmy, Auditor and Credit Manager.

The concern has greatly strengthened its organization by its latest acquisitions and its future operations will be on a much larger scale than heretofore, as the executive department is now regarded as capable of maximum efficiency.

The growth of the company has been steady and healthful. With the gradual increase of business it has frequently been found necessary to enlarge the organization, and the recent changes were but a natural expression of this tendency.

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SECURES LARGE ORDER.

Heinze Electric Company Is Enjoying Good Business—Branch Canadian Plant.

The Heinze Electric Company, Lowell, Mass., which is establishing a factory at Walkersville, Ont., to care for its Canadian trade, thus allowing the Lowell plant to be the headquarters for the trade in the United States, has closed a contract with the Ford Motor Company, Detroit, maker of Ford cars, to furnish electric coils for Ford machines. The contract is understood to be for a figure in excess of $1,000,000.

TREASURY STOCK SOLD.

Miller Rubber Company Plans to Increase Capital to $2,000,000.

Subscriptions for the $200,000 treasury stock of the Miller Rubber Company, Akron, O., maker of Miller tires, which was offered to the stockholders, were received up to and including May 5. Payments are to be made in three installments and the new stock certificates will be issued July 5. A meeting will be called later to increase the capital stock from $1,000,000 to $2,000,000.

NEW PAIGE FACTORY.

Modern Building to Be Erected to House Entire Organization of the Company.

Plans are ready for operations on the new plant of the Paige-Detroit Motor Car Company, Detroit, maker of Paige cars, which is to be of the most modern construction and complete with every requirement for the latest efficiency methods in manufacturing. The total floor space will be 225,000 feet and the new machinery will be of special design for the production of car parts of the utmost precision and with the greatest economy.

BUYS WHOLE VILLAGE.

Williamsville, Conn., Becomes Property of Goodyear Tire & Rubber Company.

The Goodyear Tire & Rubber Company, Akron, O., maker of Goodyear tires, has announced, through C. W. Seiberling, vice president of the company, the purchase of a large tract of land, known as Williamsville, in the town of Killingly, Conn. On the property is a large cotton mill, four stories high, where will be made a large part of the tire fabrics, hose and belting ducks so extensively used by the company. There also are sufficient houses to care for 350 employees, a church, schoolhouse, a farm to be operated by the company for the benefit of the employees, a store, large boarding house and an assembly hall, together with Lake Alexandria, the local water supply, and the Williamsville Water Company.

The factory will be equipped with the most modern machinery and will be run steadily at a uniform output on fabric for the exclusive use of the Goodyear Tire & Rubber Company, thereby insuring maximum efficiency in production and entire elimination of selling expense.

SELLING HARRIS OILS.

A. W. Harris Oil Company of Providence, R. I., Wins Two Legal Actions.

The A. W. Harris Oil Company, Providence, R. I., maker of Harris automobile lubricants, has recently conducted successfully two suits against others alleging infringement of its trade mark and the improper use of the name Harris in connection with the oil business. The defendants were James C. Harris, doing business as the Harris Oil Company, Muncie, Ind., and the Parker Refining Company.

In prosecuting these actions the A. W. Harris Oil Company maintained that it had been using the name Harris in connection with the oil business since 1885, and that the name had acquired a reputation here and abroad as denoting oils prepared by the A. W. Harris Oil Company of Providence, R. I. Injunctions were desired in each instance.

The United States court in Indiana has enjoined James C. Harris, his agents or associates, from the use of the name Harris or Harris Oil Company, in connection with the business of selling oils or in advertisements, unless preceded by "James C." and followed by "of Muncie, Ind.," in the same size and style of type, and unless accompanied by some statement showing that the oils sold are not the original oils of the A. W. Harris Oil Company. The defendant also is enjoined from the use of containers similar to those of the plaintiff.

The United States court in Ohio issued a perpetual injunction against the Parker Refining Company prohibiting the use of the name Harris in connection with the sale of oils or its use in advertisements or on labels, or the use of a word of similar sound or appearance.

BARKMAN LEAVES MAXWELL.

Returns to Pacific Coast as Western Sales Manager of Hupmobile Company.

In announcing his resignation as assistant commercial manager of the Maxwell Motor Company, Inc., Detroit, A. B. Barkman, who has been closely identified with the Maxwell interests since 1906, has occasioned much surprise. Mr. Barkman becomes western sales manager for the Hupp Motor Car Company, Detroit, maker of the Hupmobile, and will make San Francisco, Cal., his headquarters. In returning to that city he again enters the territory of his adoption, as he became western sales manager of the United

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States Motor Company in 1911 and spent two years on the Pacific Coast, during which time he became very enthusiastic concerning the country.

A. B. Barkman, Western Sales Manager, Hupp Motor Car Company.

During 27 years of business life Mr. Barkman has made in reality but three changes. He started in the bicycle business and naturally gravitated into the motor car industry in its early days. It was in 1886 that he became sales manager of the bicycle department of A. G. Spaulding & Bros., at the factory Chicopee, Mass. In 1898, when the American Bicycle Company was formed, he became sales manager of the Spaulding division of that concern, remaining until late in 1899.

Early in 1900 he saw the possibilities of the motor car business and became treasurer and general manager of the Bridgeport Motor Company, which he formed at Bridgeport, Conn. In 1906 he gave up this business to become sales manager of the Maxwell-Briscoe Motor Company at Tarrytown, N. Y. After five years at Tarrytown, Mr. Barkman became western sales manager for the United States Motor Company, which controlled the Maxwell-Briscoe company, and when that concern was merged with the Flanders interests into the Maxwell Motor Company he was called East to become assistant commercial manager.

CHEVROLET BUYS LITTLE.

Detroit Advices Indicate Complete Adjustment of Plans for Two Concerns.

According to information from Detroit, the Chevrolet Motor Company, Detroit, maker of Chevrolet cars, has purchased the entire business of the Little Motor Car Company, Flint, Mich., maker of Little automobiles, and the complete line of cars formerly made by both companies will hereafter be known as Chevrolet machines. Two large factories will be in operation by August and will start production on 8500 cars for the 1914 season. The plant formerly operated by the Imperial Wheel Company and recently purchased by the Chevrolet Motor Company, will be devoted exclusively to the production of a roadster.

It is understood that A. B. C. Hardy has been made general manager of the enlarged company, and the operations will be centralized at Flint with the sales force and executive offices at Detroit. E. S. Johnston will remain sales manager. The Chevrolet Motor Company has an authorized capital of $2,500,000, with the following officers: President, C. M. Begole; vice president, W. C. Durant; second vice president and general manager, A. B. C. Hardy; secretary, C. R. Hathaway; treasurer, W. S. Ballenger.

TO PRODUCE NEW RIM.

George Drake Organizes Company in Detroit to Develop His Invention.

George Drake, 200 King avenue, Detroit, who recently obtained a patent on a new type of demountable and detachable automobile rim, has planned to organize a stock company to place the rim on the market. The plant of the company will be located in Detroit, according to the plans of the inventor and those associated with him in the enterprise. The firm name will be Drake-Promenchenkel Rim Company. Rim works on either side with intersecting threads and grooves.

ELECTED TO DIRECTORATE.

Sales Manager of Lenox Motor Car Company Wins Deserved Promotion.

At the semi-annual meeting of the board of directors of the Lenox Motor Car Company, Boston and Hyde Park, Mass., William Blanchard of Boston, sales manager of the company during the past three years, was elected a member of the board. This move was made necessary through the resignation of one of the members and was a fitting tribute to the value of Mr. Blanchard's services to the company.

William Blanchard, Director, Lenox Motor Car Company.

Mr. Blanchard has been connected with the industry for the past six years. He gained his first knowledge of motor cars with the Easton Machine Company, South Easton, Mass., maker of the Morse line, where he worked in every department, serving his full time at the bench and in the shop. It was while acting as salesman for Morse cars that the Lenox company induced him to undertake the exploitation of its line.

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APCO MASTER VIBRATOR NO. 3.

Auto Parts Company, Maker of Ford Specialties, Increases Its Line.

The Auto Parts Company, Providence, R. I., well known manufacturer of Ford specialties, has augmented its extensive list by a new master vibrator termed the No. 3. The company has had considerable experience with master vibrators, having previously marketed two designs, and states that the new instrument is superior in every respect to former models in that it is not only more compact, but produces a hotter spark with less consumption of current. The last named feature will appeal to Ford owners whose cars are fitted with electric lighting as a better light is obtained at low speeds.

New Apco Ford Master Vibrator.

The new master vibrator is but 1.5 inches thick, 3.5 wide and five high, dimensions permitting of installation under the hood if desired, thereby eliminating possible obstructions from the dash. The case is of mahogany, highly finished, and the removable cover is accurately fitted, excluding dirt and moisture. All exterior components, such as locking parts, terminals, etc., are heavily nickel plated. The adjusting screw of the vibrator includes a special locking device, and the contact points are unusually large, assuring long life with minimum care. Particular attention has been paid to the windings and these are designed to withstand the high voltages generated by the flywheel magneto.

Although constructed especially for model T Ford automobiles the master vibrator may be utilized with any coil system of ignition where the source of current is a battery or a low-tension magneto. Not only does it synchronize the spark, making for more power and flexibility, but starting is made easy, as each cylinder is assured a hot spark. Although the Apco vibrator is the lowest priced instrument marketed, the best of material and workmanship are incorporated, and it is guaranteed. Liberal discounts are offered to the trade.

The Luverne Automobile Manufacturing Company, Luverne, Minn., has placed in the market a four-cylinder unit power plant, completely equipped, comprising a motor with carburetor and high-tension magneto attached, multiple disc dry plate clutch, selective type transmission with control levers and pedals attached and connected, ready for installation in any style of motor vehicle.

RED ROLL AUTO WASTE.

Put Up in One-Pound Packages, 12 Separate Handfuls.

Although waste is a standard article in the garage, repair shop and service station, its sale is largely restricted to the supply house and accessory dealer. This is due to the fact that it is purchased in bales containing from 10 to 50 pounds. When its use is desired it is taken from the bag by the workmen, an operation involving more or less tearing and breaking of the strands. Often it is given away to accommodate a customer who wishes to borrow a little to wipe his hands or parts of his car. Many times the owner purchases a small quantity at a garage and unless the material is weighed the attendant guesses at the amount. He is more apt to give overweight than not and in the "borrowing" case, it is a loss to the proprietor. Although a small detail when reckoned in cents, it amounts to dollars in the long run.

The Union Wadding Company, Pawtucket, R. I., is marketing the Union Red Roll Auto waste, which presents a new, patented method of handling this product. It has interesting features in that giving away the material is eliminated and the form of the package will appeal to motor car owners and motor boatmen. The size of the container makes for convenience and it is an easy one to stock as it is but 12 by three inches. Each package contains one pound of carefully selected, long fibre waste, compressed into 12 distinct rolls, which are removed separately as desired. Each individual roll is sufficiently large to meet the requirements of ordinary service and the arrangement not only saves space in the tool box, etc., but assures the user of perfectly clean material. The container is sturdy and the removal of one roll does not impair its shape. The retail price of Red Roll Auto waste is moderate and the maker offers an interesting proposition to the dealer and trade.

Illustrating the Convenience and Compactness of the Union Red Roll Auto Waste, Marketed by the Union Wadding Company.

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GENERAL NEWS OF THE INDUSTRY.

Latest Information of the Activities of Manufacturers and Dealers, New Concerns, and Removals, Incorporations, Building Operations, Changes in Personnel, Etc.

INCORPORATIONS.

The following concerns have been incorporated recently to manufacture or deal in automobiles, accessories, supplies, etc.:

Consolidated Gas & Gasoline Engine Company, Wyandanch, N. Y.; $15,000; G. H. Scanlan, F. B. Knowlton, E. J. Forhan.

International Automobile School, San Antonio, Tex.; $4000; T. P. Price, G. Leroy, J. A. Kerr.

Fulton-Post Company, New York City; $1000; R. H. Post, W. H. Fulton, L. M. Dietrich.

D. W. Baldwin & Son, New Haven, Conn.; $20,000; H. D. Baldwin, M. A. Baldwin, C. T. Baldwin.

Motor Compressor Company, New York City; $10,000; to manufacture motors; G. J. Spohrer, C. E. Van Vleck, R. L. Redfield.

Carbon-Oxygen Gas Engine Company, Boston, Mass.; $500,000; A. H. Rhodes, A. P. French, W. Falletly.

Lil's Motors Company, Brooklyn, N. Y.; $4000; T. J. Qualey, E. McDonald, G. H. Wendling.

M-A-Z Concealed Hinge Company, Kenosha, Wis.; $10,000; H. M. Mink, E. Anderson, J. P. Zens.

Shimauto Manufacturing Company, Indianapolis, Ind.; $10,000; to make motor car polishes and soaps; W. L. Bedford, J. C. Sharp, M. A. Seligman.

Buffalo Automobile Spring Company, Buffalo, N. Y.; $10,000; E. Plantz, W. E. Slater, H. Etlinger.

Ferns Motor Delivery, Chicago, Ill.; $50,000; M. M. Franey, A. J. Goldine, H. P. Mumms.

Philippart Motor Car Company, Detroit, Mich.; $2000; to manufacture engines and accessories.

Barber Auto Service Company, Brooklyn, N. Y.; $10,000; William Barber, A. S. Barber, M. F. Barber.

Allen Brede Tractor Company, Cincinnati, O.; $5000; Allen Brede, L. J. Dolle, H. V. Reedy.

E-Z Auto Tire Pump Company, Wilmington, Del.; $20,000; F. D. Buck, G. W. Dillman, B. M. Grawl.

New Idea Tire Company, Philadelphia, Penn.; $500,000; F. R. Hansell, G. H. B. Martin, S. C. Seymour.

Porto Metal House & Garage Company, Milwaukee, Wis.; to manufacture portable steel structures for automobile storage and outing purposes; J. E. Tracy, P. G. Meyer, J. P. Weber.

Oakes Pressed Steel Company, Indianapolis, Ind.; W. H. Oakes, W. D. Oakes, C. G. Swenson.

Dreadnought Tire & Rubber Company, Baltimore, Md.; $1,000,000; A. F. Gilbert, Wilmer Dunbar, W. E. Hill, C. P. Tiplett, W. B. Swindell, Sr., A. A. Adt, R. H. Diggs, H. E. Whitelock, A. B. Whitelock, G. H. Rice.

Holland Flexible Auto Wheel Company, Cleveland, O.; $10,000; J. L. Dunahue, J. E. McKenna.

Grant Motor Company, Detroit, Mich.; $100,000; to manufacture cyclecars; G. D. Grant, C. A. Grant, David Shaw, G. F. Salzman, J. M. Howe.

Haupt Company, Cleveland, O.; $5000; W. D. Haupt, H. A. Couse, R. G. Curren, Mary McManus, Alfred Clum.

Pittsburg Haynes Automobile Company, Pittsburg, Penn.; $10,000; H. S. Morrow, E. K. Morrow, Alva Hughson.

H. G. Borbein & Co., St. Louis, Mo.; $10,000; H. G. Borbein, L. W. Becker, L. B. Borbein.

Service Boat & Engine Company, Syracuse, N. Y.; $10,000; to deal in motors; W. J. Eastman, L. J. Rolfsen, C. L. Ripley.

Electromobile Company, Wilmington, Del.; $100,000; to manufacture electric automobiles; H. E. Latter, W. J. Maloney, O. J. Reichard.

Hydraulic Transmission Company, Stevens Point, Wis.; $45,000; J. P. Atwell, Benjamin Beijer, Arthur Beijer.

Bierman-Everett Foundry Company, Irvington, N. J.; $125,000; welding supplies; G. Bierman, J. E. Berlanbach, W. H. Mantz.

Miles B. Mank Motor Car Company, Portland, Me.; $10,000; Miles B. Mank, Annie E. Mank, Cecile F. Mank.

Beeler Slide Valve Motor Company, Chicago; $20,000; E. Burleigh Beeler, S. D. Hirschl, M. A. Hirschl.

Michigan Motor Car Company, Memphis, Tenn.; $5000; I. Bennett, C. V. York, J. J. Carrigan.

Prince Street Garage Company, Elizabeth, N. J.; $25,000; Edward S. Fabian, George C. Otto, Alice Byrne.

Cuno Engineering Company, Meriden, Conn.; $50,000; to make safety starters; Charles H. Cuno and others.

Auto Sales Company of Illinois, Chicago; $2000; T. J. Peden, R. C. Merrick, J. W. Yaeger.

Mendham Garage Company, Mendham, N. J.; $50,000; L. K. Hill, E. L. Garabrant, J. M. Hoffman.

Whittemore Cab Company, Brooklyn, N. Y.; $1000; Albert Wald, C. F. Fuerst, W. I. Wiedeman.

Hartford Storage Battery & Supply Company, Hartford, Conn.; $10,000; G. W. Gammack, C. C. Krolin.

Montreal Auto 'Bus Company, Montreal, Can.; $10,000,000; to manufacture automobile 'buses; H. S. Holt, U. H. Dandurand, F. L. Wanklyn, D. McDonald, J. S. Norris, Tancrede Bienvenue, D. Lorne McGibbon, Paul Galibert, J. E. Wild.

Alpha Lamp Company, Newark, N. J.; $25,000; G. A. Furnell and others.

Variable Clutch & Variable Transmission Company, Seattle, Wash.; $100,000; C. E. Lawson, H. A. Emery.

Kelsey Wheel Company, Toronto, Can.; $150,000; Malcolm C. Campbell, Oscar E. Fleming, Benjamin J. Cox.

Harris Carburetor Company, Cleveland, O.; $15,000; H. C. Cummings, Fred B. Fishman, John W. Camp, Louis A. Black, Harry Pott.

Ajello Hydro-Aeroplane Company, Pittsburg, Penn.; $50,000; engines, machinery, etc.; Vincent Ajello, Automa Floccker, Fabio D. Alessio.

Bellaire Automobile Company, Bellaire, O.; $6500; George D. Spragg, J. F. Johnson, George Neil, J. H. Greenlee, W. H. Morris.

Autopart Company, Los Angeles, Cal.; $10,000; H. L. Kimmell, W. C. Hanson, John H. Lane.

Marietta Livery & Garage, Chicago; $2500; Frank E. Marietta, Fred B. Schuchardt, Wilson Herren.

Standard Tire & Repair Company, Columbus, O.; $10,000; Glen G. Moisey, Otto Aerb, Lawrence T. Fay, H. F. Moisey, Francis V. Brady.

A & C Motor & Manufacturing Company, Los Angeles, Cal.; $250,000; S. T. Allen, H. Allen, G. A. Cleaveland.

Arnold Motor & Supply Company, Joplin, Mo.; $2000; Jesse L. Arnold, Ida Tweed Arnold, Flora Arnold Snider.

Federal Auto Supply Company, Pittsburg, Penn.; $10,000; C. C. Herr, G. M. Newmyer, C. D. Greene.

Pittsburg Auto Transit Company, Pittsburg, Penn.; $5000; A. V. Crookston, Howard B. Oursler, W. A. Feltyberger, C. R. Beatty.

Davis Livery & Motor Car Company, Denison, Tex.; $10,000; E. E. Davis, Earl Wood, R. L. Aspley.

Ingle Motors Company, Newark, N. J.; $25,000; to manufacture motors, engines, etc.; J. E. Ingle, Jr., C. E. Riess, C. K. Muurling.

Auto Company, Inc., South Boston, Va.; $15,000; J. A. Mebane, Frank Mebane, W. W. Ballou.

Imperial Auto & Livery Company, Cincinnati, O.; $2000; Satolli F. Glasseme, William Shullman, N. A. Nicholson, Joseph Lemkuhl, Charles T. Ryan.

National Jack & Manufacturing Company, Springfield, Ill.; $6000; G. R. Wallace, J. L. Glaze, C. F. Kraft.

Cincinnati Alco Motor Car & Truck Company, Cincinnati, O.; $25,000; Walter H. Peters and others.

Greater New York Motor Company, Inc., New York City; $10,000; garage, etc.; Amil Merust, Samuel Feldman, Caesar Pianisani.

North End Garage Corporation, Middletown, N. Y.; $10,000; Edward Van Duzer, J. G. Eager, F. F. Sheerin.

N. W. Liquid Tire Tonic Company, Minneapolis, Minn.; $50,000; F. M. Rutten, H. W. Ewing, L. P. Fay, A. G. Rose, Jr.

J-M Shock Absorber Company, New York City; $1000; Maurice Rosvold, E. Molancheir, Erie Aquist.

Packard-Bretey Auto Renting Company, New York City; $2500; Henry Pearlman, John Blumenthal, S. J. Loeb.

City Garage & Sales Company, Pittsburg, Penn.; $50,000; W. G. Venn, M. H. Ward, H. N. Stackpole.

S. & H. Motor Company, Inc., Jacksonville, Fla.; $10,000; B. D. Spinney, Joseph Lockwood, J. S. Bertram.

E. Landin Auto Company, Kansas City, Mo.; M. J. Oldham, W. G. Bryant, M. S. Kenney, W. L. Gregg.

Automobile Clearing House Company, Louisville, Ky.; $2500; C. L. Holden, W. J. Welch, C. H. Welch.

White Sales Company, Jacksonville, Fla.; $100,000; J. R. Collins, P. D. Casidey, N. A. Collins.

Neosho Auto Company, Neosho, Mo.; $3500; A. C. McGinty, J. F. Wills, S. D. DeLapp, F. S. Briggs, E. R. Ruddy, O. L. Craven.

Gallagher Carburetor Company, New York City; $300,000; to manufacture carburetors, engines, automobile supplies; R. W. Gallagher, W. M. Foord, H. A. Johnston.

Pearl River Auto Company, Pearl River, N. Y.; $5000; O. R. Kosel, Herman Gunther, Marie Kosel.

Hall & Taylor Company, Trenton, N. J.; $25,000; William H. Taylor, H. A. Hall, Harold Hall.

Quality Tire & Rubber Company, Akron, O.; $1000; R. E. Smith, J. G. Guither, E. D. Smith, E. L. Smith, J. H. Robertson.

Bellevue Garage, Bellevue, Penn.; $10,000; E. A. Shaner, C. W. McCall, W. M. Barnhardt.

City Automobile Company, Athens, O.; $12,000; Ura Butcher, Dana Connett, G. H. Junod, C. J. Ailstock, Mabel Butcher.

Couch-Georger Tire & Manufacturing Company, Buffalo, N. Y.; $10,000; C. A. Couch, E. F. Howell, F. P. Georger.

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Chandler Motor Car Company, Boston, Mass.; $30,000; R. O. Hood, E. G. Cleary, M. L. Albina Vincent.

Federal Services Company, Chicago; $2500; to make automobile supplies; L. O. Hack, R. S. Wertheim, S. H. Rothschild.

Star Taxicab Company, Hamilton, O.; $5000; G. C. Skinner, A. M. Skinner, William Miller, Merle Fenner, Milliken Shotts.

Darling Automobile Manufacturing Company, Britton, Okla.; $25,000; C. P. Stealey, A. W. Hedge, H. O. Crum, G. E. Crawford, S. L. Shintaffer, D. L. Sellers, W. C. Settle, H. S. Emmerson, C. L. Stealey.

Allen Reed Tractor Company, Cincinnati, O.; $50,000; to manufacture and deal in tractor engines; Allen Reed, L. J. Colle, H. J. Reed, W. C. Taylor, E. B. Lamping.

Woodland Garage Company, Cleveland, O.; $5000; Jacob Soglovitz, A. E. Bernstein, B. J. Sawyer, Sadie Cohn, I. Nungesser.

Wahl Motor Car Company, Detroit; $500,000; to manufacture motor trucks; G. H. Wahl, J. E. Hofweber, A. J. Hofweber, M. Kratchwill.

M-A-A Concealed Hinge Company, Kenosha, Wis.; $10,000; to manufacture hinges and locks for automobile bodies, etc.

Auto Garage Company, Cleveland, O.; $5000; J. M. Bachelder, W. M. Dilkes, G. W. Gurney, Horace Neff.

Modern Garage, Chicago; $3000; Albert C. Hanks, Julius N. Hanks, Henry F. Borchert.

Tarrytown Motor Car Company, Inc., New York City; $250,000; W. Odell, B. J. Knerr, A. M. Levy.

Selig Motor Company, St. Louis, Mo.; $10,000; James A. Leavell, William J. Carter, Charles F. Schwartz.

Western Co-Operative Auto Supply Company, Topeka, Kan.; $25,000; M. T. Kemper, M. C. Wells, J. H. Walters, T. R. Paxton, J. R. Mulvane.

Haslup Brass Manufacturing Company, Inc., Brooklyn, N. Y.; $25,000; to manufacture and deal in hardware and automobile supplies; Edward W. Haslup, F. D. Glover, J. Scholl.

Auto Owners' Sales Company, Los Angeles, Cal.; $10,000; A. G. Keskett, Frank L. Coombs, Peter J. Minck, E. C. Peterson, Karl A. Klitten.

Velie Motor Company of Missouri, St. Louis, Mo.; $10,000; William J. Carter, Charles F. Schwartz, T. D. Cannon.

Indianapolis Auto Sales Company, Indianapolis, Ind.; $10,000; Howard S. Wilcox, Donald H. Herr, B. W. Rout.

International Specialty Company, Wilmington, Del.; $100,000; automobile business; R. Boyd Cooling, Clarence J. Jacobs, Harry W. Davis.

Texas Carriage & Top Company, Houston, Tex.; $10,000; John R. Patton, Charles E. Garbnet, S. W. Turney.

The Indiana Motor Truck Sales Company, New York City; $10,000; L. C. Knoegel and others.

Gerleit Auto Spring Wheel Company, New York City; $200,000; August H. Gerleit, Henry Heil and others.

Knight & Kilbourne Patents Company, Chicago, Ill.; $1,000,000; to make automobiles, engines, etc.; offices at 67 West South Water street.

The Baxton Garage, Omaha, Neb., has been incorporated with capital of $10,000 by L. W. Prenica, J. H. Swanson and H. H. Bowes.

Ross Automobile Company, Inc., Auburn, N. Y.; $10,000; Edward A. Ross, Maurice E. Tuller, Harry A. Barr.

Globe Rubber Tire Manufacturing Company, New York City; $1,500,000; to manufacture tires and all accessories for automobiles; Harry D. James, James P. Hall, Spencer Weart.

Redondo Beach Auto Association, Redondo, Cal.; $5000; H. Brolaski, G. S. Duncan, V. R. Huddleston.

H. H. H. Tire & Manufacturing Company, New York City; $50,000; John Dravis, William C. Burroughs, John J. Coyle.

French-American Rubber Company, Los Angeles, Cal.; $20,000; F. I. Lee, William Berbet, T. H. Roder.

Troy Auto 'Bus Corporation, Troy, N. Y.; $20,000; John Burdick, Ernest L. Snyder, John McGlynn.

Empire Auto Company, Webb City, Mo.; $2400; W. L. Miller, J. Caesar, M. S. Miller.

Motor & Bicycle Track Company, Salt Lake City; $1000; W. H. Heagren, W. P. Fowler, Samuel Williams.

Northwestern Tire Company, Chicago; $2000; George A. Chritton, N. B. Dearborn, L. Holzholb.

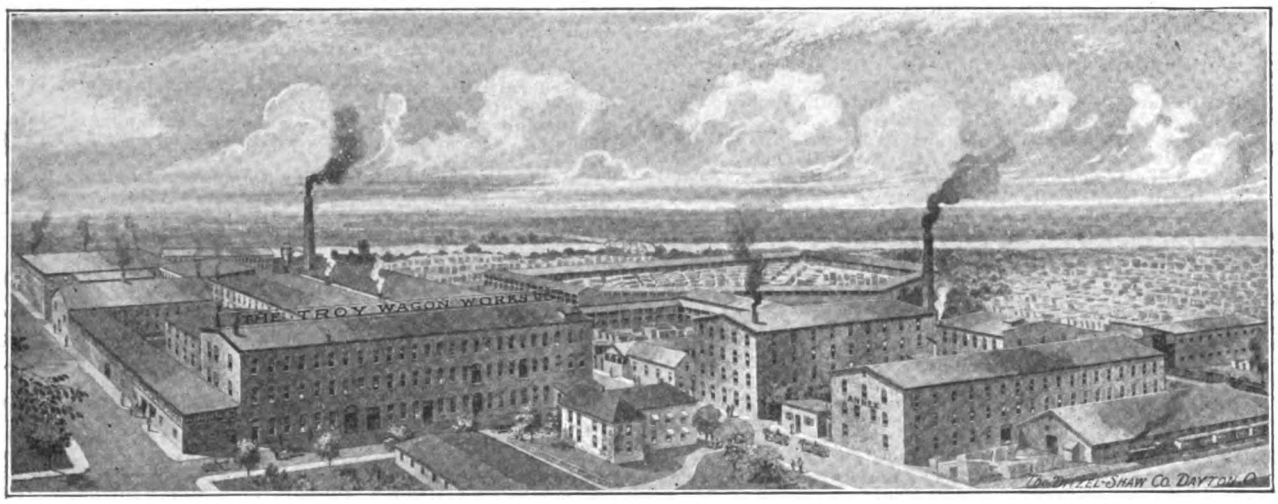
Hercules Lock Company, Cleveland, O.; $1000; automobile specialties; H. A. Hauxhurst, George Bissell, Robert T. Mitchell, R. Hall, M. T. Flanagan.

Dunlop Wire Wheel Corporation of America, New York City; $400,000; W. L. Fry, C. J. Kleber, C. G. Campbell.

MANUFACTURERS.

The Essenkay Products Company, 1125-29 West Thirty-seventh street, Chicago, announces that it has acquired the copyrights, trade marks, patents and good will of the Essenkay Company, as well as the exclusive right to manufacture and sell Essenkay. The plan of establishing general agencies has also been changed, so as to permit all supply houses and garages to sell and install Essenkay. The company is composed of F. D. Mayer, William B. Russell and William L. Weber.

The Troy Wagon Works Company, Troy, O., maker of wagons, has developed a trailer for motor trucks, which is being built in several sizes and of which extensive tests have been made at the works. There is believed to be a decided future in store for trailers for motor trucks and tractors, as commercial organizations doing business which requires heavy hauling are rapidly realizing the advantages that accrue from the use of the mechanical transport. With the application of trailers additional loads can be hauled, thereby saving much time and generally contributing to economy and efficiency. The previous reputation of the product of the Troy company, the plant of which is shown in an accompanying illustration, would seem to indicate a corresponding success in this new field.



Plant of Troy Wagon Works Company, Troy, O., at Which Is Being Developed a New Type of Motor Truck Trailer.

The Fedders Manufacturing Company, Buffalo, N. Y., has been incorporated with $400,000 capital stock and the certificate of incorporation has been filed with the county clerk. The concern will manufacture and sell automobile radiators and other sheet metal specialties. The directors are given as Theodore C. Fedders, Christian W. Fedders, John M. Fedders and Louis F. Fedders, all of Buffalo.

The Knox Automobile Company, Springfield, Mass., maker of Knox machines, is to transform its representation at Boston from an agency to a branch office, which will be in charge of Frank B. Crockett, who was formerly connected with the Underhill Company in that city, the Boston agent for the Knox company since 1901.

The Studebaker Corporation, Detroit, maker of Studebaker cars, has completed plans for a new two-story $60,000 building on the southwest corner of Forest Park boulevard and Boyle avenue, St. Louis, Mo., to be occupied by the company, which has a 15-year lease on the property. Electric elevator and spacious office quarters will be features. The building is expected to be ready for occupancy by July 15.

The Olds Motor Works, Lansing, Mich., maker of Oldsmobile machines, has opened new branches at Pittsburg, Penn., and Atlanta, Ga., as a result of a recent trip by J. V. Hall, sales manager of the company, and it is stated that others in several large centres will soon be opened.

The American Motors Company, Indianapolis, Ind., has made a number of important changes in its sales or-

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ganization. D. B. Williams, who for the last two years has occupied the position of advertising and publicity manager, has resigned to assume a place in the sales organization as district sales manager with headquarters at Louisville, Ky. G. L. Moskovics, formerly assistant advertising manager under Mr. Williams, takes the place made vacant by the latter's change. E. H. Sherwood, formerly connected with the Mercer Automobile Company, Trenton, N. J., is now connected with the general sales department as assistant sales manager.

The Pittsburg Taximeter Company, Pittsburg, Penn., one of the largest makers of taxicab meters in the country, recently closed contracts to equip all the machines owned by the Detroit Taxicab & Transfer Company and the cars of the Cleveland Taxicab Company. The company also has a large order for its product to be shipped to Rio de Janeiro, Brazil.

The Studebaker Corporation, Detroit, maker of Studebaker cars, has secured the home of the Detroit Curling Club and it is now known as Plant 14 in the Studebaker system.

The Thomas B. Jeffery Company, Kenosha, Wis., maker of Rambler and Cross Country cars, will this year celebrate the 40th anniversary of its entrance into the manufacturing field. For 28 years Thomas B. Jeffery was associated with R. P. Gormully in the manufacture of the Rambler bicycle and other kindred products, while for the past 12 years the outgrowth of the old Gormully and Jeffery company has manufactured Rambler motor cars at Kenosha.

The Welch Plant at Pontiac, Mich., one of the General Motors group, will in future be known as Northway plant No. 2 and will aid the Detroit factory in the production of Northway motors. Since the Welch car was taken to Detroit for manufacture the Welch plant at Pontiac has made motors for the G. M. C. trucks. The change will make no difference in the number of employees.

The Chevrolet Motor Company, maker of Chevrolet cars, will not leave Detroit, as reported, the advertisement offering the plant on West Grand boulevard for sale having been inserted by a real estate corporation. The plant belongs to the Corcoran Lamp Company, which may sell it, but the Chevrolet company holds a lease and will continue to operate the plant.

The Lincoln Motor Car Works, Chicago, maker of Lincoln trucks, has granted to the Lincoln Motor Sales Company, Los Angeles, Cal., the manufacturing rights for the Pacific Coast of the Lincoln half-ton wagon. Not only will this permit of more prompt delivery, but will save many freight charges. It is the intention of the sales company, of which John A. Meeks and B. F. Taylor are secretary and treasurer, and vice president and general manager, respectively, to manufacture 1000 vehicles the first year, establishing branches in all the principal cities on the Pacific Coast.

The Royal Equipment Company, Bridgeport, Conn., maker of Raybestos brake lining, Duplex brakes and brake bands, and Gyrex, the mixer, has moved into its new building on Railroad avenue, which was recently completed.

The Wallis Tractor Company, Milwaukee, Wis., formed with $800,000 capital, has rented the factory buildings on East Seventy-second street, near Clair avenue, formerly occupied by the Royal Automobile Company, and will manufacture traction engines on a large scale. H. M. Wallis, Sr., and H. M. Wallis, Jr., are the main stockholders in the concern.

The Hewitt Rubber Company, Buffalo, N. Y., will erect a new three-story factory at 240 Kensington avenue, to cost $175,000.

The E. B. Van Wagner Manufacturing Company, Syracuse, N. Y., has moved its general offices to the factory at Fayetteville, N. Y., as the result of extensive improvements which increased the factory and office facilities.

The Marathon Tire & Rubber Company, Cuyahoga Falls, O., is to enlarge its plant to care for increasing business. The additions will provide 2200 more feet of floor space.

The Hans Motor Equipment Company, La Crosse, Wis., is the first industry to occupy a share of the 64-acre tract of land purchased by the Industrial Association of La Crosse to provide free factory sites for new industries locating in that city. The land is touched by two trunk railroads and is connected with the Mississippi river by the Black river.

The S. & M. Tire & Rubber Company, Akron, O., is having the old Premium building on Cambridge street, Coshocton, O., remodelled, where it will move as soon as the work is completed, which is expected to occupy about 90 days.

The Holtzer-Cabot Electric Company, Boston, Mass., has opened a New York office in the new Architects building, Fortieth street and Park avenue. It is in charge of M. J. McElroy and will handle a full line of the company's products, including Reacto horns and Newcomb carburetors.

The Chambray Carburetor Company, Detroit, was recently incorporated with $50,000 capital stock, the name of the concern being a combination of part of the names of two of its chief incorporators, who are as follows: John H. Chambers, John W. Mowbray and Charles H. Bennett.

The B. F. Goodrich Company, Akron, O., maker of Goodrich tires, has encountered such a demand for its product in Canada that it has been decided to build a large factory to supply the Canadian needs. Thirty-two acres of land have been secured at Saint Catharines, Ont., conveniently located for the handling of traffic by railroad, and the new factory will be modelled on the lines of the parent Akron plant. When fully developed it is planned to employ at least 1000 hands, with ample provision for future extensions.

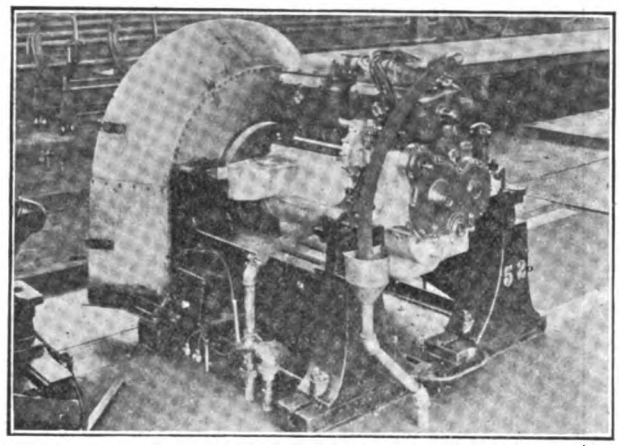
The American Gas Engineering Company, Sheboygan, Wis., recently formed with a capital of $50,000, has broken ground for a plant consisting of three buildings.

The Alliance Rubber Company, Alliance, O., has begun work on several additions to its plant, the old factory buildings being inadequate.

The Wagenhals Motor Car Company, Detroit, maker of a three-wheel commercial car, has increased its capital from $100,000 to $500,000 and will locate in a much larger plant in order to increase its output. William Pflum of Dayton, O., formerly manager of the National Cash Register Company, is interested with Mr. Wagenhals and is preparing to take an active part in pushing the company's product to the front.

The Federal Rubber Manufacturing Company, Milwaukee, Wis., maker of Federal tires, has opened a factory branch at Detroit in charge of A. L. De Vault. It is located at 846 Woodward avenue and will supply the trade in that territory.

The Continental Motor Manufacturing Company, which recently built a new plant at Detroit, has solved the problem of testing its motors without danger to those engaged in the process. The danger of an explosion is ever present, but the company has built its testing room one story high, with monitor roof and designed for plenty of light. In an accompanying illustration is shown a motor on its block and this is so arranged that it exhausts into a trench that has loose covered plates so that it can be cleaned. These trenches are connected to a large exhaust fan located in another room, separated by a fire wall. To avoid explosions an opening is left near each engine exhaust, which pulls in fresh air and dilutes the exhaust so that it is too weak to explode. Metal doors are suspended in each branch of the tunnel and in case of fire they drop automatically, confining the fire to one section.



Testing Block in New Motor Department of Continental Motor Manufacturing Company, Detroit—Precautions Are Taken to Prevent Fires by Use of Special Equipment.

The Ralston Motor Company, Omaha, Neb., has amended its articles of incorporation and is now known as the Omaha Tractor & Engine Company. The capital stock is $500,000 and the incorporators are H. E. Johnson, H. K. Burket, Isaac Kahn, Gottlieb Brunnenkant and E. G. McGilton.

The Grant-Lees Machine Company, Cleveland, O., has been reincorporated under the name of Grant-Lees Gear Company. This is to express more concisely the chief activities of the company, which recently made several large additions to its plant.

The Lozier Motor Company, Detroit, maker of Lozier cars, has established a factory branch at Seattle, Wash., with Carl Schnorr in charge of the mechanical department.

The Bosch Magneto Company's factory at Springfield, Mass., established a record for April when nearly 25,000 magnetos were shipped.

The Davies-Bach Manufacturing Company, Cleveland, O., has increased its capital from $300,000 to $600,000 to provide additional working capital. A contract will be let for a large addition to its plant at Alliance, O.

The Detroit Electric Appliance Company, Detroit, maker of the Deaco electric lighting and starting systems, is building a new plant on East Grand boulevard. It will be of brick and concrete and three stories high.

The Warner-Detroit Motor Works, Detroit, has been founded by H. L. Warner of the Warner Gear Company and the Muncie Gear Works of Muncie, Ind. Temporary offices have been established in the Dime building, the

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company having formulated plans for a factory in which to manufacture Warner-Detroit four and six-cylinder motors.

The Heinse Electric Company, Lowell, Mass., has obtained a factory at Walkerville, Ont., which will employ 200 men, the building having 25,000 square feet of floor space. Deliveries to the Canadian trade started in June. The Lowell factory will continue as headquarters for the trade in the United States.

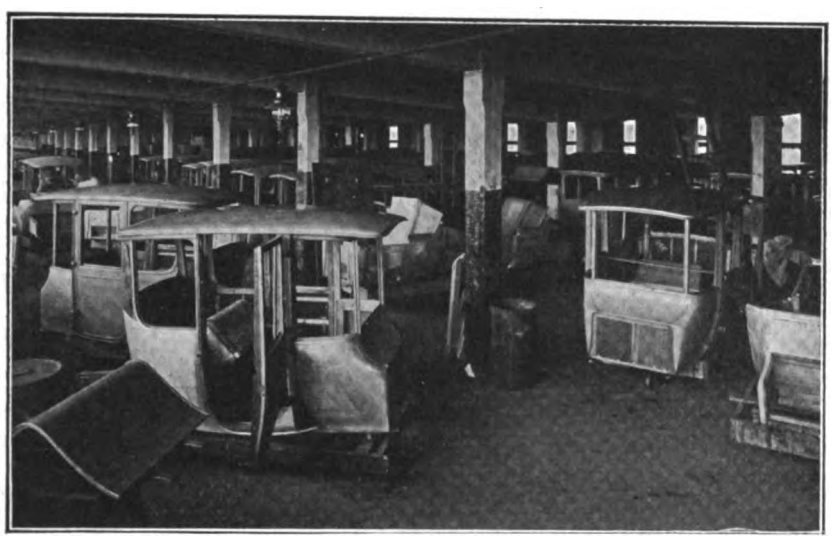
The Harper Tire & Rubber Company has been formed at Canton, O., for the manufacture of automobile tires in that city. The capital stock is $100,000 and the concern is composed of Warren D. Harper, James Thomas and Albert H. Vayo.

The Motsinger Devices Company, Lafayette, Ind., has attracted attention by issuing a challenge to hold an open competition among the carburetor makers of the United States in an "energy and economy" race, the winner to be declared the carburetor champion. To carry on such a project Homer N. Motsinger, the inventor of the new carburetor, has deposited $1000 to help defray the expenses of such a race.

The Palmer & Singer Company, maker of Palmer-Singer cars, has invaded the Canadian field. A salesroom has been secured at Montreal by Druet & Page, sales agents of the car, and parts will be sent there for assembly into complete machines for the Dominion market.

The Auto Tire & Vulcanizing Company, capitalized at $3000, has been formed to manufacture a patented tire at Grand Rapids, Mich. Emil Tisch, president of the Grand Rapids Cigar Box Company, is president of the new concern; I. N. Space is vice president and O. H. Goldsmith is secretary and treasurer.

The Bridgeport Auto Company, Bridgeport, W. Va., is a new concern formed to manufacture automobiles, air-



Interior of the Aluminum Plant of the Anderson Electric Car Company, Detroit.

ships and motor boats and the old Crystal glass plant at that place is being remodelled for the new company's factory.

The Knickerbocker Motor Truck Manufacturing Company, New York City, has completed arrangements for issuing new stock and has already sold $250,000 of its issue. The intention is to erect a larger factory in the Bronx, capable of turning out about 150 trucks a year, which is about treble the present capacity. The company has been in business 18 months.

The Prest-O-Lite Company has purchased a plot of land at St. Louis Park, a suburb of Minneapolis, Minn., where it will erect a large manufacturing plant at a cost of about $100,000.

The Bowling Green Motor Car Company, Bowling Green, O., has secured R. K. Johnston, formerly connected with the Garford Company, Elyria, O., to take charge of the manufacturing end of the business.

The B. F. Goodrich Company, Akron, O., maker of Goodrich tires, has filed papers with the secretary of state reducing the capital stock of the Goodrich concern from $200,000 to $10,000. Since the merger of the Goodrich and Diamond companies a separate corporation has been formed under the laws of another state.

The Lewis Electric Welding & Manufacturing Company, West Toledo, O., is to build a new gray iron foundry to supply castings used in the construction of motor parts made by the concern.

Thomas J. Holland, designer and patentee of a new style of flexible wheel for motor cars and trucks, has organized a company at Antigo, Wis., to manufacture and market the wheel. The corporate name is Holland Flexible Auto Wheel Company and the capital stock is $10,000. James L. Donahue and John E. McKenna are associated in the concern with Mr. Holland.

The Universal Motor Truck Company, Detroit, maker of Universal trucks, has begun work on a new addition to its factory. The plant will be practically doubled in capacity and the cost of new buildings will be $250,000.

TRADE PERSONALS.

W. B. Jameson, who has been with the Maxwell-Briscoe Motor Company since 1904, has resigned his connection with the Maxwell Motor Company, Inc., which succeeded the United States Motor Company, of which corporation the Maxwell-Briscoe Motor Company was a part. Mr. Jameson, who has received a number of excellent offers of positions since it became known he was available, has not yet decided which line of work he will take up.

H. B. Willower, who has for the past two years represented the Gramm Motor Truck Company, Lima, O., maker of Gramm trucks, throughout Illinois, Indiana, Kentucky and Michigan, has joined the sales staff of the Gramm-Bernstein Company, Lima, maker of Gramm-Bernstein trucks. Mr. Willower is one of the most successful salesmen in the motor truck field.

Glenn W. Barden has been appointed secretary and treasurer of the Kelly-Springfield Motor Truck Company, Springfield, O., maker of Kelly trucks. He was formerly auditor of the Warren Motor Car Company, Detroit, maker of Warren cars.

Ray Longacre has joined the sales department of the Star-Tribune Motor Sales Company of Detroit, distributor of Star trucks and Tribune pleasure vehicles.

The Anderson Electric Car Company, Detroit, maker of Detroit electric pleasure cars and trucks, is justly proud of its aluminum plant, in which special presses and automatic hammers have been designed by the company's engineers to handle and form the large aluminum plates to fit the special contours of the Detroit electric bodies. The panels, roofs, window sash, and even the hub caps are now made of this metal. The Detroit plant covers 12 acres of floor space, two large additions having been added recently, while the motors and electrical equipment are produced at the old factory of the Elwell-Parker Electric Company of America in Cleveland.

The Hupp Motor Car Company, Detroit, maker of Hupmobile cars, has announced the resignation of Harry Fosdick as director of sales, that position having been abolished by the company, according to Frederick A. Harris, assistant general manager, who has active supervision over the field policies of the concern. He states that the abandonment of the position of director of sales will entail no further changes or additions to the sales department. R. G. Neighbors, the present sales manager, will continue in charge with his present force.

The Willard Storage Battery Company, Cleveland, O., maker of Elba storage batteries, recently placed its sixth repeat order for Bruce-Macbeth gas engines to be used in furnishing power for operating its plant. Since the installation of the first engine six years ago the company's increasing business has made necessary a new power unit every year.

The Esterline Company, formerly of Lafayette, Ind., has moved its entire plant to Indianapolis, Ind., the new address in that city being 227 East South street.

William E. Barker, formerly president and treasurer of the Enterprise Rubber Company, Boston, Mass., has been appointed sales manager of the United States Rubber Company, with offices at New York City.

Joseph Tracy, consulting engineer of New York City, has again moved his laboratory in Rutherford, N. J., to larger quarters as a result of the increasing demand for demonstration and development testing. At the new plant six to eight motors may be tested simultaneously.

H. T. Latto, for several years connected with the sales department of the National-Acme Manufacturing Company, Cleveland, O., has been appointed eastern sales manager to succeed L. M. Waite. He will have charge of the eastern office and warehouse at 77 White street, New York City, and will direct the sales organization in eastern Pennsylvania, eastern New York, New Jersey, Maryland and Virginia.

P. J. Dasey, long connected with the Motsinger Devices Manufacturing Company, Lafayette, Ind., has been made manager of the Detroit branch of the Hartford Suspension Company, where he will handle Hartford electric starters and Truffault-Hartford shock absorbers in the Michigan territory. His headquarters will be at 803 Woodward avenue.

Charles B. Shanks, general sales manager of the

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Kelly-Springfield Motor Truck Company, Springfield, O., has left the factory for a long trip throughout the western part of the country. He will visit all the principal Kelly truck branches and agents west of Chicago.

B. M. Sparks, who has been closely identified with the automobile industry for many years, has been engaged as travelling salesman in Nebraska with headquarters at Omaha, for the Haynes Automobile Company, Kokomo, Ind., maker of Haynes machines.

B. F. Schmidt and L. R. Ingabrand have been advanced from foremen's positions to those of superintendent and assistant superintendent, respectively, in the factory of the Speedwell Motor Car Company, Dayton, O., maker of Speedwell motor cars and trucks. Both men have been with the company since its inception. The former was foreman of the chassis assembling department, and the latter of the final assembling department. Jacob Neibert succeeded Mr. Schmidt as foreman of chassis assembly. The changes came as the result of the resignation of Superintendent Dunston.

N. S. Hopkins has resigned his position with the American Locomotive Company's automobile plant at Providence, R. I., where he had charge of the main manufacturing department the past year.

The Hupp Motor Car Company, Detroit, maker of Hupmobiles, finds that even with the addition of the old Grabowsky motor truck plant, which was taken over in February, it still has insufficient room to keep abreast of its orders. Recently a large tent was added for the use of the assembling and testing departments. An accompanying illustration indicates the present activity at the plant, which is now producing 100 cars a day. The business done in April showed an increase of nearly 100 per cent. over any other month in the history of the company.

Frank B. Willis, numbered among the veterans in the automobile industry, having first commenced the sale of cars in 1900, has been appointed general factory representative in all territory east of Denver, Col., for the Lozier Motor Company, Detroit, maker of Lozier cars.

Herbert P. Choate has become sales manager of the Star Motor Car Company, Ann Arbor, Mich., maker of Star trucks. He was formerly connected with the Empire Tire Company, Trenton, N. J. He has made arrangements with George C. Hupp and J. E. Hannon, the latter formerly secretary of the Michigan state fair, to act as Michigan distributor for the Star trucks. They have formed the Star-Tribune Motor Sales Company with headquarters at 815 Woodward avenue, Detroit, where Mr. Choate will be located. Mr. Hupp announces that he is still connected with the R-C-H Corporation, having resigned as an officer to become connected with the manufacture of the Tribune car, a new machine on the market.

F. A. Wade, formerly purchasing agent of the Flanders Motor Company, Detroit, maker of Flanders cars, has been made general purchasing agent of the Maxwell Motor Company, with headquarters at the executive offices in Detroit. Mr. Wade has been associated with Walter E. Flanders for many years, having been with him originally in the Ford Motor Company, and later purchasing agent of the E-M-F company and the Studebaker Corporation in succession.

William Sternberg, engineer of the Sternberg Manufacturing Company, West Allis, Milwaukee, Wis., maker of Sternberg trucks, recently sailed from New York City for a tour of Europe to last several months. He expects to make the trip one of business and pleasure, visiting the more important points in the manufacture of motor trucks abroad, and investigating closely the features and conditions of the industry in general.

E. L. Baker has been appointed resident engineer for the Pacific Coast territory with headquarters at San Francisco, Cal., for the H. H. Franklin Manufacturing Company, Syracuse, N. Y. He was formerly in charge of the mechanical laboratory at the home factory. A. C. Raaflaub, who has been handling the coast territory for the past six months, will return East.

R. D. Maxwell has been appointed manager of the Studebaker branch retail store at Los Angeles, Cal.

George A. Crittenden, for a number of years connected with the Boston branch of the Lozier Motor Company, Detroit, maker of Lozier cars, has been appointed manager of sales of a Boston office established by the new Chandler Motor Car Company, Cleveland, O., maker of Chandler cars. Mr. Crittenden attained great success with the Lozier company, having on Jan. 1 been declared the winner of the annual prize among all Lozier salesmen. The officials of the Chandler company were all until recently executives of the Lozier company and were familiar with Mr. Crittenden's fine work.

William Ziegler, Darien, Conn., is having a large garage erected which will cost $150,000. It will be equipped with all modern appliances, including electric elevator, etc.

George A. Kershner, owner of the Berkley garage at Martinsburg, W. Va., is to erect a large garage on West King street. It will be modern throughout and will cost $32,000.

J. R. Bradford has taken a position on the sales force of the M-B-M Company, Boston, distributor of the Maxwell line. He resigned recently from another company after five years as its assistant manager.

Frederick D. Markee has resigned his position with the Oakland Motor Company, Boston, with which concern he has been identified for the past three years. He is now connected with the M-B-M Company, agent for the Maxwell pleasure cars and the Hercules trucks.

W. H. Harsh, formerly general manager of the Kelly Island Lime & Transportation Company, has been appointed assistant general manager and assistant treasurer of the Sandusky Auto Parts & Motor Truck Company, Sandusky, O.

W. C. Devereaux, formerly factory salesman of the Chalmers Motor Company, Detroit, has become identified with the Keeler Bros. Company of Grand Rapids, Mich.

George Walker, formerly sales engineer of the Muncie Gear Works, Muncie, Ind., is now chief engineer of the Benton Motor Car Company, Benton, Ill.

F. M. Headlee has succeded A. C. Lusby as manager of the Chalmers-Los Angeles Company, Los Angeles, Cal.

J. Q. Goudie, for some time manager of the Detroit branch of the Diamond Rubber Company, Akron, O., has become associated with the Pennsylvania Rubber Company, Jeannette, Penn., in charge of Michigan and Ohio territory, with headquarters at Detroit.

J. H. McDuffee has been appointed manager of the San Francisco branch of the F. B. Stearns Company, Cleveland, O., succeeding J. F. Toole, who goes to Atlanta, Ga., to look after the Stearns interests in the South.

Indicating the Every Day Activity at the Factory of the Hupp Motor Car Company, Detroit.

George Holsworth has been appointed sales manager of the E. Stewart Automobile Company, San Francisco, northern California distributor of the S. G. V. cars.

S. J. Cole has been engaged as factory manager by the Parish Manufacturing Company, Detroit.

D. A. Burke is the new manager of the Cleveland branch of the Buick Motor Company, Flint, Mich., maker of Buick cars.

C. F. Kircher has been chosen manager of the truck department of the Pacific Car Company, Seattle, Wash.

A. W. Bartlett has been made manager of the recently incorporated Velie Motor Car Company, St. Louis, Mo. W. J. Carter and C. F. Swartz are also connected with the company.

Y. D. Rose, 34 Rue Du Mont-Thaber, Paris, France, has been appointed the sole distributor for France of Boyce Motometers. He will have his headquarters at Paris.

M. E. Morris has been appointed Pacific Coast manager for the Goodyear Tire & Rubber Company, Akron, O., to succeed W. T. Powell, who has resigned. F. E. Carroll remains manager of the local branch at San Francisco.

M. A. Magee, who for several years has been connected with the Motz Tire & Rubber Company, Akron, O., maker of Motz tires, has succeeded P. M. Pontius as sales manager. Mr. Pontius is specializing in the work of the electric pleasure car tire and is now manager of that division.

L. W. Pitcher has been appointed manager of the branch of the Columbus Buggy Company at Minneapolis, Minn.

E. H. Reynolds, Jr., formerly connected with the Warren Motor Car Company, has joined the Champion Ignition Company, Flint, Mich., as eastern representative.

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A. G. Seiberling has been appointed general manager of the Haynes Automobile Company, Kokomo, Ind., maker of Haynes cars, to succeed C. B. Warren. This is one of the most important announcements made by the Haynes company in some time. Since October, 1912, Mr. Seiberling has been connected with the Haynes concern as factory manager and he assumed his new duties June 1. His executive ability has been demonstrated in various lines of endeavor extending over a period of 25 years. He was born at Akron, O., the home of the automobile tire and accessory industry, and after becoming familiar with the products of that city he removed to Kokomo in 1887 to take a position in the bookkeeping and purchasing departments of the Kokomo Strawboard Company. Six months later he was appointed treasurer and purchasing agent of the Diamond Plate Glass Company, an office he held until 1895, when the company was absorbed by the Pittsburg Plate Glass Company, Pittsburg, Penn., Mr. Seiberling then becoming identified with the parent concern as general purchasing agent with headquarters at Pittsburg. He next became interested in the rubber industry and moved to Peoria, Ill., where he organized the Peoria Rubber & Manufacturing Company in 1896. This concern developed into a successful enterprise and was consolidated with the American Bicycle Company in 1900. Mr. Seiberling then became financially interested in the Great Western Plate Glass Company of Ottawa, Ill., and remained with the concern until it was sold in 1905. He returned to Kokomo and has since been connected with various automobile manufacturers in an executive capacity.

A. G. Seiberling, General Manager, Haynes Automobile Company.

H. E. Dove, who has been connected with the Buick Motor Company, Flint, Mich., maker of Buick cars, in the capacity of first assistant to former Sales Manager H. E. Shiland, and later as Cleveland representative, has resigned his position and has become distributor for California and the Pacific Coast in general, with headquarters at San Francisco.

The Vaughan Car Company, as announced recently, has been organized to resume the production of Vaughan cars in the old factory of Wyckoff, Church & Partridge, Inc., at Kingston, N. Y. The following officers have been elected: President, A. B. Cordner; vice president and general manager, Orlando Weber; treasurer, H. W. Johns; secretary and sales manager, Ernest S. Partridge; consulting engineer, Chester Griswold; directors, Britton N. Bush of Hollins & Co., banker; Howard Dickinson, Kearney & Dickinson, lawyer; William Swan, capitalist; George A. Ellis, Booth & Ellis, lawyer; H. Walter Webb, capitalist; Orlando Weber, A. B. Cordner, Equitable Life Assurance Company; H. W. Johns, capitalist; Chester Griswold, E. S. Partridge.

Orlando Weber, General Manager, Vaughan Car Company.

By the election of Orlando Weber as vice president and general manager the company secures the services of a man of long experience in the automobile business. Since its inception he has been most active in both the manufacturing and sales departments of the business. He will make his headquarters at Kingston and will be in direct charge of the new undertaking. It is understood that plans have been made for the production of 500 machines for the 1914 season and that these will be designed to meet the demand for a popular priced six-cylinder car.

C. H. Colstad, who for the past year has been factory representative for the Lozier Motor Company, has resigned from that company to take a position with the newly organized Chandler Motor Car Company at Boston.

A. E. Schaefer has been chosen as the active executive in charge of the affairs of the Abbott Motor Company, Detroit, maker of Abbott-Detroit cars. He was formerly with the Ohio Motor Car Company and the Sherwin-Williams Paint Company.

Wallace C. Hood, sales manager of the Westcott Motor Car Company, Richmond, Ind., is making a trip through the Pacific Coast territory, visiting Salt Lake City, Sacramento, San Francisco, Oakland and Los Angeles. On the return trip he will visit Portland, Seattle and Tacoma.

Norman Flowers has become sales manager of the American Distributing Company, Jackson, Mich. The company handles the products of a number of parts and accessories manufacturers.

Francois Richard, formerly manager of the Only Motor Car Company, which operated a factory at Fort Jefferson, N. Y., has opened offices at 1926 Broadway, New York City. His new concern is called the Only Carburetor Company.

Lawrence R. Wilbur, a prominent member of the Indianapolis motor world, has been made assistant general manager of the Empire Automobile Company, Indianapolis, Ind., maker of Empire cars, popularly known as the "Little Aristocrat." Mr. Wilbur has been identified with the automobile industry since 1908, when he became connected with the Willys-Overland Company, Toledo, O. In the fall of 1910 he went to Indianapolis and as secretary-treasurer helped to organize the Marion Sales Company, which at that time sold the entire Marion output. When in July the new Marion Motor Car Company took over the sales and manufacturing of Marion cars, the new A. & M. Sales & Service Company of Indianapolis, Marion and American distributor, was organized with Mr. Wilbur as secretary-treasurer. In his new connection with the Empire Automobile Company he will have direct charge of the business management of the company's executive office and this will permit C. E. Gibson, general manager, to devote more time to the production of the plant which, in view of the extensive enlargement planned for next year, is of the utmost importance.

Lawrence R. Wilbur, Assistant General Manager, Empire Automobile Company.

W. H. Lally of the export department of the Studebaker Corporation, has returned to Detroit after a trip of six months around the world, during which he visited nearly all the Studebaker agencies.

Carl Neracher, chief engineer of the Willys-Overland Company, Toledo, O., maker of Overland cars, has gone to Europe for a needed rest. Incidentally he will examine European conditions and engineering practise.

E. P. Weber, formerly general sales manager of the Walpole Tire & Rubber Company, Boston, Mass., maker of Walpole tires, has resigned from the organization.

H. P. Thompson, formerly of the branch of the B. F. Goodrich Company at Houston, Tex., has taken a position with the Houston Motor Car Company, Cadillac distributor. He will have charge of the tire and accessory department.

A. L. Bennett has become sales manager at New York City for the Abbott Motor Company, Detroit, maker of Abbott-Detroit cars.

F. D. Geraghty has been appointed general manager and president of the Imperial Motor Tire Company, Washington, D. C., recently incorporated for $100,000. The principal offices will be at 1112 Connecticut avenue.

F. J. Barr, shown in the accompanying illustration, is one of the most progressive distributors of Flying Merkel

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motorcycles in the country. He has as his territory the State of Iowa and has been the source of some embarrassment to the maker of these mounts, the Miami Cycle

Interior of Salesroom Maintained by F. J. Barr, Iowa Distributor for Flying Merkels.

& Manufacturing Company, Middletown, O., because of his energetic sales campaign in that district. The company is authority for the statement that Mr. Barr could easily have sold 1500 machines in Iowa this season, but because of the press of orders from other parts of the country he could not be supplied with the necessary number. With the constantly increasing size of the Merkel plant this difficulty will soon be overcome and the production will be increased sufficiently to meet all demands, such as those made by Mr. Barr.

J. M. Thornton has returned to Seattle, Wash., as manager of the McKenna-Marmon Company, agent for Inter-State cars.

Charles Basle, the racing driver, has been secured by A. H. Sowers to take charge of the assembling plant of the Sowers Motor Truck Company, Boston, Mass.

C. C. Edwards, who has managed branches and agencies in Boston, Mass., has taken charge of the eastern territory for the Midland Motor Company, East Moline, Ill., maker of Midland cars.

The Buick Boston Company has added to its sales force A. M. Marston, Roscoe B. Davis and J. G. McMurray, all of whom have been identified with Boston companies for several years.

W. J. Doughty recently allied himself with the sales department of the E. B. Newton Auto Company, Detroit, Mich., distributor of Havers cars, made by the Havers Motor Car Company, Port Huron, Mich.

C. F. Redden has been promoted by the Maxwell Motor Company to have charge of the Philadlephia, Baltimore, Washington and Richmond, Va., territory in addition to the New York branch district. This gives him jurisdiction over territory from the New York-Canada line to North Carolina.

George F. Conant is the new manager of the Oakland Motor Company's branch at Houston, Tex. He was previously stationed at San Antonio, Tex., by the same company.

C. G. Wilson was recently appointed general sales manager of the Midland Motor Car Company, East Moline, Ill., maker of Midland cars. He has had wide experience and should prove a valuable asset to the company.

E. T. Backus, formerly assistant branch manager of the Ford Motor Company at Houston, Tex., has been promoted to the managership of the Dallas branch, succeeding H. C. Apgar, who resigned to enter business for himself.

J. K. Stewart announces that he has not retired from active participation in the affairs of the Stewart-Warner Speedometer Corporation and the J. K. Stewart Manufacturing Company, as was widely reported.

L. V. Fletcher, who has been making a carburetor used chiefly by the Mercer Automobile Company, has sold the manufacturing rights, it is said, to the Trenton Brass & Machine Company, Trenton, N. J., so that hereafter that concern will make the carburetors in larger quantities.

F. R. French has been appointed factory representative of the Willys-Overland Company, Toledo, O., maker of Overland cars. He will cover the State of California and his headquarters will be at San Francisco.

Hugh Chalmers, president of the Chalmers Motor Company, Detroit, maker of Chalmers cars, recently underwent an operation for appendicitis at Harper hospital, Detroit. The operation was successful.

T. H. Lee, formerly auditor of the Rubber Goods Manufacturing Company, has become assistant treasurer of the United States Tire Company. He succeeds to the duties of N. R. Feltes, who resigned not long ago to become treasurer of the Lozier Motor Company, Detroit, maker of Lozier cars.

George H. Mayo, formerly with the Hubmark Rubber Company, is now manager of the Enterprise Rubber Company at Boston.

Harry S. Houpt, who has formed the Harry S. Houpt Company to take over the Lozier agency in New York City, has this organization: Treasurer, I. H. Westervelt, formerly with the Alco; city sales manager, A. J. Diefenderfer, formerly with the Lozier; assistant city sales manager, Charles D. Weed, formerly with the Alco; general service manager, Frank S. Coleman, formerly with the Garford and Alco; purchasing agent, A. C. Gundlach, formerly with the Lozier; salesmen, E. C. Bull, formerly with the Lozier; Frank D. Garringer, formerly with the Thomas; shop foreman, Jacob Nagel, formerly with the Lozier.

NEW CONCERNS.

The Kolb Sales Company, with offices in the United States Rubber building, Fifty-eighth street and Broadway, New York City, was recently organized to represent the interests of different automobile accessory and specialty manufacturers in the eastern territory. Milton B. Kolb, who has been identified with various branches of the industry the past 10 years, is at the head of the new organization.

The Wright-Callender-Andrews Company, Los Angeles, Cal., has leased its garage building at 23 East Fifth street to L. H. Larson, who will operate a garage.

The De Dion-Bouton Selling Branch, New York City, has moved its show rooms to 1612 Broadway, on the northeast corner of Fifty-second street. The garage and repair department is located at 110 West Fifty-fourth street.

The Detroit Automobile Exchange, Inc., a new organization formed to deal exclusively in used cars of high grade, has opened for business at 294 Jefferson avenue, Detroit, where large and well equipped quarters, commodious enough to handle 200 cars, have been obtained in the Sievers & Erdman building. It is a close corporation and the incorporators are: Grover C. Farnsworth, general manager; Everett W. Pingree, secretary and treasurer, and Robert M. Drysdale. Mr. Farnsworth, who will devote all his time to the business, is widely known in the automobile industry, his experience covering several departments.

F. S. Cheesborough, Augusta, Ga., recently opened a new garage and automobile repair shop at 548 Broad street.

The Co-Operative Garage, Toledo, O., has opened for business at 318 Columbia street. The plant is completely equipped.

Matthew Kacjenhausen, Jr., White Bear, Minn., has opened a new garage and repair shop on Banning avenue.

Kershner & Conn, Richmond, Cal., has opened a new garage on Seventh street, north of Macdonald avenue.

J. J. Laverty, New Haven, Conn., has leased the Bradford garage at 400 Crown street. The plant is modern and well equipped and Mr. Laverty will make a specialty of Moon cars, made by the Moon Motor Car Company, St. Louis, Mo.

The East Nashville Auto Company, East Nashville, Tenn., has opened a large and handsomely equipped garage at 112 Woodland street, with a capacity of housing 200 cars. The Regal cars, made by the Regal Motor Car Company, Detroit, will be carried.

The General Electric Company, Schenectady, N. Y., has inaugurated a new departure that is expected to prove of benefit to automobile owners all over the country and whereby all types of electric lamps may be obtained readily. This is the establishment of service stations which will be stocked with all types of lamps to suit any particular lighting system with which the car is equipped. Different systems, sometimes, call for a slightly different kind of bulb and the variety carried by these

Signs Designating General Electric Company's Service Stations or Agents.

houses will enable the selection of that which will make for the most efficient and satisfactory service. The signs shown herewith are utilized to indicate either a service

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station or an agent and should prove of convenience to motorists, resulting in a saving of much valuable time which might otherwise be wasted in searching for an establishment that could fill their needs. Another example of good service rendered by the General Electric Company is that of putting up electric lamps in a compact, leatherette case. In this there are headlights, side and rear lights, fitting snugly, each lamp in a separate holder. The whole case measures only a few inches over all and takes up little room.

The Riddell Automobile Company, Fourth and Grand streets, Des Moines, Ia., distributor of Overland cars, made by the Willys-Overland Company, Toledo, O., on June 1 changed its name to that of the Clemens Automobile Company. There will be no change in the management and the stockholders will remain the same as for the past four years. A. Clemens is president, R. J. Clemens is secretary and manager and M. M. Hamilton is treasurer.

The United States Garage Company, Toledo, O., is to occupy the ground floor of the Meredith building at Jefferson avenue and Michigan street. A general garage business will be conducted under the firm name of the City garage.

R. L. Dalsell, San Bernardino, Cal., has purchased the Highland garage of Lavering & True, and is operating the business.

The White Garage Company, Santa Paula, Cal., has changed hands, Spicer & Winsor having taken over the business.

Kiemer Bros., Owatonna, Minn., has leased the new garage building on West Bridge street.

J. E. Smith, Clovie, N. M., has purchased a garage on West Grand avenue and will conduct the business under the firm name of the Clovie garage.

The Electric Service Company, Indianapolis, Ind., under the management of T. H. Watts and W. C. Brooks, has opened a new electric service station at Meriden and Walnut streets. It is claimed to be the first exclusive electric garage and service station in the state.

The Grady Rousche Motor Car Company, Salt Lake City, Utah, has opened for business at 473-475 South Main street. The company will feature Reo cars, made by the Reo Motor Car Company, Lansing, Mich., and will carry a full line of parts and the necessary shop equipment.

Loomis McA. Goodwin of the Raleigh Motor Car & Machine Company, Raleigh, N. C., will open a new service department in charge of R. J. Cannon.

The Herreshoff Motor Car Company of Kansas has opened a new state agency for Herreshoff cars, made by the Herreshoff Motor Company, Detroit, at 932 Kansas avenue, Topeka, Kan.

The Frenier Auto Company, Rutland, Vt., has established a modern plant at 89 Cleveland avenue. Repair work of all kinds is done.

The State Garage, Waterbury, Conn., formerly owned by P. H. Carroll and John F. O'Brien at West Main and State streets, has been sold to Mr. Bishop of New Haven, Conn. The price paid is said to be about $48,000.

Percy Thelan, Santa Ana, Cal., has established a modern machine shop and garage at 710 East Fourth street.

F. Van Fosen, Sisson, Cal., has purchased machinery for his proposed new repair shop and garage and work has been started on the new plant.

R. G. Baker and A. Harroden, Yreka, Cal., have purchased the garage and machine shop formerly conducted by Castro Bros., and will operate it.

B. B. Ownby, Lordsburg, N. M., is now the sole owner of the garage formerly conducted by Ownby & Wallace.

Eugene Smith has opened a new garage at Enosburg Falls, Vt., succeeding L. D. Hart.

The Morris County Livery & Garage, Morristown, N. J., has been incorporated to take over Van Allen's garage at 124 Division street.

Hillard & Yokes, Erie, Penn., has re-established its garage and repair shop business at 607 French street.

The Northside Garage, Pine Island, Minn., has been fully equipped and is now open for business. F. C. Arndt is in charge.

The Union Motor Car Company, Tacoma, Wash., has opened a new garage, recently completed at 808-810 A street.

Littlepage & Co., Portland, Ore., has purchased the Badger garage at Toledo, Wash., and will operate the establishment in the future.

Peter Erickson of Boxholm, Ia., has sold his garage and equipment to the Boxholm Automobile Company.

Gideon J. Woodward and Elmond J. Woodward have opened a new garage and machine shop at Pico and Alvarado streets, Los Angeles, Cal.

The Galveston Car Company has been formed and will have a new garage, salesroom and service station on Church street, between Twenty-second and Twenty-third streets, Galveston, Tex.

The Irvington Garage, Irvington, Ind., has been opened at 5239 East Washington street and the garage, repair, vulcanizing and cleaning shops will be located under one roof. R. B. McNeill is in charge of the concern.

Tomlinson & Moats, Monticello, Ia., has opened a garage fully equipped with machinery. The firm will carry the Ford cars and a full supply of parts.

Reed & Jacobs, Charles City, Ia., has dissolved, Mr. Jacobs retiring and leaving the business to be continued along the same broad lines as heretofore by L. E. Reed. The company handles the Chalmers, Oakland, Spaulding and Paige cars.

Walter Schoch has leased a part of the Southworth building at Skakopee, Minn., and remodelled it into a garage and repair shop.

The Reliable Auto Livery Company, of which Caville Mayer is manager, has opened at 4132 Olive street, St. Louis, Mo., and will conduct business on a broad scale.

The Canham Automobile Company, Wahpeton, N. D., has been formed with capital of $25,000 and will operate a garage and repair shop. The directors are Roland Canham, Elizabeth Canham and E. S. Babcock.

Verne Burtis of Hudson, Ill., has purchased the interest of Henry Quensel in the Towanda garage, Towanda, Ill., and is prepared to do automobile repair work.

Charles Duncan, Roscommon, Mich., has purchased property at Main and Brooks streets and plans improvements preparatory to opening a new garage and machine shop.

The Ellsworth Auto & Repair Shop, Ellsworth, Wis., has opened a new garage. The concern handles the Overland cars, made by the Willys-Overland Company, Toledo, O.

W. E. Dehler, Hayward, Wis., is preparing to open a new garage. He has secured the Giblin hotel building and is remodelling it for the purpose.

H. H. Young, Binghamton, N. Y., is conducting a new automobile and automobile supply business at 227 Water street under the firm name of the H. H. Young Automobile Company.

E. R. Bennett, Ottawa, Kan., has opened a garage at 113 North Main street, known as the Redlight garage.

The Garrett Garage has been opened at Wallace, Idaho, and a modern repair shop has been installed. The company handles the Cole and Hupmobile lines.

G. J. Williamson, Negamee, Mich., has opened an automobile garage in connection with his livery business. He handles the Overland and Studebaker machines.

C. A. Britton, 121 Allyn street, Hartford, Conn., will in future conduct the automobile and delivery business himself, as he has purchased the interest of his brother, R. D. Britton.

Thomas E. Stocker, St. Louis, Mo., has opened a repair shop and garage at 3204 Lawton avenue.

The Republic Sales Company has opened quarters at 317 North Fifth street, Oxnard, Cal. It is a factory branch of the Republic Tire & Rubber Company of Youngstown, O., and C. A. Vories is in charge.

R. H. Whitlock and Leonard Whitlock, Greenwood, S. C., have opened a new garage on South Main street, recently erected.

The Tasker Garage, Delray, Fla., was recently purchased by Mr. Haddock, who is making improvements and will add a modern repair shop.

E. S. DeTamble, Los Angeles, Cal., agent for the Cutting cars, made by the Cutting Motor Car Company, Jackson, Mich., has established headquarters at 825 South Olive street.

O. S. Duncan, Redondo, Cal., has sold a half-interest in the Ocean View garage to B. E. Savage, an experienced automobile man.

The Kavanaugh Hotel Garage, Harrisonburg, Va., recently erected, has been opened for business.

The Auto Service Company, of which G. C. McCanless is manager, has been organized at Concord, N. C.

The Prince Street Garage, Elizabeth, N. J., has been incorporated with $25,000 capital by Martin F. Kenley, Edward S. Fabian and others to take over the Sterling Auto garage.

The Potomac Garage Company, Waynesboro, Penn., has opened a new garage in the Warner building.

Charles H. Bare, Reading, Penn., has opened a new repair shop at Carpenter and Chestnut streets. He handles the Ford cars, made by the Ford Motor Company, Detroit.

Robinson & Magby, which firm has conducted the Ventura garage, Ventura, Cal., has been dissolved, Mr. Magby purchasing his partner's interest in the business.

The Motor Supply Company, Mobile, Ala., has opened a new accessories store at 303 Dauphin street.

The Southern Rubber & Belting Company, Houston, Tex., has purchased the mechanical department of the Diamond Rubber Company at 907 Main street, that city.

Nichols & Son, Ft. Smith, Ark., has established a new automobile agency and supply store.

Julius Tisch and Emil Tisch have opened a new automobile accessories store and supply house at 215 South Davidson avenue, Grand Rapids, Mich.

J. B. Willoughby, Eugene, Ore., will open a complete plant for vulcanizing and retreading tires, on Ninth avenue. All modern machinery will be installed.

The King Auto & Taxicab Company, Franklin, Penn., has opened a new garage in that town.

The Merrill-Stevens Company, Jacksonville, Fla., has opened a salesroom at 15 East Church street. J. H. Braswell is in charge.

J. L. Woffert of Jamestown, N. D., is now manager of the Fargo branch of the Horton Motor Company, Fargo, N. D. The company handles Cadillac cars.

The Ft. Bragg Garage & Machine Company, Ft. Bragg, Cal., has opened a branch at Lendooine, Cal., to care for its expanding business.

Kates Bros., Bridgeton, N. J., has fitted a modern garage at Pearl and Warren streets. Regal automobiles and Yale motorcycles will be handled.

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Harry J. De Bear, who has been prominent in automobile circles for a number of years, has organized the De Bear Tire Company, with offices at 253 West Fifty-eighth street, New York City. The company will handle seconds and slightly blemished automobile tires and also all makes of new tires.

Judge J. A. Holland of Orange, Tex., will establish a garage on his vacant property on Main street. He will install first class garage facilities and assume active management of the business.

J. C. Hull, Columbus, Ia., has sold his garage to Lee Morrison and John Wykert. He has moved to the Lee Morrison farm near the town.

Bentel & Mackey, Los Angeles, Cal., is erecting a plant on Grand avenue to be the largest and most modern of its kind in the West. All kinds of motor car work will be done.

Carl G. Fisher & Co., and the Hunter-Hammond Auto Company, both of Indianapolis, Ind., have combined their interests and have incorporated the Fisher Automobile Company, with $25,000 capital stock. The new company is composed of the following: President, Carl G. Fisher; vice president, Harry L. Hammond; secretary-treasurer, F. Ellis Hunter. The headquarters will be at 400 North Capitol avenue, formerly the headquarters of Carl G. Fisher & Co. The firm will handle Reo, Stutz and Packard pleasure cars and Packard and Reo trucks.

The York Auto Exchange, York, Penn., has opened a garage at 26 North Duke street for the sale of second hand cars and accessories.

Edward S. Clark, Paige and Modern distributor at Hartford, Conn., has acquired the salesroom at 183 Allyn street, one-half of which was formerly occupied by T. E. Oakes. Richard C. Skinner, state representative of the Shawmut tire and tube department of the Hood Rubber Company, will conduct a tire branch at the same address.

The St. Louis Tire & Rubber Company, St. Louis, Mo., recently opened a branch at 2027 Michigan avenue, Chicago, in charge of Alexander Hendel.

A. L. Greene, manager of the Gibney Tire & Rubber Company, has opened salesrooms at 245 Columbus avenue, Boston, Mass.

The Winslow Garage Company, Portland, Me., has been formed with capital stock of $10,000. The officers are: President, Charles W. Berry; clerk, Thomas A. Saunders; treasurer, R. W. E. Winslow.

David Brown has withdrawn from the Blue Ribbon garage, Meriden, Conn., after having been associated with the firm the past two years and as a result the company has been reorganized and incorporated as the Blue Ribbon Garage Company, with the following officers as incorporators: President, Morris Mathisen; vice president, Arthur Oldroyd; secretary and treasurer, John O'Connell.

The Cumberland Motor Company, Nashville, Tenn., has opened a new, modern garage at Broadway and Fifteenth street.

Walter J. Horn, Davenport, Ia., has established a new garage at 809 West Fourth street, and will handle the Stanley steam automobiles for his territory.

Chester Miller has purchased the sole interest in the P. M. garage at Jefferson City, Mo. John Priesmeyer, Mr. Miller's former partner, plans to remove to Columbia, Mo., where he will enter the automobile business.

J. M. Stevenson of South Manchester, Conn., has leased the garage at 107 Main street, Hartford, Conn., and will conduct the business.

Mert Huberly, Minneapolis, Minn., has purchased the interest of William Hayes in the Smith-Hayes Meridian garage in that city.

Frederick Waller has opened an automobile repair shop and garage at 121 North Topeka avenue, Wichita, Kan. J. W. Collyer is associated with him and the firm will be known as Waller & Collyer.

G. J. McKinley and T. A. Montgomery have purchased the business of the Southwestern Motor Sales Company, Bartlesville, Okla. They will continue the business along its previous lines.

H. R. Kumbler of San Bernardino, Cal., has purchased the interest of A. R. Carney in the Home garage at Visalia, Cal.

Charles Heilie and Louis Henderson have opened a modern garage at Washington and Main streets, Albert Lea, Minn.

Frederick N. Burr has established a new garage at 114 East Main street, Meriden, Conn. A first class repair shop will also be conducted.

The Big Springs Garage & Repair Works, Big Springs, Tex., has been purchased by Forbes Bros., of Pueblo, Col.

The Antioch Garage & Machine Works and Wightman & Wisdom, Antioch, Cal., have merged garages and will act as agents for the Studebaker, Hudson, Chalmers and Hupmobile cars.

The Standard Garage, San Pedro, Cal., has opened its modern new garage on Seventh street, near Centre street.

Charles Hudson of Elsinore, Cal., has established a modern garage on Graham avenue, that city.

G. W. Garland of the Garland Auto Company, New York City, has established a new service station at 205-213 West Thirty-sixth street.

The Wallace Auto Company, Philadelphia, Penn., has established a large new service station at 206-210 North Twenty-first street.

The Marysville Garage Company, Marysville, Cal., has been formed to establish a garage on Second street.

The Central Garage, recently completed at Bridgton, Me., has been opened for business.

J. Denio, Turlock, Cal., will operate a new garage which has been erected on Center street. The business name of the establishment is the Mission garage.

E. C. Briscoe, Knoxville, Tenn., has established a new automobile agency in that city at Cumberland avenue and Prince street. He handles the Ford and Oakland cars.

F. W. Kruger recently opened a first class garage and repair shop at Spring Valley, Minn.

L. E. Reed, Charles City, Ia., is to continue the garage business in that city formerly conducted by Reed & Jacobs.

Ray D. Head, Chico, Cal., has leased the new concrete garage recently erected at Broadway and Sixth street.

The Central Garage has been opened by Bish & Whetstone on South San Jacinto avenue, San Jacinto, Cal.

Charles Breiner of Middletown, N. Y., has opened an automobile supply store in the Barnett block.

H. D. Whittaker and G. E. Reynolds of Perry, Ill., have leased a building on East Main street which they will remodel into an up-to-date garage.

The Washington Garage is the name of a new establishment being built at Bridgton, Me., work on which is well under way. Richard Douglas is to be in charge.

Henry Jacques, Washington street, Somersworth, N. H., is interested in the establishment of a new garage in that place.

The Chase Garage Corporation, Bridgeport, Conn., has been incorporated to enter business with a capital of $2000.

Arthur Waterman is now general manager of the G. C. Vaporizer Company of America, Inc., 1790 Broadway, New York City, recently organized to produce the G. C. vaporizer, a device for using kerosene and the heavier products of petroleum as fuel for motor cars, motor trucks, motor boats and practically all internal combustion engines. Mr. Waterman has been connected with the automobile industry practically since its inception and has had a highly successful career. He is perhaps best known as a result of his record as manager of the advertising and sales departments of the Hartford Suspension Company, Jersey City, N. J., maker of the Truffault-Hartford shock absorber, which position he held for six years. During his incumbency his progressive methods and keen insight into the exigencies of the business served to create a large and insistent demand for the company's product, thereby greatly increasing the output of its factory and necessitating provision for additional manufacturing facilities. Mr. Waterman resigned his position last winter and has been closely identified since that time with the organization of the G. C. Vaporizer Company of America. His many friends in the industry are congratulating him upon his advancement and judging from his past record there is every reason to believe that his future success will be as pleasing to them as is the contemplation of his previous achievements.

Arthur Waterman, General Manager, G. C. Vaporizer Company.

J. A. Crenshaw, formerly in the garage business at Largo, Fla., proposes to open an automobile establishment at St. Petersburg, Fla.

The Giant Tire Company, recently incorporated, has opened headquarters at 1205 Farnam street, Omaha, Neb. Factory seconds will be carried.

The Ellsworth Foundry & Machine Company, Ellsworth, Me., of which J. A. Peters is president, is to erect a new, modern garage for a new business at Bar Harbor, Me., which will now permit the entrance of automobiles.

The Economy Motor Fuel Adjusting Company has been organized at Milwaukee, Wis., by John McFarland, Max Grass and John J. Handley, with headquarters at 709-711 Chestnut street, to make a new type of carburetor and act as specialist in the adjustment of carburetors for motorists generally.

Henry O. Stenzel, president of the Milwaukee Tire & Supply Company, Milwaukee, Wis., has organized the White Automobile Company to take the district agency for White machines.

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NEW BUILDINGS.

The Hudson-Phillips Motor Car Company, St. Louis, Mo., has leased a new automobile sales building to be erected at 2307 Locust street at a cost of $30,000.

Frank McKeam, Hanford, Cal., has started work on an addition to his garage and machine shop. The plant will be equipped to care for all kinds of work.

The Clark Motor Car Company, Louisville, Ky., has moved its headquarters from Green street to the new building at 206 East Broadway. The company handles Reo and Premier cars.

George W. Hewitt has started work on a new garage he is having erected at Malta, Mont.

The Blair Automobile Company, Ogden City, Utah, has had work started on its new garage at Twenty-sixth street and Monroe avenue.

The Kiefer Garage, Fargo, N. D., is now in course of construction on Front street and when completed will be modern throughout.

Val Hoerner, New Leipzig, N. D., has started work on the erection of a modern garage and repair shop.

The O'Harrow Auto Company, Charles City, Ia., has leased a building on West Clark street and improvements have been made for a garage.

Henry A. McComb is arranging for the erection of a garage at Olney, Penn., in the near future.

The Rose Tree Farm Garage Company, Philadelphia, Penn., has received complete plans for a new garage to be erected soon.

The Fitzgibbon & Crisp Company, Bank street, Trenton, N. J., maker of automobile bodies, is making additions and improvements to its plant.

William H. Albright, carriage builder of Reading, Penn., has started work on a new garage at Twenty-third street and Perkiomen avenue.

W. G. Phillips of Keene, N. H., has leased property on Canal street, Hinsdale, N. H., which he will improve preparatory to installing equipment for a modern garage and repair shop.

The Wilmington Automobile Company, Wilmington, Del., has plans for additions to its plant in Hamilton street.

The General Motor Company, distributor of Lozier, Paige and Rauch & Lang machines, has occupied its new building on Twenty-first street, Philadelphia, Penn. The structure contains 60,000 square feet of space and is divided into separate showrooms, service garage, shop and stockrooms, paint and top works and storage facilities. William P. Herbert is head of the concern.

The Westcott Garage, 712-714 State street, Peoria, Ill., was recently enlarged. A new departure is a daylight machine shop with the latest automobile machinery.

The Morrison Garage, Waterville, Me., recently constructed on Silver street, is ready for occupancy and contains the most modern equipment.

Gray & Schubring, Madison, Wis., has outgrown its present quarters and is having a new garage erected at 617-619 University avenue at a cost of $12,000.

E. E. Steele, Washington, Ia., has begun operations on a new garage of brick to be thoroughly modern in every particular.

Erickson Bros., and Arthur Parks, Leland, Ill., have fitted their garage with modern machinery and are now ready for business. John Augustine is in charge.

The Clark Motor Car Company, 206-210 East Broadway, St. Louis, Mo., has completed its spacious new garage, which is one of the most complete in the state. The total floor space provides 22,000 square feet.

George Hill, Seaside, Ore., who last year built a large garage, has completed a new establishment much larger, and if the business warrants it both buildings will be utilized.

Smith Bros., Los Angeles, Cal., distributor for Stearns and Ohio cars, is planning a new garage because of the remarkable growth in its business the past year.

D. G. Cheesman, West Point, Ind., is building a new, modern garage and it is expected to be finished soon.

Murray & Medbury, Bloomington, Ill., is building a new garage, three stories high, at Washington and Lee streets, the cost being $40,000.

The Motor Truck Club, New York City, has leased a new office in the United States Rubber building, Broadway and Fifty-eighth street.

Bodine & Devoe, Syracuse, N. Y., distributor of Studebaker machines, which firm has been located at Crosby's garage, is now established in its new headquarters at 211 Harrison street. Expert service is promised at the garage, which has a complete equipment.

Webster-MacGowan, Inc., New York City, eastern distributor of Regal cars, has moved into larger quarters in Motor Hall, 250 West Fifty-fourth street.

The Dickinson Motor Car Company, Dickinson, N. D., has just had a large addition built to its garage.

J. C. Kendall, Pittsfield, Ill., is building a garage to be equipped with modern machinery. The cost is $5000.

The Central Auto Company, Grand Rapids, Mich., is building a garage on Lagrave avenue. It will be two stories high, but the foundation was put in to carry seven stories if necessary.

H. R. Olmsted & Son, Syracuse, N. Y., is now located in its new building recently completed at West Jefferson and South Clinton streets.

The Western Rubber Company will soon move into a new building which is being remodelled for the company's garage business at Sheldon, Ia. The firm handles Hudson cars, made by the Hudson Motor Car Company, Detroit.

J. B. Bradley, 130 Bridge Plaza, Long Island City, N. Y., has opened a steam vulcanizing plant. He carries a line of supplies and tires.

The Cross & Brown Company has leased to the McGraw Tire Company the store and basement of the building at 1664 Broadway, New York City, and to the Glidden Motor & Supply Company a floor at 3-7 West Sixty-first street.

The Longacre Garage, 235 West Fiftieth street, New York City, has again changed management, having been purchased by C. A. Dibblee, F. Kreigenhofer and W. N. Brierley. The business will be conducted as The Longacre Garage Company, Inc.

George Robertson of the Auto Supply Company, New York City, and E. A. McGuire, formerly of the Republic Rubber Tire Company, New York City, have organized the Swinehart Tire & Rubber Company of New Jersey and have taken the agency for Swinehart tires in that state. They are located at 213 Halsey street, Newark.

The E. S. Youse Company, Reading, Penn., has added a vulcanizing department to its plant.

The Grayton & Knight Manufacturing Company, Worcester, Mass., is building a new one-story garage in which to house its own cars on Franklin street.

The Times Square Automobile Company, New York City, has begun work on the addition of two stories to the rear building, extending from Fifty-sixth to Fifty-fifth streets.

The Louisille Lozier Company, agent for the Lozier, Paige and Palmer-Singer cars, has changed its offices and salesrooms from Seventh street to 405 West Broadway, Louisville, Ky.

The United Motors Company, San Francisco, Cal., is having erected a new building at Van Ness avenue and Cedar street, which will contain 17,600 square feet of floor space. The salesroom will cover 40 by 70 feet and will be finished in pearl white.

The Standard Motor Company, 16 West Mount Royal avenue, Baltimore, Md., has purchased property at 1017 North Eutaw street, where a large and modern garage will be established.

Mrs. J. F. Eames of 159 West One Hundred and Twenty-seventh street, New York City, has plans and a permit for an addition to a garage at One Hundred and Twenty-seventh street and Seventh avenue, to cost $15,000.

J. J. Egan of 118 East Twenty-ninth street, New York City, has plans for a new garage to be erected on Thirty-ninth street, near Third avenue, to cost $35,000.

The Pacific KisselKar Branch is having plans drawn and will soon break ground for a new sales and service building to be located on Van Ness avenue, San Francisco, Cal. It is intended to erect a structure that will eclipse in size and completeness the big Kissel service station in Chicago, which contains 70,000 square feet of floor space.

L. S. Crane, Atlanta, Ga., announces the removal of his business to 328 Peachtree street, where will be carried a complete line of Pope-Hartford automobiles, motorcycles, bicycles, lubricants, etc.

J. W. Paddon, proprietor of the Paddon Motor Company, 293 Northampton street, Boston, has contracted for a modern concrete garage, which is being erected at Eggleston square, Roxbury district. It will be completed and open for business by July 1 and will contain 28,500 square feet of floor space. In addition to a handsome suite of offices the structure will contain a modern machine and repair shop fully equipped, large stock room and chauffeur's room. There will be two entrances on Washington street, two on Columbus avenue and one on West Walnut park. The new garage is located on the main highways to Providence, R. I., and Cape Cod.

The Pittsburg Chalmers Company, Pittsburg, Penn., has moved from its former home at 5932 Baum street to 220 North Negley avenue. The Pittsburg Michigan Motor Car Company has moved to 5864-5866 Baum street. A new building has been erected at this address and will be known as the Automobile Palace.

The Klinger Company, Pittsburg, Penn., distributor of Imperial cars, made by the Imperial Automobile Company, Jackson, Mich., is now occupying new quarters at 416 North Craig street.

W. A. Buckley, postmaster at Sprague, Wash., has purchased the Sprague garage, and will operate the same.

The George W. Brown Automobile Company, Milwaukee, Wis., is to have a three-story garage erected at Broadway and Biddle street, to be of brick and concrete, fireproof, and cost $40,000.

Harry Leathers is arranging for the erection of a new garage at Hopkins, Minn. He will also have the local agency for Ford cars, made by the Ford Motor Company, Detroit.

Wesley R. Heyman has purchased property at Twenty-second and Commerce streets, Philadelphia, Penn., from the James Galbraith estate. He will erect a new automobile service building and salesrooms.

The New York Sales Company, Binghamton, N. Y., has erected a new garage at 34 State street, costing $35,000. It is modern in every particular.

Frank Fairweather, Chattanooga, Tenn., has pur-

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chased the property at 123-125 Main street. He will remodel the building and move his automobile establishment into it from Seventh and Chestnut streets.

The East End Tire Company, Pittsburg, Penn., has made arrangements to occupy new quarters at 8417 Forbes street.

The People's Taxicab Company, Altoona, Penn., has taken new quarters at 2200 Beale avenue. G. F. Fleet is proprietor.

The F. R. Gamble Company, Columbia, Tenn., has moved its automobile establishment to its new building at Main and Eighth streets.

The James Auto Company, Ogden, Utah, has opened new quarters on Washington street, where the Ford cars will be handled.

The Co-Operative Motors Company, Long Beach, Cal., has secured a site at 115-119 American avenue for a three-story garage to cost $70,000.

The Dayton & Walker Company of Market street, Paterson, N. J., which conducts an up-to-date garage, has added a complete supply department.

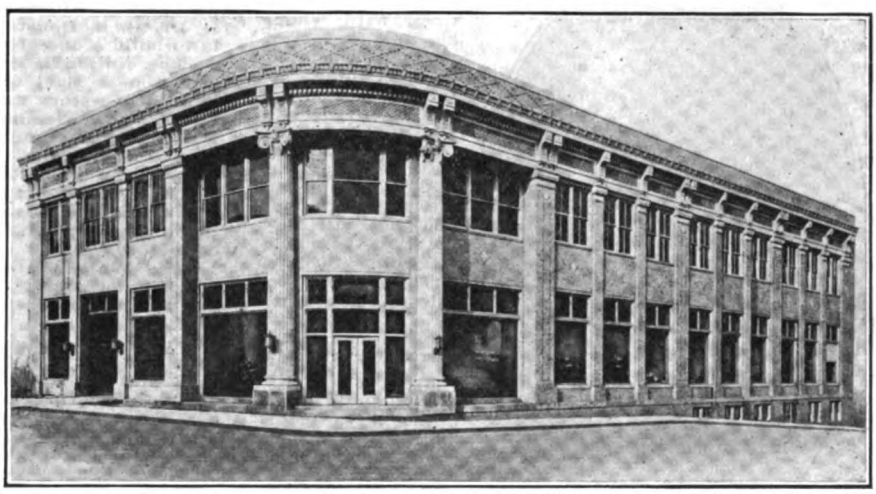
E. M. Snavely, manager of the Ford Motor Company, Middletown, Penn., has started work on improvements and additions to be made to the garage on Mill street.

The Electric Home, San Diego, Cal., has occupied its newly erected garage at 3227 Fifth street. The company also has opened an agency for the Waverley electric cars. W. L. Lowe and H. O. Hattel are the proprietors.

The White Bear Auto Company, St. Paul, Minn., has moved into new quarters at 55 West Fourth street, that city.

The Standard Auto Company, Plainfield, N. J., has moved into new and commodious quarters on Somerset street.

The White Company, Pittsburg, Penn., a factory branch of the White Company, Cleveland, O., maker of White cars and trucks, has recently completed and occupied its new salesroom and service station at the corner of Craig street and Baum boulevard. The structure is shown in an accompanying illustration and is something of an innovation, in that it is built on the side of a hill and is so designed that vehicles may enter from the street level both in the basement and the main floor. Each floor has 15,000 square feet of space, the basement being devoted to housing heavy trucks and for storage purposes, the first floor to salesroom and offices and the second to the repair department, machine shop and stock rooms. More than $75,000 worth of repair parts are carried in stock and 50 people are employed.



New Salesroom and Service Station of the White Company in Pittsburg, Penn.

The Thomas Motor Company, Lima, agent for the Cole car, made by the Cole Motor Car Company, Indianapolis, Ind., and E. H. Hawisher, agent for Studebaker machines, made by the Studebaker Corporation, Detroit, are completing negotiations for the erection of a two-story fireproof building at 302-304 South Main street. They are at present housed at 305 Market street, which building they erected and have occupied the past year. The large growth of their business forces the change. Mr. Hawisher will continue to confine his energies to the sale of Studebaker cars, while J. F. Thomas will operate the garage and service station for the Cole.

J. W. Aitken, 28 West Fifty-fourth street, New York City, has received a permit for the erection of a three-story addition to his garage at 146 East Fifty-third street. The cost of the work will be $20,000.

The Ideal Garage, Frederick, Md., has let the contract for building an addition to its establishment which will double its capacity.

The Auto Repair Company, Easton, Penn., has leased new quarters at 211 South Third street of R. J. Rusk. The property will be suitably fitted for the needs of the company.

Irvin H. Heydt and Ralph E. Hass of 618 Washington street, Reading, Penn., recently purchased adjoining property for the establishment of a new sales and showroom.

Otto & Cambell, Wapello, Ia., has located in a new garage on Second street. The firm handles the Studebaker line, made by the Studebaker Corporation, Detroit.

George F. Spooner, Quincy, Mass., has enlarged his garage at 64 Revere road and has established what is known as Spooner's Auto Exchange. He has taken the agency for the Michigan cars, made by the Michigan Motor Car Company, Kalamazoo, Mich.

The Van Brunt-Bleeg Auto Company, Sioux Falls, S. D., has moved into new quarters in the Waples block.

Edward Hussey has moved the Co-Operative Car Company into large and convenient showrooms at 918 Main street, Buffalo, N. Y.

The Stewart Auto Company, New York City, has started work on an addition to its building at 231 West Fifty-fourth street, made necessary owing to increasing business.

The Forbes Motor Car Company, Pittsburg, Penn., has established itself in new quarters at 5944-46 Baum street. H. N. Munhall is president of the company.

Manager Long of the Borderland garage, El Paso, Tex., is planning the erection of a new building to take the place of the present frame structure.

Frank M. Howard, Dexter, Wis., has moved his garage to better quarters on Grove street.

Bailey & Raymond, Grundy Center, Ia., has begun work on an addition to its garage and repair shop.

Slaybaugh & Stearns, Velva, N. D., is improving and enlarging the firm's garage. Modern conveniences are being installed.

The Spokane Cycle Company, Spokane, Wash., is building a two-story addition to its plant at 215 Post street at a cost of $8000.

The T. C. Nichols Motor Car Company, Quincy, Ill., has started improvements to its garage.

The Rummele Garage, Sheboygan, Wis., is having a substantial addition built to care for increasing business.

The Bonde Motor Car Company, Fargo, N. D., is arranging for the erection of a modern, two-story concrete plant at 219 Northern Pacific avenue. It will be used for a repair shop, garage, salesrooms, etc.

The Central Garage Company, Reading, Penn., is having erected a large, modern garage on Pearl street at a cost of $30,000.

The Motor Wagon & Delivery Company, St. Louis, Mo., has established a garage and repair shop at 2735 Olive street.

The Co-Operative Used Car Company, New York City, has moved into new and commodious quarters at 1700 Broadway.

Richard J. Klohr and J. Boyle, St. Louis, Mo., doing business under the firm name of the Central Automobile Repair Company, are converting a brick building on Olive street into a modern automobile garage.

The Jarvis Bauder Company, Grand Island, Neb., is now located in the Augustine Garage building.

The Penn Motor & Cycle Company, 20 South Fourth street, Reading, Penn., has leased the three-story building at 257 Penn street. A large machine shop will be constructed at the rear.

The Weaver-Twelvetree Company, Cleveland, O., has opened a new service station and salesrooms on East Thirteenth street. The company handles Pierce-Arrow and Premier machines.

The Catskill Automobile Company, Catskill, N. Y., has started work for a large extension to the company's plant, to be used for the storage of automobiles. The entrance will be on Main street.

R. W. Rayhill, San Francisco, Cal., is to erect a large garage at 645 Haight street.

J. W. Norcross, Springfield, Mass., is to erect an addition to his garage on Bridge street, to cost about $30,000. This addition will make it one of the largest garages in Western Massachusetts and will afford excellent facilities for handling increased business.

The Delameter Byrnes Company, New York City, has moved to larger quarters at 1677 Broadway.

The Raabe Bros., Butler, Penn., has opened its new garage and repair shop on North East Diamond square.

The Chase & Burkett Garage, 728 Commercial street, Emporia, Kan., is to have an addition, to be used as a repair shop.

Bryden & Shanks, Brewley, Cal., is planning an addition to the firm's garage to care for increasing business.

The Sweeton Automobile Company, Philadelphia, is having plans prepared for a two-story stone and concrete garage at 3430 Chestnut street, to cost $10,000.

The South Carolina Machine Company, Rock Hill, S. C., has been incorporated for $2000 to conduct repair business.

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NEW GARAGES.

J. I. Phillips of 4216 Pasadena avenue, Los Angeles, Cal., plans building a one-story garage at Pasadena avenue and Avenue 34.

John Sagness, Morton, Minn., is president of a stock company recently formed to erect a fireproof garage to cost $8000.

U. G. Robinson of 3730-42 Sullivan street, Bridgeport, Conn., has plans and a permit for the erection of a one-story garage to cost $2700.

M. J. McGovern of the Hibbing Automobile Company, Hibbing, Minn., has plans for a new garage and repair shop. He handles the Ford cars.

The Fleischmann Company of 515 Park avenue, New York City, has plans and a permit for a garage to be erected at Webster avenue and One Hundred and Eighty-fourth street, to cost $18,000.

Albert Muffatt of 1411 Second street, Detroit, Mich., has plans for a new garage on Milwaukee street to cost $4000.

Clyde S. Adams, Philadelphia, Penn., is preparing plans for a garage at Stillman and Oxford streets.

Grosse Bros., 1724 Elm street, Cincinnati, O., has invited bids for the building of a two-story garage to cost $5000.

E. O. Olsen, Hector, Minn., has plans for a new garage to be erected soon.

E. H. Broadwell, who recently resigned as vice president of the Hudson Motor Car Company, Detroit, maker of Hudson cars, has assumed the vice presidency of the Fisk Rubber Company, Chicopee Falls, Mass., maker of Fisk tires, with whom he was for many years associated before going to the Hudson company. Mr. Broadwell's headquarters will be at the main office of the Fisk company at Chicopee Falls, and he will devote his personal attention to the direction of the sales department. Mr. Broadwell has made a successful career for himself in the automobile industry and his knowledge of tire manufacture was gained by years of connection therewith, during which he made the business a serious study. His work at Detroit for the Hudson company gained him recognition as a progressive, indefatigable worker and no details of his department were neglected. His acquisition by the Fisk staff, while in the nature of a return to his former scene of activity, is a decided source of gratification to that company, the organization of which is decidedly strengthened thereby.

E. H. Broadwell, Vice President, Fisk Rubber Company.

J. E. Hugg & Co., 445 Military street, Detroit, Mich., has plans for a new garage to be erected at Dix street, near Military street. It will be occupied by R. L. Thiesen of 438 Dragoon street.

A. Kolinski of 336 Brady street, Milwaukee, Wis., has plans and a permit for the erection of a new garage to cost $6000.

The Greenwood Cemetery Company, Fifth avenue and Thirty-fourth street, Brooklyn, N. Y., will erect a new stable and garage at Fifth avenue and Thirty-sixth street to cost $20,000.

J. Floyd Halstead, Goshen, N. Y., has purchased property on Main street, that place, for a new garage to be erected soon.

George E. Collins has purchased property on Virginia street, Waterloo, N. Y., upon which he will erect a brick and concrete garage.

Lubbe & Jones, San Francisco, Cal., has secured a permit for the establishment of a new garage at Taylor and Bush streets.

The E. L. Goldstein Company & Steinberger, San Francisco, Cal., will erect a fireproof automobile building at Van Ness avenue and O'Farrell streets. It will be five stories high and will cost $80,000.

J. W. Stover has plans for the erection of a one-story garage at 171-175 Pleasant street, Boston, Mass., to cost $30,000.

V. V. Haldacker, Danville, Penn., has purchased property on Canal street upon which will be erected a modern building. A garage and repair shop will soon be opened.

W. T. Phillips has plans for a new garage and machine shop on Canal street at Hinsdale, N. H.

Fred E. Hyde, Binghamton, N. Y., has purchased a site on Water street, on Noyes Island, for a new garage, now being erected.

H. J. Altwater, 294 Bainbridge street, Brooklyn, N. Y., has plans and a permit for a new garage at Bainbridge street and Patchen avenue.

The Alliance Motor Car Company, East Main street, Alliance, O., has plans for a new garage to cost 13,000.

Charles Barton Keene, Philadelphia, Penn., is preparing plans for a garage to be built at Villanova, Penn.

Albert Riegel, Calhoun and Main streets, Ft. Wayne, Ind., has let the contract for the building of a garage.

W. J. Bradshaw, 702 North Jefferson street, Springfield, Mo., has made a contract with the city to erect a garage and incinerating plant to cost $5000.

The United Gas Improvement Company, Philadelphia, Penn., is having estimates made for a garage at Forty-seventh and Market streets.

B. K. Baker, Jr., Boston, Mass., has let the contract for the erection of a one-story service station to be leased by the Mack Motor Truck Company.

George C. Noll, 6925 Delmar street, St. Louis, Mo., is to build a one-story garage to be 22 by 26 feet.

Henry Feldman, president of the Van Sicien Club Garage Company, 61 Elton street, Brooklyn, N. Y., contemplates building a two-story garage to cost $4000.

William Templeton, Washington boulevard and Wesley avenue, Oak Park, Ill., is to build a two-story garage and service station.

C. H. Tiffany, 96 Market street, Poughkeepsie, N. Y., has received estimates for building a one-story garage.

Dr. Edward J. Meyer, 669 Elmwood avenue, Buffalo, N. Y., has plans under consideration for the erection of a garage at Williamsville, N. Y.

Dr. H. B. Doust, 309 Summit avenue, Syracuse, N. Y., is to build a one-story garage to cost $1000.

The National Twist Drill & Tools Company, Brush street, near East Grand boulevard, Detroit, Mich., is to build a one-story garage.

Dr. J. C. Fleming, 123 West Marion street, Elkhart, Ind., has plans under way for a two-story garage.

K. B. Lemster, Toledo, O., has received bids for a one-story garage and service station to cost $8000. It will be leased to Henry Daull, 735 Indiana avenue.

The Badger Automobile Company, Mayville, Wis., has plans for the building of a two-story service station to cost $8000.

The White Automobile Company, Mt. Royal avenue and Hunter street, Baltimore, Md., has let the contract for an addition to its garage to cost $5000.

E. R. Hall and Frederick W. Sinclair, 1607 Ranstead street, Philadelphia, Penn., have awarded the contract for a one-story combination garage at Ridley Park, Penn.

Ernest Hillman, Oliver building, Pittsburg, Penn., has given the contract for the building of a garage at a cost of $7000.

Lessler Bros., 622 Smith street, Schenectady, N. Y., is building a garage to cost $1500 and to be one story in height.

A. Hughes, Moline, Ill., has plans being prepared for a two-story garage and apartment house.

The Felt & Tarrant Manufacturing Company, 1717 North Paulina street, Chicago, Ill., is having plans revised for a one-story garage and warehouse.

A. Young, Monmouth, Ill., has awarded the contract for the erection of a one-story garage at Galesburg, Ill. Work will begin soon.

The Bateman Machine Company, Atlantic City, N. J., has let the contract for the building of a one-story garage.

Otis Norcross, 50 Congress street, Boston, Mass., has let the contract for the erection of a one-story garage, the cost to be $12,000.

H. A. Crane & Bro., Jersey City, N. J., has secured the contract for the building of a two-story garage and supply house to cost $25,000.

Edward Binis, Murrayhill avenue and Woodland road, Pittsburg, Penn., has given the contract for a two-story garage to cost $8000.

Vernon Wolff, Louisville, Ky., is having a one-story garage built on River road, that city.

R. A. Long, Long building, Kansas City, Mo., has invited bids for a two-story garage at Hickman Mills, Mo.

Dennis Kelly, Front street, Columbus, O., is expending $5000 in the erection of a two-story garage, for which the contract has been let.

William Cady & Son, Corry, Penn., plans the building of a two-story garage and machine shop the present summer.

W. Park Moore, Elkins Park, Penn., will build a one-story garage to cost $2000.

Warren Unger, Shamokin, Penn., has received estimates for a three-story garage, 50 by 90 feet. It will cost $25,000.

Edwin P. Cerle, 520 Slater building, Worcester, Mass., has plans under way for a one-story garage.

William A. Baehr, 122 South Michigan avenue, Chicago, Ill., is considering plans for the building of a garage.

The Commonwealth Edison Company, Chicago, Ill., is to erect a one-story garage to cost $5000.

William A. Stewart, Camden, N. J., has plans under

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way for alterations and additions to a three-story garage and apartment building.

F. Passman, 724 Comstock avenue, Syracuse, N. Y., has plans under way for building a one-story garage to cost $3500.

B. A. Echhart, 1330 Carroll avenue, Chicago, Ill., is to build a two-story garage and stable with apartments above, at a cost of $22,000.

Frederick Moeller, 3014 Lincoln avenue, Chicago, Ill., is to build a one-story garage.

John Zimmerman, Jr., 72 West Genesee street, Buffalo, N. Y., has awarded the contract for the building of a garage.

G. Miller, 404 Evans building, Bloomington, Ill., is preparing preliminary plans for a three-story garage to be 99 by 100 feet.

J. W. Aitken, 28 West Fifty-fourth street, New York City, is to build a $20,000 three-story garage, to be 25 by 62 feet.

Wisely & Short, 1838 Richmond street, West New Brighton, L. I., N. Y., has completed plans for a one-story garage to cost $5000.

N. R. Farwell, Chicago, Ill., is considering plans for an addition to his present garage.

Nathan Harris, 79 North avenue, Rochester, N. Y., has plans under way for a one-story garage which will cost $5000.

Marshall Field & Co., Chicago, Ill., is to build a two-story garage in which to house its fleet of motor vehicles. The cost will be $27,000.

Henry Strohrer, Sea Isle City, N. J., is planning the erection of a two-story concrete and frame garage for $3500.

J. A. Benjamin, National Cash Register Company, Rochester, N. Y., has plans under consideration for the building of a garage.

R. Knockenhauer, 1901 Bathgate avenue, New York City, contemplates the erection in the near future of a number of small garages.

William Bromstedt, 6440 South Green street, Chicago, Ill., is receiving bids for an addition to a one-story garage to cost $8000.

H. E. Stevens, 53 West Jackson boulevard, Chicago, Ill., has let the contract for a two-story garage to be 43 by 60 feet.

H. G. Tewes, 725 Waveland avenue, Chicago, Ill., has awarded the contract for the erection of a one-story garage to cost $8000.

A. C. Hanke, 2369 Milwaukee avenue, Chicago, Ill., has given the contract for the building of a one-story garage which will cost $9000.

E. Clifford Dinell has secured a permit to build a one-story garage at 2241-43 North Twenty-seventh street, Philadelphia, Penn., to cost $2850.

The St. Louis Country Club, St. Louis, Mo., is contemplating plans for a 2.5-story garage and service building to cost $15,000.

J. Wagman, Lake avenue and Marion place, Saratoga Springs, N. Y., has plans under way for the building of a one-story garage.

Herbert Hanna, 79 State street, Ogdensburg, N. Y., has received bids for the building of a one-story garage at Plattsburg, N. Y., at an expenditure of $10,000.

L. Humbert, 415 Pearl street, Sioux City, Ia., will soon have plans completed for the building of a two-story garage to cost $20,000.

Herbst & Hufschmidt, 301 Juneau building, Milwaukee, Wis., is preparing plans for a four-story garage and flat building, 50 by 110 feet.

L. German, Saginaw, Mich., has invited bids for the erection of a small garage.

J. Colner, Jr., 70 Virginia Park, Detroit, Mich., will build a one-story garage, 21 by 22 feet.

Louis E. Faulkner has secured permits to erect two one-story garages to cost $600 each at 548 and 550 East Washington Lane, Philadelphia, Penn.

Salinger Bros., Gary, Ind., is to build an additional story to the firm's present garage.

G. S. Steward, 1419 Maryland avenue, Baltimore, Md., has plans under consideration for the erection of a one-story garage at a cost of $38,000.

Dr. D. W. Mears, Mt. Pocono, Penn., is to build a two-story garage, 24 by 33 feet.

Frank Hoffman, Scranton, Penn., has plans under way for a one-story garage, which will cost $2000.

H. P. Wilhelmi, 6155 Columbia avenue, Philadelphia, is to build a one-story garage at an outlay of $2000.

Martin A. Brown, Sheffield road, Winchester, Mass., has awarded the contract for the erection of a 1.5-story garage to cost $10,000.

Edward F. Heyden, 2016 Cass street, Omaha, Neb., is taking bids for a one-story brick garage to cost $1000.

Nathan Haywood is considering plans by the Pomeroy Construction Company, Philadelphia, for a stone garage to be built at St. David's, Penn.

A. J. David, 215 Broad street, Elizabeth, N. J., has plans under way for a new garage.

Charles G. Haviland, 367 First avenue, Brooklyn, N. Y., is taking sub-bids for the building of a one-story garage to cost $3000.

New York City, department of parks, Forest Park, Queens, L. I., N. Y., has plans nearly completed for the building of a garage, stable and workshop to cost $75,000.

Dr. Everett Jones, 1658 Beacon street, Boston, Mass., is to build a two-story garage, 24 by 39 feet.

Edwards & Edwards, Philadelphia, has secured a permit, through Robert L. Rex, for a one-story garage to cost $700.

Francis B. Grinnell, Brookline, Mass., is to build a garage and stable at Charles River, Mass.

Leo Ziegler, 526 West Chicago avenue, Chicago, Ill., is receiving estimates for a one-story garage.

The Peoria Gas & Electric Company, Peoria, Ill., will soon take bids for the erection of a two-story utility building to comprise garage, stable and flat building.

Charles Watkins, Philadelphia, has plans for a stone, fireproof garage and stable to be built at Wynnewood.

Charles L. Gerds, 7357 Railroad avenue, Chicago, Ill., has received bids for the erection of a garage to be one story high and cost $6000.

A. S. Towlson, Jr., Philadelphia, Penn., has taken out a permit to build a two-story garage at the northwest corner of Mt. Pleasant and Anderson streets. It will cost $1500.

Seaman Bros., Hudson and North Moore streets, New York City, is having plans prepared for the remodelling of a church structure into a garage at a cost of $10,000.

NEW CHAMBER OF COMMERCE.

AS FAR as active work is concerned, the National Association of Automobile Manufacturers, organized 13 years ago, and the Automobile Board of Trade, organized two years ago, after the dissolution of the Association of Licensed Automobile Manufacturers, have ceased to exist and all affairs of both organizations are now transferred to the Automobile Chamber of Commerce. The first steps to bring about a consolidation were taken at a meeting in Chicago in 1912, when each of the associations appointed a conference committee.

The Automobile Chamber of Commerce was incorporated March 18 by the 14 men who had composed the executive committee of the N. A. A. M., and C. C. Hanch, the only director of the Board of Trade who was not also a member of that committee. The necessity of observing certain legal requirements delayed the actual transfer of all funds, records and books of both bodies to the new organization until now. All the departments of the old associations will be continued under the same management. S. A. Miles, for 10 years general manager of the N. A. A. M., retains that position with the new organization, with H. A. Bonnell as assistant general manager. The traffic department remains in charge of J. S. Marvin and the commercial vehicle work in charge of H. W. Perry, to whose department will probably be added a bureau of publicity with particular reference to the interests of good roads. The officers of the Chamber of Commerce are:

President, Charles Clifton; vice president, Wilfred C. Leland; vice president in charge of gasoline vehicle department, Hugh Chalmers; vice president in charge of commercial vehicle department, W. T. White; vice president in charge of electric vehicle department, H. H. Rice; treasurer, George Pope; secretary, R. D. Chapin; patent committee, C. C. Hanch, W. H. Van Dervoort, L. H. Kittredge, Alvan Macaulay, L. E. Latta; show committee, George Pope, H. O. Smith, Wilfred C. Leland; traffic committee, A. L. Pope, W. E. Metzger, H. H. Rice; legislative committee, J. N. Gunn, G. H. Stilwell, J. I. Farley.

The Pittsburg Automobile Dealers' Association will hold a pleasure car and motor truck display in October.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

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USED CAR VALUES.

The matter of dealers securing what is considered a proper price for used cars is one that has provoked almost endless discussion and numerous conclusions have been given to the public. Perhaps one of the latest of these is the proposal to establish in various parts of the country central clearing houses to which can be taken used cars from a wide territory, to be offered for sale at their actual value. In effect it is proposed to establish a uniform rating for these machines.

The idea seems rather impractical, for the simple reason that a person contemplating the purchase of this nature is usually desirous of seeing the car before parting with his money. With the clearing house plan in force a buyer would be expected, where the distance was too great to make it profitable to travel, to send in his specifications, accompanied by a check, and receive in return a machine answering his description. It might be a good car to look at and still prove a poor bargain from the viewpoint of service. Only actual testing could determine this and every purchaser knows it.

Another and more forcible objection lies in the fact that the problem is essentially a local one and cannot be governed by a set of fast rules. A dealer who has a customer for a used car is able to make an allowance to the man who wishes to dispose of one, in accordance with the price he expects to receive. These figures will vary with each individual sale, making it impossible to fix a uniform rate, as would be the case with a new machine where the price is established by the manufacturer.

In every locality there are hundreds of used cars on the market, offering a wide choice to the purchaser, who can also enjoy the advantage of inspecting his proposed purchase. Every dealer is in business for himself and he generally exercises his own judgment in each case as to the price to be charged. He will naturally make the best trade he can, both in buying and selling, while the customer will also seek to obtain the best he can for his money. In short, every sale is governed by the immediate circumstances surrounding it, and that this condition will prevail in the future cannot be doubted. It is a local situation that cannot be nationalized and any attempt to place the trade in used cars upon a fixed, substantial basis, so far as maintaining prices is concerned, is predestined to meet with failure.

GARAGE CLEANLINESS.

The difficulty of securing trade and holding it in the face of sharp competition is a subject which has often been discussed by proprietors of garages, salesrooms and service stations. It is unnecessary to point out the need for carrying a line of seasonable and up-to-date products, for that already has been done, but there are other important factors which may well be considered.

Perhaps the chief of these is cleanliness. Many garage owners have neglected this feature, taking it for granted that because the customer had knowledge that the establishment was in effect a workshop he naturally expected to find more or less dirt, oil, etc. This is a serious error. It is easy to establish a system of work which permits of keeping a place free of dirt and by keeping tools and supplies in their proper places, a generally slovenly appearance is superseded by one of refreshing neatness. This, together with courteous treatment of customers, creates a decidedly favorable impression of progressiveness, and not only serves to retain patronage, but is a perpetual advertisement to attract new business.

As predicted some time ago would be the case, the kerosene car has arrived and the maker who offers this type of carburetor appears to have every faith in its possibilities, as two of these machines are to take part in the transcontinental tour of the Indiana manufacturers.

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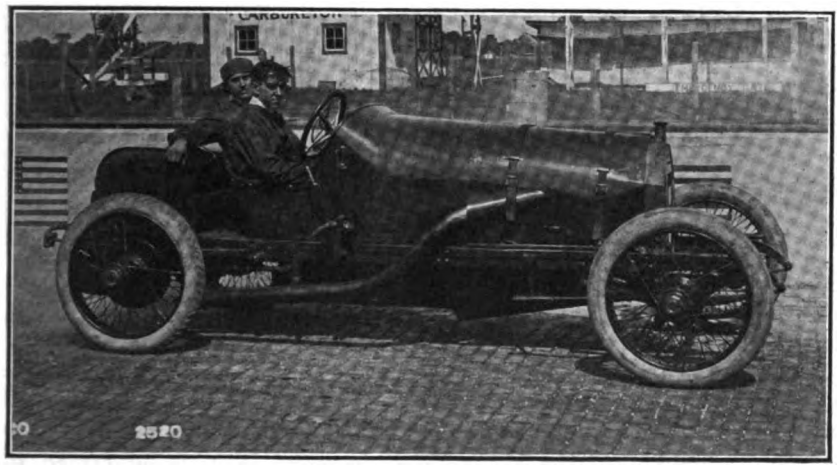
GOUX TAKES CHIEF SPEEDWAY HONORS.

JULES Goux of France, driving a French built Peugeot car, won the third international sweepstakes race on the Indianapolis speedway, Memorial Day, his speed being 75.92 miles an hour, as against 78.73 for Joseph Dawson in a National last year, and 74.65 for Ray Harroun in a Marmon in 1911. Spencer E. Wishart in a Mercer, one of the smaller cars in the race, was second, and Charles Merz, in a Stutz, was third. The full list of prize winners is given in tabular form, which shows that the first four cars to finish a year ago travelled at faster speed than the winner in this year's event.

The result was not altogether surprising, since the Peugeot has long been regarded as the fastest machine produced abroad, but it was thought that the speed would be much greater and that the speedway record would be exceeded. Over 100,000 people witnessed the race, according to the statement of the management.

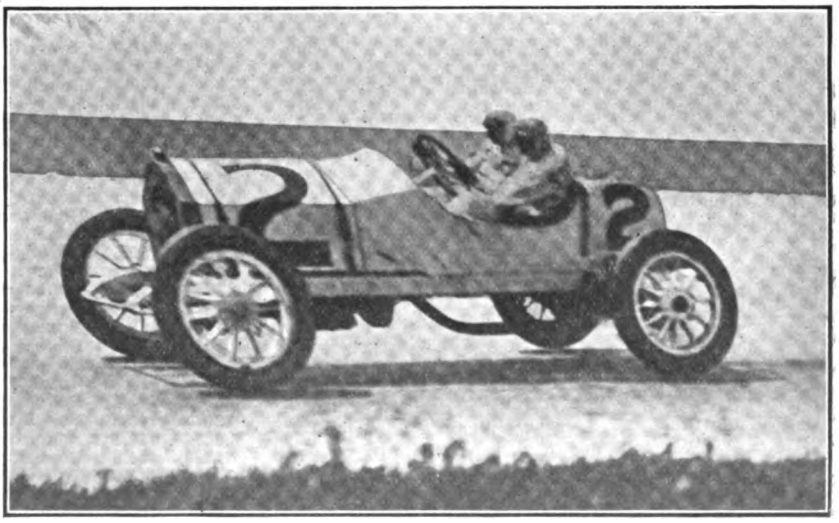
Jules Goux of France and the Peugeot, Winning Combination in the Third Annual International Sweepstakes Event at Indianapolis.



Spencer E. Wishart and the Mercer Car He Drove to Second Place in the Memorial Day 500-Mile Race.

A disappointment to the American adherents was the failure of the Keeton car, driven by Burman, to attain a place. This car showed some of the best speed of the day and practically led the field up to 137.5 miles, when it caught fire. Burman lost much valuable time quenching the flames and later while driving beside the Sunbeam the latter lost a tire, a piece of the casing striking the Keeton's gasoline tank and causing a leak which greatly interfered with its performance. The car showed every indication of being an excellent machine.

Goux won the Remy grand brassard and Remy trophy at 200 miles and the Prest-O-Lite trophy at 300 miles. Firestone tires, made by the Firestone Tire & Rubber Company, Akron, O., were fitted to the machines finishing first and second. The two front shoes on the winning Peugeot went through the race without change. Several sets of tires gave fine service. Among these were the Braender shoes, made by the Braender Rubber & Tire Company, Rutherford, N. J., fitted to Mulford's Mercedes, finishing in seventh place. His first stop was at the end of 285 miles and the Braender shoes went through the 500 miles without changing. Miller tires, made by the Miller Rubber Company, Akron, O., used on Louis Disbrow's Case, in eighth place, also went through the race without trouble. Similar shoes were fitted to Tetzlaff's Isotta, which went out at 290 miles, and they gave no trouble. Bosch magnetos were fitted to the first seven cars



Charles Merz Won Third Prize with a Stutz in One of the Most Spectacular Finishes Ever Witnessed.

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COMPARISON OF RECORDS CREATED ON INDIANAPOLIS SPEEDWAY.

	New Class Marks.		Old Class Records.		Regardless of Class.	
Miles	Car and Driver	Time	Car and Driver	Time	Car and Driver	Time
50	Sunbeam, Guyot...	37:29.29	Marmon, Dawson.....	39:47.35	Lozier, Tetzlaff.....	36:35.80
100	Keeton, Burman...	1:15:50.55	National, Kincaid.....	1:23:43.11	Fiat, Tetzlaff.....	1:13:37.25
150	Peugeot, Goux.....	2:00:25.65	Buick, Chevrolet.....	2:05:02.17	Fiat, Tetzlaff.....	1:40:52.84
200	Peugeot, Goux.....	2:33:30.40	Buick, Chevrolet.....	2:46:48.47	Fiat, Tetzlaff.....	2:25:59.52
250	Peugeot, Goux.....	.....	Buick, Burman.....	4:38:57.40	Fiat, Tetzlaff.....	3:07:13.94
300	Peugeot, Goux.....	3:52:26.75			National, Dawson.....	3:48:49.30
350	Peugeot, Goux.....	4:32:03.90			National, Dawson.....	4:25:15.27
400	Peugeot, Goux.....	5:09:53.00			National, Dawson.....	5:04:14.23
450	Peugeot, Goux.....	5:52:20.20			National, Dawson.....	5:44:04.54
500	Peugeot, Goux.....	6:31:43.45			National, Dawson.....	6:21:06.03

to finish and seven of the prize winners also used Bosch plugs. The Bosch Magneto Company, New York City, awarded prizes of $500, $300 and $200 to the first three place drivers. The Rayfield carburetor, made by the Findeisen & Kropf Manufacturing Company, Chicago, was fitted to the Mercer, finishing in second place, and therefore is entitled to claim American honors for the event. Truffault-Hartford shock absorbers were used by the cars finishing in first, second and third places, and were fitted to 25 of the 27 machines which started.

The accessory equipment of the various cars, as supplied either by the entrant of the machine or the maker of the equipment, is to be found in an accompanying table. No less than 15 of the 27 cars were fitted with wire wheels, this being a much larger percentage than has been true in former contests in America. Rudge-Whitworth wheels, made by the Standard Roller Bearing Company, Philadelphia, were utilized on the cars to finish in first and second place, as well as on a number of other machines.

It is also of interest to note that this was the first American long distance event in which the Knight motor has been entered. Two cars utilizing this type of engine were entered, although the Pennebaker, with a reconstructed Stearns-Knight engine, was withdrawn shortly before the start. The Mercedes-Knight, driven by Pilette, finished in fifth place. This would appear to establish the Knight motor as being capable of competing successfully against engines of the so-called poppet valve type. It may be stated in addition that the Mercedes-Knight machine was the smallest car in the race.

TIME AND SPEED OF PRIZE WINNERS IN THE THREE 500-MILE RACES.

1913.			1912.			1911.		
Car and Driver	Time	M.P.H.	Car and Driver	Time	M.P.H.	Car and Driver.	Time	M.P.H.
Peugeot, Goux.....	6:35:05.00	75.92	National, Dawson.	6:21:06	78.73	Marmon, Harroun..	6:42:08	74.65
Mercer, Wishart.....	6:48:13.40	73.49	Fiat, Tetzlaff.....	6:31:29	76.63	Lozier, Mulford....	6:43:51	74.29
Stutz, Merz.....	6:48:49.25	73.38	Mercer, Hughes...	6:33:09	76.30	Fiat, Bruce-Brown.	6:52:29	72.74
Sunbeam, Guyot.....	7:02:58.95	70.92	Stutz, Merz.....	6:34:40	75.99	Mercedes, Wishart.	6:52:57	72.65
Mercedes-Knight, Pilette....	7:20:13.00	68.14	Schacht, Endicott..	6:46:28	73.87	Marmon, Dawson..	6:54:37	72.36
Fox, Wilcox.....	7:23:26.55	67.65	Stutz, Zengel.....	6:50:28	73.09	Simplex, DePalma..	7:02:02	71.08
Mercedes, Mulford.....	7:28:05.50	66.95	White, Jenkins....	6:52:38	72.70	National, Merz.....	7:06:20	70.37
Case, Disbrow.....	7:29:09.00	66.67	Lozier, Horan.....	6:59:38	71.49	Amplex, Turner....	7:15:56	68.79
Mason, Haupt.....	7:52:35.10	63.47	National, Wilcox..	7:11:30	69.54	Knox, Belcher.....	7:19:09	68.31
Tulsa, Clark.....	7:56:14.25	62.99	Knox, Mulford....	8:53:00	56.29	Jackson, Cobe.....	7:21:50	67.89
						Stutz, Anderson....	7:22:55	67.74
						Mercer, Hughes....	7:23:32	67.65

DETAILS OF CARS AND EQUIPMENT TAKING PART IN THE 500-MILE RACE.

No.	Car	Driver	Cyl.	Bore	Stroke	P. Dis.	Magneto	Plugs	Carburetor	Tires
1	Nyberg	H. Endicott	6	4.00	5.00	376.9	Remy	Red Head	Schebler	Goodyear
2	Stutz	Merz	4	4.81	5.50	400.2	Bosch	Bosch	Schebler	.....
3	Stutz	Anderson	4	4.81	5.50	400.2	Bosch	Bosch	Schebler	.....
4	Keeton	Burman	4	5.10	5.50	448.7	Remy	A. C.	.....	Firestone
5	Mason	Evans	4	4.31	6.00	350.5	Splitdorf	.....	Schebler	Michelin
6	Mason	Tower	4	4.31	6.00	350.5	Splitdorf	.....	Schebler	.....
8	Stutz	Herr	4	4.81	5.50	400.2	Bosch	Bosch	Schebler	.....
9	Sunbeam	Guyot	6	3.54	6.29	367.5	Bosch	Bosch	Caudel	Dunlop
10	Henderson	Knipper	4	4.31	6.00	350.5	Bosch	Bosch	Rayfield?	Goodyear?
12	Fox	Wilcox	4	4.75	5.50	389.9	Bosch	Bosch	Miller	Michelin
15	Peugeot	Zucarrelli	4	4.40	7.20	442.5	Bosch	Bosch	Caudel	.....
16	Peugeot	Goux	4	4.40	7.20	442.5	Bosch	Bosch	Caudel	Firestone
17	Anel	Liesaw	4	4.50	5.00	318.1	Bosch	Bosch	.....	Diamond
18	Schacht	Jenkins	4	4.87	5.75	429.3	Splitdorf	Bosch	Rayfield	Michelin
19	Mercer	Bragg	4	4.80	6.18	448.0	Bosch	Bosch	Rayfield	.....
21	Mercer	DePalma	4	4.80	6.18	448.0	Bosch	Bosch	Rayfield	.....
22	Mercer	Wishart	4	4.37	5.00	300.7	Bosch	Bosch	Rayfield	Firestone
23	Mercedes-Knight	Pilette	4	3.93	5.12	251.3	Bosch	Bosch	Mercedes	Michelin
25	Tulsa	Clark	4	4.75	5.50	389.9	Bosch	Bosch	.....	Diamond
26	Isotta	Grant	4	4.72	6.30	443.8	Bosch	Bosch	Zenith	.....
27	Isotta	Tetzlaff	4	4.72	6.30	443.8	Bosch	Bosch	Zenith	Miller
28	Isotta	Trucco	4	4.72	6.30	443.8	Bosch	Bosch	Zenith	.....
29	Mercedes	Mulford	4	4.40	7.12	434.6	Bosch	Bosch	Rayfield	Braender
31	Case	Disbrow	4	5.10	5.50	448.6	Splitdorf	Red Head	Rayfield	Miller
32	Case	Nikrent	4	5.10	5.50	448.6	Splitdorf	Red Head	Rayfield	Miller
33	Case	W. Endicott	6	4.25	5.00	425.4	Splitdorf	Red Head	Rayfield	.....
35	Mason	Haupt	4	4.31	6.00	350.0	Splitdorf	.....	.....	Michelin

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TRADE INFORMATION EXCHANGE BUSINESS PROPOSITIONS.

Opportunities Are Offered Below for Agents to Secure New Lines, for Manufacturers to Extend Their Representation, and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. All Are Opportunities for Live Men and Firms Seeking Profitable Relations.

The Following Details of Trade Opportunities Presented by Members of the Trade Information Exchange Are Published Without Names, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

CAR AGENCIES DESIRED.

4083—Michigan Concern, composed of two consolidated firms, is in the market to take agencies for pleasure cars listing between $800 and $2500, and commercial vehicles selling from $800 to $1800.

5098—Illinois Company, in live city, seeks the agency for automobiles to sell from $1000 to $2200, and motor trucks listing between $1000 and $2500.

7854—Missouri House, with complete equipment, would like the agency for electric pleasure and commercial vehicles.

4194—Texas Firm, already handling a high class pleasure car, would like the agency for a good motor truck selling from $700 to $1500.

7868—Massachusetts Company, in new location, is in the market for a high class pleasure automobile to sell from $3750 to $6200, in addition to two lines already being handled.

8947—Missouri Concern, recently changed hands, and now selling two standard makes of pleasure cars, is seeking agency for pleasure car line listing from $500 to $5000, and power wagons at the same figures.

5106—Oregon House, in enlarged, new quarters, would like the agency for a pleasure vehicle to sell at $1100 to $1800.

5641—Iowa Firm is interested in pleasure cars selling between $850 and $1000.

4390—Illinois Company, occupying a modern garage, is in a position to handle advantageously a line of pleasure vehicles listing from $900 to $1500.

8504—Massachusetts Garage, recently established, is in the market to represent a make of automobile to sell from $800 to $2000, and motor trucks from $750 to $2000.

12,133—Connecticut Concern, doing big business in large city, is seeking to represent in its territory both pleasure and commercial vehicles listing from $900 to $1200.

ACCESSORY AGENCIES WANTED.

7246—Connecticut Company is in the market for automobile accessories, and garage and repair shop supplies.

6712—Illinois Concern is interested in garage and repair shop supplies.

9142—Illinois Firm, doing good business, would like good line of automobile accessories, etc.; also garage and repair shop supplies.

4561—Iowa House, handling good line of cars, is seeking to represent first class line of automobile accessories and supplies.

6512—Oregon Concern, recently established in new garage, is in the market for automobile supplies and accessories and supplies of all kinds for garage and repair shop.

4997—Missouri Company, under progressive management, is interested in automobile accessories, etc., and garage and repair shop supplies.

4621—Minnesota Firm is anxious to obtain information relative to automobile, garage and repair shop supplies.

5748—Missouri Concern is interested in all kinds of accessories and supplies for pleasure and commercial vehicles and also for garage and repair shop.

8153—Illinois House, having excellent trade, is in the field for automobile and motor truck accessories, etc., also supplies of all kinds for garage and repair shop.

3814—Michigan Company, in exceptionally prosperous condition, would like to hear from concerns making accessories and supplies for power wagons and pleasure cars, as well as for garage and repair shop.

8657—Connecticut Garage is anxious to secure good automobile accessories and supplies, also the latter for repair shop and garage.

8574—Company in Washington, D. C., would like repair shop supplies and accessories for automobiles.

6798—Pennsylvania Firm, which has moved into new quarters, would like to hear from concerns desirous of placing with a live house automobile and motor truck accessories, etc., and garage supplies.

7543—Iowa Company is in the market for automobile accessories and garage supplies.

2735—Illinois House, with modern establishment, will investigate garage and repair shop supplies, also supplies and accessories of all kinds for automobiles and motor trucks.

6939—Michigan Firm, recently formed, is interested in supplies and accessories of select types for pleasure and commercial vehicles. Garage and repair shop supplies of exceptional quality also will be welcome.

6774—California Concern is anxious to secure agency for automobile accessories and garage and repair shop supplies.

4339—Canadian Company, recently formed to do business on a large scale, is interested in automobile accessories and supplies.

9762—Kansas House, occupying new and larger quarters, would take agency for supplies and accessories and garage and repair shop supplies.

6761—Kentucky Firm, carrying a full stock of accessories, is interested in additional lines of supplies and accessories of good quality.

EQUIPMENT NEEDED.

9134—Illinois House, doing good business, is in the market for garage and repair shop equipment.

5174—Iowa Motor Car Company, in new establishment, is desirous of securing garage equipment and supplies and automobile equipment.

7887—Pennsylvania Concern, doing a supply business, is in the field for a complete line of garage equipment and supplies, machine tools and supplies for pleasure and commercial vehicles.

7858—District of Columbia Firm, making a specialty of supplies, is anxious to hear from concerns having good lines of repair shop and automobile equipment.

8134—Michigan Company is in the market for a good line of garage and repair shop equipment, including machine tools, and fittings for automobiles and power wagons.

9815—Illinois Firm, conducting general automobile and repair shop business, is interested in machine tools, garage and repair shop equipment and motor truck fittings.

8547—Missouri Concern, doing electrical business, is in the market for all kinds of electrical equipment for garage and repair shop and pleasure and commercial vehicles.

2146—Minnesota Company, building modern new service station, would like machine tools and repair shop equipment.

5203—California House, recently changed hands, is seeking repair shop equipment for repairing and retreading automobile tires.

9478—Missouri Firm, under new management, is interested in garage and repair shop equipment.

6152—Oregon Concern, in new building just erected, is in the market for machine tools and repair shop equipment of all kinds; also garage equipment, including lathe, drill press, air pump, vulcanizer, etc.

6415—Iowa Firm is seeking all kinds of automobile equipment. Company does general automobile business.

3914—Illinois Company, extending its business, needs equipment for garage and repair shop and machine tools.

2671—Illinois Garage Company, erecting a new, modern building, is desirous of securing garage and repair shop equipment and supplies, also machine tools.

7865—Connecticut Garage, recently established, is in the market for machine tools, garage and repair shop equipment.

2133—Connecticut Firm, changed hands, wants first class line of equipment for garage.

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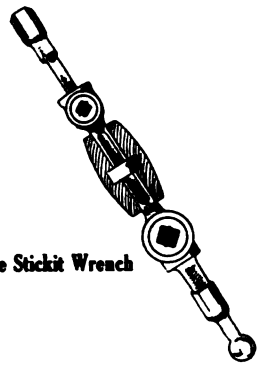
DESIRABLE ACCESSORIES FOR THE DEALER.

The Bay State Sticket wrench set is marketed by G. A. Cutter, sales agent, Taun-



Bay State Stickit Wrench

ton, Mass., and comprises a double ended ratchet wrench, strapped to seven strong stamped steel sockets strung on a square steel shank. One end of the wrench fits the shank and the other the sockets. The wrench also fits four sizes of nuts, and with the sockets 11 different sizes of nuts and cap screws. The reversible ratchet wrench is secured to the shank by a substantial leather strap and with the use of a washer prevents rattling. An 1.25-inch ball is fitted to one end of the shank, but may be removed if desired, allowing the sockets to be displaced. The other end of the shank has a ball stop and spring ball for holding the socket in position. It is a compact, practical set and in addition to being adapted for a large variety of work, may be carried easily in the tool roll. Extra sockets are supplied.

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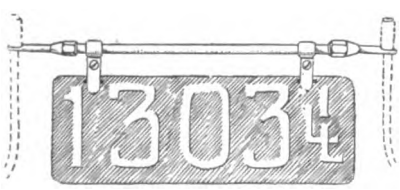
The Halladay Lamp Brace and number holder is manufactured by the L. P. Halladay Company, Streator, Ill., and



Halladay Lamp Brace

not only eliminates vibration of the lamps, but serves to carry the license number. It is adjusted easily to any car having lamp irons, a form of turnbuckle being employed. The license tag is secured to it by a special clamp and a quality claimed for the device is freedom from motion. It is finished in black japan, brass or nickel and is moderately priced.

—— ★ ——

The Right O' Way Horn is produced by the Davies-Bach Manufacturing Company, Cleveland, O., and is actuated

Right O' Way Horn

by the exhaust of the motor. It is operated in the conventional manner, by a pedal or lever, and a clear, penetrating, as well as pleasing, tone is claimed for the signal. It is made in two styles, A being a combined horn and cut-out, while B is for service in states where the cut-out is prohibited. It is held that the horn will not clog, is constructed of high grade material and is attached easily. It is moderately priced.

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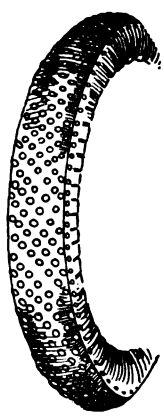
Durable Treads are marketed by the Durable Tread Sales Company, 524 West 34th



Durable Tread

street, New York City. They are constructed of two layers of tanned leather between which are placed five thicknesses of fibre fabric. The tread is thickly studded with steel rivets having large solid heads. The treads are secured to the rim by means of patented nickel steel rim hooks which are formed to the exact shape of the bead of the shoe.

Noera Oiler

It is held by the maker that skidding is prevented and that the use of chains is not necessary. It is also claimed that blow-outs are eliminated as the rim anchorage reinforces any weak spot in the casing.

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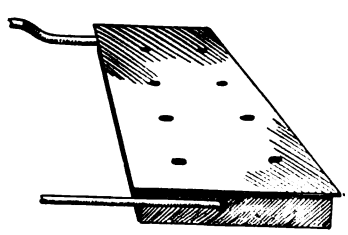
The Noera Oiler is the product of the Noera Manufacturing Company, Waterbury, Conn., and a feature is the diameter of the mouth, it being 1.25 inches, as against the usual .875 inch or less. This makes it a simple matter to replenish the supply of lubricant. The oiler is practically a one-piece construction, the bottom being of clock spring steel pressed against the shoulder of the dome, the seam being double turned. The spout and breech lock are similarly constructed, no solder or brazing being employed. It is made in 10 sizes, from three ounces to one pint in capacity, and is finished either in cop-



Peerless Radiator

per plated steel, polished steel, polished brass, nickel plated brass, or steel.

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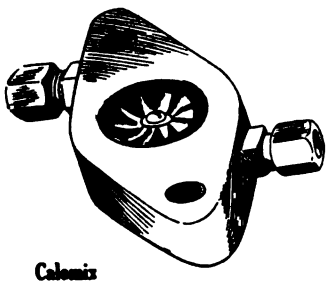
The Peerless Radiator is designed for heating motor cars and is located in the floor of

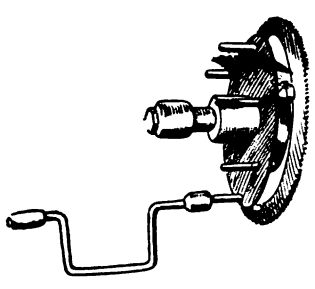


Calomix

the machine. It utilizes the hot water from the circulation system of the power plant and is applicable with both thermo-syphon and pump systems of cooling. When the former is employed a connection is made between the pump and the cooler and a second lead attached to top of the water jacket. With the thermo-syphon system one pipe is led to the lower water manifold. It is held that it increases circulation capacity, keeping the motor cooler, especially when an alcohol anti-freezing solution is employed. The home office of the maker is at Gibbs, Idaho, while the New York office is at 275 West 23rd street.

—— * ——

The Calomix, produced by the Calomix Manufacturing Company, Troy, N. Y., differs from those devices employed for converting a raw mixture into a vapor in that provision is made for heating it. It comprises a brass gasket about .5 inch thick, conforming to the shape of the flanges utilized on the carburetor and intake manifold, and is placed between these members. In addition to a small fan wheel which rotates and breaks up the raw



Angier Ford Spare Wheel

fuel, the Calomix is provided with passages through which the exhaust gases pass, warming it. Suitable connections are included for fitting to the manifold and various sizes are manufactured to meet carburetor requirements. It is installed easily and is not expensive.

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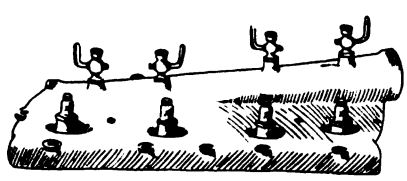
The Angier Spare Wheel, made by Angier's, Streator, Ill., is designed for Ford cars and is of the demountable type. It comprises an extra wheel for models N R S or T and will fit either front or rear axles. It is removed by displacing the nuts retaining the hub flanges and this is made possible by replacing the old bolts in the hub with studs having finished nuts. When the latter are removed by a special bit stock the wheel can be displaced quickly and without affecting the bearings, speedometer gear, etc. The equipment comprises an extra wheel, studs, nuts and



Danver Priming Cocks

the wrench member. It is moderately priced and provides demountable features not fitted to Ford cars.

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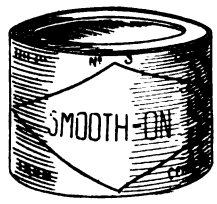
Danver Priming Cocks are fitted by A. C. Danver, Hospital and Borden streets, Providence, R. I., to model T Ford automobiles. They are screwed into the cylinder head on the left hand side of the motor and their openings communicate directly into the combustion chamber. The cocks are of the conventional type, having liberal sized cups, and are fitted with a spring retained handle. Their function is to provide means for priming the motor without removing the spark plugs and by their use it is possible to locate missing cylinders, introduce kerosene and remove carbon deposits. The priming cocks are moderately priced.

Smooth-On Iron Cement is marketed by the S. B. R. Specialty Company, East Orange,



Smooth On Iron Cement

N. J., and is included in a repair outfit which also comprises an elastic cement, a roll tape and an instruction book. The iron cement is held to be very efficient for repairing cracked water jackets and leaky radiators. It is claimed that the work may be completed quickly, involving no other labor than cleaning the parts, applying and heating the material. A quality emphasized with the cement is that it is easily worked and completely fills the opening, which may be smoothed over to make a neat appearing job. The two cements are utilized separately or together, depending upon the nature of the repair to be made.

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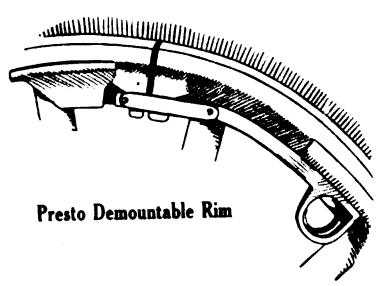
The Presto Demountable Rim, manufactured by the Presto Inter-Rim Company, Boston, is constructed in standard sizes and will fit all straight side, clincher or solid tires. A feature of the rim is the contracting locking ring utilized in conjunction with a safety locking device or toggle, and it is held by the maker that one motion securely locks and holds in position both the rim and shoe. To remove the rim a lever is moved downward, expanding and forcing it off.



Presto Demountable Rim

To replace the new rim and shoe, the tire is mounted on the wheel in the usual man-

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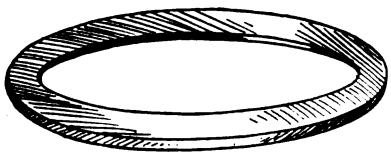
ner and with the valve stem placed in its proper position. The wheel is rotated until the



Victor Gasket

stem is at the bottom and the lever at the top. The lever is then moved upward to its normal position where it locks automatically.

—— ★ ——

Victor Gaskets are produced by the Victor Manufacturing & Gasket Company, Chicago, in standard forms for a variety of purposes in connection with the motor car. That shown is for fitting between the spark plug and cylinder to prevent leakage and is made in two types, open and closed. Copper and asbestos are employed and when these materials are compressed they make for a perfectly tight joint between the parts. They are made in various sizes and are inexpensive. The company also manufactures special gaskets and issues an illustrated catalogue which will be mailed free of charge upon request.

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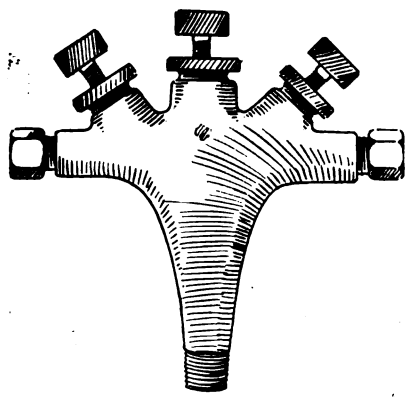
The Bingham Compensator is made by the Bingham Manufacturing Company, Cleveland, O., and as the name implies, is designed to regulate or compensate the pressure in the float chamber to which it is at-



Bingham Compensator

tached. It is held by the maker that at high and low speeds there is a differing pressure at the spraying nozzle, but not in proportion to the amount of fuel, making for waste. The Bingham device compensates by reducing the pressure in the float chamber proportionately to the reduction of that at the spraying nozzle. It is provided with two speed adjustments, also a fuel control, and is inexpensive.

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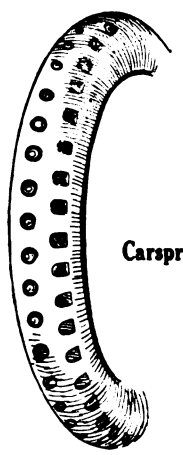
The Carspring Anti-Skid Tire is manufactured by the New Jersey Car Spring & Rubber Company, Jersey City, N. J., and is a one-cure wrapped tread shoe having depressions instead of projections. Cups having a convex base at the apex of the tread are employed with semi-circular cups on



Carspring Anti-Skid Tire

either side which grade off as the tire rounds out. It is held that this construction prevents side slip and increases traction through the cup forming a vacuum which is broken as the tire revolves.

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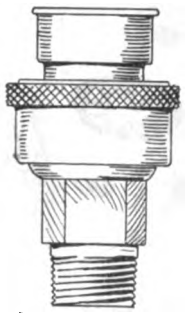
The Tucker Grease Cup, manufactured by W. W. & C. F. Tucker, Hartford, Conn., is a positive lock compression type and is made for service on motor cars and machinery where vibration tends to loosen the head. The locking device is free from ratchets and all parts are enclosed, preventing the entrance of dust or dirt. The maker points out that it may be refilled easily and that the parts requiring lubrication are cared for properly in that the grease flows freely when required by the bearing, etc. The cup is no higher or larger than the ordinary member and is constructed in various sizes, taps for each being carried in stock.



Tucker's Grease Cup

The Prest-O-Lite automatic reducing valve is manufactured by Prest-O-Lite Company, Indianapolis, Ind., and is attached easily and quickly to the gas tank made by this company. Its function is to maintain the correct pressure at all times and this is secured regardless of whether the tank is full, half empty or nearly so. It makes for convenience in that the head or other lamps may be lighted without the usual adjustment of the pressure and that the blaze is such that maximum efficiency is secured. Economy is effected through preventing a waste of gas. The automatic reducing valve is moderately priced.

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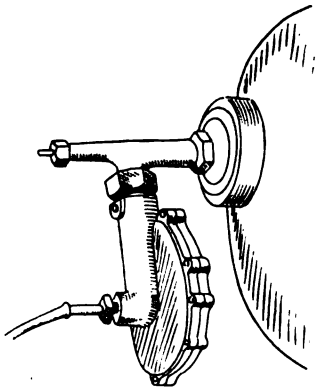
The Tinol Solder Stick is a new form of solder of that name brought out by Hess & Son, 1031 Chestnut street, Philadelphia. This stick is about five inches long, sells for a few cents and does not require flux



Prest-O-Lite Reducing Valve

or acid. To use it the part to be mended is heated and the solder applied.

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GARAGE AND REPAIR SHOP EQUIPMENT.

THE proper balancing of motor flywheels and other similar rotating parts, and the elimination of undue vibration are important factors in motor construction. An engine will not run in an entirely satisfactory manner unless its flywheel is given both a running and standing balance. The old methods of balancing weights give only a static balance; that is, the rotating parts would be balanced perfectly standing still, but they would not always be in balance when running. High speed parts are so designed and balanced that they will not distort from centrifugal action if rotated free at any speed at which they may run in use, and thus destroy a state of running balance.

The Defiance Machine Works, Defiance, O., has made a study of this particular branch of the automobile industry, and in an accompanying illustration is presented the Defiance No. 66 patent motor flywheel balancing machine, which is designed to give a flywheel or similar rotating part not to exceed 1000 pounds in weight, a perfect running and standing balance. Special effort has been made to eliminate complicated parts without dispensing with such essential features as are necessary to accomplish the desired results. The best grade of material and the highest skilled labor are utilized in the construction, and it has been adopted by some of the largest automobile manufacturers of the country.

The machine comprises a frame of conical form, in the centre of which is placed a vertical ground steel spindle in a step bearing in the base of the frame, and passing up through a long bearing at the top of the frame. This spindle at its upper end carries a face plate provided with two driving pins, which project upward parallel to the axis of the spindle. A steel centre with a taper shank is fitted into the vertical spindle. Its upper end is reduced to a conical point, and upon this rests the object to be balanced.

The vertical spindle is rotated by friction gearing driven by a horizontal shaft in suitable bearings at the base of the machine. The shaft is in two sections and they are connected by a friction clutch and moved longitudinally by a counter-weighted lever so arranged that the weight may be used to press the clutches together when it is desired to rotate the object to be balanced, and to disconnect the clutches when it is desired to examine, test and mark the object while running alone, as the driving pins are liable, when pressing against the part to be balanced, to produce uneven rotation. The true unbalanced condition is best shown when the disturbing influences are withdrawn after the clutch is released.

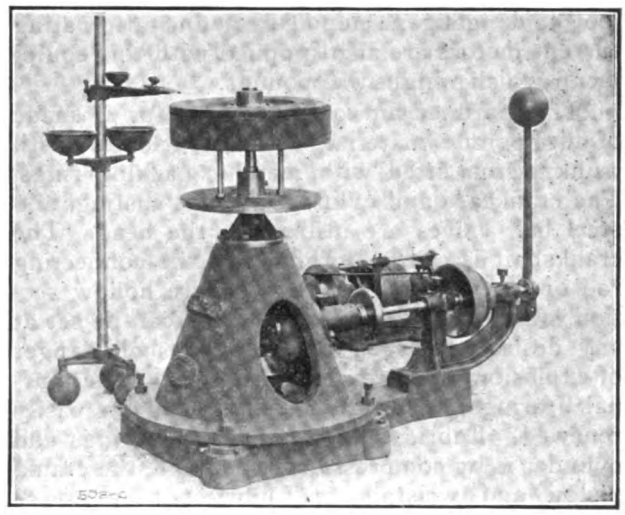
WALWORTH WASHER.

The Walworth Manufacturing Company, Boston, is manufacturing the Walworth auto and carriage washer which is of the swivelling type and moderately priced. It is secured to the ceiling by lag screws, and the arm swivels horizontally in a complete circle, eight feet, eight inches in diameter. The working parts are of brass, with other components of cast and wrought iron, heavily galvanized.

The washer not only enables the operator to reach easily any part of the machine being washed, but the hose is kept off the floor, adding to its life. The complete equipment comprises in addition to the washer and lag screws, 15 feet of .75-inch three-ply hose with couplings, and a Boston spray nozzle.

GARDNER AIR COMPRESSOR.

Compressed air in the garage is a necessity as it is expected by the motorist. Varying conditions require different installations and to comply with these requirements the Gardner Gov-



Defiance Patent Motor Flywheel Balancing Machine.

ernor Company, 30 Williamson street, Quincy, Ill., is manufacturing air compressor systems both for the small garage and the service station. These include stationary and portable outfits, either operated by the power of the garage or by electricity.

The garage set shown in an accompanying illustration is an electrical unit and the design is provided with rollers so that it may be moved when desired, a construction making for convenience. It consists of a Gardner compressor connected by gearing to an electric motor, both units being mounted on a cast iron table underneath which are the air tank, gauge, automatic control, etc. The pipe connections are very complete and the outfit is supplied with either an air or water-cooled compressor as desired.

The automatic starting and stopping device is listed as extra and can be attached to the apparatus. They are made to suit any type of current and insure a constant pressure in the tank, it being maintained automatically. The garage sets are made in three styles, No. 1 G S comprising a

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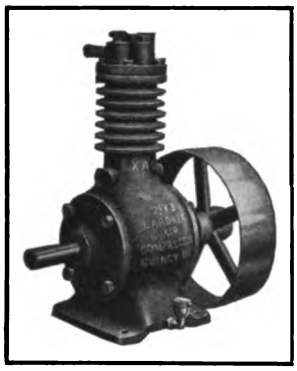
two by 2.5 air-cooled compressor, .5 horsepower direct or alternating current, two or three-phase, 110 or 220-volt motor, cast iron table, 14 by 26-inch tank and gauge. The same is constructed with a single-phase alternating current motor. The weight is 400 pounds.

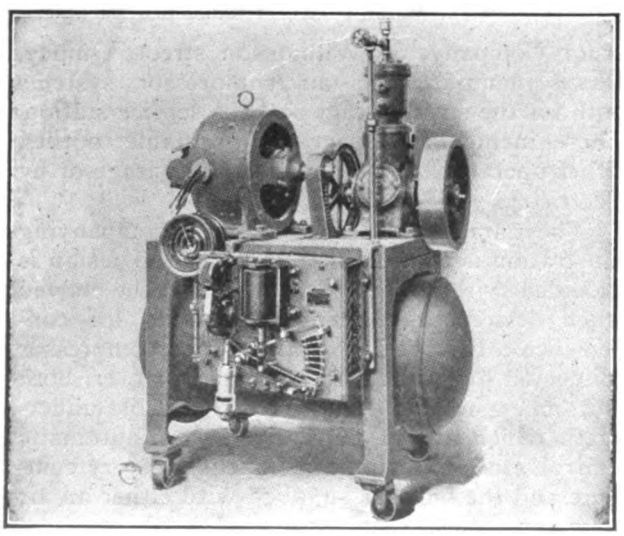


Gardner Air-Cooled Compressor.

The No. 2 outfit includes a two by three air-cooled compressor, one horsepower direct or alternating current, two three-phase, 110 or 220-volt motor, table, 14 by 26-inch tank, etc. A one horsepower, single-phase, alternating current motor is listed as extra. The weight is 500 pounds.

The third style, No. 3, comprises a three by 3.5 water-cooled compressor, three horsepower alternating current, two or three-phase, 110 or 220-volt motor, cast iron table, 18-inch by 3.5-foot tank, gauges, etc. Direct and alternating current motors are also supplied with this equipment, which weighs 750 pounds.

The Gardner air-cooled compressor is made of high grade material, is semi-enclosed, with trunk piston fitted with metallic packing rings. The crankcase and cylinder are one casting, and steel ball valves are utilized in the head. The crankshaft is a drop forging and the connecting rod of special bronze and of square hollow section. The safety valve in the head can be set at any desired pressure and eliminates all danger of explosion due to excessive friction. The journal bearings are bronze bushings and are easily renewed. Lubrication of the main bearings and cylinder is by compression cups, while the crank, piston and wristpin are lubricated by grease



Gardner Garage Air Compressor Outfit, Including Electric Motor and Automatic Control.

which is stored in the hollow connecting rod.

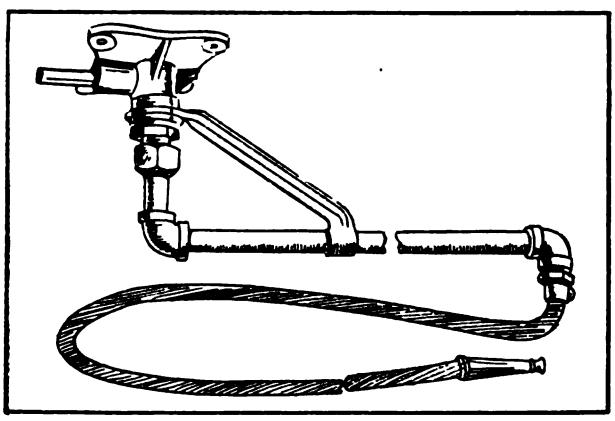
The water-cooled type is designed for service in large garages, and the three by 3.5 size has a capacity of seven cubic feet a minute at 500 revolutions, and it is stated that it will fill an 80-gallon tank to 200 pounds in 15 minutes. The Gardner Governor Company issues an illustrated booklet on air compressor systems which will be forwarded free on request.

SEAMLESS STEEL TANKS.

With the very general adoption of compressed air in the garage and repair shop the use of a tank for storing the air is essential, especially when the compressor outfit does not include one of these members. Janney, Steinmetz & Co., Philadelphia, manufactures a wide variety of seamless tanks for various air installations, as well as for other uses. Catalogue and descriptive matter will be mailed free of charge upon request.

LUBRICATING OIL CABINETS.

In handling lubricating oil it is important that the fluid be kept free from dirt or dust as the



Walworth Swivelling Type Auto Washer, Designed for Attachment to the Ceiling.

foreign elements act as an abrasive, cutting bearings. The Milwaukee Tank Works, Milwaukee, Wis., is manufacturing a lubricating oil cabinet which is constructed of heavy steel and to withstand severe service. It is provided with a pump of the self-measuring type and pints are handled as accurately as larger quantities. A quality claimed for it is that it will not drip. A lock and keys are fitted if desired. A measuring gauge indicates the quantity of oil on hand. The cabinets are made in barrel sizes, varying from one to five. The smallest member is 17 inches thick, 29 wide and 30 high, and weighs 185 pounds. All cabinets are guaranteed. Catalogue and price list will be forwarded upon application.

NEW BEARING METAL.

A new bearing metal is being marketed abroad, called phosforum, and it is particularly adapted for plain bearings. One of the difficulties encountered in the selection of a suitable metal for this purpose has always been in regard to the homogeneity of the cast material, in which segregation occurs. The new metal is cast in stick and bushing form and it is said to eliminate troubles because of variations in temperatures.

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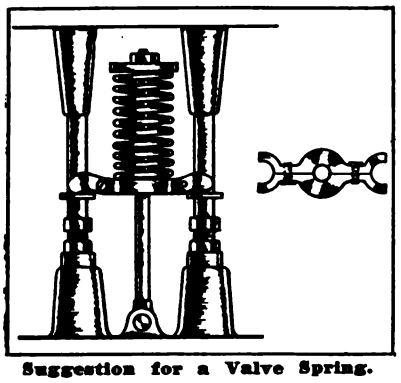
MECHANICAL NOTES FOR GARAGEMEN.

REPLACING clutch springs sometimes means damaged hands unless the workman is careful and has the proper tools for the work. A simple and easily constructed jig for replacing multiple disc types is shown at A in an accompanying illustration. It comprises a tube of sufficient inside diameter to slip over the shaft and a plate equal in diameter to that of the tube. The plate is drilled to take a .625-inch bolt which is fitted with a nut. The head of the bolt is cut as shown so that it will not slip when the nut is being screwed up. The jig shown at B differs from the one described in that it is applicable for cone type of clutches, and as will be noted, the plate member is made in two pieces or halved, so that it may be removed easily.



Suggestion for a Valve Spring.

EQUALIZING VALVE SPRINGS.

A suggestion for equalizing or balancing the tension of valve springs and one which is of interest in that one member may be utilized in place of two, is given in a recent number of the Commercial Motor, an English publication. It is designed to be employed with four-cylinder motors, but could be utilized on other types by making the actuating parts conform to the engine.

As will be noted by the accompanying illustration a vertical rod is fitted centrally between the valve guides, two lugs being secured to the upper surface of the crankcase for the purpose of hinging or pivoting the rod member and to permit canting of the crossbar.

The valve spring is carried by a crossbar which is construced as shown in the sketch, and is provided with slotted ends which fit over and control both tappet spindles. As constructed the tension of the spring could be increased if desired and the device presents an additional advantage in that it would simplify the work of grinding valves as it would be an easy matter to remove the spring. Presumably the valve stem is relieved from undue side thrust by suitably proportioning the crossbar.

PROPER WIRE FOR LIGHTING.

Proper consideration should be given to the size of wires utilized in the installation of electric lighting outfits, or in replacing damaged leads. Too small a gauge results in deficiency, according to Emil Grossman, electrical expert. In experiments conducted with 12-foot duplex lengths of No. 16, 12 and 10 B & S gauge sizes of wires and used to supply 10 candlepower, six-volt, 12.5-watt tungsten lamps with current, the percentages of loss were as follows: On a basis of a No. 10 wire line the loss in the No. 12 size is 1.58 times; in a No. 14 size, 2.25 times; in a No. 16 size, four times—the least that would occur in a No. 10 wire size.

Size wire	Resistance in ohms a 12-foot length of line	Loss in watts	Ratio
No. 10	0.024	0.102	1.00
No. 12	0.036	0.165	1.58
No. 14	0.060	0.230	2.25
No. 16	0.096	0.360	4.00

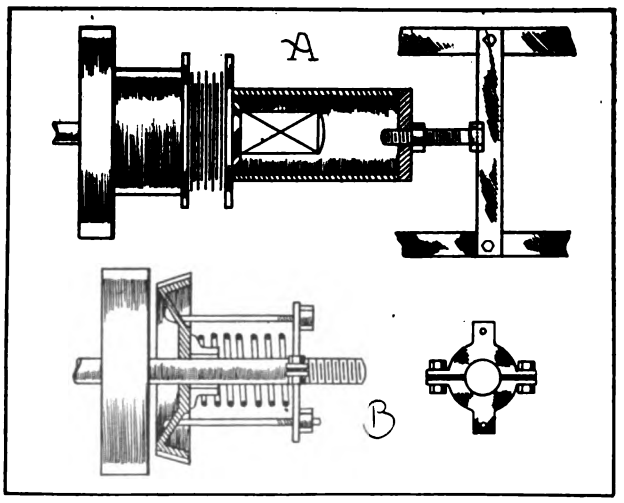
The accompanying table shows the resistance in ohms and loss in watts and ratio. A line is considered as having two wires.

RESTORING DRY CELLS.

Various methods are given for temporarily restoring dead dry cells, among which may be mentioned drilling through the sealing material and moistening the depolarizer with a little water and vinegar. The following hint is given by a battery concern: Take a piece of hard wood and with a light hammer drive down the material surrounding the carbon post. It is said that amperage is increased considerably by this action.

SIMPLE PISTON CLAMP.

There are a number of tools, easily made and inexpensive, that can be constructed by the owner-repairman. Among them may be mentioned a piston ring clamp for holding the rings in place while the cylinder is being slipped over the piston. Assuming that the piston is 4.25 inches in diameter: Take a strip of band iron .125 inch thick, .5 inch wide and 16 long. Bend the metal into a circle, measure off 1.5 inches on each end, marking the distances. Place the ends



Jig for Replacing Clutch Springs: A, Type Applicable for Multiple Disc; B, Showing Application to Cone Clutch.

in the vise and bend them over. This will provide extensions which may be gripped by the pliers when the clamp encircles the ring. The

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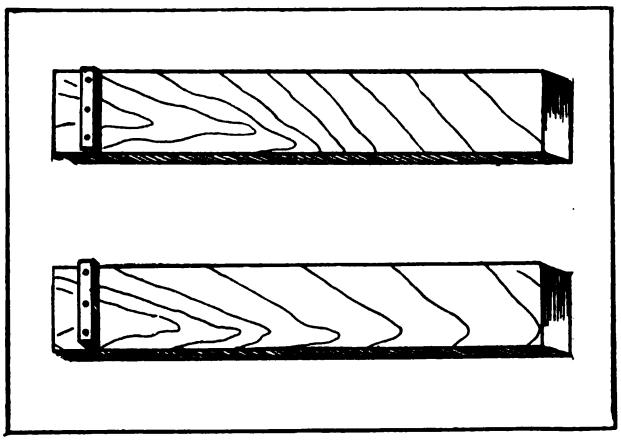
band should be slightly less than 4.25 inches in diameter to compress the ring fully. To use the clamp, place it over the top ring and draw the



Suggestion from a Reader for Preserving Tires from Dampness in Garage Not Equipped with Floor.

ends of the band together with a pair of pliers while an assistant slips the cylinder over the head of the piston and ring. Upon the latter being caught the pliers may be released and the clamp used on the next ring and so on.

WATER PROOFING THE WINDSHIELD.

While preparations may be purchased for rain proofing the glass windshield, a solution made from soap will serve and it is said that the raindrops will slide off and moisture will be prevented from gathering. Take a small quantity of semiliquid or soft soap, or make a paste of ordinary soap and water, and smear a little over each side of the glass. Then with a handful of waste or with a soft cloth rub the solution evenly over the entire surface so that a fine film remains. If it is well distributed and rubbed, so that the surplus soap is removed, it cannot be detected when the screen is dry.

TIRE REST AND CAR STOP.

Tires should not be allowed to stand on moist ground as not only is the rubber affected, but the rims are likely to become rusted, creating trouble when changes must be made. A motorist having a place in the country and who keeps his machine in a building not equipped with a cement or wooden floor, contributes the following suggestion:

The building was originally constructed for other purposes, was set on posts and was not fitted with a floor. After considerable use the tires wore deep ruts, which held moisture, and after a storm the tires were kept constantly wet. I solved the problem by taking two pieces of joist about 10 by two inches and imbedding them in the ground as shown by the accompanying sketch. The joists were laid so that they were slightly higher at the front end where the front wheels rest so that the machine could be rolled out of the building with very little effort. This was done as there was not room in front to crank the motor.

With the car in the building and the doors closed there was no spare room in front or the rear, and as it was too much work to push the machine into its position, a chock was fitted to each board so that the car could be run in under its power and without danger of going through the side of the building if the brakes refused to hold. The blocks also served to denote the proper stopping place. The suggestion may be of value to your readers who have similar places in the country.

REPAIRING CRACKED CYLINDERS.

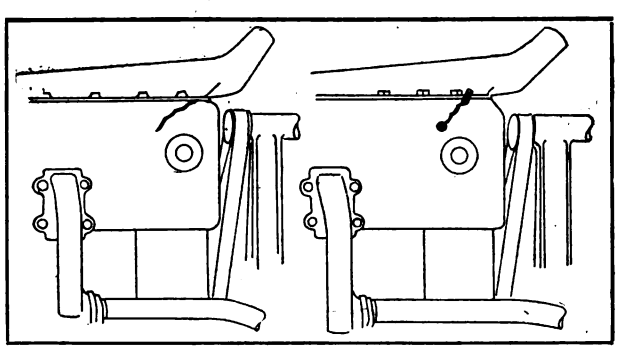
The usual practise in repairing cracked cylinders is to employ the autogeneous or welding process, although iron cements, etc., have been used with success, depending on the nature of the fracture. The Commercial Motor, an English publication, prints the following suggestion, which may be of service where a small crack is to be mended and when there is not time to send the part to be welded:

Drill and tap a small hole at each end of the crack to prevent further extension of the weakness, and fit an iron stud. Next clean the outside and inside of the fracture very thoroughly, using a scraper and gasoline. File up some soft copper and fill the crack, heaping the filings over it. Then take a powerful blow lamp or a torch and direct the flame on the copper. By this method a fair amount of metal can be worked into the opening. After cooling, the studs are cut off flush and the copper filed smooth. It is said that the repair will endure indefinitely.

The Downing-Detroit Motor Company of Detroit is bringing out a racy type of cyclecar, the power plant being of a 10-12 horsepower, long stroke design.

Herbert Cole, well known in motoring circles in Boston and vicinity, has taken the New England agency for G. J. G. and Ohio cars, and has established a temporary sales office in the Garden building, Boylston and Church streets, and a temporary service station in the Motor Mart on Pleasant street. This is the first appearance of the G. J. G. in this territory, and while the Ohio is not a new comer, it makes its re-entry after several seasons of absence.

Owing to the recent strict interpretation by the New York State authorities regarding inclusion in corporate names of words not in the English language, the application by organizers for a charter for the Motokart Company has been refused. The incorporation of this company was mentioned in a previous issue, but owing to this requirement the new concern has been incorporated as the Tarrytown Motor Car Company, Inc.



Method of Repairing Crack in Cylinder by Fusing Copper Filings.

The company will retain, however, the word Motokart as its trade mark, this having been registered some time ago.

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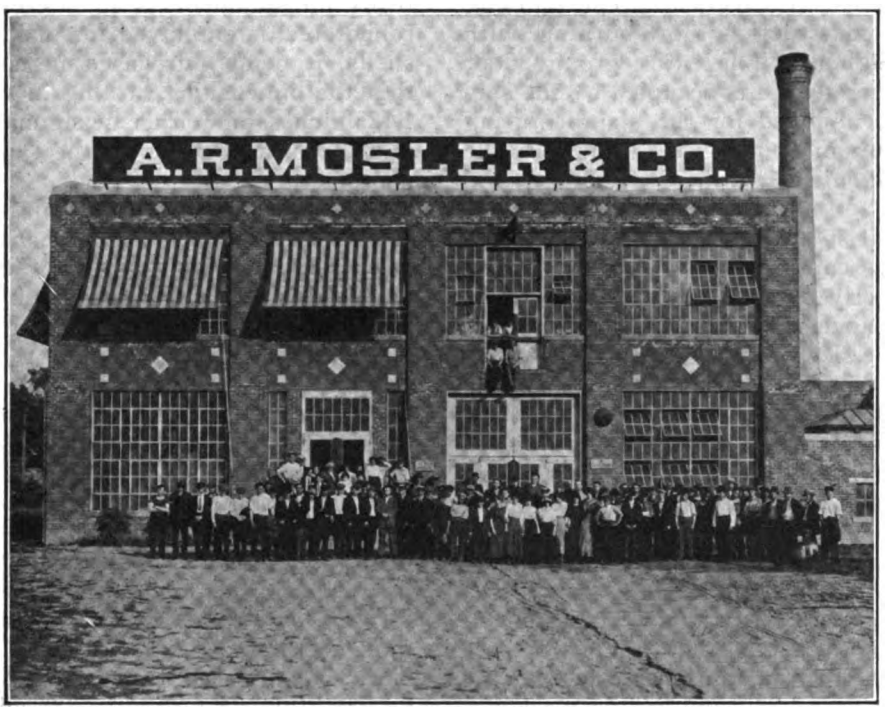
MANUFACTURING SPITFIRE SPARK PLUGS.

How an Output of Millions Annually, Embracing a Type for Each Motor, Is Handled at the Mount Vernon Factory of A. R. Mosler & Co.

(By C. P. Shattuck.)

THE high degree of efficiency obtained in the modern automobile is largely due to the refinement of details in which the ignition specialist has been an important factor. In the perfection of the magneto with its inexhaustible supply of current, it was generally supposed that maximum efficiency, insofar as ignition was concerned, had been attained. Until a few years ago it was considered sufficient if a spark plug ignited the charge and withstood the severe conditions of service to which it was subjected, such as extreme changes in temperatures, expansion and contraction, carbon, oil, etc., and the burning effect of magneto currents.

Careful, scientific study and experimentation developed the fact that the construction and location of a plug in the cylinder are of vital importance; that the maximum motor efficiency is obtained only when the flame is spread instantly throughout the mixture, insuring complete combustion of the charge and eliminating waste of unexploded gas through the exhaust. Although it is a simple matter to design the length of the base so that the spark comes in direct contact with the fresh mixture, the construction and the material of the electrodes involves problems of manufacture in that the widening and shortening of the spark gap by expansion and contraction must be overcome. Other factors to be considered are: The elimination of carbon deposits, undue heat, the protection of the insulator, and the ability of the plug to provide an intense spark at low motor speeds. These problems have been solved by Arthur R. Mosler, the ignition specialist at the head of A. R. Mosler & Co., Mt. Vernon, N. Y., manufacturer of the well known Spitfire, Triumph, Mosler Junior, etc., spark plugs.



Factory of A. R. Mosler & Co., Mt. Vernon, N. Y., Maker of the Well Known Spitfire Spark Plugs.

Mr. Mosler's rise to a prominent position in the automobile industry is remarkable. In 1900 he experienced, as did other makers of horizontal motors, plug troubles due to the lubricant fouling the gaps. To prevent the oil short circuiting the points he designed and patented the Spitfire closed end porcelain type with slots in the base to obtain a self-scavenging effect. The first 1000 were turned out in a lathe and fitted with imported porcelains. So successful were the plugs in overcoming ignition troubles and in economy of current, that they attracted attention from users of internal combustion motors, who were experiencing difficulty in obtaining efficient ignition. The demand soon exceeded the supply, leading Mr. Mosler to produce an additional 2000, which also found ready customers. Some idea of the expansion of the business may be obtained by Mr. Mosler's statement that in 1904 he marketed 20,000 spark plugs, the following year 100,000 and in 1907 500,000. Today the output of the factory at Mt. Vernon, which was erected two years ago to meet the requirements of an increasing demand, runs into the millions annually.

Mr. Mosler attributes his success to the fact that for years he has made an exhaustive study of the requirements of the different motors manufactured and in the production of a spark plug especially suited to each distinct type. Not only are plugs made for pleasure and commercial cars, but for motorcycles and marine engines; in fact, for every type of explosive motor utilizing the jump spark system of ignition. For the past three years the engineers of the factory have compiled annually a booklet listing all makes of cars and motorcycles, showing the plug best adapted to each motor, and the books have been distrib-

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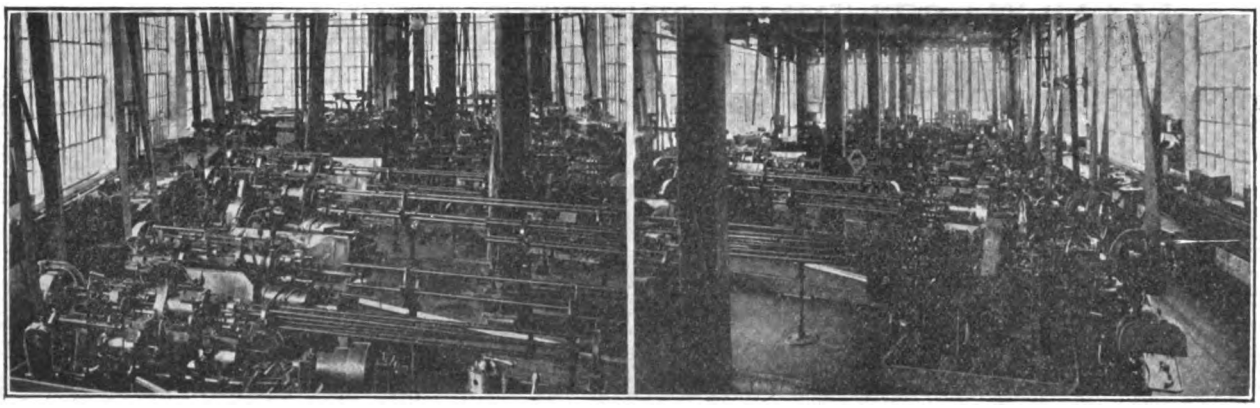


Illustrating the Batteries of Multiple-Spindle Automatic Screw Machines Which Produce the Blanks or Shells.

uted without charge to both the trade and owner.

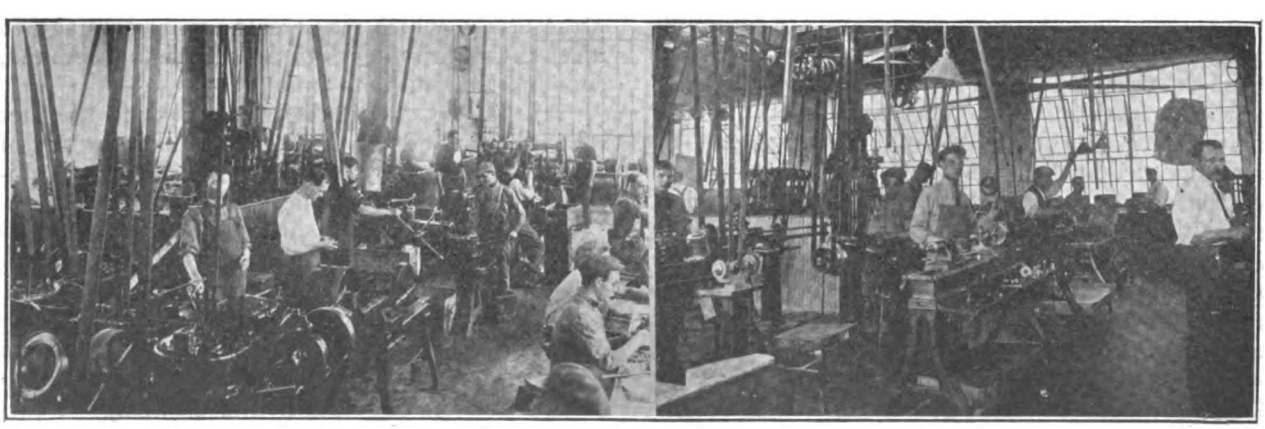
The Mosler factory is designed and equipped to overcome the many problems of quality production. It exemplifies the value of scientific methods of manufacturing and it is a structure in which the efficiency of the manual worker is developed to a high degree, in that plenty of light and fresh air are provided in the rooms. The sanitary conditions are excellent. The building itself is of mill construction, slow burning, with sprinklers throughout. The entire ground floor is of cement concrete and is occupied by the special machinery employed for the manufacturing of the components of Spitfire spark plugs; by the buffing, polishing, nickel plating departments, and the store, stock and steel rooms.

In the second story are the offices and auxiliary store and assembly rooms. The last named are located directly under a large skylight, providing an abundance of light. The side walls are fitted with ample sized windows, as will be noted by an accompanying illustration. Power is supplied by two Nash gas engines and a White & Middleton, the latter being utilized for driving the lighting dynamo and an air compressor, compressed air being used extensively throughout the building.

As is evident the production of a large number of different types of spark plugs involves a vast amount of detail, but the Mosler system of manufacture is so perfected that a defective part or faulty assembly can instantly be traced to the workman. It is practically impossible for either condition to be overlooked, as the inspectors are very thorough. The result makes for absolute satisfaction with the ultimate user, as the quality of material and workmanship are consistently maintained.

The process of manufacturing Spitfire spark plugs from the time the 12-foot lengths of steel are fed to the batteries of multiple-spindle automatic screw machines until the plugs are boxed ready for shipment, is an interesting one. Cold rolled steel is employed for making the bases or shells, it being purchased in enormous quantities, the dimensions varying in size from .875 to 1.125 inches, and either hexagonal or round stock is utilized, depending on the type of plug being manufactured.

The Acme and Gridley multiple-spindle automatic screw machines are capable of performing eight operations at once, although but five are required to finish the blank for the Spitfire plug, the total including milling, turning, counterboring, drilling, reaming, threading, cutting off, etc. In principle the Acme comprises four work spindles, which are held in a cylinder and rotated by gears, the cylinder being indexed to bring these spindles in front of the side working and end working tools. It requires but one-quarter turn of the cylinder to complete one piece, this being accomplished in the same time as required to complete the longest cut, usually a drilling, forming or box tool turning operation. The 12-foot steel bars are placed in the spindle and the work of completing the blanks is performed automatically. The machines are adjustable to any size and shape of blank desired and turn them



Showing the Special Machine for Making Centre Electrodes (at Left) and a Section of the Motorcycle Plug Department (at Right).

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Illustrating Sections of an Assembly Room, All of Which Have Plenty of Fresh Air and Light—Throughout the Factory the Sanitary Conditions Are Excellent.

out at the rate of 100 an hour. The blanks and scrap fall into a pan from which the contents are removed and are placed in a separator. By the application of the principle of centrifugal force all lubricant is removed from the metal, and the oil is filtered and used over again in the automatics.

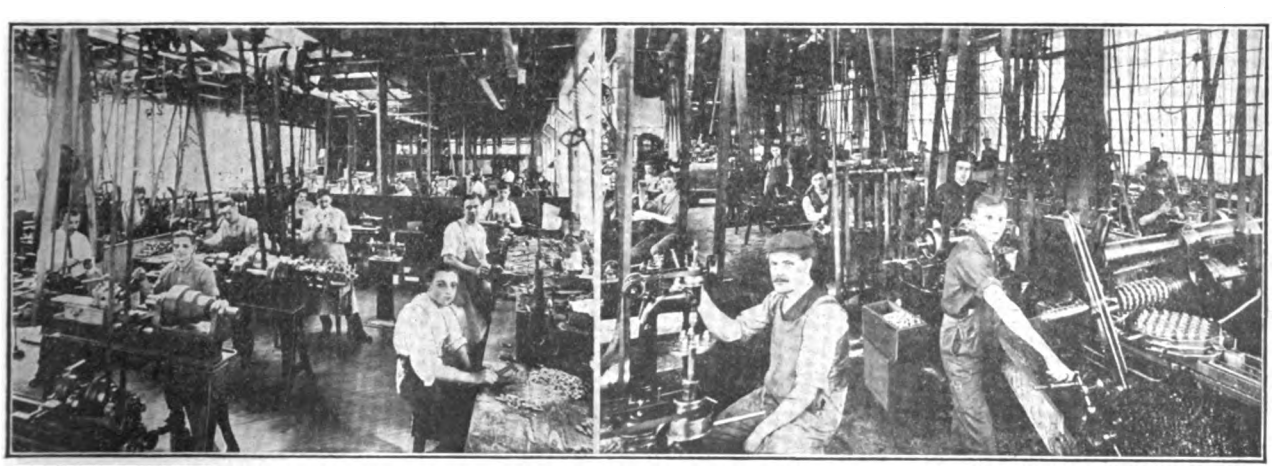
From the separator the blanks go to a threading machine for cutting the threads on the base, after which they are carried to the slotting machine, which cuts two slots in the base of 16 blanks in one operation. Each machine has a capacity of 1000 plugs a day. Although a hex is provided on the blank it is cut to accurate and standard dimensions by the milling machines, which cut 37 in three operations. After being cleaned by compressed air the small hole in the end is bored and countersunk. Following this process the shells are subjected to a rigid inspection both before and after the removal of any burrs that may exist. In the machining and finishing extreme care is taken to remove any sharp points which would become incandescent in service.

Before being nickel plated each shell is highly polished, then cleaned in an electric bath, an invention perfected by Mr. Mosler. The shells are next assembled on special racks, two dozen to a rack, and placed in the plating bath with a capacity of 12 racks every 30 minutes. After plating, the shells are inspected, polished and again examined, before being sent to assembly rooms.

The centre rod or electrode of the Spitfire closed end type is constructed in a machine into which is led a roll of nickel steel wire. The machine straightens the metal, threads, points and cuts it off into the required lengths. The small hexagon brass nut which determines the position of the point with reference to the aperture in the base, or in other words, the gap, is located accurately by a machine after the nut has been started by hand.

With the Spitfire plug an asbestos cord is utilized as a gasket, being placed on the centre rod before insertion in the porcelain. This is performed by a machine which incures the correct adjustment and gas tight construction. Asbestos is also employed on the centre core, it being wound by hand, and formed and suitably compressed by a machine. The knurled nut, securing the centre rod, is adjusted by hand.

The threaded bushing or cap retaining the porcelain in the shell is fitted by a special machine having a form of friction clutch which interrupts the power when the desired pressure has been attained, the complete operation requiring but a few seconds. The asbestos copper gasket utilized on certain types, which insures a gas tight fitting of the plug in the cylinder, is spun and polished in one operation by another special machine. The plug then passes to a workman, who by one or two deft movements with a tool, accurately sets the gap. Each completed plug is



Section of Mica Plug Department (at Left) and Milling Machines (at Right)—These Machines Cut the Hex Heads.

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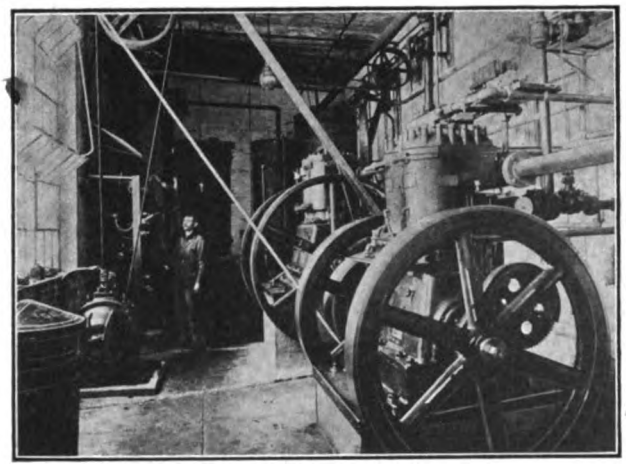


Power Is Supplied by Gas Engines for Operating Machinery, Dynamo and Air Compressor.

tested by an induction coil, subjected to a final inspection, then tested for gas tight construction. The last named operation is performed in a special machine supplied with compressed air at a pressure exceeding by several pounds that to which the plug would be subjected in service. As the plug is immersed in water any leak in the assembly is detected instantly by the bubbles given off.

The above process of manufacture deals with the standard nickel wire electrode Spitfire spark plug, which is but one of many produced. Although the dimensions of the centre rod point are such that it will withstand the burning effect of magneto currents, the platinum iridium pointed plugs are best adapted for both battery and magneto. The centre rod is bored in a high speed drill and the liberal section of platinum inserted and secured by a press machine. The platinum, which is worth about $50 an ounce, is cut into the required lengths by a special cutting machine.

In addition to the closed end types an open end cone end is constructed in several designs and with one or two points. The centre electrodes of the conical type are cemented by a special process and the brass retaining caps are fitted by a machine especialy designed for the work. The process of fitting the wire electrode in the base of the shell is similar to that employed with the platinum iridium plugs.

The porcelains utilized are imported and each member is given a severe test to prevent faulty insulation. Each porcelain is also carefully examined and must conform to the standard set by Mr. Mosler. This assures rapid assembly of the parts and a perfect finished product.

As several patents have been granted to Mr. Mosler, the dates are stamped on the hex of each shell. This operation is performed by a special machine, taking place before the blanks are sent to the polishing room. After passing the final examination the plugs are boxed and packed in cartons, the work being performed by girls. Those shipped to the car manufacturers are placed in nests in boxes of 100, and these packed in cases.

A section of the lower floor is set apart for the making of motorcycle plugs which embrace both mica and porcelain types, also combined mica and porcelain, and many of these are produced for motorcycle manufacturers. The mica plug is constructed of the best selected India mica, wound both ways, and is thus considered to be impervious to the action of oil or heat.

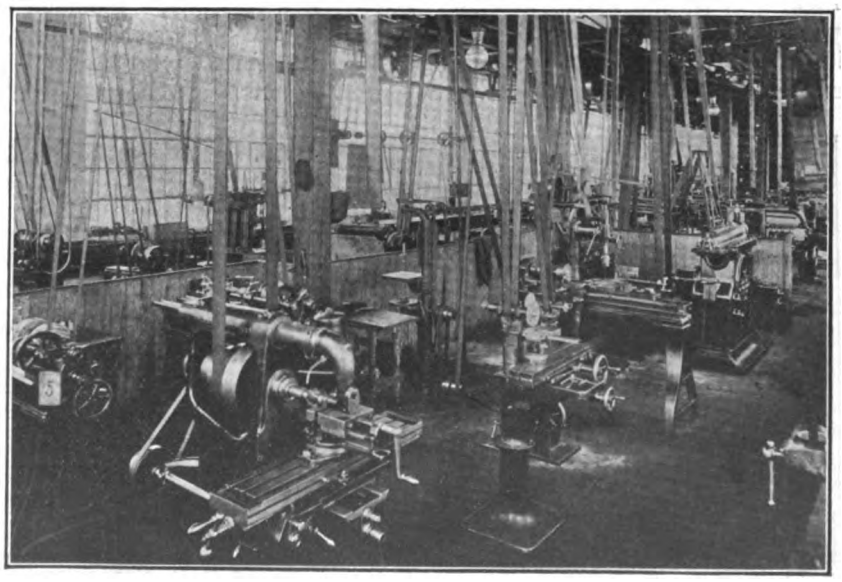
As previously stated a number of different types of plugs are produced, including in addition to the Spitfire, the Mosler Vesuvius, Triumph and Mosler Junior, etc. Each type is constructed in varying lengths of bases to so project the spark into the combustion chamber that maximum motor efficiency will be obtained by reason of instantaneous ignition of the charge. The thickness of the cylinder walls, type of valve cap, etc., important factors in spark plug construction, are also taken into consideration as the requirements of different motors vary. All types are based on long study and careful experimentation of the cylinders for which they are designed.

The Mosler spark plug has been adopted by a large number of leading car manufacturers after severe break down tests. Until recently the factory was operated night and day to fulfill 1913 contracts. Although produced in enormous quantities, quality is never sacrificed.

FORM GRANT MOTOR COMPANY.

Men Well Known in Detroit Retail Circles to Manufacture New Line.

George D. Grant and Charles A. Grant, who as the Grant Bros. have long been identified with the retail sales branch of the industry in Detroit, have turned their attention to manufacturing, having been instrumental in the organization of the Grant Motor Company, which will produce a



Showing a Section of the Tool Room and the Machines Utilized.

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Arthur R. Mosler, Head of A. R. Mosler & Co., Inventor of the Spitfire Spark Plug.

new line of small cars under that name. The officers of the concern are: President, George D. Grant; vice president and sales manager, Charles A. Grant; secretary and treasurer, David Shaw; factory manager, George F. Salzman; chief engineer, J. M. Howe. The car is not new in the strict sense of the word, since the first vehicle of this design was produced about a year ago at Mishawaka, Ind.

UNDERHILL IN CALIFORNIA.

Boston's Pioneer Dealer Handled Knox Cars for Over 12 Years.

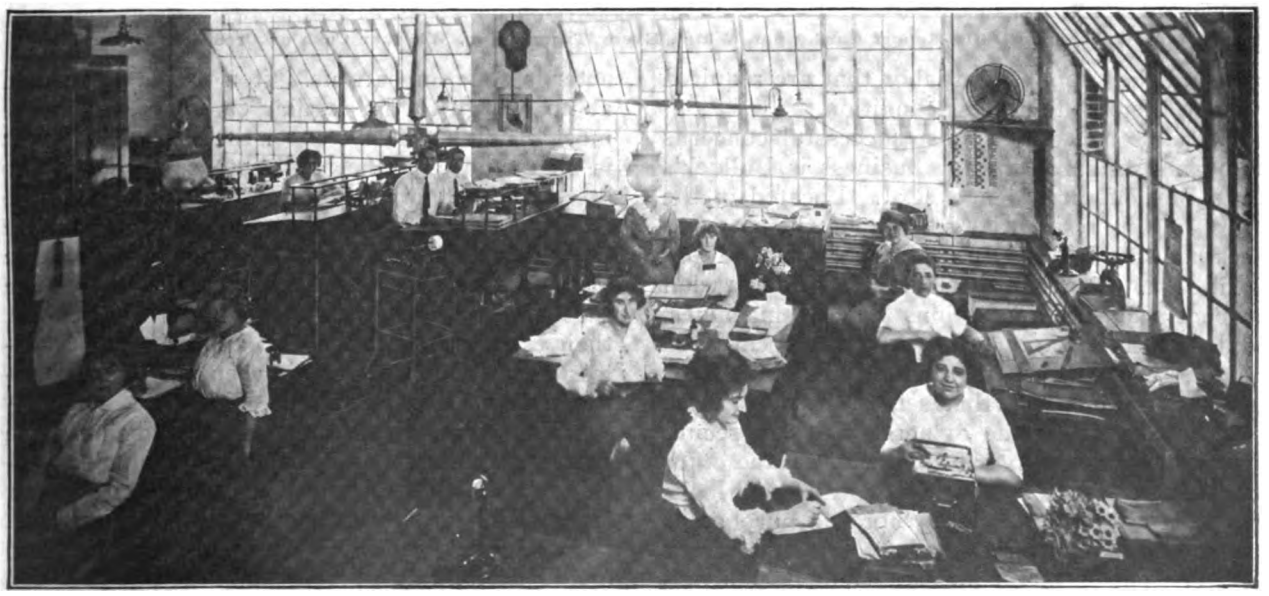
When it was announced that the Knox Automobile Company, Springfield, Mass., had established a factory branch in Boston, it was but natural that the automobile industry should be more than usually interested in the reason for the move, inasmuch as A. P. Underhill of the Underhill Company has been handling the Knox agency in that city since 1900. In this respect Mr. Underhill holds a unique record in the industry. Besides being practically the first automobile dealer in Boston, and therefore in America, he has the distinction of representing one line of cars continuously from the beginning.

A. P. Underhill became interested in automobiles about the time that Kenneth Skinner imported his first De Dion tricycle, and it was shortly thereafter that he began business as a dealer in the old Automobile Headquarters on Stanhope street. It was at this establishment that Harry Fosdick and some others assisted him in interesting the people of Boston in the new method of transportation. Mr. Underhill was the first agent the Knox Automobile Company had, and perhaps it is not too much to say that it was largely through his efforts that the Knox concern was enabled to get its first machines upon the market.

Some time later the Underhill Company was organized and located at 222 Columbus avenue, where Frank B. Crockett, the manager of the new Knox Boston branch, became identified with the institution. Two years ago, the present quarters at 885 Boylston street were acquired, and this is the establishment which has been taken over by the new branch.

Mr. Underhill took a short vacation from the automobile business in 1910, going to Lake Tahoe, Cal., where he became intimately associated with the project of which he is now to be the business head. The property not only includes a large hotel at the lake, but a steam railroad line leading thereto and a steamboat transportation company on the lake itself.

Mr. Crockett, who becomes manager of the Knox Automobile Company, Boston branch, also has had long experience in the industry. He formerly was associated with the sale of the Crest cars, and became connected with the Underhill Company in 1905. Two years ago he left that concern to go with the Boston branch of the Locomobile Company of America, which position he left to assume his duties with the Knox company.



The Main Office of the Mosler Factory—Note the Large Windows Providing Good Light and Ventilation.

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ACCOUNTING SYSTEM IN STORAGE STATION.

Efficient Method of Detailed Management Involving Minimum Amount of Work---Interests of Garage and Patron Safeguarded in Thorough Manner.

MANY persons are under the impression that the simple storing of and caring for automobiles requires little or no work and that the chief business lies in the collection of the monthly bills. Doubtless this idea is obtained because of the fact that an exclusive storage business does not demand a machine shop or elaborate service station employing skilled mechanics, but those who enter the field immediately discover that the intricacies of the establishment are nearly as great as in any other branch of the automobile business.

There are many things to look after and unless they are properly accounted for the success of the enterprise is problematical. Here again system will be found to apply with good results. It is necessary, however, to have a system that will cover the peculiar needs of the storage of cars and the supplies and labor that are required to keep them in first class condition.

Perhaps one of the most successful concerns doing an exclusive storage business is Bullock's Auto Station, Providence, R. I. Located in the heart of the residential section of the city, on Seekonk street, it enjoys a large patronage and is filled to capacity at all times. The station proper has accommodations for 24 machines, while in an adjoining building are located 13 private stalls for owners who desire to have their cars accessible only to themselves. Keys to these stalls are given to the owners, who can secure their machines at any time. Of course the office maintains a skeleton key, which will fit all locks in the establishment, merely for the purpose of running the cars out in the event of an emergency or fire. The latter is unlikely to happen, however, since the building is strictly fireproof.

In many instances where owners place their cars in dead storage for a period, the private stalls are utilized and they prove very convenient, since the machines thus in disuse are by themselves and in no way interfere with live storage vehicles. Every detail of the business is carefully supervised and no feature that will work to the advantage and satisfaction of the patrons is overlooked. Therein lies the success of this popular concern.

Although systems vary and can be devised to meet individual requirements, that used by Bullock's Auto Station will serve to illustrate the effectiveness of a simple, labor saving plan. It is the result of five years' experience by the proprietor, Richmond B. Bullock, who has built up an efficient organization. Although no specialty is made of repair work, minor work of this character is done for patrons. Often this is performed at no charge to the regular customer, or at the most, a nominal fee to cover the cost of labor. It is all included in the service to customers, who are quick to appreciate favors extended and who willingly pay a small charge when they realize that a certain minor repair has taken considerable of a workman's time. They have the knowledge that the firm has sought no material profit at their expense and this is also appreciated. Needless to say the relations between patrons and garageman are most cordial.

The principal features of the business are storage, washing and polishing, for which an efficient and simple system is employed to prevent leaks. This is but one method of many that has been selected for its effectiveness. Gasoline and cylinder oil are the chief supplies handled and these are carried in large quantities. The gaso-

BULLOCK'S AUTO STATION

RICHMOND B. BULLOCK, Proprietor

WASHER'S DAILY REPORT

Date, May 2, 1913

Name or Number	Wash		Polish		Gasoline		Cylinder Oil		Labor H	Labor M	Storage		Total Charge		Total Cash Paid	
Chas Seaver	X	1.00	X	.50	4gal	.80	2qt	.40	2	25			2	70		
John Hunter					6g.										1	80
Samuel Wolcott					1g.	.20					X	1.00			1	20
H. A. Thayer	X	1.00			2g.	.40			1	15			1	40		
Judson Pfeffer					3½	.70	3qt	.60					1	30		
G. A. Moulton					4¼	.85	1qt	.20					1	05		
Gasoline Meter 580		2.00		.50	20¾	2.95	5g.	1.20	3	40		1.00	5	45	3	00
Cash Balance																

Fig. 1—Workmen's Daily Report Card, upon Which Every Transaction, Whether Cash or Credit, Is Entered.

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line is contained in an underground tank and the pump is fitted with a meter which purports to show the amount of fuel remaining in the tank.

Bullock's Auto Station

9-19 Seekonk Street PROVIDENCE, R. I.

RICHMOND B. BULLOCK, Proprietor

Car No. 3401 R.I. Date May 2 1913

Sold to Chas. Seaver

	Wash and polish	2	50
	4 gals gasoline		80
	2 qts Dyl. oil		40
		3	70

Fig. 2—Memorandum Given Patrons at Each Sale, Which May Be Kept for Comparison with Completed Bill.

At Fig. 1 is shown the daily report which is made out by the workmen. This card is nine by 11 inches and is printed on brown, stiff cardboard. No matter what a customer desires it is entered upon this card and the proper amount charged against it in the column reserved for that purpose. Such items are usually on the account of a regular patron who may pay his bill monthly. However, in the case of a transient who pays his bill on the spot, the amount is carried out to the cash column at the side of the card. Thus in adding up the cards it is easy to secure the total of credit business and that of cash sales for each day. The figures presented at Fig. 1 in no way represent those of the concern in question, but are merely used to illustrate the method of utilizing the aforesaid report.

At the time of each sale another small blank, Fig. 2, four by 5.5 inches, on white paper, is filled out and given to the customer as a memorandum that he received the supplies. If the patron has paid the bill it is of course so marked, otherwise merely the goods delivered and the prices are written upon it. The slip is dated and the customer may keep it for comparison with his itemized bill at the end of the month. Mistakes are easily detectable and as easily rectified. Thus the interests of the customer, as well as the garage, are safeguarded effectively.

At the bottom of the daily report, Fig. 1, is a space to record the gasoline meter reading at the time of reporting for work. Since the station is open day and night, this is done twice a day, when the shifts are made. From the illustration it will be learned that the meter reading should have been exactly 600 gallons on the card made out by the foreman of the force which succeeded the one which has gone off duty. Assuming that the tank in question holds a total of 1000 gallons, this shows that 580 had been taken out when it was read previously. The record indicates that 20 gallons were sold, making 600 that have been abstracted, and informing the proprietor that he still has 400 gallons of fuel on hand. To an experienced garage man, any slight difference in the reading of the meter with the reports on the daily cards may be accounted for by an allowance for evaporation. His experience will also inform him whether this evaporation is within reasonable proportions and this becomes a matter which will be adjusted by an exercise of common sense. It readily will be seen that this system of reading the meter and recording the amounts precludes the possibility of a garage employee selling gasoline to transient customers and pocketing the proceeds.

At the conclusion of each day the proprietor or bookkeeper takes the daily report card and enters the various records thereon in a small book composed wholly of loose leaves and attached to a clip in the binding. Each page has a sufficient number of lines to care for a month of ordinary business by a patron of the concern. They are alphabetically arranged in the book and numbered consecutively. Thus at the end of the year it is easy to tell the total number of accounts that have been carried and the total of each, giving the volume of business done. It also will be seen how easy it becomes to total the amount of supplies handled and sold and to arrive at the net profit for the period.

On the blank at Fig. 4, which is the loose leaf page in the account book, on white paper eight by five inches, spaces are reserved for the date, items, page number, the debits and credits, the last named indicating the amounts paid on each account, whether in part or full payment. In the illustration herewith, the payment was in full. When the daily report sheet is utilized and the numerous items thereon transferred to each particular account in the book, it is filed away after having been given a consecutive number. These numbers can be coincident with the number of days that have passed in the current year and therefore are easily found for comparison in case they are needed. At the end of the year they

Date May 17, 1913.

Bullock's Auto Station

RICHMOND B. BULLOCK, Proprietor

Daily Report of Cars Entering and Leaving this Garage.

NO.	OPERATOR	TIME Entering A. M.	Entering P. M.	Leaving A. M.	Leaving P. M.
1473	C. B. Choate		3.40	9.30	
2796	John Kelly	2.40			4.10
9768	Murray Buchanan		4.20	11.45	
3719	Red Card	6.20	11.15	1.50	8
1473	C. B. Choate	12.10			7.30

Fig. 3—Daily Report Slip Recording Time Cars Leave and Enter Garage.

may be laid aside, the succeeding numbers being merely a repetition from 1 to 365. In this way the accounts are filed away by years and can

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readily be turned to when any particular one is desired.

The loose leaves in the book are likewise filed away at the closing of the account. The completed bill to the customer is made up from the loose leaf book and in the event of doubt concerning any given account there is the possibility for comparison with the loose leaf blank, the daily report and the receipt given to the customer, provided he has retained it. If he has not, it is of course his own oversight.

The daily report cards can be utilized variously. In a large establishment it is customary to provide one for each workman, in order that the work being done by each employee can be kept separately. In a small garage one card will suffice for all entries, but in this event a space is provided for the number or name of each workman, which is placed in its proper place after each order. This enables a proprietor to save expense in cost of printing needed to carry out his system. Where the business is such that one card is rarely ever sufficient to record a full day's business, the use of several does not affect economy.

The system is easy of operation, the sources of comparison are adequate and each sheet or blank is quickly accessible upon demand. These features are what recommend it as a desirable method of keeping account of the incidentals of a storage establishment. In many instances customers enter a contract with the garage proprietor for storage, washing and polishing at a stated sum each month. In such cases there is no specific charge for washing or polishing, the only extra item being for supplies. However, when such machine is washed or polished, it is recorded upon the daily report card, in order that the proprietor may know how much time is being devoted to the car and be able to figure his profit on the agreement. It also serves to account for the workman's time.

An excellent feature of this system is the blank shown at Fig. 3, printed on white paper 4.25 by 11 inches, on which is recorded the time that cars enter and leave the garage at any period during the 24 hours. The number of the car is entered, the name of the driver and the time he left and returned. In many states it is required by law that such records be kept. In this specific instance this is the case, but the book provided by the state for this purpose proved so ponderous and inconvenient that the illustrated blank was substituted. They are placed on file each day and are readily accessible should they be called for by an official.

These blanks are also made to serve another purpose, as every week a report of each car is made out and submitted to the owner, thus keeping him informed as to the movements of his machine. It will be seen that any unauthorized use of a car can readily be detected by the owner, who appreciates this gratuitous service by the garageman.

Other details which might be considered of minor importance, but which in reality are of decided value, are included in the service to owners. As an instance signs are posted in conspicuous places warning visitors to the garage to refrain

NAME Chas. Seaver ACCOUNT No 34

ADDRESS 247 Maple St., City.

DATE	ITEMS	PAGE	DEBITS	CREDITS
May 2	Wash and polish	122	2 50	
	4 gals. gasoline	"	80	
	2 qts. cylinder oil	"	40	
May 7	Polish	127	1 00	
" 11	2 gals. gasoline	131	40	
" 14	Wash	134	1 25	
	Pt. oil		20	
" 24	6 gals. gasoline	144	1 80	
			6 35	
June 4	Paid			6 35

Fig. 4—Loose Leaf Page in Account Book upon Which the Items on Workmen's Report Card Are Transferred Each Day to Their Respective Accounts.

from entering cars or in any other way handling or meddling with them. This rule is rigidly enforced and is a source of protection to owners. An inexperienced person will invariably enter a car and test its starting mechanism. It has happened that such meddling with apparatus of which they know little or nothing has started a car and not knowing how to stop it, the machine has either crashed into another one nearby or into the wall. One car is badly damaged and in some cases two may be wrecked. The garage management under these circumstances is liable, so that no exception is made in enforcing the rule relative to handling cars. This also saves articles from being removed from a machine, as might happen under lax management.

There are many other little details which can be worked out in a garage of this kind which not only make for first class service, but protect the interests of patron and garage alike, thereby cementing the friendliness existing between them and creating a community of interest.

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HOPEWELL BROS. WINS.

Result in Action for Alleged Infringement of Tire Case Patent.

Judge Dodge of the United States district court in Boston has decided in favor of the Hopewell Bros., Newton, Mass., in an action brought by C. F. Hopewell against the Linscott Supply Company, involving the determination of the validity of the patent known as the Hopewell tire case patent, and the improvement thereon, or the Kinder tire case patent. The tire cases sold by the Linscott concern were made by the Vehicle Apron & Hood Company, Columbus, O., which defended the suit.

Hopewell Bros. maintained that the first three claims of the Hopewell patent and all the claims of the Kinder patents were infringed. Judge Dodge held that there was no anticipation of the Hopewell patent shown in prior art, although the Vehicle Hood & Apron Company tried to anticipate. He also said that he could not consider such evidence as sufficient and found against the defendant on both these facts.

MULFORD'S BRAENDER TIRES.

How the Shoes That Withstood 500 Miles of Speedway Racing Are Made.

Since it became known that the four Braender tires, made by the Braender Rubber & Tire Company, Rutherford, N. J., and fitted to Ralph Mulford's Mercedes in the 500-mile race on the Indianapolis motor speedway, Memorial Day, went through the entire contest without change, there has been decided interest in this product, particularly as this was the first time in the history of this event that a car had gone the distance without a tire change.

Braender tires are made by the single cure, wrapped tread process, from the highest grade Para rubber and the best combed Sea Island fabric. The single cure tire differs from others in that the mold protrudes only one-third of the distance from the beads, the maker maintaining that this permits the cloth wrapper to compress the tire properly without buckling. The product is manufactured by experienced workmen in a well lighted, modern plant, and each tire is carefully inspected before leaving the factory.

SCREW PLATE REPAIR KIT.

Wiley & Russell Manufacturing Company, Brings Out Complete Screw Cutting Outfit.

The Wiley & Russell Manufacturing Company, Greenfield, Mass., well known maker of screw cutting tools, is marketing the "Lightning" auto repair kit, which should prove a valuable addition to the repair shop and garage, as well as an interesting proposition to owners of model T Ford, Maxwell, Metz and all medium priced cars.

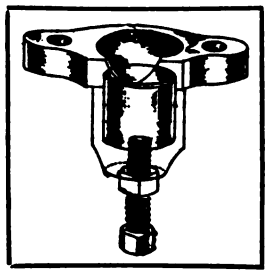
The fine threads used in motor cars make close and accurate fits imperative, else the efficiency of the part is greatly impaired. The screw cutting assortment produced by the company is very complete and was designed with special reference to the screw threads found on the machines above mentioned. It comprises 16 taps, 16 dies, two stocks and two tap wrenches, permitting of the cutting of threads from 18 to 32 an inch, also pipe threads; in fact, the equipment is adapted to a large variety of work and different makes of cars, etc.

The assortment comes in a genuine goat skin leather case having compartments to protect the cutting edges of the tools, and the container is not only very compact, but durable. The same high grade material and workmanship noticeable of the product of the Wiley & Russell Manufacturing Company are incorporated. The company has a very interesting proposition for the trade.

FORD IDEAL ADJUSTERS.

Adapted to Radius and Steering Rods and Prevent Rattling.

John A. Vansickle, 2122 East Washington street, Indianapolis, Ind., is manufacturing the Ideal adjusters, which are designed for model T Ford automobiles and for adjusting the front end of the radius reach rod, also the ball and socket joints of the steering gear connecting rod. The large size is utilized on the radius rod and comprises a socket member of high grade and wear resisting material. It is provided with a set screw, as will be noted in the accompanying illustration. By the use of this screw any existing lost motion may be eliminated. The small size is employed on the steering connection.



Ideal Ford Adjuster.

The adjusters are accurately machined, will fit easily and require but little time to attach. They are guaranteed for the life of the car, and not to work out of adjustment. The manufacturer will give territory and special discount to dealers.

SEVERE MOTOR TEST.

Chicago Man Runs Continental Engine Over 160,000 Miles in His Car.

Edward B. Ellicott of Chicago seven years ago purchased a Continental motor, made by the Continental Motor Manufacturing Company, Detroit, and sufficient other parts to assemble a touring car which would fulfill his ideas of what a real automobile should be like. Mr. Ellicott has used this car continuously winter and summer in and around Chicago. It has never been laid up for any purpose save for painting.

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Automobile Supplies, Motorcycle and Bicycle Supplies, Bicycles, and Machinist's Supplies

Did you receive our 1913 catalog?
If you received it and looked it through you became a customer of ours. We are sure of it.

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Your loss as well as ours.

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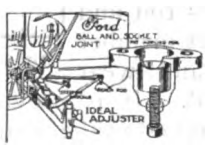
We will gladly send it to you.

We carry a complete line.
Our prices are attractive. Our service of the best. Outside of Chicago we sell at Wholesale only and only to those entitled to Wholesale prices.

MOTOR CAR SUPPLY COMPANY
OF CHICAGO
1451-1453-1455 Michigan Avenue, Chicago

Equip Your FORD with IDEAL ADJUSTERS
BALL AND SOCKET JOINT

Easy to Install
Easy to Adjust
Made Especially for the FORD Car

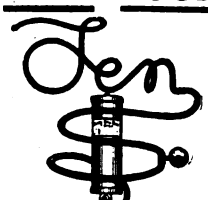


Stop All Noise and Rattle
FORD Radius Rod and Steering Rod

The largest size is used for adjusting front end of radius rod, and enables you to take up at any time all lost motion on these parts, also eliminates the rattle and noise. All this is done by a turn of the setscrew which tightens the bearing on the inside.
The small size is used for adjusting the ball and socket joints on the steering gear connecting rod.
We guarantee all adjusters for the life of a car and they are so simple they can not work out of adjustment or need repair.
WILL FIT ANY FORD MODEL. Will give territory and special discount to dealers. **List Price, Large Size, $2.00; Small Size, $1.75.** If unable to purchase from your dealer, order direct. Manufactured by

JOHN A. VANSICKLE, 2122 East Washington St. INDIANAPOLIS, IND.

TIRE ECONOMY BEGINS WITH A DEWEY POWER TIRE PUMP



$10 Complete
No Extras. Guaranteed For One Year.
Saves You Money and Saves You Work

The Dewey cuts out the labor of tire filling and insures precisely the inflation pressure upon which the guaranty on your tires is based.
The Dewey needs no oil. It is the only tire pump which fulfills every requirement of economy and comfort, with no risk of spraying oil on an expensive inner tube.
The Dewey, with high grade *Dial* and all connections, including 12 ft. of *Special Hose*, tested to 1,000 lbs., sold everywhere under a year's rigid guaranty for **$10**
We can supply you direct if your dealer is not yet supplied. Better ask him first.

THE DEWEY-ANDERSON CO., 450 Woodruff Ave., Toledo, Ohio

Careful Motorists Demand

HARRIS
TRADE MARK REG. U.S. PAT. OFF.
OILS

because HARRIS OILS insure proper lubrication.

"A Little Goes a Long Way And Every Drop Counts."

A. W. HARRIS OIL CO.
326 S. Water St., PROVIDENCE, R. I.
143 No. Wabash Ave., CHICAGO, ILL.

"PASS THEM ALL"

Knox
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX AUTO CO., Springfield, Mass.

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Agents Wanted in

Portland, Me.	Fall River, Mass.
Augusta, Me.	Provincetown, Mass.
Calais, Me.	Salem, Mass.
Lakeport, N. H.	Lynn, Mass.
Concord, N. H.	New Bedford, Mass.
Portsmouth, N. H.	Providence, R. I.
Newburyport, Mass.	Newport, R. I.
Montpelier, Vt.	Pawtucket, R. I.
Burlington, Vt.	New London, Conn.
Springfield, Mass.	New Haven, Conn.
Pittsfield, Mass.	Bridgeport, Conn.
Worcester, Mass.	Mystic, Conn.
Marblehead, Mass.	Stamford, Conn.
Hartford, Conn.	

Dealers desiring to handle this live seller and get the profits in their own territory write at once to

Eisner-Lenk Co.

1074 Boylston St., Boston, Mass.

New England Distributors

For Your Transmissions and Differentials

You want a lubricant that gives adequate service without being so heavy as to "drag".

Dixon's Graphite Grease No. 677

Is a grease of just the right body, with the right proportion of Dixon's pulverized Ticonderoga Flake Graphite added to give the **permanent** lubricating quality so necessary. It quickly gives the gears and bearings a glossy, frictionless surface that minimizes wear and noise, saves power and adds to the life of the car. Write for "Lubricating The Motor", No. 210, giving name, model and year of your car.

Joseph Dixon Crucible Co.

JERSEY CITY Established 1827 NEW JERSEY

"ALLEN FRICTION" WRENCH SET

"Allen Friction"

Is NOT a Ratchet

NO Teeth Springs Pawl Rolls Balls

No Lost Motion
Instant Grip

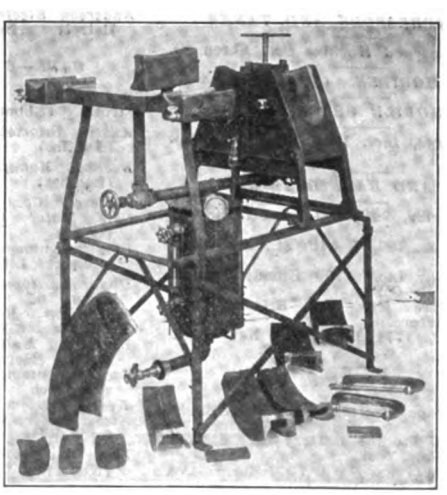
Best Pressed Steel Sockets.

Retail Price
$10, $8, $5

Ask Your Supply House for Circular and Standard Discounts.

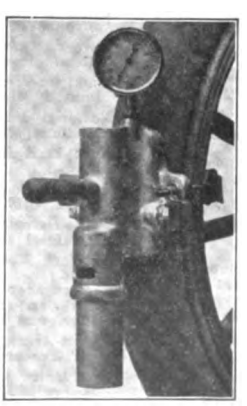
We Also Make a Ford Special Set

ALLEN WRENCH & TOOL CO., Providence, R. I., U. S. A.



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit, cost $60, less 5% cash. Ask for Catalogue C. Tells how to do the work.



Van Steam Portable

$4.50 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver.

Weight, 8 pounds

VANDERPOOL CO.

Springfield, Ohio

12,000 GUARANTEED

All Trade—No Owner Distribution

When you have anything to say to those in the automobile industry use straight trade talk copy in the

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AUTOMOBILE JOURNAL MOTOR TRUCK

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Auto Parts Co., Providence, R. I.
Hawthorne Mfg. Co., 29 Spruce St., Bridgeport, Conn.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight streets, Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree Street, Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Shaler Co., C. A., Waupun, Wis.
Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

ADJUSTERS.

Vansickle, John A., Indianapolis. (Ford Ideal Ball and Socket Joint.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Sumner, George, Inc., 1926 Broadway, New York.

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Brots Co., J. S., 250 W. 54th St., New York. (F. & S.)
Marburg Bros., Inc., 1790 Broadway, New York. (S. H. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Waite Auto Supply Co., 81 Exchange place, Providence. (Success.)
Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA.)
Branches: 136 West 52nd St., New York; 1191 Woodward Ave., Detroit; 2241 Michigan Ave., Chicago; 243 Monadnock Bldg., San Francisco.

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BLOW-OUT PATCHES. (See Patches.)

BODIES, TRUCK.

Lynch Manufacturing Co., Hammond, Ind.
Branches: East Chicago, Ind.; South Chicago, Ill.
Motor Truck Body Co., 320 Franklin St., Detroit.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Raybestos.)
Standard Woven Fabric Co., Worcester, Mass. (Multibestos.)
Branches: 903 Boylston St., Boston; 276 Canal St., New York; 720 Main St., Buffalo; 422 River St., Troy, N. Y.; 1427 Vine St., Philadelphia; 1430 Michigan Blvd., Chicago; 1598 Woodward Ave., Detroit; St. Louis; San Francisco.

BRAKES.

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Duplex.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBURETORS.

Plunkard Mfg. Co., 1790 Broadway, New York. (Plunkard.)
Sumner, George, Inc., 1926 Broadway, New York. (S. U.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

CARS—GASOLINE PLEASURE.

Abbott Motor Co., 141 Waterloo St., Detroit. (Abbott-Detroit.)
Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Buckeye Manufacturing Co., Anderson, Ind. (Lambert.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Herreshoff Motor Co., 620 Harper Ave., Detroit. (Herreshoff.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Keeton Motor Car Co., Detroit. (Keeton.)
Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)
Knox Automobile Co., Springfield, Mass. (Knox.)
K-R-I-T Motor Car Co., Detroit. (K-R-I-T.)
Lenox Motor Car Co., Inc., Boston. (Lenox.)
Branches: New York, Boston, Chicago.
Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)
Michigan Motor Car Co., 147 Lay St., Kalamazoo, Mich. (Michigan.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Peerless Motor Car Co., Cleveland. (Peerless.)
Branches: 660 Beacon St., Boston; Broadway and 57th St., New York; Michigan Ave. and 25th St., Chicago.
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Speedwell Motor Car Co., 80 Essex Ave., Dayton, O. (Speedwell.)
Studebaker Corporation, Detroit. (Studebaker.)
Stuts Motor Car Co., Indianapolis. (Stuts.)
Warren Motor Car Co., Detroit. (Warren-Detroit.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Available Truck Co., 2834 Hamilton Ct., Chicago. (Available.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Brown Commercial Car Co., Peru, Ind. (Brown.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Clark, E. S., 242 Freeport St., Dorchester Dist., Boston. (Clark.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Grand Rapids Motor Truck Co., North St., Grand Rapids, Mich. (Hoosier Limited.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Mais Motor Truck Co., Indianapolis. (Mais.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Peerless Motor Car Co., Cleveland. (Peerless.)
Branches: See Cars—Gasoline Pleasure.
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Sullivan Motor Car Co., 611 East Ave., Rochester, N. Y. (Sullivan.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 10 Postoffice Sq., Boston. (Atlantic.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
Willys-Overland Co., Toledo, O. (Overland.)

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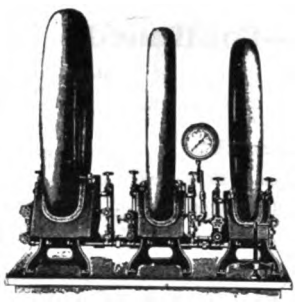

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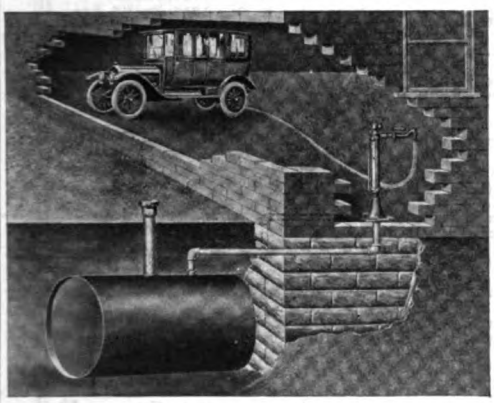

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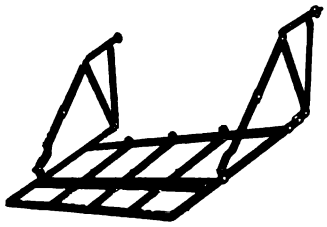

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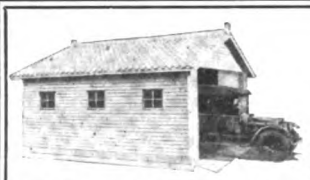

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Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. E., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

CLOCKS FOR DASHBOARDS, ETC.

Boston Clock Co., 16 State St., Boston.
Chelsea Clock Co., 16 State St., Boston.

CLUTCHES—AUTOMOBILE FRICTION.

Bretz Co., J. S., 250 W. 54th St., New York. (Hartford Cone.)

COILS.

Heinze Electric Co., Lowell, Mass.

CONTROLLERS AND ECONOMIZERS.

Moller Brothers Controller & Economiser Co., 700 Betz Bldg., Philadelphia. (M. & M.)

CUSHIONS.

Leavens & Co., Wm., 32 Canal St., Boston. (Leavens Shock Absorbing.)

CYLINDER CLEANING COMPOUND.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

GAUGES.

Goodnow Manufacturing Co., 754 Old South Bldg., Boston. (Gasoline Gallon.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Tire Pressure and Gasoline Tank.)
Branches: In all principal cities.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HEADLIGHTS.

Sumner, George, Inc., 1926 Broadway, New York City. (Diva.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)
Randall-Faichney Co., Boston. (Jericho, Jubilee.)
Branch: 918 Eighth Ave., New York.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

LAMPS.

Hawthorne Manufacturing Co., 29 Spruce St., Bridgeport, Conn. (Old Sol.)

LICENSE NUMBER BRACKETS.

Hawthorne Manufacturing Co., 29 Spruce St., Bridgeport, Conn.
National Motor Supply Co., 1911 Euclid Ave., Cleveland, O.
Branches: In all principal cities.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apico.)
Dean Electric Co., Elyria, O. (Dynalux.)
Geissler Bros. Storage Battery Co., 514-520 W. 57th St., New York.
Remy Electric Co., Anderson, Ind. (Remy.)

LOCK SWITCHES. (See Switches.)

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)
Branches: Boston, Fall River, Philadelphia.
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)
Branch: 143 No. Wabash Ave., Chicago.
Howe, Geo. A., 142-144 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)
Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.
Refineries: Georgetown, Ky.; Lawrenceville, Ill.
Invader Oil Co., 80 Broad St., New York. (Invader.)
Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 3556 11th St., N. W., Washington, D. C.
Miller, Chas. E., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, NemFluid, Kejex.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Texas Company, The, 7 West St., New York.
Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Bretz Co., J. S., 250 W. 54th St., New York. (U. & H.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Marburg Bros., 1790 Broadway, New York. (Mea.)
Remy Electric Co., Anderson, Ind. (Remy.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

MIXING DEVICES, GASOLINE.

Approved Auto Specialties Co., 1781-87 Broadway, New York. (Wolf.)
Royal Equipment Co., 422 Housatonic Ave., Bridgeport, Conn. (Gyrex.)

MOTORCYCLES AND SUPPLIES.

American F. N. Co., Boston. (F. N.)
Branches: 49 Union St., Providence; 415 Trumbull St., Hartford, Conn.
Hawthorne Manufacturing Co., 29 Spruce St., Bridgeport, Conn. (Old Sol Lamps.)
Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTORS AND POWER PLANTS.

Continental Motor Mfg. Co., Detroit. (Continental.)
Rutenber Motor Co., Marion, Ind. (Rutenber.)

PACKING, FIRE

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Anti-Rust Paint Co., Dept. 7, Akron, O. (Thomas.)

PATCHES.

Invincible Puncture Proof Tire Co., 58 Sabin St., Providence. (Invincible.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland.

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

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Randall-Faichney Co., Boston. (B-Line.)
Branches: See Horns.

PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)
Dewey-Anderson Co., Toledo, O. (Dewey Power.)
Hawthorne Manufacturing Co., Inc., 29 Spruce St., Bridgeport, Conn. (Hawthorne.)

RADIATOR CONNECTORS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
Firestone Tire & Rubber Co., Akron, O.
Branches: In all principal cities.
Standard Welding Co., Cleveland. (Stanweld.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
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Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA.)
Branches: See Batteries.

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)
Sumner, George, Inc., 1926 Broadway, New York. (Velvet Auxiliary, Acme.)

SOAPS.

Hopewell Brothers, Newton, Mass. (Paos.)
Branch: 1974 Broadway, New York.

SOLDERS.

Simplex Aluminum Solder Co., 108 Broadway, Long Island City, N. Y. (Simplex.)

SPARK PLUGS AND IGNITERS.

American Ignition Co., 319 Adams St., Dorchester, Mass. (Amico.)
Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.
Heinze Electric Co., Lowell, Mass. (H. E. Co. Priming.)
Janney, Steinmetz & Co., Philadelphia.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Mosler, A. E., & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)
Randall-Faichney Co., Boston. (Mac-Kae.)
Branches: See Horns.
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.
Standard Co., The, Torrington, Conn. (Black Eagle.)

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Randall-Faichney Co., Boston. (Mac-Kae Blits.)
Branches: See Horns.

SPEEDERS.

Interstate Auto Accessory Co., Indianapolis. (Ideal.)

SPEEDOMETERS, RECORDERS, ETC.

Hoffecker Co., The, Metor Mart, Boston. (Hoffecker.)
Jones Speedometer, New Rochelle, N. Y.
Branches: Broadway and 76th St., New York; 109 Massachusetts Ave., Boston; 1416 Vine St., Philadelphia; 1430 Michigan Ave., Chicago; 852 Main St., Buffalo; 253-255 Jefferson Ave., Detroit; 580 Golden Gate Ave., San Francisco; 1229 So. Olive St., Los Angeles, Cal.; 329 Ankeny St., Portland, Ore.; 917 E. Pike St., Seattle, Wash.
Service Recorder Co., 2245 East 105th St., Cleveland. (Servis.)
Stewart-Warner Speedometer Corp., Chicago. (Auto-Meter.)
Branches: 116 Edgewood Ave., Atlanta, Ga.; 925 Boylston St., Boston; 720 Main St., Buffalo; 2420 Michigan Ave., Chicago; 807 Main St., Cincinnati; 2062 Euclid Ave., Cleveland; 1518 Broadway, Denver; 870 Woodward Ave., Detroit; 330½ North Illinois St., Indianapolis; 1613 Grand Ave., Kansas City; 748 S. Olive St., Los Angeles, Cal.; 1902 Broadway, New York; 302 N. Broad St., Philadelphia; 5940 Kirkwood Ave., Pittsburg; 14 N. Seventh St., Portland, Ore.; 36-38 Van Ness Ave., San Francisco; 611 E. Pike St., Seattle, Wash.; 3928 Olive St., St. Louis; 559 Yonge St., Toronto, Can.

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)
Perfection Spring Co., No. 1 Plant, 2414 Superior Ave., N. W.; No. 2 Plant, East 65th and Central Ave., Cleveland.

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL PARTS, SEAMLESS.

Standard Welding Co., Cleveland.

STORAGE SYSTEMS—GASOLINE AND OIL.

Janney, Steinmetz & Co., Philadelphia.
Scaife & Sons Co., Wm. B., Pittsburg, Penn.
Branch: New York City.

SWITCHES, LOCK.

Blackburn Specialty Co., 1120 Prospect Ave., S. E., Cleveland. (Autolock.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS FOR FUEL AND WATER.

Janney, Steinmetz & Co., Philadelphia.
Scaife & Sons Co., Wm. B., Pittsburg, Penn.
Branch: New York City.

TANKS, TIRE INFLATING.

Prest-O-Lite Co., 271 East South St., Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Firestone Tire & Rubber Co., Akron, O.
Branches: See Rims—Removable and Detachable.
Shaler Co., C. A., Waupun, Wis.

TIRE CASES.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Approved Auto Specialties Co., 1781-87 Broadway, New York. (Goodman Tire Shield.)
Gray Specialty Co., 148 Avon Ave., Newark, N. J.
National Rubber Co., 4433 Papin St., St. Louis, Mo. (Tirenew.)
Page-Lester Co. 2644 Indiana Ave., Chicago. (Tite-Wad Rubber Putty.)

TIRE REMOVERS.

O-Tak-A Tire Remover, Le Roy, N. Y.

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)
Diamond Rubber Co., Akron, O. (Diamond.)
Firestone Tire & Rubber Co., Akron, O. (Firestone.)
Branches: See Rims—Removable and Detachable.
Fisk Rubber Co., Chicopee Falls, Mass. (Fisk.)
Branches: 811-813 Boylston St., Boston; 17½ Dorrance St., Providence.
Frontier Tire & Rubber Co., 1054 Main St., Buffalo, N. Y. (Frontier.)
Gaulois Tire Co., 1926 Broadway, New York. (Gaulois.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.
Walpole Tire & Rubber Co., Walpole, Mass. (Walpole.)

TIRES—CUSHION.

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Firestone Tire & Rubber Co., Akron, O. (Firestone.)
Branches: See Rims—Removable and Detachable.
Motz Tire & Rubber Co., The, Akron, O. (Electric Special Motz Cushion.)
Branches: Boston, New York, Philadelphia, Pittsburg, Chicago, Kansas City, Detroit, Cleveland, Los Angeles.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright. G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Diamond Rubber Co., Akron, O. (Diamond.)
Firestone Tire & Rubber Co., Akron, O.
Branches: See Rims—Removable and Detachable.
Fisk Rubber Co., Chicopee Falls, Mass.
Branches: See Tires—Casings and Inner Tubes.
Motz Tire & Rubber Co., The, Akron, O. (Motz.)
Branches: See Tires—Cushion.
Polack Tyre and Rubber Co., 246 W. 59th St., New York City. (Polack.)
Republic Rubber Co., Youngstown, O. (Republic.)
United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TROUBLE FINDERS.

Hopewell Brothers, Newton, Mass. (Vibrator.)
Branch: 1974 Broadway, New York.

TRUCKS AND TRACTORS—See Cars, Commercial.

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

TURNTABLES.

Beach Co., T. C., 108 Ottawa St., St. Johns, Mich. (Beach.)

UNIVERSAL JOINTS.

Bretz Co., J. S., 520 W. 54th St., New York. (Hartford.)
Kinsler-Bennett Co., The, P. O. Box 124, Hartford, Conn. (Kant-Break.)

VALVE GRINDERS.

Wall, J. H., 290 Hope St., Bristol, R. I. (Ford.)

VULCANIZERS.

McVey Manufacturing Co., Third and Canal Sts., Dayton, O. (McVey.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Garage and Individual.)
Branches: In all principal cities.
Shaler Co., C. A., Waupun, Wis. (Shaler.)
Vanderpool Co., Springfield, O.
Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Co., 309 W. South St., Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WELDING, STEEL.

Standard Welding Co., Cleveland.

WHEELS.

Eberly & Orris Mfg. Co., Mechanicsburg, Penn.
McCue Co., The, Buffalo, N. Y. (Wire.)

WIRES AND CABLES.

Diamond Rubber Co., Akron O. (Diamond.)

WIRE MECHANISM.

Bretz Co., J. S., 250 W. 54th St., New York. (Bowden.)

WRENCHES AND COMBINATION OUTFITS.

Allen Wrench and Tool Co., Providence, R. I. (Allen Friction Socket Sets.)
Coes Wrench Co., Worcester, Mass.
Cutter, George A., Taunton, Mass.
Walworth Manufacturing Co., Boston. (Stillson.)

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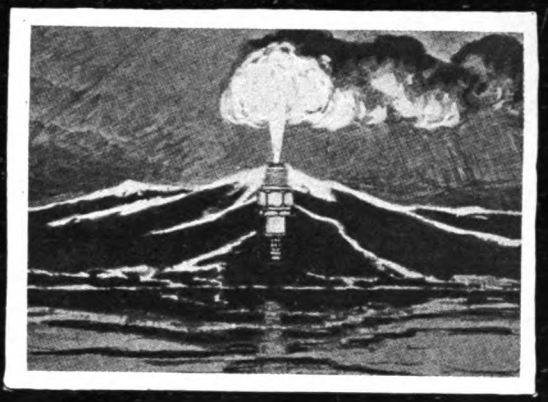
Imagine a plug that will last forever

WATCH !!!!!

Mosler Vesuvius Plug



AS POWERFUL AND AS INDESTRUCTIBLE AS THE FIRES OF VESUVIUS

WE CARRY IN STOCK A PLUG FOR EVERY Internal Combustion Engine Built

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A. R. MOSLER & CO. P. O. Box "M," MT. VERNON, N. Y.

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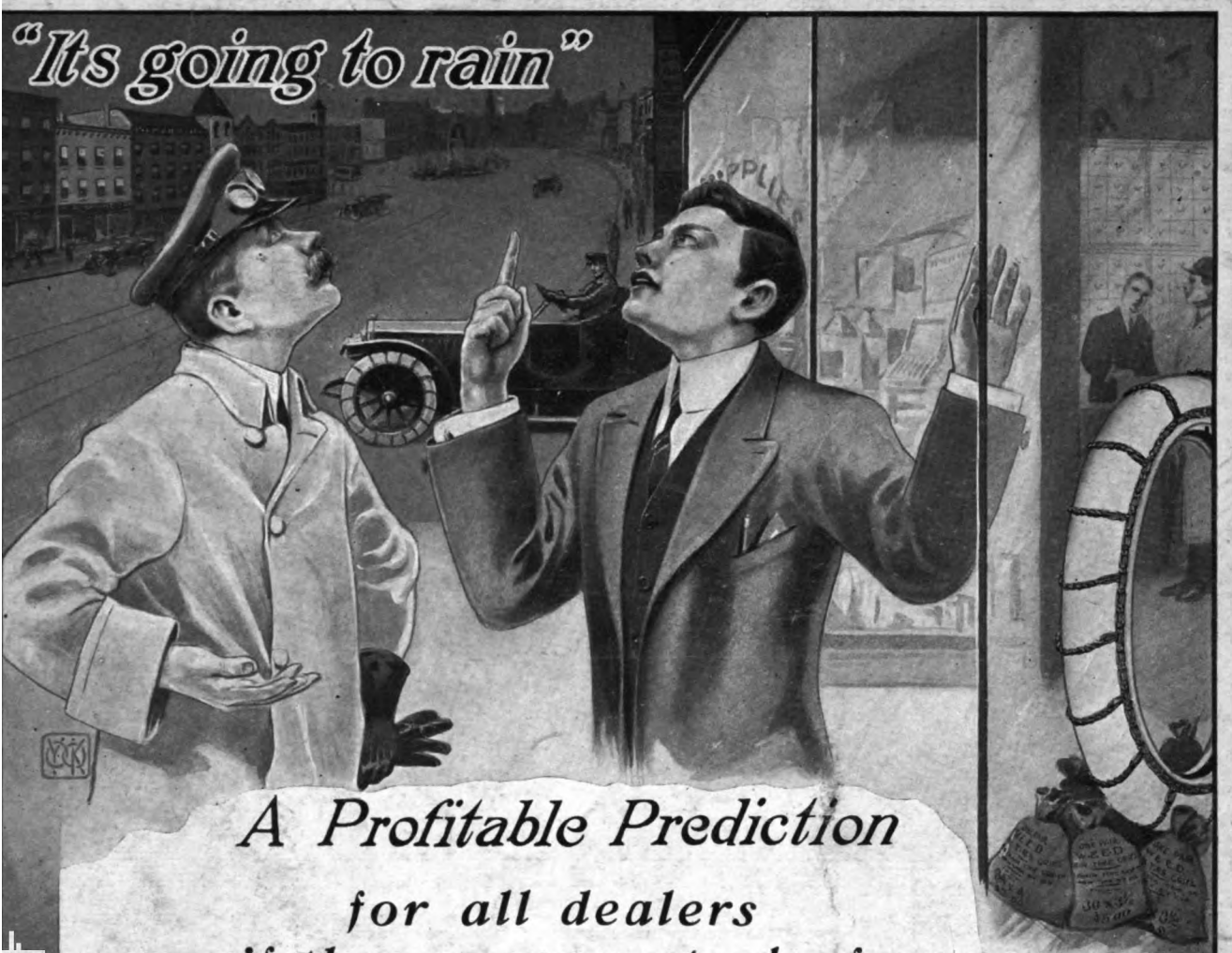

A Profitable Prediction

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if they carry a stock of

Weed Anti-Skid Chains

"A Sure Bet When It's Wet"

You should always be ready for a rainy day, Mr. Dealer—a stock of Weed Chains on your shelves to supply the demand that always "reigns when it pours."

Write us for particulars regarding our Window Display Contest

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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JULY 1913. NO.

PANHARD OIL

Do Your Customers Ever Kick

About the oil they have been using? The moment they do is your chance to jump in with both feet and sell them Panhard. It will stop their kicking with the same ease that it quiets an engine.

When you recommend Panhard Oil to a customer, you are absolutely sure that it will MAKE GOOD every promise you make for it.

You can't be sure of a cheap oil. The only way to build up permanent trade is to handle a better oil than the other fellow around the corner.

You must sell something which will bring your customers back for more. Repeat orders count most in any sound business.

Write now for our "Help Sell" plan for Panhard Oil dealers, and prices at nearest shipping point.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK CITY

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

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SELL METZ CARS

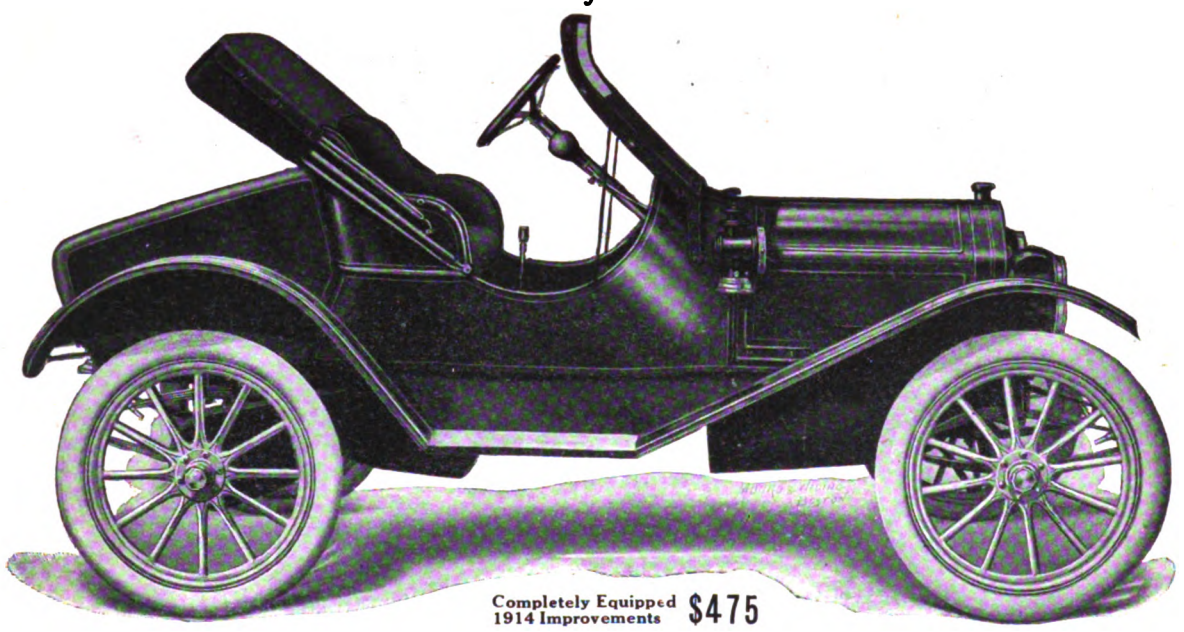
and build up a line of satisfied and enthusiastic customers who will send their friends to you

METZ "22"—$475

WINNER OF THE GLIDDEN TOUR
and both the Glidden and Minneapolis News trophies, is the
LOWEST PRICED CAR ON THE MARKET

THE PROVED EFFICIENCY CAR

We Want a Representative to Handle These Cars in Every City and Town. Write Us for Territory and Liberal Terms.



GEARLESS TRANSMISSION

No Clutch to Slip *No Gears to Strip*

In the Glidden Tour, which started at Minneapolis on July 11th and ended at Glacier National Park on the 19th, the team of three METZ cars was the ONLY team that held a PERFECT record for THE ENTIRE EIGHT DAYS. They were pitted against cars costing from five to ten times as much, yet their nearest competitor made a perfect score for only the first two days.

The METZ "22" was last to leave the noon control on the final day of the race, passed all the cars ahead, and when ten miles from the goal caught the pace-maker and crowded him over the last mountain range, finishing with twenty minutes to spare!

The **METZ** "22" is a roadster car of the torpedo semi-enclosed type, left hand drive, center control. It makes from 5 to 50 miles per hour on the high speed, travels from 28 to 32 miles on ONE gallon of gasoline, 100 miles on ONE pint of lubricating oil, and from 10,000 to 12,000 miles on a single set of tires.

It is the most economical car on the market to operate. Climbs hills as fast as any regular stock car made. Takes many hills on the high speed that are steep enough to force the big touring cars to drop back on low speed.

Equipment—4-cylinder 22½ h. p. water-cooled motor, Bosch magneto, windshield, extension top with cover slip and curtains, full elliptic springs all around, standard artillery wheels, best quality Goodrich clincher tires, five lamps and gas generator, horn, pump and tool outfit.

Built to carry either single or double rumble seat, if desired. Its gearless transmission entirely does away with aggravating and expensive "gear troubles."

Reasonably prompt deliveries. Write for dealers' terms and New Illustrated Catalog "F."

METZ COMPANY - - - - - - WALTHAM, MASS.

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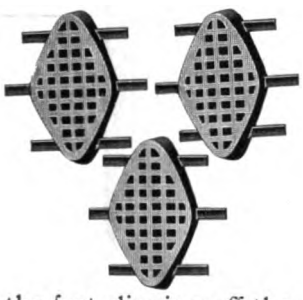
SIX LIVE

APCO FORD SPECIALTIES APCO

Rubber Pedal Pads

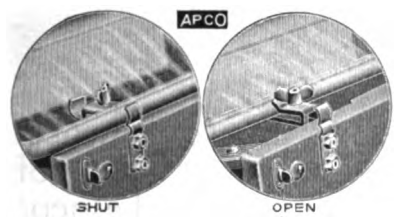


These are one of the most useful and appreciated accessories we have ever offered. They are made from real live, soft rubber, not composition or papier mache. They eliminate the vibration that comes from the engine and prevent the feet slipping off the pedals. These act a good deal like rubber heels and they are fastened in place by simply clamping the steel strips around the foot pedals. **PRICE for set of three, $1.50.**

Mahogany Door Strips

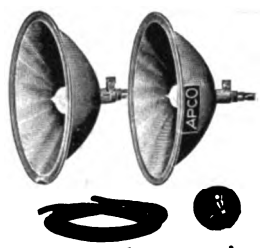
These are made from high grade imported mahogany, finished with a number of coats of varnish and stained a deep rich red. The steel strips on the doors at present are not handsome and our strips make your car look 100% better. They are furnished complete with screws and washers. **PRICE, $2.00.**

Ford Windshield Ventilators



These ventilators are designed to fit any Model "T" Ford and if the number of inquiries we are receiving for a device of this kind is anything to go by, we shall have hard work keeping ahead of our orders. The APCO Ventilators consist of two brackets that fasten to the dash in place of the clips now holding the windshield. They are placed in position without drilling holes or doing any machine work whatever and when put on it is a very simple matter to adjust them. The object of the device is to throw the windshield back about two inches, thereby forcing a strong draft around the floor of the front compartment. You know you need this device and at the price, you cannot afford the discomfort it eliminates. Cut shows shield open and closed. They are made from bronze enamelled black and the **price is $2.50 per complete set.**

Lighting Outfit No. 2



This consists of two silver-plated reflectors, two Ediswan Bayonet Connectors, two genuine tungsten bulbs with drawn wire filament, 6 volt, 15 C. P., 12 feet primary linen covered wire, high grade hard rubber switch with removable nickelled handle, and in fact a complete equipment to change the present lights on your car from gas to electricity. We make and sell more Ford Lighting Outfits than any two concerns in the country and this is why we can quote such low prices on an article we guarantee to be as good as any on the market. **PRICE, including directions, $4.00. Bulbs, 50c.**

Oil Gauge

This device needs no introduction to the Ford owner and is a necessity that you cannot afford to be without. We are the originators of the Ford Oil Gauge and our four years' experience, covering nearly 200,000 gauges, has shown us some necessary points on a gauge that the other fellows do not think necessary. Our price is as low as a good gauge can be made for and for the sake of a few cents don't buy one of the small kind that are absolutely useless after a ten-mile run. This gauge takes the place of the lower petcock on the Ford crank case and tells where the oil is at all times. **PRICE Without Petcock (which is taken from the car), 50c.**

Tool Box

This is designed to be carried on the running board of the 1913 Ford Touring Car. It is built low to permit of the door opening and it is long enough to take the pump. The box is made from heavy gauge steel handsomely finished and furnished with lock and key. **PRICE, $3.50.**

Dealers, Get Our Prices

AUTO PARTS COMPANY, - - - PROVIDENCE, R. I.

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A Familiar Sight

In garages both public and private, in supply shops, and on the road, the green and red Texaco can is a familiar sight.

Is it a familiar sight in your garage? Is the sales-boosting Texaco sign on the outside of your building?

TEXACO
MOTOR OIL

the Texaco can, and the Texaco sign, are advertised to nine car owners out of every ten. This publicity, coupled with the high quality of Texaco Motor Oil, is an actual asset to every dealer who carries Texaco. If you are not one of thousands who display the Texaco Sign on your garage you are overlooking an opportunity. Remember, this sign —and the garage that shows it—is extensively advertised to the car owner. Thousands of tourists will be looking for it this summer. You can get part of their trade.

Write us for details of our dealer-aid plan and prices on Texaco Motor Oil. Address Dept. 8,

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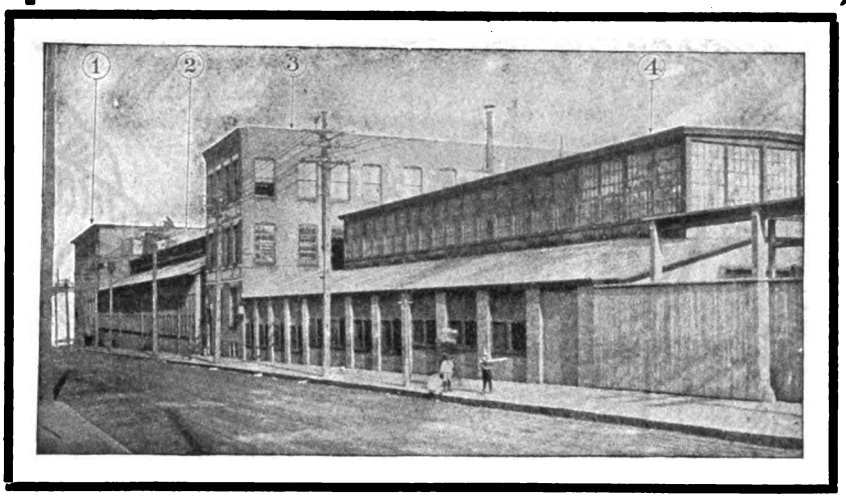
An Opportunity for a Big Auto Truck Garage and Repair Business in Providence, R. I.



THE GROWTH OF A LARGE MANUFACTURING COMPANY ENABLES US TO OFFER FOR SALE THE ABOVE PLANT, SPLENDIDLY LOCATED IN THE CENTRE OF THE WHOLESALE, WAREHOUSE AND MANUFACTURING SECTION OF PROVIDENCE.

The General Fire Extinguisher Company has outgrown its Providence Foundry Department and has been forced to combine it with its Auburn, R. I., plant, where large additions have just been made. The removal of the Company from this part of its Providence plant offers a splendid opportunity for the institution of a garage and repair shop. Motor trucking is bound to increase rapidly which will make the need of a centrally located place of this character well nigh imperative. The property we are now offering for sale is ideally located for just such a business for it is convenient and easily accessible to the many large business houses which are situated in that vicinity.

Building No. 1.

Building No. 3.

The plant is fully equipped with Grinnell Automatic Sprinklers, thus insuring low insurance rates. It is also piped for heating. The property will be sold as a unit or divided into nine parcels on five of which there are buildings as follows:

Building No. 1.—Three stories and high basement, brick, heavy construction, about 113.2x75.2 feet, adjoining and communicating with Building No. 2.

Building No. 2.—High, one story, brick and frame foundry, with monitor roof, about 199.6x75.2 feet, adjoining and communicating with Building No. 1 and Building No. 3.

Building No. 3.—Three stories and high basement, brick, heavy construction, about 33.2x110.7 feet, adjoining and communicating with Building No. 2 and Building No. 4.

Building No. 2.

Building No. 4.—Brick and frame foundry, with monitor roof, about 120x55 feet, adjoining and communicating with Building No. 3.

Building No. 5.—One story, brick and stone, about 312.3x25 feet, separated from main buildings by driveway and connected by two overhead passageways.

The land fronts about 507.82 feet on West Exchange Street, about 219.30 feet on Bradford Street, about 257.12 feet on Cedar Street, containing an area of about 84,064.46 square feet.

Building No. 4.

Illustrated circular, prices and all further information may be obtained by applying to

G. L. & H. J. GROSS

Managers of Estates **170 Westminster St., Providence, R. I.**

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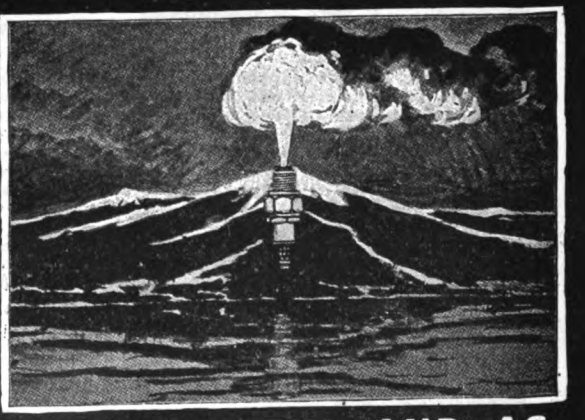
Mosler

Vesuvius Plug



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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JULY, 1913. No. 3.

METZ TEAM WINS GLIDDEN TROPHY.

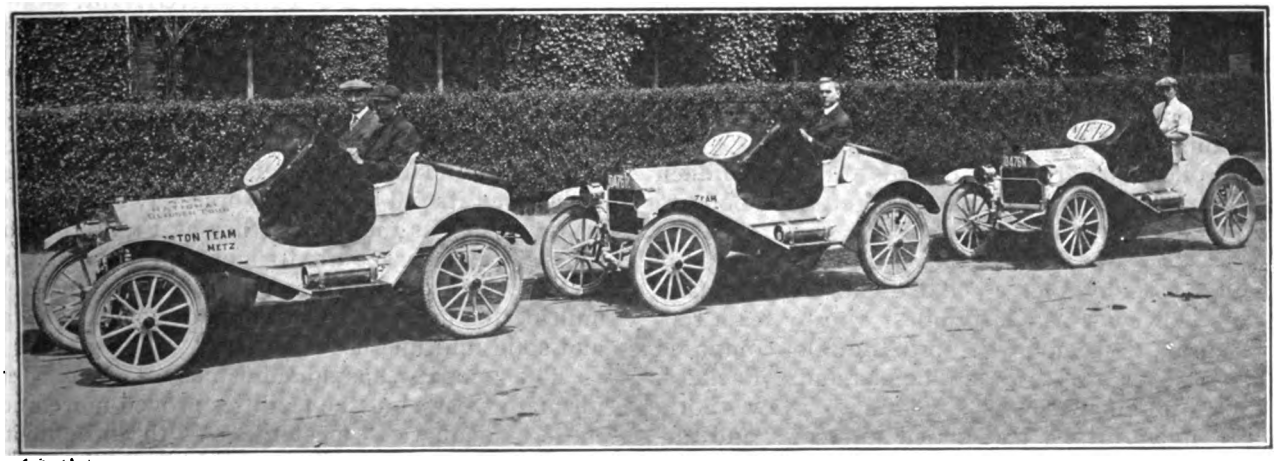
Small Cars Outclass Larger Machines in National Reliability Tour Across North Dakota and Montana—Chain Driven Locomobile Takes New A. A. A. Cup.

TO THE Metz team goes the honor of winning the famous Glidden trophy in the ninth national reliability tour of the American Automobile Association, which came to an end in Glacier national park, Montana, Saturday, July 19. The new A. A. A. trophy, which was substituted for the Glidden award in the touring car class this year, was won by a chain driven Locomobile, driven by Dr. J. D. Parks of Duluth, Minn. The Anderson trophy for runabouts, presented by the citizens of Anderson, S. C., in 1911, was awarded by lot, the decision resting between the three Metz cars, the two Hupmobiles and a K-R-I-T. The drawing was in favor of the Hupmobile No. 15, driven by C. Munzer. Hupmobile No. 14, driven by W. W. Munzer, retains permanent possession of the Minneapolis Daily News trophy, this having been won by a Hupmobile last year in the tour, Minneapolis to Winnipeg and return.

The three little Metz cars acquitted themselves most creditably, going the entire distance of 1233.1 miles from Minneapolis, Minn., to the Glacier national park without a mark, being the only team of three to make this record. Two Hupmobiles also made perfect scores, but there were only two machines in the team. In all respects the smaller cars showed up to much better advantage than the larger in this test. And that it was a severe test is proved by the fact that the roads across North Dakota and Montana are far from ideal, and recent rains had not improved the conditions. It was with the utmost difficulty that certain passages of the highway were negotiated.

Penalties were inflicted for being late at the controls only, as was the case of the national tour of 1911, and they were mostly imposed during the first three days, when there was almost continual rain. Delays were frequent while covering the worst roads, a number of the cars becoming imbedded in the deep mud, necessitating assistance to haul them out.

The tour lasted eight days and too much



The Team of Three Metz 22.5 Horsepower, Friction Driven Cars, Which Captured the Glidden Trophy in the Ninth National Reliability Run.

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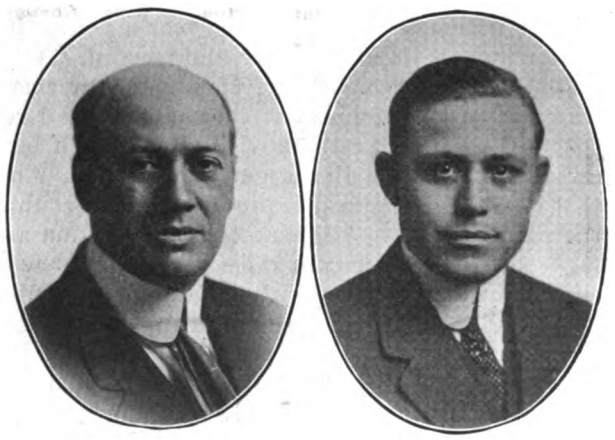
credit cannot be given to the Metz team for winning the famous award, which for the past eight years has been a coveted possession to be displayed at the annual shows and on all other prominent occasions by the winner. The trophy was donated by Charles J. Glidden early in 1905, soon after the completion of the first national reliability tour. With two exceptions it has been awarded annually since that time.

The Metz is the product of the Metz Company, Waltham, Mass. It has a four-cylinder, water-cooled motor, cast en bloc, with bore of 3.75 inches and stroke of four. It is rated at 22.5 horsepower. Lubrication is by the constant level splash system, the level being maintained by a pump. Cooling is by the thermo-syphon system. Ignition is by Bosch high-tension magneto. The carburetor is of the float feed automatic type. The clutch is a friction plate applied to the driving ring, the drive being by friction discs with chains running in oil. The springs are full elliptic all around. Two sets of brakes are fitted, internal expanding on rear wheel drums and external contracting on jackshaft. The wheels are of the artillery type, fitted with 30 by three-inch tires. The



J. G. Monihan, Associate Director Sales and Advertising, and E. F. Harris, Promoted to Field Sales Manager, Cole Motor Car Company.

driver is placed at the left, with centre control levers.

According to information obtained, the Locomobile driven by Dr. Parks, which won the A. A. A. trophy, had a record of more than 100,000 miles before it entered the tour. No mention was made of the date of its production, but it was a chain driven model, and the Locomobile Company of America, Bridgeport, Conn., ceased making chain driven cars in 1909.

Following are the records of the Glidden trophy: 1905—New York to Bretton Woods to New York, 871 miles, won by Pierce car. 1906—New York to Buffalo to Bretton Woods, 1135 miles, won by Pierce. 1907—Cleveland to Chicago to New York, 1570 miles, won by team representing Automobile Club of Buffalo, composed of two Pierce-Arrows, a Thomas and a Packard. 1908—Buffalo to New England to New York, 1670 miles, three teams tied in score and arranged to run it off at a later date. But one of the teams appeared and this refused to cross the starting line and no award was made. 1909—Detroit to Kansas City, 2533 miles, won by Pierce-Arrow. 1910—Cincinnati to Southwest to Chicago, 2851 miles, won by Chalmers. 1911—New York to Jacksonville, 1454 miles, won by Maxwell. 1913—Minneapolis to Glacier park, 1233 miles, won by Metz. There was no Glidden tour in 1912.

JOINS THE COLE FORCE.

J. G. Monihan Becomes a Member of Homer McKee's Sales Organization.

John Guy Monihan of the Premier Motor Manufacturing Company, Indianapolis, Ind., maker of Premier cars, has become associate director of sales and advertising of the Cole Motor Car Company, Indianapolis, maker of Cole machines. This is in accordance with the plans for expansion worked out by Homer McKee, director of sales and advertising, at the suggestion of President J. J. Cole. Edward F. Harris, whose work in the sales department of the Cole organization justified his advancement, has been promoted to field sales manager. This expansion follows closely on the recent announcement of increase in Cole stock to $1,000,000, the doubling of the Cole output and the closing of a contract for another big addition to the factory on East Washington street.

In securing Mr. Monihan, Mr. Cole believes that his already strong sales and advertising organization has been materially strengthened. Mr. Monihan has been in the automobile business for the past five years. His most recent experience has been with the Premier company, where he was closely associated with President H. O. Smith and R. W. Macey. With his co-operation Premier business has steadily increased. He was the originator of the amateur transcontinental ocean-to-ocean tour in 1911 and has won a name as a sales lecturer. He has written several books and is a member of numerous clubs and organizations throughout the country.

REMOVES TO FRAMINGHAM.

Standard Woven Fabric Company Secures Larger Facilities for Production.

The Standard Woven Fabric Company has abandoned its old plant at Worcester, Mass., and is occupying its modern factory at Framingham, Mass., which was built to meet the decided increase which there has been in the demand for multibestos brake lining, standard woven belting and solid multiple hose fabrics.

The company has done business at Worcester for many years, but the facilities proved more and more inadequate to meet the growth and expansion of the concern. The new factory will permit of the manufacture of goods on a larger scale and on a much more economical basis.

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GOODYEAR ELECTRIC TIRE.

Well Known Maker Announces New Product Will Be Ready Shortly.

L. C. Rockhill, manager of the automobile tire department of the Goodyear Tire & Rubber Company, has returned to the factory in Akron, O., after an extended tour of the Pacific Coast section, investigating motor car conditions in that portion of the country. Shortly after his return he announced a new electric vehicle tire, to be known as the Goodyear Power Saver pneumatic tire, which he says will be ready for distribution at the various branches of the company about the middle of the month.

The new tire is the result of long experience on the part of the engineers connected with the Goodyear company, and is expected to afford the maximum of efficiency in every respect. In discussing the matter Mr. Rockhill mentions that very few people diffentiate between tires for gasoline cars and those especially built for electrics, although he says any automobile engineer knows that the former absorbs more energy than the latter. In order to secure a product that should prove satisfactory in every respect, the company is using only the better grade of gum and the very best cotton in an effort to obtain extreme durability without loss of resiliency.

H. S. Quine, manager of the advertising department of this company, also makes an announcement, in which a proposition is placed before Goodyear dealers whereby they can co-operate with the company in securing road signs at a saving of some 82 per cent. of the cost. The signs are lithographed on steel, 10 by 28 inches, and besides calling attention to the merits of Goodyear No-Rim-Cut tires, carry the advertisement of the local dealer. The plan is advanced as another step in the effort of the Goodyear company to co-operate with its representatives in every way possible.

REO COMPANY'S DIVIDENDS.

Directors Place Stock on 10 Per Cent. Basis with Quarterly Payments.

At a recent meeting of the board of directors of the Reo Motor Car Company, Lansing, Mich., maker of Reo cars, it was unanimously voted to place the stock of the company on a 10 per cent. annual dividend basis, payable quarterly.

The dates upon which the quarterly dividends will be payable were fixed as the first of July, October, January and April.

TO SELL CUTTING PLANT.

Receiver Secures Authority from United States Court for Disposal of Property.

The Security Trust Company, Detroit, receiver for the Cutting Motor Car Company, Jackson, Mich., will sell, by order of the United States court, the entire plant of the company at public auction on the premises at Jackson, Tuesday, Aug. 5. The property will be offered both in parcels and in bulk. Successful bidders must deposit 25 per cent. of the amount bid with the receiver at the time of sale, the remainder to be paid upon the confirmation of sale by the court.

The Cutting company owns, in fee and on land contract, about 1.5 acres of land. The main building, a modern structure with up-to-date equipment, adapted to the making of motor cars or kindred articles, contains about 60,000 square feet of floor space. There is a repair business on the cars now in use which will prove an attractive proposition in connection with a machine shop. The inventory and appraisal follow:

	Inventory	Appraisal
Manufacturing stock	$70,450.37	$59.882.76
Service department stock (parts)	42,450.13	27,592.58
Merchandise located outside of factory	9,123.14	7,754.67
Patterns	2,541.84	635.46
Machinery equipment and office furniture	22,696.15	17,022.11
Real estate, buildings and fixtures	80,518.41	65,000.00
Accounts receivable	99,155.95	no appraisal

GENERAL MARKET QUOTATIONS.

Material	Wed.	Thurs.	Fri.	Sat.	Mon.	Tues.	Week's Change
Antimony, lb.	.07½	.07½	.07½	.07½	.07½	.07½	.....
Beams & Channels, 100 lbs.	1.61	1.61	1.61	1.61	1.61	1.61	.....
Bessemer Steel, ton	26.50	26.50	26.50	26.50	26.50	26.50	.....
Copper, Elec. lb.	.14⅛	.14⅛	.14¼	.14¼	.14¼	.14⅜	+ .00¼
Copper, Lake, lb.	.14½	.14⅝	.14⅝	.14⅝	.14⅝	.14½	.....
Cottonseed Oil, lb.	9.03	9.10	9.15	9.19	9.20	9.27	+ .24
Cyanide Potash, lb.	.19	.19	.19	.19	.19	.19	.....
Fish Oil, Menhaden, Brown	.33	.33	.33	.33	.33	.33	.....
Gasoline, Auto, 200 gals.	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.....
Lard Oil, prime	.95	.95	.95	.95	.95	.95	.....
Lead, 100 lbs.	4.32½	4.32½	4.32½	4.32½	4.32½	4.35	+ .02½
Linseed Oil	.49	.49	.49	.49	.49	.49	.....
Open-Hearth Steel, ton	26.50	26.50	26.50	26.50	26.50	26.50	.....
Petroleum, bbl., Kansas crude	.93	.93	.93	.93	.93	.98	+ .05
Petroleum bbl., Penn. crude	2.50	2.50	2.50	2.50	2.50	2.50	.....
Rapeseed Oil, refined	.68	.68	.68	.68	.68	.68	.....
Silk, raw Italy	.....	5.00	....	....	5.00	5.00	.....
Silk, raw Japan	.....	3.90	....	....	3.87½	3.85	— .05
Sulphuric Acid, 60 Baume	.90	.90	.90	.90	.90	.90	.....
Tin, 100 lb.	39.80	39.80	40.10	40.25	40.50	41.25	+1.45
Tire, scrap	.09½	.09½	.09½	.09½	.09½	.09½	.....

GENERAL MARKET CHANGES.

The market changes the week beginning Wednesday, July 16, were few, the most notable change being in cottonseed oil, which made a large increase, the price per barrel being 24 cents more than the opening price. This was due solely to the fact that oil is scarce so far as its availability for the market is concerned. The quotations will be found in the table above.

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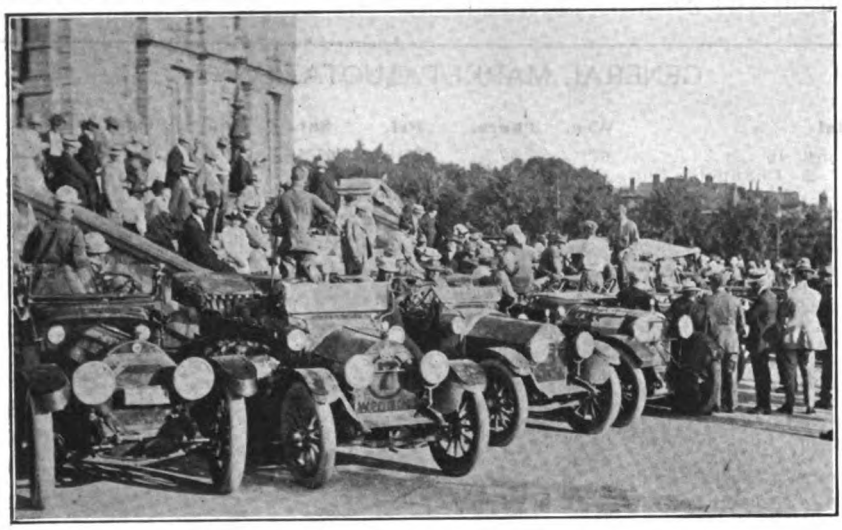
INDIANA TOURISTS FINISH JOURNEY.

THE Indiana-Pacific Coast tour of the Indiana Automobile Manufacturers' Association, which came to an end in San Francisco, Cal., July 27, assumed the nature of a constant triumphal procession across the continent, from the start at Indianapolis, July 1. All kinds of weather and travelling conditions were encountered by the tourists, whose journey, although being mainly for the purpose of calling attention to Indiana products, took on a much greater importance throughout the country, inasmuch as the route was laid over what is probably to be the Lincoln transcontinental highway, which it is planned to have completed by 1915 at a cost of $10,0000,000.

The tour also served to demonstrate forcibly the reliability and endurance of the modern motor car. The crossing of the great Continental Divide, near Denver, Col., was a feat that called for the most severe tests of the machines. In four miles the cars climbed 3000 feet, the last 1000 feet being covered in one mile. Some of the grades were as high as 20 per cent., and the altitude affected the power of the motors very materially. The ride down the other side was sufficient to offer tests quite as effective as the upward climb. Sharp turns, steep grades with a cliff on one side and a drop of thousands of feet on the other, narrow roads just wide enough for one car, with turnouts at frequent intervals, made good brakes decidedly essential.



Cars on the Indiana Automobile Manufacturers' Association's Transcontinental Tour in Front of the State Capitol at Denver.

The Garden of the Gods, Crystal park and Ute pass were visited before leaving Denver, the trip being made in local cars with the exception of Ray Harroun, who desired to test his kerosene carburetor, attached to a Henderson car, in that altitude, which is said to be 11,000 feet. He reported that his machine showed better results than those equipped with gasoline vaporizers, due, he said, to the lower vaporization point of the fuel and the decreased atmospheric pressure. During the trip from Indianapolis to Salt Lake City, Utah, the Henderson car averaged 19.5 miles a gallon of kerosene, the average cost of which, purchased at retail, was 10.25 cents a gallon.

The tourists entered California at noon, July 23. On July 25 Lake Tahoe was reached after a 14-mile drive, 12 of which covered a grade of 8000 feet. The tourists were met by San Francisco, Sacramento and Oakland newspapermen, who escorted them during the remainder of the journey. Members of the party were constantly invited along the route to deliver addresses on the good roads movement. No accidents of a serious nature developed, although there were numerous thrilling experiences, as for instance those in the rear of the column were caught in a cloudburst in the midst of the Utah desert between Thompsons and Green River. Although some of the machines were mired in the mud, there were no accidents. The tour is one of the most notable on record and that it has stimulated great interest and given an added impetus to the cause of good roads cannot be denied.

The cars making the trip are as follows: American 1 and 2, American Motors Company, Indianapolis; Henderson 3 and 4, Henderson Motor Car Company, Indianapolis; Stutz 5 and 6, Ideal Motor Car Company, Indianapolis; Marion 7 and 8, Marion Motor Car Company, Indianapolis; Premier 9 and 10, Premier Motor Manufacturing Company, Indianapolis; Haynes 12 and 13, Haynes Automobile Company, Kokomo; Pathfinder 14, Motor Car Manufacturing Company, Indianapolis; McFarlan 16, McFarlan Motor Car Company, Connersville; Apperson 17 and 18, Apperson Bros. Automobile Company, Kokomo; Empire 19, Empire Automobile Company, Indianapolis; Pilot 20 and 21, Pilot Motor Car Company, Richmond; Marmon 22, Nordyke & Marmon Company, Indianapolis; Brown tire truck, Brown Commercial Car Company, Peru; Premier tire truck, Premier Motor Manufacturing Company, Indianapolis.

Renewing an association of years' standing, Frank H. Smith, formerly of the Studebaker and Maxwell companies, has joined the sales staff of the Lozier Motor Company, Detroit, maker of Lozier cars, under Sales Manager Paul Smith. Frank Smith was formerly assistant to Paul Smith when the latter was sales manager of the Studebaker Corporation, and although the two men are not related, they were constantly being introduced as brothers.

The new series of KisselKar pleasure cars will consist of three chassis models, a four-cylinder 40 horsepower, a 6-48 and a 6-60.

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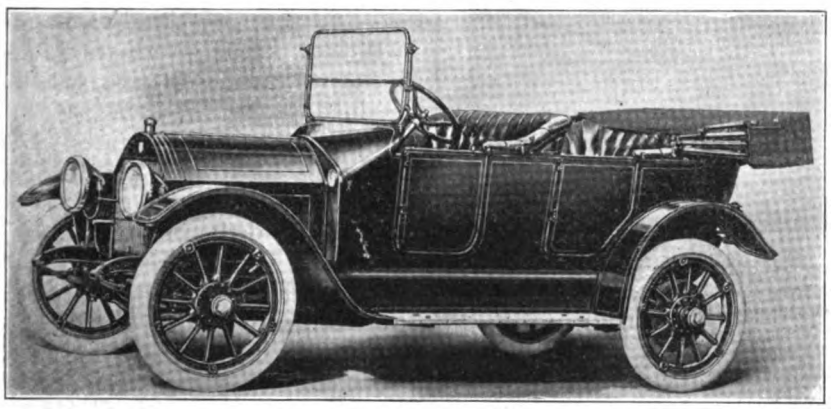
NEW MODEL B ADDED TO KING LINE.

ANNOUNCEMENT is made of a new type car by the King Motor Car Company of Detroit, to be known as the model B and to be produced in one chassis design, to which will be fitted two bodies, a two-passenger with sloping rear deck and a five-passenger with rounded back and torpedo shroud. Although selling for $1095, the car is completely equipped, including electric lighting, and the maker states that the material and workmanship are strictly high grade in every particular. It was designed to give maximum service with a minimum of upkeep and includes features usually found in high priced machines.



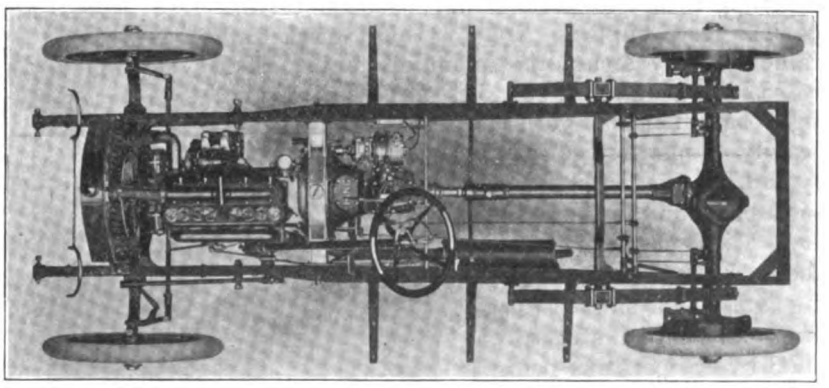
King Model B Five-Passenger Touring Car, Selling for $1095 and Being Fully Equipped, Including Electric Lighting.

One of the features of the new design is the use of the King patent floating cantilever spring, a construction which is a modification of the Lanchester type, fitted to a prominent English make of car. Each spring is pivotally supported, near its centre, on a bracket secured to the frame. The front end of the spring is securely attached to the frame by a special hanger or slotted bracket, permitting of endwise movement, but eliminating side play. The rear end is attached by plates, and bolts to a sleeve which pivots on the tube enclosing the rear axle. Reverse leaves are built up with the spring, each spring having one leaf on the underside at the centre and at the rear end. These leaves do not stiffen the spring normally, but come into action on the recoil or extreme deflection. The construction is held to eliminate the possibility of breakage, and to absorb all vibration and shocks, dispensing with shock absorbers and providing ample road clearance.

The motor is a four-cylinder unit, of the L head en bloc type, having a bore of 3.875 inches and stroke of five, rated at 30-35 horsepower by the maker. The power plant, clutch and transmission are a unit that is suspended in the frame at three points. The bearings and shafts of the motor are liberal in size and lubrication is by a force feed and splash system, provision being made for maintaining a constant and proper level at all times. The clutch is a multiple disc, comprising six driving members faced with Raybestos and six driven steel discs. Ignition is by a Briggs dual type magneto. Cooling is by thermo-syphon.

The transmission is of the selective type, providing three forward speeds, and the gears and shafts are liberal in size, rotating on roller bearings. Drive from the gearset to the rear axle is through a Spicer universal joint, and the shaft is enclosed in a torque tube. The frame is constructed of pressed steel, is of ample size and has the conventional kick-up at the rear. The rear axle is of the full floating type. The gears and axles are liberal in size and all components are readily accessible. External and internal brakes on 14-inch drums are fitted, and the steering gear is a Gemmer, irreversible. The wheel is 18 inches in diameter. The general specifications are as follows:

Motor—Four-cylinder, cast en bloc, enclosed valves, three bearing crankshaft, three point suspension.
Transmission—Selective, three speeds forward, one reverse.
Control—Centre gear change and emergency brake; driver at left.
Clutch—Multiple disc, 12 plates.
Ignition—Dual Briggs magneto.
Carburetor—Stromberg.
Cooling—Thermo-syphon.
Frame—Pressed steel.
Axles—Front, drop forged I beam; rear, full floating.
Bearings—Hyatt high duty roller.
Brakes—Service, external contracting; emergency, internal expanding, 14 inches diameter, 2.5-inch face.
Steering Gear—Gemmer, irreversible; 18-inch wheel.
Springs—Front, semi-elliptic; rear, King cantilever.
Wheels—Artillery, demountable rims; tires, Goodyear, 33 by four.
Wheelbase—112 inches; tread, 56 inches, 60 optional.
Bodies—Two and five-passenger.
Lighting—Electric. Motor starter and generator, $100 extra.
Equipment—Rain vision, ventilating windshield, silk mohair top, quick detachable curtains, speedometer, electric horn, tire irons, pump, jack, tire repair kit, tools and one extra rim.
Finish—Dark blue and black and nickel trimmings.



Top View of King Chassis, Having Patent Cantilever Spring and Being Constructed of High Grade Material Throughout.

Although an electric lighting equipment is provided, the Ward Leonard combined electric motor starter and generator is listed as $100 ex-

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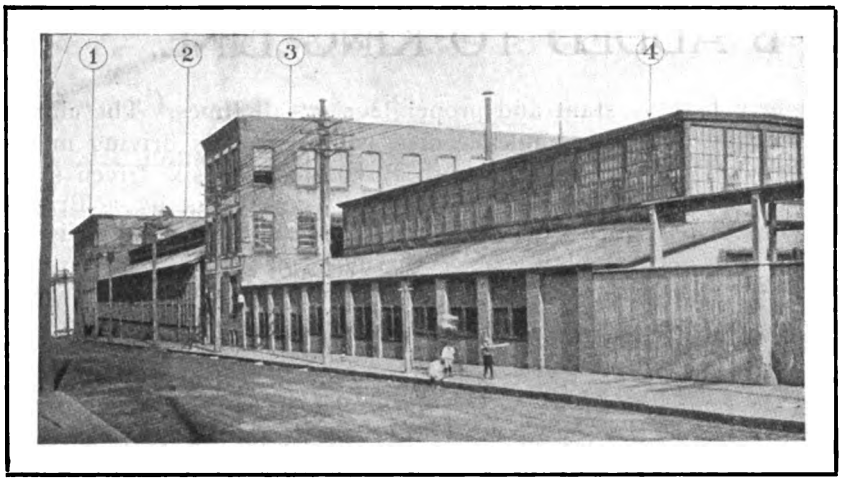


The Buildings of the Plant of the General Fire Extinguisher Company in West Exchange Street, Providence, R. I.

tra. The designer of the car, Charles B. King, is well known, having been identified with the automobile industry since 1893, at which time he designed a car. The King Motor Car Company has an interesting proposition for dealers, who are invited to write for particulars as to territory, etc.

DISPOSITION TO BE MADE OF FACTORY.

Excellent Opportunity to Establish Immense Motor Truck Garage at Providence, R. I.

The abandonment of the Providence, R. I., plant of the General Fire Extinguisher Company and the concentration of the business at Auburn, R. I., opens an opportunity for the establishment of an immense motor truck garage and repair shop, for this property, especially adapted for manufacturing purposes, is splendidly located in the centre of the wholesale, warehouse and manufacturing section of the city. The plant consists of five buildings having frontage of 507.82 feet on Exchange street, and the land has frontage of 219.30 feet on Bradford street and 257.12 on Cedar street, the area being 84,664.46 square feet. Four of these buildings have direct communication with each other, and the fifth is connected by two overhead passages.

Building No. 1 is of brick, having heavy construction, three stories and high basement, 113.2 by 75.2 feet; building No. 2 is high brick and frame foundry structure, splendidly built, 199.6 by 75.2 feet; building No. 3 is three stories and high basement, of brick, heavily constructed, 33.2 by 110.7 feet; building No. 4 is a brick and frame foundry, with monitor roof, about 120 by 55 feet; building No. 5 is a single story brick and stone structure 312.3 by 25 feet, this being separated from the main buildings, but connected by two passages. The buildings are piped for steam heat and equipped with a Grinnell automatic sprinkler system, the latter affording very low insurance rates.

The property is convenient to every business section of Providence and would be ideal for a garage suited for any kind of manufacturing. All information, illustrative and descriptive, can be obtained from G. L. & H. J. Gross, managers of estates, 170 Westminster street, Providence. The property will be sold as a unit, or divided into nine parts, on five of which are buildings. The buildings have a floor area of approximately 78,000 feet, and there is sufficient space unoccupied by structures to meet almost any character of expansion without adding to those now standing, if it would be desirable to retain them in their present form.

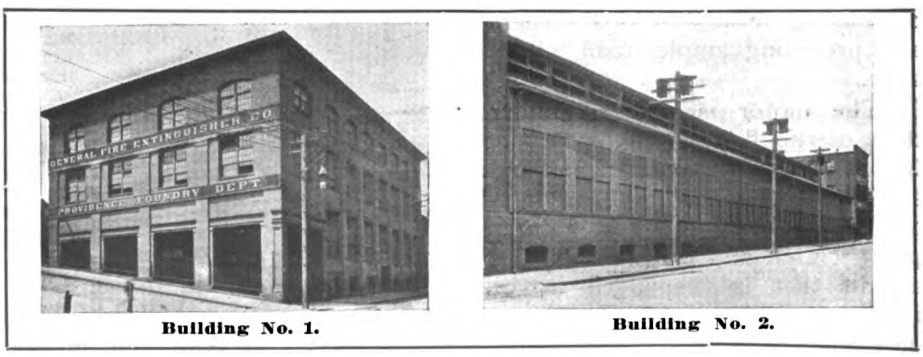
REMOVES TO CONNECTICUT.

Cameron Manufacturing Company Purchases New Plant in West Haven.

It is announced that the entire plant of the Cameron Manufacturing Company, Beverly, Mass., maker of Cameron pleasure and commercial cars, will be removed to West Haven, Conn., where the factory formerly occupied by the Mathushek Piano Company has been purchased. The concern has been in Beverly for the past six years, but for some time it has been seeking a better location where financial and shipping conditions would result in improved manufacturing facilities.

The Cameron Company is incorporated under the laws of Connecticut with a capital of $1,000,000, of which $200,000 will be placed with New Haven men. The new factory provides about 75,000 square feet of floor space, and has been idle for about a year. It is planned to produce 1000 machines for 1914, and it is expected that the plant will employ about 250 men when in operation shortly after Aug. 1.

E. S. Cameron, the designer of the Cameron car, is well known in the motor car industry. He is said to be the first engineer in the country to produce a steam car with a shaft drive.



Building No. 1. Building No. 2.

Two of the Buildings of the General Fire Extinguisher Company in Providence, R. I.

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GENERAL NEWS OF THE INDUSTRY.

Latest Information of the Activities of Manufacturers and Dealers, New Concerns, and Removals, Incorporations, Building Operations, Changes in Personnel, Etc.

INCORPORATIONS.

The following concerns have been incorporated recently to manufacture or deal in motor cars, accessories, supplies, etc.:

Darling Automobile Manufacturing Company, Britton, Okla.; $25,000; C. P. Stealey, A. W. Hedge, H. O. Crum, George E. Crawford, S. L. Sintaffer, D. L. Sellers, W. C. Settle, H. S. Emmerson, C. L. Stealey.

Chattanooga Buick Company, Chattanooga, Tenn.; $15,000; K. McKarger, George D. Lancaster, P. Campbell, H. C. McVey.

Original Puncture Fix Company, Dallas, Tex.; $5000; A. Marks, Vincent L. Hughes, A. F. Weisberg.

Sacred Heart Automobile Company, Sacred Heart, Minn.; $10,000; J. H. Sagnes, P. O. Melsneas, T. Arestad, W. A. Day, E. P. Dosseth.

Platte Center Automobile Company, Platte Center, Neb.; $15,000; E. J. Macken and others.

Auto Owners' Sales Company, Los Angeles, Cal.; $10,000; A. G. Heskett, F. L. Toombs.

Autopart Company, Los Angeles, Cal.; $10,000; H. L. Kimmell, W. C. Hanson, John H. Lane.

Michigan Motor Car Company, Memphis, Tenn.; $5000; I. Bennett, C. V. York, J. J. Carrigan.

F. P. Motor Wagon Company, Pierre, S. D.; $250,000; Thomas F. Graham, Edward E. Slade, William G. Price, R. J. Reynolds, L. L. Stephens.

Pacific KisselKar Company, San Francisco, Cal.; $500,000; G. W. Emmons, H. K. Butterfield, E. Roger Stearns, G. A. Kissel.

Empire Auto Company, Webb City, Mo.; $2400; W. L. Miller, J. Caesar, W. S. Miller.

Canham Auto Company, Wahpeton, N. D.; $25,000; Roland Canham and others.

West Motor Car Company, Topeka, Kan.; $10,000; H. G. West, F. Langley, L. Langley, J. E. Folley, F. A. Folley.

St. Louis Motor 'Bus Company, St. Louis, Mo.; $2000; Robert J. Kirkwood, James A. Rector, Walter R. Wayne.

Western Co-Operative Auto Supply Company, Topeka, Kan.; $25,000; M. T. Kemper, M. C. Wells, J. H. Walters, T. R. Paxton, J. R. Mulvane.

Variable Clutch & Variable Transmission Company, Seattle, Wash.; $100,000; to manufacture clutches and transmissions; C. E. Lawson, H. A. Emery and others.

Velie Motor Car Company, Salt Lake City, Utah; $5000; Thomas E. Kelly, J. R. Hall, O. M. Olsen.

Davis Livery & Motor Car Company, San Antonio, Tex.; $10,000; E. E. Davis, Earl Wood, R. L. Aspley.

Himeloch Auto & Taxi Company, $1000; Isaac Himeloch, Joseph Himeloch.

Liquid Tire Company, Kansas City, Mo.; $125,000; Charles S. Wright, George L. Schofield, Clay W. Prewett.

E. Landis Auto Company, Kansas City, Mo.; $5000; Emanual Landis, M. J. Oldham, W. G. Bryant, M. S. Kenney, W. J. Gregg.

American Motor Company, Galveston, Tex.; $2000; John Christensen, John Rasmussen, Gaston Weigel.

American Gas Engine Company, Davenport, Ia.; $500,000; J. E. Burmeister, A. Clifford, C. A. McCune.

Texas Carriage & Top Company, $10,000; John R. Patton, Charles E. Gardner, S. U. Turney.

Clark-Lilly Motor Car & Machine Company, San Diego, Cal.; $50,000; C. C. Clark, T. J. Lilly, Morris Binnard.

Deseret Motor Truck Company, Salt Lake City, Utah; $50,000; Ira Cole, Domonie Burns, J. E. Fleige.

W. L. Mantha Company, Bayport, N. Y.; $1000; W. L. Mantha, N. F. Mantha.

Bellefonte Automobile Manufacturing Company, Bellefonte, Penn.; to manufacture automobiles; F. Beakley, W. P. Sieg, E. A. Parrish.

A. B. C. Automobile Company, Port Chester, N. Y.; $1000; W. D. Sporberg, W. F. Gainey, T. F. J. Connolly.

Lurie Auto Company, New York City; $1000; S. S. Rosenberg, I. R. Caplan, C. U. Backer.

Britton-Stevens Motor Corporation, Boston, Mass.; $50,000; W. H. Britton, G. D. Stevens.

Chicago Universal Motor Truck Company, Chicago; $10,000; E. C. Rockwell, J. H. Dunn, C. M. Stevens.

Mehler Motor Car Sales Company, Los Angeles, Cal.; $5000; R. W. Mehler, J. J. Bacigalupi, P. Borden, D. L. Jones.

Auto Carriage Company, Cleveland, O.; $10,000; A. E. Bernsteen, E. B. Zwirk, Samuel Solker, M. L. Bernsteen, J. Nungesser.

Gloor Motor Truck Company, Chicago; $25,000; to manufacture trucks; J. T. Devere, H. L. O'Meara, J. N. Chapman.

G. A. Schacht Motor Truck Company, Cincinnati, O.; $35,000; to manufacture trucks; Gustav Schacht, William Schacht, Charles R. Talbott, T. C. Jung, M. L. Buchwalter.

Mission Automobile & Realty Company, Los Angeles, Cal.; $10,000; N. Ledgerwood, J. R. Matthews, I. S. Isenogle.

Mansur Motor Truck Company, Haverhill, Mass.; $30,000; C. B. Mansur, K. L. Moses, N. L. Furbush.

American Automobile Exchange, Indianapolis, Ind.; $25,000; Wilbur Wyant, W. R. Luke, E. C. Brennan.

A. & N. Automobile Company, New York City; $1000; to manufacture an automobile gas starter; E. C. Allison, H. B. Newins, I. N. Highby.

Paxson Auto Livery, Elkhart, Ind.; $10,000; C. E. Paxson, Samuel Gayman, Clyde Paxson.

Southern Tire & Supply Company, Jacksonville, Fla.; $12,000; Samuel Dunlap, H. E. Perryman, C. E. Brown.

Long Beach Motor Supply Company, Los Angeles, Cal.; $10,000; R. F. Ingold, S. D. Weil, Edward Cooper.

Hillman Taxi Service Company, Mobile, Ala.; $2000; G. D. Hillman, M. F. Hillman, Rosina Hillman.

Alhambra Auto Painting & Trimming Company, New York City; Adolph Horenstein, Max Marcus, Herman Marcus.

Pogue Garage Company, Fairbanks, Ind.; $30,000; James Bradbury, T. Johnson, H. Holmes.

Oxford Garage Company, Boston, Mass.; $10,000; L. D. Robbins, E. L. Brown, S. B. Ingalls.

General Tourist Company, Brooklyn, N. Y.; $25,000; S. E. Cooper, N. B. Mancill.

Motor Sales & Service Company, Cincinnati, O.; $5000; J. B. Minor, G. B. Jolly, Carl Lehmann, A. Majoewska, W. W. Helmholtz.

Brooklyn Auto Repair Company, Brooklyn, N. Y.; L. N. Vause, H. P. Frese, C. V. Mulligan.

Federal Sales Company, Buffalo, N. Y.; $10,000; C. A. Hahl, J. J. Henry, H. S. Bliss.

Witch City Auto Company, Salem, Mass.; $7000; Edwin Cook, Charles A. Cook, William H. Church.

Standard Limousine Top Company, Portland, Me.; $500,000; William H. Gulliver, Elton H. Thompson, Edward J. Connor, C. F. Tennant.

East Dedham Garage, Inc., East Dedham, Mass.; $5000; Howard H. Bonnemort, Charles J. Bonnemort, Irene M. Bonnemort.

H. T. Rhoades Company, Boston, Mass.; $3000; Harry Bergson, Florence A. Cleary, Howard T. Rhoades.

Todd Rubber Company of Pittsfield, New Haven, Conn.; $2500; E. J. Todd, A. P. Gunn, Albert Wurts.

Barber Auto Service Company, Brooklyn, N. Y.; $10,680; A. S. Barber, Mae Barber.

Hudson & Bergen Automobile Company of New Jersey, Jersey City, N. J.; $137,000; general automobile business; R. E. Fulcher, C. Meller, A. A. Letts.

Model Garage Company, Jersey City, N. J.; $25,000; Joseph Autenrieth, H. Finks.

Providence Taxi-Service Company, Providence, R. I.; $1000; John W. Perry, Charles E. West.

Bemis Car Truck Company, New York City; $150,000; C. A. Mattfield and others.

Auto Efficiency Engineering Company, New York City; $50,000; U. B. Soule, M. A. Dolbeck, Alfred Aram.

Foraker Motor Truck Company, Chicago; $12,000; E. W. Brooks, G. W. Andrews, Paul A. Neuffer.

Lavole Motor, Ltd., Montreal, Can.; $1,000,000; A. J. Lavoie, H. S. Ross, O. F. Shearer and others.

Colleton Automobile Repair Company, Waterboro, S. C.; $1000; H. E. Savage, M. O. Dunning.

Gray's Engineering Works, Galveston, Tex.; $7000; Harry Gray, John E. Mitchell, Edward H. Mitchell.

Eureka Tire Company, Trenton, N. J.; $100,000; John E. Thropp, Peter D. Thropp, Frank W. Thropp.

Gramont Traction Plow Company, Springfield, O.; $500,000; P. E. Montanus and others.

Taxi Company, Newark, N. J.; $50,000; J. A. Bernhard, F. M. Luhden, H. W. Knight.

O. L. Motor & Manufacturing Company, St. John, N. B.; $150,000; to manufacture motors so that kerosene may be used in gasoline engines.

Bock Bearing Company, Toledo, O.; $375,000; W. E. Bock, Henry L. Bock, J. N. Lane, R. W. Kirkley, Frank H. Geer.

Engle Auto Parts & Motor Manufacturing Company, Toledo, O.; $75,000; W. P. Engle, T. T. Betts, Samuel W. Rapp, W. R. Engle, Rufus T. Betts.

Johnstown Rubber Company, Johnstown, Penn.; $25,000; A. C. Simlor, Thomas Y. Brent.

Commercial Motor Car Company, Cincinnati, O.; $50,000; Walter G. Vosler, H. A. Hoelscher, E. H. Hoelscher, W. H. Hoelscher, George Hoelscher.

Bartles-Shepard Oil Company, Waukesha, Wis., $40,000; A. G. Maguire, A. U. Stotten, J. H. Marshutz.

Ardsley Garage Company, New York City; $60,000; Sigmond Meyer M. A. Cramer, Joseph Fischer.

Commercial Oil & Gas Company, New York City; $1,000,000; J. L. Douglass, J. W. Ebbs, J. F. Mosely.

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Prest-O-Lite Company, New York City; $25,000; R. B. Tillinghast, G. Link, Jr., C. B. Clendenen.

Economy Electric Company, Ambridge, Penn.; $60,000; magnetos and lighting equipment for automobiles; Henry Amsler, F. C. Schroeder, D. A. Anderson, William Anschultz, Dr. P. J. Sohn, C. G. Carr, F. C. Hendorshot.

Prest-O-Ceal Company, Jersey City, N. J.; tire filler; W. B. Shelton, W. R. Hill, W. H. Carey.

Leasure Auto Safety Dash Company, Pittsburg, Penn.; $150,000; M. F. Edmundson, T. M. Gealey, Neil J. Norwood.

Terminal Taxicab Company, Birmingham, Ala.; $2000; John Gokias, Milton Gokias, Chris Gokias.

Orleans Motor Company, Beaumont, Tex.; $7500; C. L. Smith, S. F. McConnico.

Anthony Auto Repair Company, Inc., New York City; $10,000; Henry Struckhausen, Florence M. Struckhausen.

Club Scrap Tire & Rubber Company, New York City; $2500; Harry Dolkhart, Abraham Kabalkin, William Adinoff.

G. E. Rall Company, West New Brighton, N. Y.; $5000; George E. Rall, Catherine Rall, August Roisch.

Jaeger Rotary Valve Company, Inc., Mount Vernon, N. Y.; $40,000; patent rights; Jacob Norden, Max Jaeger, William Cronenberg.

Dayton Buick Company, Dayton, O.; $10,000; L. J. Haughey, Charles Abel, Joseph A. McKenney, Earl Simon, A. J. Smith.

Keatch Patents Company, New York City; $100,000; G. E. Starr, H. A. Forbes, C. H. Merchant.

American Engine & Electric Company, Buffalo, N. Y.; A. S. C. Leepers, J. H. Morey, W. M. Pyle.

Krickwell Motor Company, Chicago; $2500; C. W. Krick, William Capesius, H. L. Strohm.

Pacific Auto Truck Manufacturing Company, Los Angeles, Cal.; $250,000; to manufacture motor trucks; W. S. Wheaton, A. J. Pederson, D. M. Carroll, Ellis G. Brode, W. R. Swartwood.

Herlihy-Scales Company, New York City; $2500; Dalton Scales, Richard Herlihy, B. A. Judd.

Heyer Auto Supply Company, Montclair, N. J.; $25,000; A. P. Heyer, J. Culvert.

Insular Service Corporation, New York City; $50,000; to deal in automobiles and trucks; F. H. Cox, Theodore Kirby, A. E. Carpenter.

Babcock Garage Company, Toledo, O.; $10,000; Alonzo G. Duer, C. Wagenhausen, L. P. Wagenhausen.

Springfield North End Auto Repairing & Vulcanizing Company, Springfield, Ill.; $2500; R. J. Marquardt, C. H. Hamann, Elizabeth Hamann.

Milwaukee Forge & Machine Company, $8000; to repair automobiles; G. B. Pillar, A. W. Peffer, John Eckert, Charles Hartson.

Grent Garage Corporation, Norfolk, Va.; W. H. Bell, A. B. Court, Julian Osborne.

Drenco Garage, Inc., New York City; $10,000; D. W. Driscoll, J. A. Rennie, C. Coon.

Commercial Auto Body & Manufacturing Company, Cleveland, O.; $50,000; to manufacture automobile bodies; M. E. McManus, G. H. Krippenberg, F. L. Fuller, J. H. Orgill, J. E. Matthews.

Convent Garage, Inc., New York City; $5000; E. F. Dannemann, H. F. Dannemann, W. G. Dannemann.

Kouyoumjian Electric & Manufacturing Company, Cleveland, O.; $100,000; to manufacture an electric generator for automobiles which will be a cooling fan and generator combined; Robert Williams, M. L. Long, E. K. Kouyoumjian, B. W. Brockett, C. H. Treach.

Century Garage Corporation, New York City; $1000; Moses Lampert, A. R. Martin, A. M. Martin.

Lake Shore Auto Cartage Company, Cleveland, O.; $5000; C. M. Handy, Charles Malouf, G. J. Klamm, John Nelisse, L. B. Handy.

MANUFACTURERS.

The Chemical Rubber Company of Western Pennsylvania is the name of a new company organized at Pittsburg, Penn., to manufacture a tire filler. The men behind the concern are: Allen W. Pence and Charles Mesta of Pittsburg, Grant Cummings of Springdale and W. H. Snyder of Beaver. Offices will be established in People's Bank building and a factory erected on Grant boulevard.

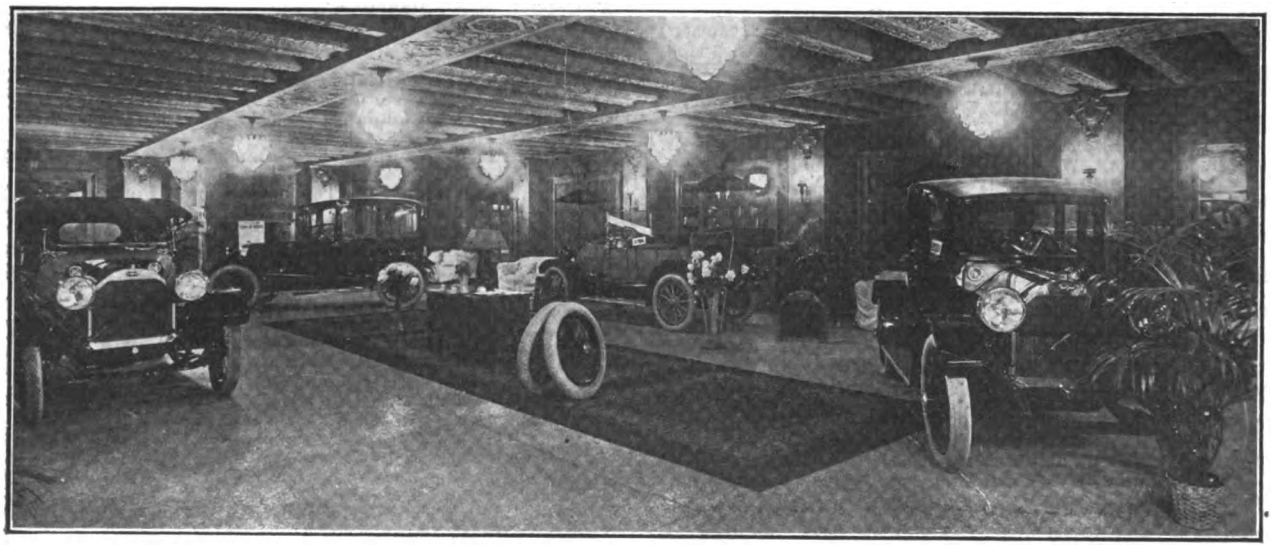
The Metz Automobile Company, Waltham, Mass., maker of Metz cars, has opened temporary salesrooms on the second floor at 1700 Broadway, New York City. E. L. Rieser is manager.

The Gramm Motor Truck Company, Lima, O., maker of Gramm trucks, will enlarge its factory this summer. It is the intention to increase the output to 50 trucks daily.

The Goodyear Tire & Rubber Company, Akron, O., manufacturer of Goodyear tires, has commenced the construction of an elaborate factory building at Seattle, Wash., which will have a floor area of 10,000 square feet.

The Henderson Motor Car Company, Indianapolis, Ind., announced its 1914 line of Henderson cars during the progress of the recent 500-mile race, the new models being displayed in the Hotel Claypole. An accompanying illustration presents the exhibit, which attracted not a little favorable comment from all who saw it.

The Stevens-Duryea Company, Chicopee Falls, Mass., maker of Stevens-Duryea cars, has made arrangements for opening a factory branch at San Francisco, Cal., and a new building at the northeast corner of Van Ness avenue and Geary street has been secured. F. C. Zimmerman is the Pacific Coast manager for the company and the new branch is the result of the recent visit to the West by President Whiteside.



Recent Exhibition of 1914 Henderson Models at Hotel Claypole, Indianapolis, Ind., Made by the Henderson Motor Car Company of That City.

The Buffalo Automobile Spring Company, Buffalo, N. Y., has been incorporated with a capital stock of $10,000 to manufacture automobile springs. Among the incorporators is H. W. Spangler of 359 Huntington street.

The Machine Manufacturing & Engineering Company, Council Bluffs, Ia., maker of automobile supplies and accessories, has plans to enlarge its business.

The Anderson Rolled Gear Company, Cleveland, O., maker of automobile and other gears, is incorporated with a capital of $100,000, and is expected, it is reported, to move to Toledo, O., in the near future. N. Anderson of Cleveland is president, and A. Barker of Toledo is vice president.

George W. Browne, automobile manufacturer, has become incorporated with $45,000 capital at Milwaukee, Wis., and will locate at Broadway and Biddle street.

The Dreadnaught Tire Company, Baltimore, Md., has acquired a plant at Orangeville, Baltimore county, which is located on a four-acre site. It is being rebuilt for tire manufacture.

The Kentucky Wagon Manufacturing Company, Louisville, Ky., recently held its annual meeting. W. O. Harris, Jr., and Stuart E. Duncan were elected directors to succeed C. G. Strater and L. Allen. President W. C. Nones was re-elected, as were also the following directors: S. M. Nones, John Marshall, John C. Hughes, Bernard Bernheim, P. S. Tuley and James Glazebrook.

The Lewis Spring & Axle Company, Jackson, Mich., has absorbed the Lee & Porter Manufacturing Company, Buchanan, Mich.

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W. J. Hughey & Son Company, Chicago, is building a factory for the production of motor trucks at Prairie avenue and 33rd street, to cost $100,000.

The Moreland Motor Truck Company, 1701-1731 North Main street, Los Angeles, Cal., is enlarging its plant, the new buildings costing $250,000.

The Hans Motor Equipment Company, La Crosse, Wis., has given contracts for its new $25,000 factory building and expects to begin operations in the near future.

The Velie Motor Vehicle Company, Moline, Ill., has decided to manufacture its commercial vehicles under the direction of a separate company, to be known as the Velie Engineering Company. A new plant has been erected adjoining the present pleasure car shops.

The Gibson Motor Car Company, Alliance, O., maker of Gibson cars, has opened salesrooms at 2519 Oliver building, Pittsburg, Penn.

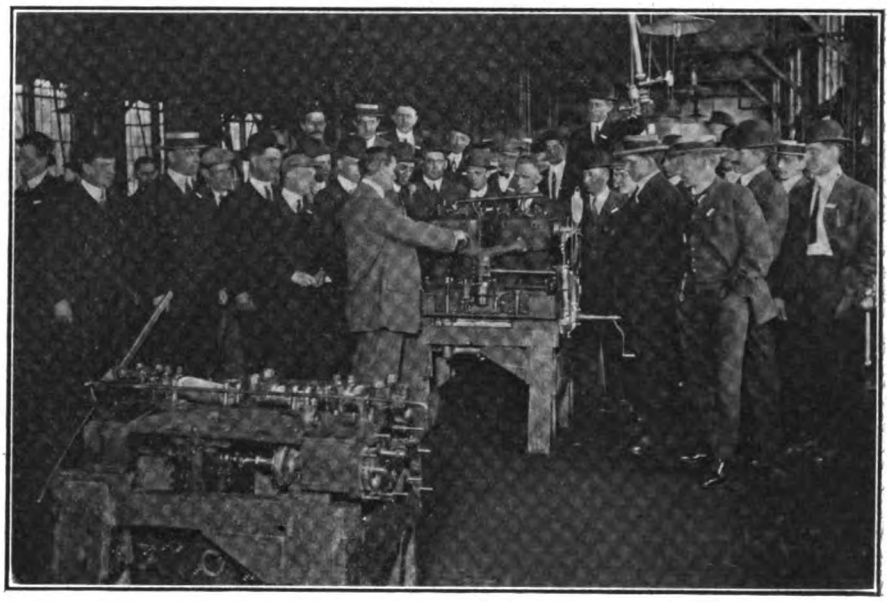
The Hess Spring & Axle Works, Carthage, O., has filed papers with the secretary of state increasing its capital stock from $100,000 to $350,000.

President W. B. Hellen of the Dart Manufacturing Company, Waterloo, Ia., maker of Dart trucks, has arranged for the opening of an agency at Boston. A company has been incorporated under the name of Dart Motor Truck Company and salesrooms have been located at 293 Northampton street.

The Jamesville Manufacturing Company, maker of machine and automobile parts, has moved from Jamesville, N. Y., to Batavia, N. Y.

The Monarch Motor Manufacturing Company, Chicago, is planning the erection of a one-story brick factory at 4634 West Madison street, to cost $16,000.

Teaching drivers of motor trucks to know the abuses of overloading and fast driving was one of the chief purposes of the service convention at the Providence, R. I., factory of the American Locomotive Company recently, which was attended by about 50 men from New York, Chicago, Philadelphia, Pittsburg, Richmond, Newburg, Montreal and the Pacific Coast. George H. Duck, the manager of the general service department, was chairman, and the speakers included General Sales Manager C. Arthur Benjamin, Factory Manager F. P. Nehrbas, Chief Engineer R. A. Vail and J. F. Gfrerer, manager of the dealers' service department. Economy of operation was the object sought by each speaker. Besides hearing the addresses the visitors inspected the factory and witnessed demonstrations of the construction of the machines.



Delegates to the Service Convention Held at the Providence Factory of American Locomotive Company, Listening to Lecture on Alco Truck Motor.

C. A. Swinehart, for several years sales manager of the Swinehart Tire & Rubber Company, Akron, O., maker of Swinehart tires, has become general manager of the Vulcan Rubber Company, Erie, Penn. The company, which has been manufacturing rubber goods and inner tubes, will take up the production of commercial vehicle tires, on a large scale, according to a design made by Mr. Swinehart. The latter and H. F. Burger, also formerly connected with the Swinehart Tire & Rubber Company, have purchased an interest in the Vulcan company, which has been incorporated with $200,000 capital.

Harry A. Lozier, formerly president of the Lozier Motor Car Company, Detroit, maker of Lozier cars, has been elected president of the Motor Patents Company and has taken offices in the Ford building, that city.

The Fort Wayne Auto Works, Fort Wayne, Ind., has moved its equipment and machinery to London, Ont., where the company will operate under the name of the Canadian Standard Motor Works.

The Martin Shock Absorber Company has announced the removal of its factory to its own building at Hooper and Slauson avenues, Los Angeles, Cal.

The International Pneumatic Wheel Company, Cambridge City, Ind., recently incorporated to make a new spring wheel, has moved its machinery to Indianapolis, Ind.

Homer N. Motsinger is now the sole owner of the Motsinger Device Manufacturing Company, Lafayette, Ind., having purchased the holdings of his two partners, B. G. Gilbough, secretary of the company, and H. B. Earle, treasurer.

The Bijur Motor Lighting Company, New York City, has moved its offices from 250 West 54th street to the Factory Terminal building, River Front and 15th street, Hoboken, N. J.

The Auto Sheet Metal Works, Chicago, has moved into larger quarters at 1532 Michigan avenue, where it has 10,000 feet of floor space.

The Cleveland Electric Storage Battery Company, Cleveland, O., has announced the removal of its factory to 410 South Seventh street.

The Prest-O-Lite Company, Indianapolis, Ind., has purchased a site of five acres at South San Francisco, Cal., on which a plant will be erected to care for the needs of the Pacific Coast.

The Marathon Tire & Rubber Company, Cuyahoga Falls, O., is planning additions to give it 2200 more feet of floor space.

The American Gas Engine Company, recently formed at Sheboygan, Wis., has broken ground for a plant to consist of three buildings.

The Gordon Rubber Company, Canton, O., is planning the erection of a new plant to cost $25,000. Two buildings, each two stories high, will be constructed.

The Swarz Electric Company has purchased a factory building and one acre of land opposite the speedway at Indianapolis, Ind., and two additional fireproof factory buildings will be erected.

The Ohio Electric Automobile Company, Toledo, O., is planning an addition to its present factory which will double its capacity. The new building will adjoin the present plant and will be of the same height and dimensions.

The De Tamble Motor Company, Anderson, Ind., is again operating its plant, the settlement proposed by the old owners having been confirmed by the court at Indianapolis.

The Schram Motor Car Company, recently organized at Seattle, Wash., to manufacture automobiles, has leased a site for a plant just outside the city limits.

The Mais Motor Truck Company, Indianapolis, Ind., maker of Mais trucks, has plans under way for the reconstruction of the buildings which were recently damaged by fire.

The Palmer Motor Company, which was recently formed, has begun the construction of a plant at Ecorse, a suburb of Detroit.

The Continental Rubber Works, Erie, Penn., is building an addition to its plant which will afford an increase of 15,000 square feet of floor space.

Thomas R. O'Brien, maker of motor truck bodies, carts, etc., has secured larger quarters at Hubbard avenue and Dale street, Springfield, Mass.

The Mogul Motor Truck Company, Chicago, maker of Mogul trucks, has leased a factory building at Maple avenue and the Wabash railroad, St. Louis, Mo., to which place it will move its plant.

The Motometer Company, New York City, recently closed a contract with E. T. Birdsall, M. E., Detroit, whereby the latter obtains exclusive sale of the Boyce motometer for the State of Michigan.

The Universal Motor Truck Company, Detroit, maker of Universal trucks, has begun work on a new addition to its factory. The plant practically will be doubled and the cost of the new buildings will be $250,000.

The Monitor Automobile Works, Janesville, Wis., has ceased the manufacture of its two-cylinder model and in future will make its four-cylinder trucks exclusively.

The Philadelphia Truck Association, recently formed, has held its first meeting and motor truck matters were discussed. The committee on publicity was authorized to issue a club organ. James Reed, Jr., assistant director of public works, Philadelphia, and E. S. Foljambe were the speakers at the meeting.

The Hendrie Rubber Company, Torrance, Cal., has

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practically completed its new plant, which cost $100,000, and the Pacific Electric Railway has commenced the construction of a special line to serve the concern.

The International Polish Company, Indianapolis, Ind., manufacturer of the well known Blue Ribbon brands of metal polish, nickel polish, automobile body gloss and radiator leak proof cement, reports that since opening its new factory, Jan. 1, the plant has been taxed to the limit of its capacity in supplying orders.

The La Crosse Rubber Mills Company, La Crosse, Wis., is building a three-story addition to its plant, which will double its capacity.

The K. & F. Manufacturing Company, recently organized by capital at Chicago and Kenosha, Wis., has established a plant on Exchange street, Kenosha, Wis., for the manufacture of metal and glass containers, measuring devices, caps, etc.

The J. W. Brown Manufacturing Company, Columbus, O., maker of automobile lamps, has awarded the contract for a new two-story plant to cost $100,000.

TRADE PERSONALS.

F. O. Bezner, vice president of the Hudson Motor Car Company, Detroit, maker of Hudson cars, has taken up his residence at Paris, France, where he will establish headquarters for the European sales of his company.

Henry L. Hornberger has resigned as Pacific Coast manager of the Oakland Motor Car Company, Pontiac, Mich., and has been succeeded by Arthur Bunker of Seattle, Wash., president of the Bunker Motor Car Company, which handles the Oakland car in the northwest.

W. B. Fewell, who formerly was branch manager for the Olds Motor Works, Lansing, Mich., maker of Oldsmobile cars, at Boston and St. Louis, has been appointed manager of the New York branch of the Oakland Motor Car Company, Pontiac, Mich., maker of Oakland machines. He succeeds George S. Waite, who has become interested in the Grant Motor Car Company, Detroit, recently formed to make the Grant car.

W. H. Flinn has been appointed advertising manager of the International Motor Company, New York City, maker of Saurer, Hewitt and Mack trucks, succeeding R. H. Hutchinson, Jr.

C. E. Stebbins, manager of the Kansas City district of the Maxwell Motor Company selling organization, has been appointed assistant to Charles F. Redden, general sales manager of the company.

Walter Crosby, for more than a year bookkeeper of the Montana garage, Broadway and Arizona streets, Butte, Mont., is now manager, succeeding R. L. Merritt, who will still be connected with the company in the sales department.

Hugh Hughes, the well known racing driver, has become a designer and is employed by Carden Green and J. B. Levy of Broken Arrow, Okla, wealthy oil operators, who are making arrangements to build an automobile factory at Tulsa, Okla.

Robert Perkins, for several years production manager of the Gemmer Manufacturing Company, Detroit, has resigned. He is considered one of the most capable men in the industry, his experience dating to the days of the Liberty Cycle Company, of which he was factory manager.

W. C. Hood, general sales manager of the Westcott Motor Car Company, Richmond, Ind., has been on the Pacific Coast, where he placed numerous agencies.

W. B. Harding, manager of the G & J factory of the United States Tire Company at Indianapolis, Ind., has returned from a European trip.

B. C. Swinehart has been made manager of the Philadelphia branch of the Republic Rubber Company, maker of Republic tires. He was formerly Cleveland manager for the company, in which place he succeeded G. N. Talcott, who has been in charge of the branch in Atlanta, Ga.

E. R. Benson, sales manager of the Studebaker Corporation, has returned from his trip to the Pacific Coast.

Clarence O. Sacks, advertising manager of Gray & Davis, Inc., Boston, Mass., maker of Gray & Davis electrical starting and lighting devices, has returned from his honeymoon trip to Europe.

N. W. Barton has been appointed assistant sales manager of the Olds Motor Works, Lansing, Mich. He has been in charge of the department supervising travelling mechanics and of all details of service to Oldsmobile owners.

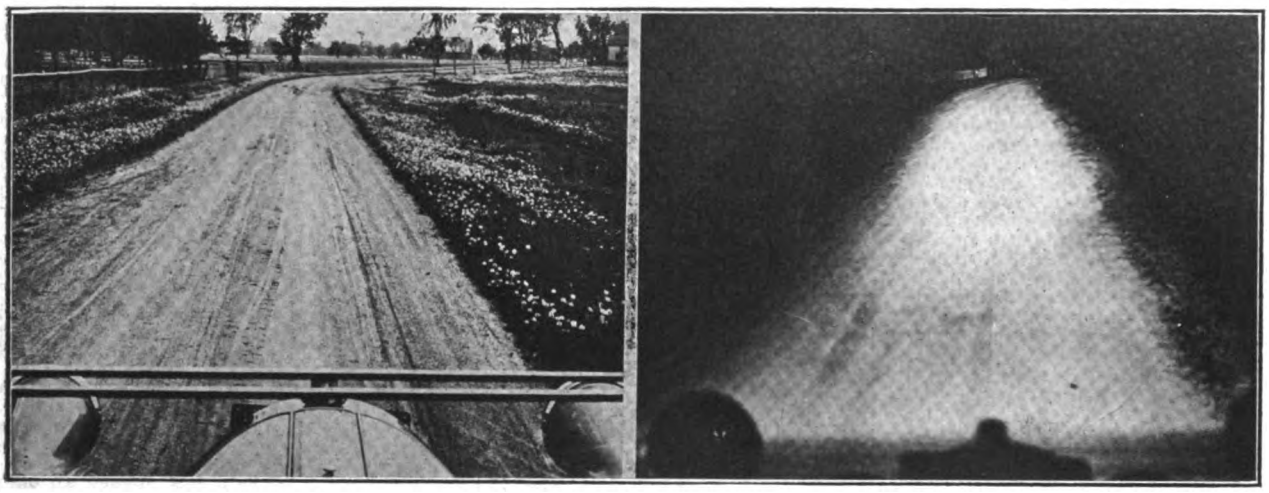
F. B. Norman has become manager of the branch of the Ford Motor Company, Detroit, at Portland, Ore.

H. H. Murden has been appointed factory manager of the Knickerbocker Motor Truck Company, New York City.

J. E. MacDougal has been appointed sales manager of the Pittsburg-Haynes Automobile Company, Pittsburg, Penn., distributor of Haynes cars, made by the Haynes Automobile Company, Kokomo, Ind.

H. H. Thatcher has been appointed treasurer of the Oakland Motor Car Company, Pontiac, Mich., maker of Oakland cars. He will continue to supervise Michigan sales.

The Pierce-Arrow Motor Car Company, Buffalo, N. Y., maker of Pierce-Arrow cars, believes it has solved the problem of securing a maximum of light on the roads at night. The value of the headlight lies in its ability to so project the beam of light that the driver is enabled to see the road ahead as well as to completely illuminate the sides of the roadway. The Pierce-Arrow company has placed its headlights on its new models directly on the mudguards. An accompanying illustration shows the arrangement, and also indicates its value in illuminating curves. The two photographs, which are presented here side by side, were taken at the same spot, the first in the daytime and the other at night. The curve is 750 feet from the car.



Showing Efficiency of Headlights Incorporated with the Mudguards on New Pierce-Arrow Cars, the Two Photographs Being Taken at the Same Point.

E. Wooler has become a designer for the Continental Motor Manufacturing Company, Detroit, maker of Continental motors. He was recently in the designing department of Rolls-Royce, Ltd., England.

R. S. de Milkiewics, who has been connected with the truck department of the Peerless Motor Car Company, Cleveland, O., has resigned to become connected with the American Locomotive Company, with which concern he will be located in the branch at New York City.

T. H. Millington has resigned as general manager of the Detroit plant of the E. G. Budd Manufacturing Company, Philadelphia, Penn.

C. K. Thomas has been appointed manager of the Federal Truck Company, New York City, distributor of Federal trucks, made by the Federal Motor Truck Company, Detroit.

O. W. Klose, district manager of the Maxwell Motor Company, in Minneapolis, Minn., recently resigned to enter business for himself.

George Davis has become manager of the Dominant Motor Car Company, Buffalo, N. Y., agent for Packard trucks, made by the Packard Motor Car Company, Detroit.

R. W. Kerns, formerly general superintendent of the Brecht-Butcher Supply Company, St. Louis, Mo., has joined the sales force of the Missouri Motor Car Company and is now in charge of the truck department.

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W. D. Edenburn, a former Indianapolis newspaperman, who has been connected with the automobile industry for some time, has resigned as manager of the newspaper department of the Henderson Motor Car Company, Indianapolis, Ind., maker of Henderson cars, to join the organization of the Apperson Bros. Automobile Company, Kokomo, Ind., maker of Apperson machines. His resignation became effective immediately and he represents the Apperson company on the Indiana-Pacific Coast tour, which started from Indianapolis, July 1, and is scheduled to finish at Los Angeles, Aug. 2. Mr. Edenburn has been one of the most active men in the promotion of the third annual tour of the Indiana Automobile Manufacturers' Association. He was chairman of the special features committee and assistant chairman of the event. The management of the run while en route devolves upon Mr. Edenburn and W. McK. White, advertising manager of the Marion Motor Car Company, maker of Marion cars.

W. D. Edenburn, with Apperson Bros. Automobile Company.

R. K. Johnston, formerly of the Gramm Motor Truck Company, Lima, O., maker of Gramm trucks, has been appointed general manager of the Bowling Green Motor Car Company, Bowling Green, O., manufacturer of the Modern truck.

Charles B. Warren, formerly general manager of the Haynes Automobile Company, Kokomo, Ind., maker of Haynes cars, has become manager of the New York City branch of the General Motors Truck Company, Pontiac, Mich., maker of G. M. C. trucks.

C. H. Harvey has been appointed sales manager of the Eastman Motor Car Company, Philadelphia, Penn., distributor of Wilcox trucks, made by the H. E. Wilcox Motor Car Company, Minneapolis, Minn.

R. C. Chase has resigned from the advertising department of the Packard Motor Car Company, Detroit, maker of Packard trucks and pleasure cars.

The H. S. Houpt Company, New York City, recently formed, recalls old times for those familiar with the history of automobile selling organizations in the earlier days of the industry. Incidentally, it may be remarked that the Harry S. Houpt Company, which was the name selected by Harry S. Houpt in his former venture, was a decidedly important factor in the sales end of the business, not only in New York, but in Philadelphia and Newark, where branches were maintained. Mr. Houpt was president of the old organization and holds the same position with the new. The concern was formed for the purpose of handling Thomas cars and speedily built up a large trade. The New York garage had capacity for 150 machines, which was considered of substantial size in those days. Besides, there was one of the best equipped repair shops to found anywhere. Until recently, Mr. Houpt was sales manager for the American Locomotive Company, but before that he was engaged in the manufacturing end for some time. Associated with him in the new company, which has taken over the Lozier agency, heretofore conducted by the Lozier Motor Company, Detroit, as a factory branch, is L. A. Van Patten, who becomes vice president of the Houpt company. Mr. Van Patten formerly was advertising manager for the American Locomotive Company and as such was in close touch with Mr. Houpt and his methods.

R. E. Frye, who has been identified with the Williams-Frye Sash & Door Company, St. Louis, Mo., where he is well known in business circles, is now general manager and an officer in the Lindsey Motor Car Company of that city.

Frank N. Sim has become assistant advertising manager of the Timken-Detroit Axle Company, Detroit, and the Timken Roller Bearing Company, Canton, O.

Fred Robie, formerly manager of the International Motors Company, Chicago, has resigned.

F. A. Calderwood, formerly assistant manager of the Lozier Motor Company of New England, Boston, has taken a similar position with the Boston branch of the Locomobile Company of America, Bridgeport, Conn., maker of Locomobile cars and trucks.

C. E. Osborne has charge of the new service department of the Speedwell Motor Car Company, Dayton, O., maker of Speedwell cars and trucks, at Van Ness avenue, San Francisco, Cal.

George F. Russell has succeeded Joseph D. Porter as advertising manager of the Garford Company, Elyria, O., maker of Garford trucks and pleasure cars.

W. F. Wittenberg has been appointed manager of the Nevada Manufacturing Company, Nevada, Ia., a concern which has been formed to manufacture motor trucks and motor plows. Mr. Wittenberg was formerly sales manager of the Christian Engineering Company, Milwaukee, Wis.

Charles E. Chadwick, one of the organizers of the Brockway Motor Truck Company, Cortland, N. Y., maker of Brockway trucks, has severed his connection with the company.

Clyde Thompson, formerly manager of the advertising department of the Diamond Rubber Company, Akron, O., maker of Diamond tires, recently taken over by the B. F. Goodrich Company, Akron, maker of Goodrich tires, has resigned.

Charles Fisher, formerly Chicago manager of the Universal Motor Truck Company, Detroit, maker of Universal trucks, has been promoted to become district manager and will handle the Middle West territory. He is succeded at Chicago by C. P. Derr.

Joseph Q. Goudie, who has been manager of the Detroit branch of the Diamond Rubber Company, has been appointed sales manager for the Pennsylvania Rubber Company, Jeannette, Penn. His headquarters will be at Detroit.

George W. Edwards, well known in St. Louis, Mo., has become manager of the St. Louis branch of the General Motors Truck Company, Pontiac, Mich., maker of G. M. C. trucks, with headquarters at 2915 Olive street.

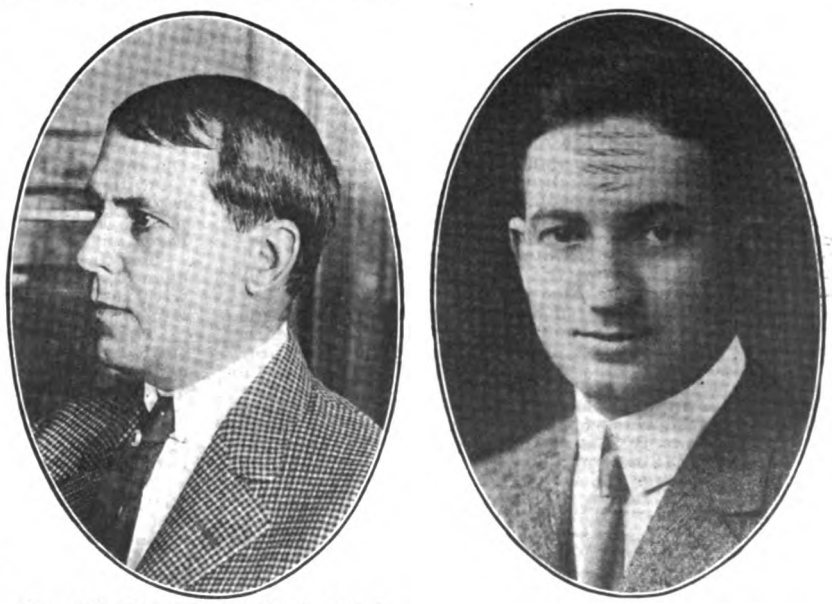
A. C. Weaver, formerly assistant manager of the Lozier Sales Company, Cleveland, O., has been promoted to become general manager. He succeeds A. W. Woodriss, who has taken the Boston agency for the Lozier car.

C. A. Hamilton, formerly vice president of the Lavigne Gear Company, Racine, Wis., has resigned. He is developing some ideas of his own in connection with cyclecars and cyclecar motors.

C. M. Tichenor of Detroit has been appointed special sales engineer and representative of Gray & Davis, Inc., Boston, maker of electric starting and lighting systems. He will cover the Detroit territory.

David Reinoehl, formerly president of Reinoehl, Anderson & Harrison, Inc., Detroit, has opened an office as consulting engineer at 913 Dime Bank building, Detroit.

James G. Cowling, formerly general manager of the Pierce Motor Company, Racine, Wis., and a member of



Harry S. Houpt, President, and L. A. Van Patten, Vice President, H. S. Houpt Company.

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the S. A. E., has resigned his position to join the organization of the Federal Pressed Steel Company, Milwaukee, Wis., as managing sales director.

F. E. Moskovics, who recently resigned as sales manager of the Remy Electric Company, Anderson, Ind., has purchased an interest in the Jones Electric Starter Company of Chicago, maker of Jesco electric lighting and starting systems. Mr. Moskovics will have charge of sales and at the next directors' meeting will be elected an officer in the company, it is said. He has been in the automobile business 15 years, both as an engineer and sales manager. He designed and built the Yellow Bonnet taxicabs, and also designed the Allen-Kingston car in New York City.

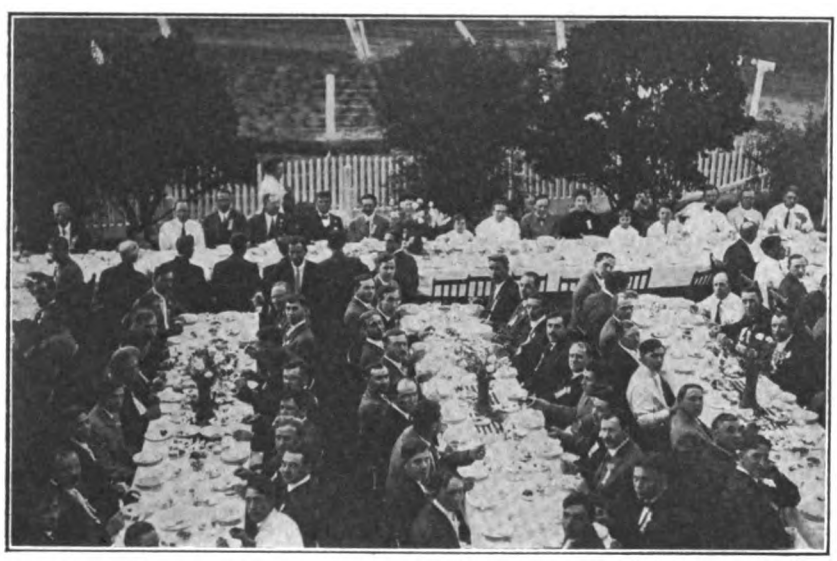
E. L. Atkinson, general manager of the Lange Motor Truck Company, Pittsburg, Penn., is on an extended business trip, during which he will visit Baltimore, Philadelphia, New York and Boston.

E. W. Lyle, formerly connected with the Alden Sampson branch of the United States Motors Company, has recently associated himself with the Adams Bros. Company, Findlay, O., maker of Adams trucks, as superintendent.

M. Lucien Louys, director and manager of Les Fils de Peugeot Freres, manufacturer of the Peugeot racing car which won the sweepstakes prize at Indianapolis, Memorial Day, recently visited Toledo as the guest of the Willys-Overland Company, maker of Overland cars.

Samuel Hill, president of the American Road Builders' Association at the invitation of President George McAneny of the Borough of Manhattan, and President Cyrus C. Miller of the Borough of the Bronx, New York City, recently delivered an illustrated address on "The Highways of the Northwest" before an assemblage of over 50 municipal engineers who are in charge of the highways of Greater New York.

I. W. Penniman, who has been New England sales manager of the Walpole Tire & Rubber Company, maker of Walpole tires, has been made general sales manager of the same concern with offices at 757 Boylston street. He has had wide experience in the tire business, being previously with the Goodyear Tire & Rubber Company and for four years its branch manager at Portland, Me.



Guests of H. S. Firestone at Recent Firestone Foremen's Homestead Dinner.

George H. Duck has resigned as general service manager of the American Locomotive Company. Mr. Duck organized the service department of the company and put it on its present basis, establishing systems that are being followed generally by other concerns. He was formerly branch manager for the Matheson Automobile Company before joining the Alco concern.

F. E. Wilson has severed his connection with the Tone Car Corporation, Indianapolis, Ind. maker of Tone cars, and has joined the sales force of the Marathon Motor Works, Nashville, Tenn., maker of Marathon cars. His headquarters will be at Dallas, Tex.

Production Manager Max Wollering of the Studebaker Corporation, who was reported to have joined the Maxwell Motor Company in a similar capacity, denies the report and states he will not break his long term contract with the Studebaker concern.

NEW CONCERNS.

Thompson & Knox has opened a new modern garage in the Holt building, Marysville, Mo.

The Pierce County Auto Company, Puyallup, Wash., has opened a garage on Stewart street.

P. C. Rodman, Abilene, Kan., has opened a first class garage on Fourth street.

W. S. Lindsey has arranged to open an automobile supply house at Third street and First avenue, St. Petersburg, Fla., where a full line of supplies will be carried.

The Silver Bow Motor Car Company, Anaconda, Mont., has been incorporated and is located on Idaho street.

The A. V. Haight Company, Poughkeepsie, N. Y., has purchased the garage of Silas Smith at 198 Church street, and property adjoining.

H. B. Rogers, Caribou, Me., has leased the garage on Sweden street and will carry a full line of automobile accessories and supplies.

James Bros., Tampa, Fla., has opened a garage and a new building to cost $21,000 will be erected on Tyler street in the near future.

The Tire Sales Company, Buffalo, N. Y., has opened a new store at 931 Main street. It will be under the management of A. Greenbaum.

John Rowland, Hagerstown, Md., has sold his vulcanizing plant to Kent Miller, who will operate it in connection with his modern garage.

The Joerding Auto Company, St. Louis, Mo., is established at Laclede avenue, where it is conducting a general repair business.

Thomas Shaw, Wichita, Kan., will open a garage on South Market street, and will handle the Marathon cars, made by the Marathon Motor Works, Nashville, Tenn.

The Cascade Garage, in the Ellis building, Wenatchee, Wash., has been taken over by T. M. Gibbons, and the name of the establishment has been changed to the Ford garage.

The Century Auto Supply Company, 520 North Broad street, Philadelphia, Penn., has assumed charge of the garage storing department and has taken over the entire building.

H. S. Firestone, president of the Firestone Tire & Rubber Company, Akron, O., recently tendered what was known as the Firestone Foremen's Homestead dinner, to the foremen of the company at the old Firestone family homestead in Columbiana, O. The party made the trip by automobile, 30 cars being needed to take the 145 guests. The guest of honor was Charles S. Whitman, district attorney of New York City and candidate for mayor. Mr. Whitman is a boyhood friend of Mr. Firestone, so the affair was a pleasant reunion in every particular. The route to the old homestead was selected for its scenic values, and Ohio has never before displayed 70 miles of its summer beauties to better advantage.

W. W. Garrison, for two years associated with the advertising department of the Hudson Motor Car Company, Detroit, maker of Hudson cars, has resigned as publicity manager to connect himself with the Nichols-Finn Advertising Company, Chicago. Mr. Garrison for several years was a member of the copy staff of Lord & Thomas Advertising Agency, Chicago. Before that he was engaged in newspaper work in Chicago and is well known throughout the United States as one of the most successful of advertising men.

The Taxi Service Company, Greenfield, Mass., has opened headquarters at the Weldon garage.

The Auto Supply Company, Wharton, Tex., of which George Carpenter was proprietor, has changed hands. T. D. Kemp has purchased the property and he will conduct the business in the future.

Fuller Bros., Altamont, Kan., has opened a new garage, under the name of the Labetta County Motor Company. The company will handle KisselKar machines and Firestone tires.

Perkins & Hoppe, Arlington, Poughkeepsie, N. Y., has been dissolved, Mr. Perkins having severed his connection with the firm, which will in future be conducted by Mr. Hoppe.

The Roberts-Toledo Auto Company, Toledo, O., has installed a complete vulcanizing and repair plant in connection with its distributing agency for Ford cars and Swinehart tires.

William N. Beverle, Phoenix, Ariz., has established a garage on West First avenue and has installed a full equipment of the latest electrically driven machinery with which to make all kinds of repairs.

The Groton Garage, Groton, Vt., has been incorporated to do a general automobile, repair and supply business. The officers are: President, E. F. Clark; treasurer, M. E. Beckley; clerk and manager, D. C. Farrow.

The Undercliffe Taxi Company, Hackensack, N. J., has been incorporated with capital stock of $1000 and will locate in the Union Bank building. The company will operate automobiles and deal in supplies and accessories.

Charles Potter, automobile dealer of Wakefield, Kan., has been joined by John Bradbury and the business will be expanded under the partnership. A new modern garage is contemplated and the company will handle Ford and Regal cars.

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The Mexico Motor Car & Supply Company, Oswego, N. Y., is conducting a general automobile business, making a specialty of first class repair work. The company is agent for Studebaker cars, made by the Studebaker Corporation, Detroit.

The Webb & Taylor Garage, New Berne, N. C., is now open for business and is located on Craven street. General repair work will be carried on in connection with other features of the business. E. S. Webb and Z. V. Taylor, Jr., are the owners.

The C. T. Silver Motor Company, Overland distributor in the New York City district, has established a branch at Red Bank, N. J., on West Front street. A salesroom and repair shop have been installed and a complete line of supplies is carried. The repair shop is thoroughly equipped and the garage is in charge of E. S. Denison.

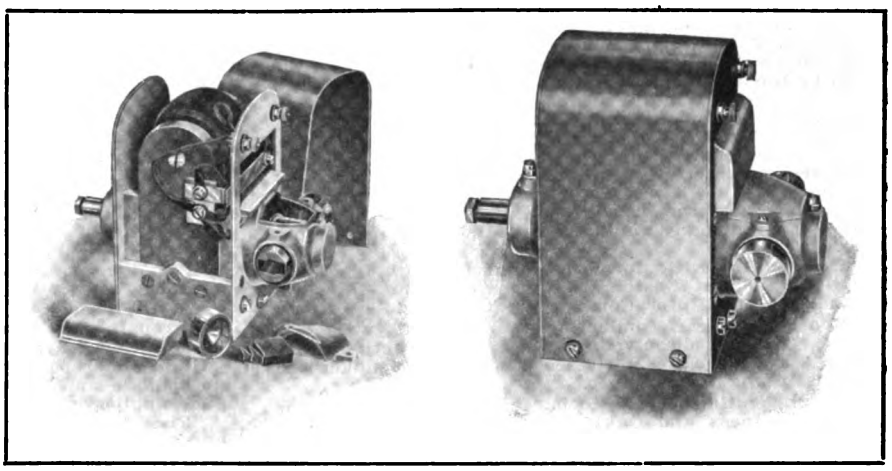
The Economy Auto Company and the Lackawanna Vulcanizing Company, Scranton, Penn., have taken over the entire business of R. A. Ammerman, 519 Linden street, and the business of the new concern, which has been formed by a consolidation of the three firms, will be conducted in future at both places, 223 Wyoming avenue and 519 Linden street. Jacob Nessemer and Russell O'Horo are the new proprietors and are experienced automobile men.

Charles Less has purchased the interest of Eugene A. Freund and A. F. Roemmich in the Modern Auto Repair & Reconstruction Company, St. Louis, Mo., and is continuing the business at 4601 Olive street. William Lohse remains superintendent, and A. R. Solomon secretary of the company.

Forsey & Holland, McRae, Ga., has opened a garage and repair shop under the name of City garage. A line of supplies is carried.

O. E. Woodson, Cottage Grove, Ore., has purchased the Nesmith garage and will make numerous improvements.

The R. C. Wells Manufacturing Company, Fond Du Lac, Wis., maker of the Wells lighting generator, holds that its system operates perfectly at all ratios. The Wells generator is very compact, weighs but 19.5 pounds, and is of the bi-polar type. It supplies current direct to the lamps, the storage battery being utilized as an auxiliary and when the voltage of the dynamo falls below a predetermined value. The control of the current is automatic, being held at a proper value by a magnetic shunt. This device is simple in construction and operation, weakening the current when the output would be too strong or augmenting it when of low value. An automatic magnetic switch is utilized for opening and closing the circuit between the generator and battery, the latter being brought into service at very low car speeds. Among the features emphasized with the Wells are that the cells are properly charged at all times and that, being constructed of high grade material and workmanship, it requires no other attention than an occasional oiling.



Wells Lighting Generator with Cover Removed to Show Magneto Shunt Controlling Output.

I. W. Phillips has purchased the Doline garage on Pine street, Orlando, Fla., and has taken over the agencies for the Reo and Mitchell cars. He has also secured the agency for the Chevrolet car.

T. J. Wilson, San Diego, Cal., has purchased the garage on First street, between Avenues B and C, formerly owned by the Union Title & Trust Company. The consideration is said to be $31,000.

R. Foster Bray has purchased the garage on North First street, Bangor, Penn., of S. E. Teel and is operating it to capacity.

The Alameda Vulcanizing Works, Alameda, Cal., has been established at Oak street and Santa Clara avenue, under the management of H. S. Gaskell and D. F. Mannion, both of whom are expert tire men.

C. L. Young of San Bernardino, Cal., has reopened the Grand Avenue Garage at Escondido, Cal. He has associated with him A. P. Smith, formerly of the Central Garage. New machinery is being installed.

C. F. Marak has purchased the garage business formerly conducted by McHugh & Raney, Hanford, Cal. He is agent for Ford cars, made by the Ford Motor Company, Detroit.

Edwin Rowell has purchased the interest of F. J. Tapper in the City Garage at Hemet, Cal., and is installing new machinery.

The Auto Machine Company, Bridgeport, Conn., is a new concern recently formed by former employees of the Locomobile Company of America, Bridgeport, maker of Locomobile cars. The company will specialize on automobile repair work. Following are the officers: President, H. F. Mitchell; vice president, E. R. Green; treasurer, W. A. Smith; secretary, F. J. Smith. The concern is located at 225 John street.

W. D. and Logan Smiley have opened a garage and repair shop on Miner avenue, Lady Smith, Wis. The building was completely remodelled for the purpose.

Ray Cleveland has sold his livery business at Albany, Minn., to C. B. Quale. Mr. Cleveland will devote his time to the automobile business.

Charles D. Brown has purchased the interest of his partner in the Brown & Hasley Garage, Rochester, Minn., and is operating the same.

James Bartha has opened a first class garage at Finley, N. D.

E. R. Robinson and J. M. Short have opened a first class garage and repair shop at Pingree, N. D. The company is known as the Pingree Auto Company.

The Salt Lake Automobile Company, Salt Lake City, Utah, has established a truck service department, in charge of a truck expert.

The Renton Motor Car Company, 1230 South Main street, Los Angeles, Cal., has been incorporated with capital stock of $100,000. P. A. Renton is president and the concern will handle the Velie, Warren and Matheson lines.

Ralph Peltier and Arthur R. Weed have opened an automobile repair shop on Federal street, Greenfield, Mass. They are prepared to undertake work of all kinds.

C. E. Vanderlip, Coaling, Cal., has taken over the garage on East E street and will do a general automobile business. He handles Ford cars, made by the Ford Motor Company, Detroit.

J. B. Kent and R. J. E. McNee have purchased the interest of Robert A. Taffinder in the Grand Garage at Santa Rosa, Cal., and will conduct the place under new management.

J. H. Benjamin, Jr., and A. C. Benjamin of Red Bluff, Cal., have purchased the Ford garage on Walnut street and will operate it under that name.

The Auto Supply Company, 118 East Fourth street, and the Southern Auto Electric Company, 405 West Capitol avenue, Litte Rock, Ark., have combined interests and the new company will be known as the Southern Auto Supply Company. The entire stock of the Auto Supply Company, one of the most complete in the West, has been moved to the plant at 405 West Capitol avenue, which will be the future place of business. The consolidation was accomplished by W. H. McLean of the Auto Supply Company, and C. L. Brack of the Southern Auto Electric Company, and was made following the withdrawal from the latter company of E. O. Brack, who will continue in charge of the Hudson and Hupmobile agencies and the repair shop and garage at 405 West Capitol avenue.

The Brown Automobile Company, St. Louis, Mo., for several years representative of the Peerless Motor Car Company, Cleveland, O., maker of Peerless cars, has been absorbed by the Peerless Motor Car Sales Company. Oscar Stroh is president of the new concern, and F. G. Weaver will be secretary, treasurer and manager, positions he has held for 11 years with the Brown and Peerless companies. Mr. Stroh and Mr. Weaver have purchased the interests of J. R. and C. F. Brown and the business will be conducted along the lines that have already become well known.

The B. F. Goodrich Company, Akron, O., maker of Goodrich tires, has announced the consolidation of the Diamond brand automobile, motorcycle, bicycle, solid tire and mechanical rubber goods in the New England territory, in the B. F. Goodrich Company branch at 851-857 Boylston street, Boston, Mass. L. K. Rittenhouse, manager of the Diamond branch, will remain with the company attached to the Goodrich office, and New England Manager Howard B. Limric will have general charge.

W. M. Whitney & Co., Troy, N. Y., has purchased the Buick Garage on Swan street and will also handle the agency for Cadillac cars, made by the Cadillac Motor Car Company, Detroit.

Clifford Bevington, Richmond, Ind., has opened a first class garage and repair shop on North Eighth street.

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Arthur R. Norton has purchased property on Main street, Farmington, Me., and will erect a new garage and repair shop.

The Robertson Tire & Auto Company, 1912 Fourth avenue, Birmingham, Ala., distributor of Nassau, Goodyear and Republic tires and a complete line of automobile accessories, has opened another branch at 422 South 20th street to care for a steady increase in the volume of business. The stock of the company was recently increased from $2000 to $50,000, and the officers follow: President and treasurer, W. W. Robertson; vice president, E. R. Minhinnette, Jr.; secretary and manager, R. C. Bolton.

The Velie Motor Company of Missouri, 5143 Delmar boulevard, St. Louis, Mo., announces the appointment of A. P. Bartlett as general manager of the newly incorporated company. Mr. Bartlett's experience in the retail automobile business in St. Louis extends over many years, and with W. J. Carter and C. F. Swartz to assist him, Velie owners in that territory will recognize in a very substantial way that the concern is most progressive. A new salesroom has been constructed and the office has also been re-equipped. A specialty of service to Velie owners will be made.

Keyes Bros., and R. G. Marston of Bridgeport, Conn., will erect a garage on Spring street, Fairfield, Conn. The plant will be conducted under the name of Southern New England Auto Company.

H. Z. White and E. E. Ferger, Buffalo, N. Y., have formed a partnership under the firm name of Allen Street Garage, 138 Allen street. They will conduct a repair shop to mend automobiles, engines, etc.

Mohler & Rutter has opened a garage on Front street, Lebanon, Penn. All kinds of repair work will be done and a complete line of automobile supplies will be carried.

The Boston Automobile Dealers' Association at its annual meeting elected the following officers: President, J. H. MacAlman; vice president, J. S. Hathaway; treasurer, F. A. Hinchcliffe; secretary, Chester I. Campbell; directors, J. H. MacAlman, J. S. Hathaway, F. E. Wing, C. E. Fay, J. W. Bowman, E. A. Gilmore, F. A. Hinchcliffe, C. P. Rockwell and J. W. Maguire.

E. C. Morton, formerly with the Automobile Accessories Company, Pittsburg, Penn., is now with the Pittsburg Auto Equipment Company. He has taken charge of the new branch store recently opened at Grant boulevard and Ridge street.

Harry Branstetter, who was until recently assistant manager of the KisselKar Company at Chicago, has taken charge of the branch at Kansas City of the Cole Motor Car Company, Indianapolis, Ind., maker of Cole cars.

Thomas Hustwick, formerly connected with the Oldsmobile branch at Boston, has transferred his interests to the Oakland Motor Company in that city.

Moore & Bearce, conducting the Central garage at Tulare, Cal., has dissolved, the interests of both parties being taken over by J. H. Scott, who will conduct the business along former lines.

Harry Nestlewode, Fostoria, Ia., has taken over the garage business and Oakland agency, conducted under the name of Nestlewode Bros., Charles Nestlewode having retired from the business.

P. J. Hurley, formerly a real estate dealer, has purchased the White garage at Ft. Madison, Ia., and has taken possession. He will conduct a garage and repair shop.

The New York Sales Company, Binghamton, N. Y., has formally opened its new $35,000 garage at State and Collier streets. The company handles Cole, Hudson, Paige and Chevrolet cars and carries a line of accessories and supplies for these machines.

The Carolina Motor Company is erecting a garage on Broad street, and N. W. Fox is having one erected on North Center street, both at Salisbury, N. C.

A. E. Stegerm, formerly with the United Garage Company, Toledo, O., has leased the ground floor of the Meredith building on Jefferson avenue and Michigan street and will operate a garage under the name of City garage. The building is being remodelled.

The Macon Auto Exchange, Macon, Ga., a new concern, composed of Walter Rylander and Harry Cohen, has purchased the Willingham-Wheeler Auto Company on Cotton avenue. The new company will continue to handle the Studebaker and Hudson cars. A full line of accessories will be carried and general repairing will be done.

The Colonial Motor Company, Baltimore, Md., has opened to the public its new, modern garage on North avenue.

The B. & M. Garage, Tulare, Cal., is a new establishment opened on E street, between Kern and Inyo avenues. W. B. Bender and F. T. Moore are the proprietors.

The Garage Company, Tarboro, N. C., has moved into its new quarters on East James street. A full line of supplies will be carried.

The Harmon Motor Car Company, Seattle, Wash., is established in its new home at Boylston avenue and East Pike street, having moved from its former location at 306 East Pike street.

The Crown Motor Car Company, Louisville, Ky., maker of Crown cars, has moved into new quarters at 121 North Third street. The company is capitalized at $500,000.

NEW BUILDINGS.

Popple & Cummings has erected a large addition to its garage at Preston, Minn., to care for increasing business.

Hood & Snyder, Jewell, Ia., has made extensive improvements to its garage.

A. A. Burlingham of Eureka, Cal., has leased the garage at Fortuna, Cal., formerly managed by Leach & Smith, and is operating the same.

The Santa Monica Garage, Second street, Santa Monica, Cal., has completed a large addition.

W. E. Mercer, proprietor of the Mercer garage at Ventura, Cal., is making improvements to his building on Chestnut street, in order to take care of increased business.

Krager & Hinsey, Yorktown, Tex., is erecting a new and modern garage on Fifth street. It will be equipped with the most up-to-date machines for repair work.

The Co-Operative Motors Company, Long Beach, Cal., has elected new directors and orders have been issued to proceed with the building of a new $75,000 garage on American avenue, near East First street.

T. L. Matthay, Los Angeles, Cal., and Harry Benham, Chicago, have purchased land on South Main street, Los Angeles, and will soon begin the construction of a brick garage, to cost about $50,000.

S. W. Kent Miller has closed a deal for the Doll property on East Burke street, Martinsburg, Md., upon which he will begin the construction of a large garage.

William H. Parkinson, Waltham, Mass., formerly located in the Wright building, has moved into his new garage on Lexington street, north of Dale street. The building contains a repair department and paint shop.

The Borg & Wharry Motor Company, St. Paul, Minn., is making extensive improvements to its plant. Adjoining property has been leased for salesrooms and the entire space of the present building is being added to the garage.

The George E. Goll Company, Champaign, Ill., has opened new salesrooms on North Hickory street for Overland cars, made by the Willys-Overland Company, Toledo, O. A repair shop is located at the rear of the building.

Francis J. Haney, Evansville, Ind., has started work on a new garage on upper First street.

E. A. Vansickle, Toronto, Can., is soon to begin the erection of a two-story brick garage at 254 Dupont street, which will cost $35,000.

The Hughes Auto & Supply Company, De Funiak, Fla., has purchased the Drake stable, which is being converted into a repair shop, where all kinds of automobile work will be done. Accessories, gasoline and oils will be kept in stock.

N. R. Herrick & Co., Tampa, Fla., which operates a boat repair shop, has leased a tract of land on Bay street, near Gottsche avenue, and is preparing to build a large garage and repair shop to be equipped for all kinds of automobile and motorcycle work. A line of accessories and supplies will be handled.

Fred Campbell, St. Louis, Mo., dealer in accessories and supplies, has taken a lease for five years of the new five-story building now in course of construction at 1109 Locust street. The new location, which will be occupied about Oct. 1, will accommodate the wholesale and retail departments of the business.

Guy L. Smith, Omaha, Neb., will soon move into a new garage at 26th and Farnam streets. The building is three stories high and has 35,500 square feet of floor space.

The Buick Motor Company has opened new salesrooms at 358-360 Livingston street, near Flatbush avenue, Brooklyn, N. Y., with a complete line of cars. The service station will be maintained at 472 Hudson avenue.

The Campbell Machine Company, San Diego, Cal., has purchased a site at Second and Cedar streets and is considering plans for the construction of a two-story garage and repair shop.

Benjamin Latham, agent for Simplex and Mercer cars, has secured the building at 1634 Pine street, San Francisco, Cal., in which he has established a service station for those makes.

The Reo Pacific Company, San Francisco, Cal., has located in a new building at Van Ness avenue and California street. The building is three stories high and contains a service station, supply and wholesale departments. Norman de Vaux is manager.

The Soost Bros. Electric Garage Company, Ft. Wayne, Ind., will lease a modern garage, which it is said will be the largest in the city and which is to be erected by W. P. Cooper at a cost of $17,000.

E. L. Sparr, proprietor of the Queen Colony garage, Riverside, Cal., is planning enlargements. The addition will include excellently appointed offices.

The National Real Estate & Development Company, Wilmington, Del., has purchased Walnut hall and will remodel it into a modern garage building.

The Gardner Auto Company, Gardner, Mass., is to erect a new garage on Chestnut street, opposite its present location.

Carson & Co., Du Bois, Penn., will erect a fireproof livery and garage building on the site of the present livery stable.

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The Du Bois Garage Company, Du Bois, Penn., has plans for a new, modern garage on South Brady street.

The Queen City Motor Company, Beaumont, Tex., is considering the erection of a new garage.

K. Kurljiahn, an automobile dealer at 2 Nassau street, New York City, is contemplating the erection of a garage and machine shop at 24 Chambers street. Storage room for 20 cars will be provided.

George W. Dickinson and Mary Roley, Los Angeles, Cal., are having extensive alterations made to their garage at 122-124 Winston street, at a cost of $8000.

The New Bedford Gas & Edison Light Company, New Bedford, Mass., has decided to erect a new office building with a public garage attached. The garage will be erected on the southwest corner of Spring and Purchase streets.

The Pope-Hartford Company of Boston, Boston, Mass., has found it necessary to erect a large addition to the already extensive service station on Hayward street, Cambridge, Mass. The new building will have every modern convenience for housing and caring for cars, and the latest facilities for conducting quick and strictly first class repairs.

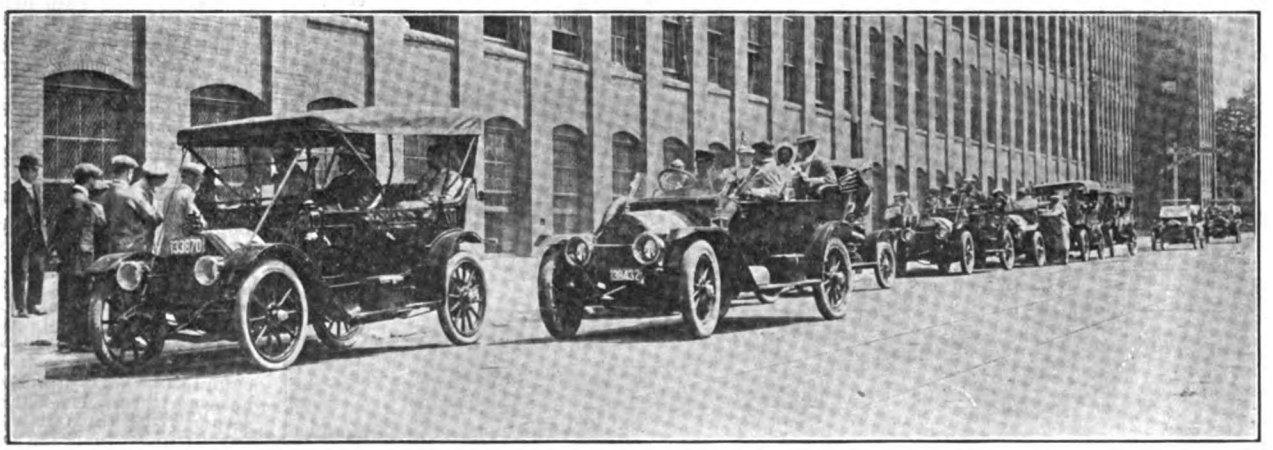
The Kansas City Automobile Company, Kansas City, Mo., plans the construction and equipment of a two-story repair shop and garage.

John Christenson & Co., Galveston, Tex., automobile and motorcycle dealer, will erect a new 12-story building to cost $75,000.

The North Street Realty Company, North Adams, Mass., will erect a modern garage at 501 North street, at a cost of $11,000.

F. W. Marsh & Son, 9 Union street, Winsted, Conn., has plans for a modern garage.

The Automobile Club of Springfield, Mass., recently held its annual run and clambake, which was of more than local interest because of the added feature, in the nature of a fuel economy test. The run itself was over a course covering some 30 miles, with secret controls, the winner of the Fiske cup being the driver who came the nearest to a predetermined schedule. The fortunate driver was Henry Cave, who took the award last year. The showing made by the local Knox machines, made by the Knox Automobile Company, Springfield, was particularly striking, being such as to indicate the relative economy of the larger type of cars. A Knox six-cylinder touring car carrying three people made the highest showing of any of the water-cooled machines, while the eight Knox cars averaged over 16 miles to the gallon, or about 71 miles to the gallon on the 1000-pound basis. An accompanying illustration shows some of the machines that took part in the run.



Cars Taking Part in the Annual Run of the Automobile Club of Springfield in Front of the Knox Automobile Company's Factory.

S. G. Chapman has moved into a new building on Van Ness avenue, near Sutter street, San Francisco, Cal., which in the future will be the permanent headquarters of Hudson and Hupmobile cars on the Pacific Coast. The building is of semi-Grecian architecture and is one of the most modern establishments in that district.

The Republic Motor Company of Massachusetts, New England factory branch for Chevrolet and Little cars, has, in the few months it has engaged in business in Boston, made such rapid strides that it has been forced to secure a large service station in order to care for the owners of its cars. Manager W. C. Sills announces that he has secured a lease of 10,000 square feet in the Shoe and Leather building. The service station will carry a complete line of parts and will be equipped with the most modern machinery in charge of experts.

The H. C. Pogue Company, distributor for Lee tires and jobber in automobile accessories at 218-220 Second avenue, north, Nashville, Tenn., has decided to erect a large building on Broadway to handle this line exclusively. A stock is carried by the company to supply all the southern wholesale and retail trade.

Medbery & Sherman, Ballston Spa, N. Y., has moved its automobile repair business and machine shop to Bath street.

The Dealers' Clearing House, Fresno, Cal., is now located in excellent and roomy quarters at 1820 Mercer street.

The Helterman Garage, Richmond, Va., which has been in course of construction, is now finished and is open for business.

The S. F. Bowser Company, Ft. Wayne, Ind., maker of gasoline and storage systems, has opened its new office at 151 Michigan avenue, Chicago.

J. A. Lewis & Son, formerly located on South Front street, Mankato, Minn., has moved into its new quarters at Cherry and Second streets.

The Adirondack Motor Car Company, Hudson Falls, N. Y., is erecting on Main street a fine garage to be five stories in height.

The Twin City Motor Car Company, St. Paul, Minn., northwestern distributor of Saurer, Mack and Modern trucks, and Maxwell pleasure cars, has moved into new quarters at 163 West Sixth street.

The Neuman Machine Company, Davenport, Ia., has moved to its new garage at Third and Ripley streets.

The Wedter Slope Garage, Grand Junction, Col., has moved into new headquarters on Main street. The company represents Hupmobile cars.

S. B. Hull & Co., Guilford, Conn., is moving from its old garage on Market place to the new establishment at Union and Boston streets. The new garage is modern in every respect.

The Hirsch Auto Company, Sacramento, Cal., distributor of Lozier and Oakland gasoline cars, and Waverley electrics, has opened a salesroom at 1221 Seventh street.

H. J. Hagerty, Columbia, Penn., has erected a new garage on Second street, where he has installed a modern repair shop.

The Drummond Motor Company, Omaha, Neb., has erected a new, large building on West Farnam street.

The Yale Auto Company, Wenatchee, Wash., has occupied the newly completed modern garage, which contains handsome quarters, opposite the railroad station.

The Automobile Accessories Company, of which William P. Yost is president, has opened its new headquarters at Grant boulevard and Craig street, Pittsburg, Penn.

Campbell Bros., Atchison, Kan., has relocated its garage at 313 Commercial street. The move was made necessary because of increased business.

R. W. Leach, 438 Euclid avenue, St. Louis, Mo., is having the building remodelled to make it a complete factory branch garage for electric vehicles, and the only one of its kind in the city. Mr. Leach is distributor for the Woods electric cars, made by the Woods Electric Vehicle Company, Chicago.

W. H. Tillis, Tampa, Fla., has purchased property on Broadway and will erect a modern garage.

Charles E. Burnham, Worcester, Mass., is to have a new garage erected on Murray avenue.

The Stoughton, Folkins Company, Portland, Me., is to occupy a new, modern garage on Oak street, the plans for which are being prepared.

Alfred W. Boyer has purchased a building on Liberty street, Lebanon, Penn., and will use it for the storage of automobiles.

The Nashua Welding Company, Nashua, N. H., is now located in its new, large building on Lincoln avenue.

W. L. Hunter and R. F. Hunter have occupied a large, modern garage, recently completed at a cost of $10,000.

The Hilmer Shull Auto & Supply Company, La Porte, Ia., is to erect a new garage to be modern in all respects.

The Paige-Detroit Motor Company, Atlanta, Ga., has begun work on a new, three-story building.

The State Fair Board of Directors, Dallas, Tex., has approved plans for the erection of a large building to be used exclusively by automobile exhibitors.

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NEW AGENCIES.

The Milwaukee Tire & Supply Company, Milwaukee, Wis., has been appointed local agent for White pleasure and commercial cars, made by the White Company, Cleveland, O. The new company will be known as the White Automobile Company, Milwaukee Tire & Supply Company, owner.

The A. G. Hebb Auto Company, Lincoln, Neb., has the agency for the Chase truck, made by the Chase Motor Truck Company, Syracuse, N. Y.

The C. B. B. Motor Company, Washington, D. C., has the agency for the Selden truck, made by the Selden Motor Vehicle Company, Rochester, N. Y.

The Holcomb Company, New Haven, Conn., has the agency for the Adams trucks, made by the Adams Bros. Company, Findlay, O.

The Britton-Stevens Motor Corporation, Boston, Mass., has the agency for the Maccarr and Smith-Milwaukee motor trucks.

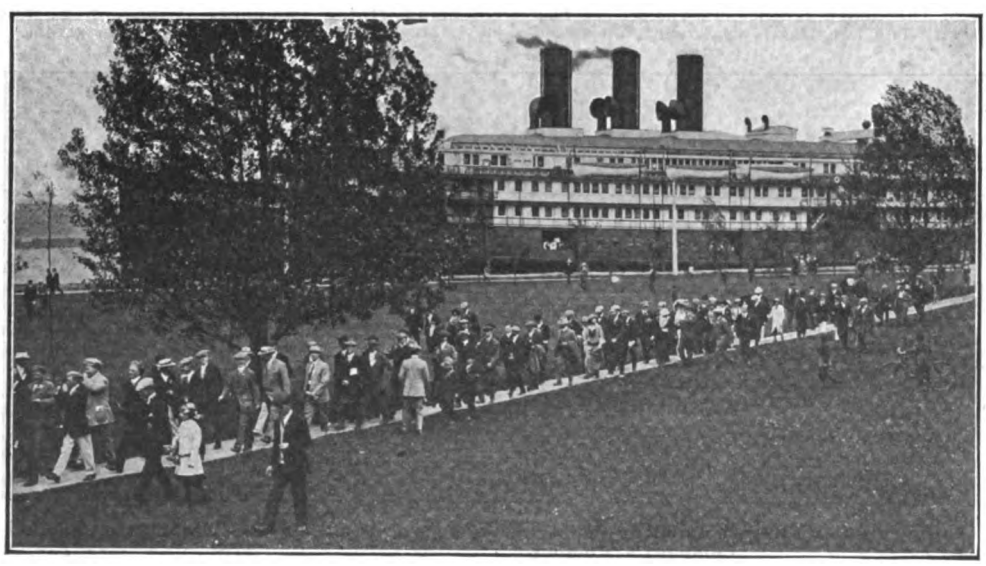
The Whitney Bros. Company, Santa Cruz, Cal., has the agency for Velie and Alco trucks.

Gilardi & Faure, Sacramento, Cal., is representing the Kelly line of trucks, made by the Kelly-Springfield Motor Truck Company, Springfield, O.

The Wood-Van de Verg Auto Company, 432-434 West Pico street, Los Angeles, Cal., has taken the agency for Krebs trucks, made by Krebs Commercial Car Company, Clyde, O.

The Reliance Automobile Company, San Francisco, Cal., has the agency for Dart commercial vehicles, made by the Dart Manufacturing Company, Waterloo, Ia.

The Stewart Motor Corporation, Buffalo, N. Y., has appointed the following distributors of Stewart delivery wagons: Charles L. Papworth, Lockport, N. Y.; Seacoast Garage Company, Asbury Park, N. J.; Edgewood Garage, Providence, R. I.; Van's Garage, Kingston, N. Y.; Payne Automobile Company, Troy, N. Y.



British and American Engineers Leaving the Boat at Sault Ste. Marie, Mich.

F. S. Brown of the Wyman Park Garage, 330 West 29th street, Baltimore, Md., has taken the agency for the Braender automobile tires, manufactured by the Braender Rubber & Tire Company, Rutherford, N. J.

Allan W. Fulton & Co., 720 East Pratt street, Baltimore, Md., is representing the Lauth-Juergens motor trucks, made by the Lauth-Juergens Motor Car Company, Fremont, O.

B. M. Dimmick, Salem, Ore., has the agency for Overland cars, made by the Willys-Overland Company, Toledo, O., and headquarters have been located at 246 South Commercial street.

J. H. Hadley of the Eldora Motor Company, Eldora, Ia., will represent the Overland cars, made by the Willys-Overland Company, Toledo, O., at Waterloo, Ia., and has opened an establishment in that place.

The Kissel Motor Car Company, Hartford, Wis., maker of KisselKar pleasure vehicles and trucks, has established factory branches under the firm name at Los Angeles and San Francisco, Cal. The concern has also appointed the following KisselKar distributors: Boulevard garage, Bridgeport, Conn.; H. E. Blum, Sioux City, Ia.; Sloan Motor Company, Alexandria, La.; Calcasieu Motor Company, Lake Charles, La.; S. W. Goodrich, Pittsfield, Mass.; Essex Automobile Company, Lynn, Mass.; H. R. Ogleby, Warrensburg, Mo.; Smith Auto Sales Company, Lebanon, N. H.; Earl F. Howe, Claremont, N. H.; Taximeter Auto Company, Paterson, N. J.; Fred H. Van Dorn, Red Bank, N. J.; Charles A. Dorer, East Orange, N. J.; I. H. C. Motor Express Company, Newark, N. J.; Consolidated garage, Jamaica, Long Island, N. Y.; Motor Inn, Beresford, S. D.; J. S. Scott, Dyersburg, Tenn.; Chandler & Hightower, Fort Worth, Tex.; Barre KisselKar Company, Barre, Vt.; G. A. Thomas, White Salmon, Wash.; A. C. Jordan, Eau Claire, Wis.; Allen Motor Company, Norfolk, Va.

The Cole Motor Car Company, Indianapolis, Ind., maker of Cole cars, has appointed the following agents: V. H. Steckel, Allentown, Penn.; Elm Auto Company, Bridgeport, Conn.; Burlington County Auto Sales Company, Burlington, N. J.; Carthage Auto & Carriage Company, Carthage, Ill.; Clay S. Wolf, Colorado Springs, Col.; Riter & Adams, Forney, Tex.; Baker Bros., Geneva, N. Y.; A. L. Wilson, Greenfield, Mass.; J. E. Winterscheidt, Horton, Kan.; J. B. Flint, Humboldt, Kan.; C. H. Nelson, Pittsfield, Ill.; Allen H. Motes, Scottsville, Kan.; S. M. Rexford, Spring Valley, Minn.; Heck & Cyphus, Sidney, O.; William A. Clark, Stamford, Conn.; J. Lusignan, Stockton, Cal.

The Adams Bros. Company, Findlay, O., maker of Adams trucks, has appointed the following agencies: Holcomb Company, New Haven, Conn.; Fisher & Lambing, Kittanning, Penn.; Charles R. Roehl, Caracas, Venezuela; Cuba Electric Supply Company, Camajuani, Cuba.

Brock's Garage, Trenton, N. J., has taken the agency for the Autocar truck, made by the Autocar Company, Ardmore, Penn.

Rudolf & West, Washington, D. C., automobile accessory dealer, has secured the agency for that territory of Fisk tires, made by the Fisk Rubber Company, Chicopee Falls, Miss.

The Institution of Automobile Engineers of Great Britain, which was represented in this country by 27 members, who were the guests of the Society of Automobile Engineers of this country, has demonstrated that it is a live organization. The members have returned home, declaring the hospitality everywhere met with on their tour through this country was something not soon to be forgotten. President and Mrs. T. B. Browne left the party at Buffalo, N. Y., to return to their home in London by way of the Pacific Coast and the Far East. Secretary Basil H. Joy left the party at Pawtucket, R. I., going immediately to Montreal, from which port he sailed after completing certain business matters. After the return from the trip on Lake Huron, included in which was the midsummer meeting of the Society of Automobile Engineers, the party enjoyed trips through many of the automobile factories of Detroit, Cleveland, O.; Buffalo, N. Y., and other places. At Pawtucket, R. I., the plant of Potter & Johnston Machine Company was visited, as well as the American Locomotive Company's factory at Providence, R. I. After stops in New Haven, Bridgeport and Hartford, Conn., the party returned to New York City, from which place the members sailed for England.

The Keeton Motor Company, Detroit, maker of Keeton cars, has announced the opening of its 1914 season and the following distributors have been appointed: H. A. Dougherty, 1525 Grand avenue, Kansas City, Mo.; John A. Bender Company, 2807 Michigan avenue, Chicago; Lincoln Automobile Company, Lincoln, Neb.; G. N. Jordan, 310 Union Oil building, Los Angeles, Cal.; C. Thompson, Rochester, N. Y.; L. Streuberm, Erie, Penn.; W. B. Doan, 643 Washington avenue, Brookline, Mass.; Davenport Automobile Company, Davenport, Ia.; Southern Motors Company, Jacksonville, Fla.; Usborne & Whitson, Ltd., Woodward avenue, Detroit; Engineers Podrowsky & Feyerabend, Sagorondy 21, St. Petersburg, Russia; J. Azevedo & Cia, Rua dos Ourives, 45, Rio de Janeiro, Brazil.

The Bosch Magneto Company, New York City, announces the following Bosch distributors: Oskamp Auto Supply Company, Race and Seventh streets, Cincinnati, O.; Gus Habich, 142 East Washington street, Indianapolis, Ind.; Kimball-Upson Company, 609-611 K street, Sacramento, Cal. The following Bosch supply stations have also been designated by the company: S. S. Parmalee Company, Second and Poplar streets, Macon, Ga.; Lackawanna Automobile Company, 314 Adams avenue, Scranton, Penn.; Armstrong Auto Company, St. Joseph, Mo.; Electric Manufacturing Company, St. Paul, Minn.; Edwards & Dickey, 13 Vaughan street, Portsmouth, N. H.;

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Susquehanna Motor Car Company, Wilkesbarre, Penn.; W. D. MacMillan, Jr., Wilmington, N. C.; Kinston Garage, Kinston, N. C.; Wichita Garage Company, Wichita, Kan.; Auto Supply Company, Hutchinson, Kan.; Joseph T. Cox, Penn Yan, N. Y.; Cuskaden Auto Supply Company, Atlantic City, N. J.; Severin-Lumbard Tire & Supply Company, Oklahoma City, Okla.; Reed Motor Supply Company, St. Paul, Minn.; John F. Esser, 58 Broadway, Flushing, N. Y.; Spokane Cycle & Supply Company, Spokane, Wash.

The H. Grimm Garage, Muscatine, Ia., has taken the agency for Reo cars, made by the Reo Motor Car Company, Detroit.

The United Motor Company, Charlotte, N. C., has taken the agency for Marion and Regal cars.

The Franklin Automobile Company, Syracuse, N. Y., has named the following dealers as its representatives: Franklin Motor Car Company, Spokane, Wash., and Walla Walla, Wash.; Franklin Motor Car Company, 3340 Main street, Kansas City, Mo.; Jacob Struhldreher, Youngstown, O.

The Chandler Motor Car Company, Cleveland, O., which was recently formed to manufacture the Chandler car, has announced the following appointments of distributors of its product: C. S. Ransom, Albany, N. Y.; Charles R. Fluke, Altoona, Penn.; Cole Motor Sales Company, Baltimore, Md.; Chandler Motor Car Company of New England, Boston; J. N. Bulkley, Bridgeport, Conn.; Tanner Motor Car Company, Brooklyn, N. Y.; Iowa Motor Sales Company, Cedar Rapids, Ia.; S. H. Stern, Chicago; J. L. Russell, Chicago; Lozier Sales Company, Cleveland, O.; Jenkins & Co., Des Moines, Ia.; Grant Bros., Detroit; Stirling Bros. Company, Erie, Penn.; Brant Bros., Indianapolis, Ind.; Burke Bros. Company, Jersey City, N. J.; Sparks-Miller Motor Company, Los Angeles, Cal.; Blomberg Auto Company, Memphis, Tenn.; Archambault Motor Sales Company, Milwaukee, Wis.; Whiting Motor Company, Newark, N. J.; Holcomb Company, New Haven, Conn.; Brady-Murray Motors Corporation, New York City; W. L. Huffman, Omaha, Neb.; John Van Benschoten, Poughkeepsie, N. Y.; Chandler Motor Car Company, Philadelphia, Penn.; Whiting Motor Car Company, Philadelphia, Penn.; Strong Crittenden Company, Rochester, N. Y.; E. C. Eads, St. Joseph, Mo.; Overland Auto Company, St. Louis, Mo.; S. G. Chapman, San Francisco, Cal.; Conrad-Chandler Motor Car Company, Scranton, Penn.; Clayton Gibson, Seattle, Wash.; R. A. McKee, Springfield, Mass.; Miller Company, Washington, D. C.; Central Auto & Supply Company, Waterloo, Ia.; Wilmington Automobile Company, Wilmington, Del.; Canadian Motor Car Company, Ltd., Winnipeg, Can.; W. J. Woods, Worcester, Mass.; Standard Automobile Garage, Uniontown, Penn.; Hoffmeister Bros., Vancouver, B. C.

The Rogers Supply & Tire Company, Columbus, O., has taken the agency for central Ohio for the McNaull electric tires, made at Akron, O.

The Michigan Motor Sales Company, Los Angeles, Cal., is erecting a new building on land recently purchased. It will be ready for occupancy in the near future.

J. J. Quinn, formerly engaged in the automobile business at Minneapolis, Minn., has taken the agency at Seattle, Wash., for the Michigan car, made by the Michigan Motor Car Company, Kalamazoo, Mich.

C. B. Wiggins, located in the new building on Hickory street, Champaign, Ill., has contracted for the agency of Cadillac cars, made by the Cadillac Motor Car Company, Detroit.

R. A. Hendricks, of Hendricks Bros., State street, Santa Barbara, Cal., has taken the agency for King cars, made by the King Motor Car Company, Detroit.

Lynn C. Buxton, Olive street, Los Angeles, Cal., who handles Moon cars, made by the Moon Motor Car Company, St. Louis, Mo., has added the American line, manufactured by the American Motors Company, Indianapolis, Ind.

G. H. Obeymeyer, Duluth, Minn., has taken the agency for Cartercar machines, made by the Cartercar Company, Pontiac, Mich. His service station is located on Second avenue, West.

S. B. McMaster, Columbia, S. C., has been appointed state agent for Peerless cars, made by the Peerless Motor Car Company, Cleveland, O.

NEW GARAGES.

The American Express Company, 23 West Monroe street, Chicago, will remodel a four-story stable into a modern garage.

Otto Wamscot, Greenview, Ill., has plans under way for a two-story garage and livery stable.

F. L. Phelan, 1910 Webster avenue, New York City, will shortly take sub-bids for a 1.5-story garage to cost $2000.

Jacob F. Link, 806 Park avenue, Brooklyn, N. Y., has awarded the contract to the Kahn Construction Company, 771 La Fayette avenue, for the building of a two-story garage to cost $9000.

F. W. Perry, 1127 East Genesee street, Syracuse, N. Y., will build a two-story garage to cost $2000.

The Wayne Brewing Company, Erie, Penn., will build a one-story garage to cost $15,000.

W. C. Leiter, Harvey's Lake, Penn., has plans under way for a two-story garage to cost $7000.

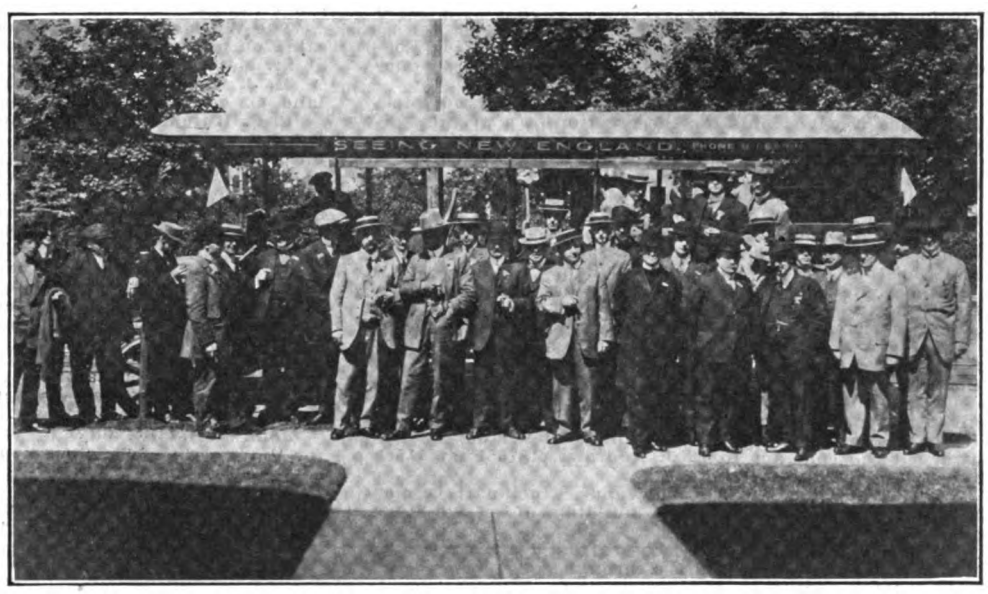
J. Edwin Lawton, 2208 M street, N. W., Washington, D. C., has received sub-bids for the erection of a one-story garage to cost $5000.

J. A. Wigmore & Co., 1300 Williamson building, Cleveland, O., is to build a one-story addition, 233 by 255 feet, to its present one-story garage.

Charles Selbalk, 530 Park street, Middletown, O., will build a new garage.

Dr. J. N. Ledbetter, Seventh and Franklin streets, Michigan City, Ind., has invited sub-bids for a two-story garage and business building.

E. J. Lins, 517 North 20th street, St. Joseph, Mo., is preparing plans for a one-story garage to cost $6000.



Members of the Engineers' Party at Potter & Johnston Plant, Pawtucket, R. I.

Laverock & Madison, 313 North Washington avenue, Owosso, Mich., has started work on the erection of a two-story garage, to cost $4000.

The Overland Motor Car Company, 1523 Grand avenue, Kansas City, Mo., has plans under way for a five-story garage and storage house, to cost $40,000.

D. Hoerwitz, 935 Lowell avenue, Chicago, has awarded the contract for a one-story addition to his garage, which will cost $7000.

E. F. Keebler, 5 North La Salle street, Chicago, has let the contract for the building of a large garage.

Mary E. Jenkins, 721 Tallman street, Syracuse, N. Y., has let a contract for a one-story garage to cost $3000.

C. A. Gable, Mt. Carmel, Penn., has received bids for the erection of a garage during this summer.

H. C. Wood, 2633 Erie avenue, Cincinnati, O., has planned to build a garage in the near future.

N. D. Lewin, 1814 North High street, Columbus, O., is to build a private garage.

F. W. Pryor, Canton, O., will build a one-story garage, to be 22 by 24 feet.

Patrick Cudahy, Fifth and Prospect avenues, Milwaukee, Wis., will build a one-story garage.

Joseph Gebhardt, 333 Grove street, Milwaukee, Wis., is to built a one-story garage, 24 by 50 feet.

Frederick Schlinger, 124 North Main street, Madison, Wis., will erect a building to contain a store, office and flats, garage and machine shop.

D. D. Walker, Jr., first vice president of the Ely Walker Dry Goods Company, 1520 Washington avenue, St. Louis, Mo., is planning to erect a garage.

R. E. Curtis, Lincoln, Kan., has plans under way for a one-story garage to cost $2500.

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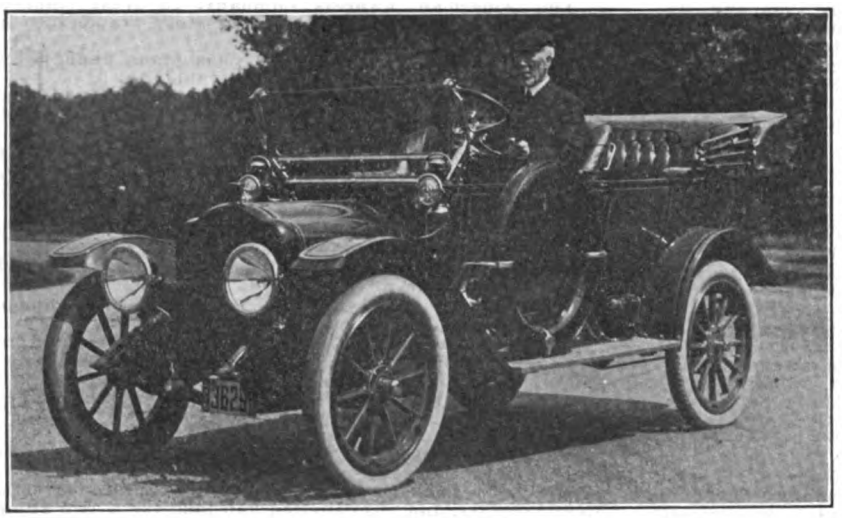
L. W. Roe, Seattle, Wash., has awarded the contract for the erection of a large garage. An old building will be demolished and the cost of the entire work is $30,000.



A. B. Hambleton, Cleveland, O., 84 Years of Age, at Wheel of White Car.

A. B. Hambleton, who lives at Shaker Heights, Cleveland, O., is 84 years old and drives a new 30 horsepower White car, made by the White Company of that city. Not many men of 80 years or more have the inclination to drive motor cars, to say nothing of planning and accomplishing long distance tours, but Mr. Hambleton is a long distance tourist of some note. He intends to pilot his machine on a tour to New York City and Cape Cod this summer. He has been driving for eight years and in that period he has made a number of journeys that would be notable even if made by a Glidden enthusiast. A run to New York and back is a mere incident in his motoring career, while he regards a trip to Buffalo and return with no more concern than the routine of driving down town. He takes care of his own car for the amusement he derives therefrom. In his eight years' experience Mr. Hambleton has suffered but one accident, which occurred while cranking, resulting in a broken wrist. In purchasing a White car he did so because he was impressed with the simplicity and efficiency of its electrical system of starting and lighting. Although he is now retired he has had wide experience along mechanical lines, having been instrumental in building up the Globe Iron Works, now the American Shipbuilding Company, which makes engines, among other things.

Charles A. Cheatham, Jacksonville, Fla., has plans for the building of a two-story service station at a cost of $12,000.

W. Lister, Chicago, has given the contract to T. D. Foster & Son, 10 South La Salle street, Chicago, for a one-story garage to cost $12,000.

L. A. Young, 93 Rhode Island avenue, Highland Park, Mich., has received bids for the erection of a private garage.

Dr. W. F. Metcalf, 636 Woodward avenue, Detroit, has plans under way for a private garage.

E. A. Mairs, Mendota, Ill., has given the contract for a one-story garage to cost $10,000.

Charles W. Denny has completed plans for a brick and reinforced concrete commercial garage building at 35th and Chestnut streets, Philadelphia, Penn.

Stacey Reeves & Sons is estimating on plans for a stone garage to be erected at Chestnut Hill, Penn., for A. C. Harrison.

Harry Alger has awarded the contract for a one-story brick garage to be built at 20th and Atlantic streets, Philadelphia, Penn.

W. G. Rose, 1490 East 108th street, Cleveland, O., has given the contract for the building of a modern garage.

F. K. Moore, 826 Hicker building, Cleveland, O., has awarded the contract to E. J. Andrews, 1575 East 115th street, for a 1.5-story garage.

F. M. Solar, 1741 Westwood avenue, Cincinnati, O., has awarded the contract for the building of a two-story garage.

Motorists in New York City are fast learning to appreciate the beauties of a drive through Westchester county in the spring and summer. There are few sections in the immediate vicinity of the metropolis which offer such pleasant country drives. An accompanying illustration presents a party of women and children on a day's outing in a Reo the Fifth, made by the Reo Motor Car Company, Lansing, Mich., and sold through R. M. Owen & Co., 19 West 62nd street, New York City. The photograph from which this reproduction was made was taken early in June, when the dogwoods, oaks, maples and balsams of this region were at their best, and the party had little trouble in bringing back numerous souvenirs of the trip. It also indicates the possibilities for many a pleasant afternoon ramble through the country or into the woods, over little frequented roads.

Louis P. Mooers, who first became prominent as a designer and factory man many years ago with the Peerless Motor Car Company, Cleveland, O., maker of Peerless cars and trucks, and who recently has been with the Herschell-Spillman Engine Company of Tonawanda, N. Y., has joined the organization of the Keeton Motor Company, Detroit, maker of Keeton machines. He will be engineer and have charge of production.

Dr. Everett Jones, 1658 Beacon street, Boston, Mass., has awarded the contract for the erection of a two-story garage to be 24 by 39 feet.

The William Grugler Company, Philadelphia, is estimating on plans and specifications for a garage to be built at St. Martin's, Penn., for Walter Dilks.

M. J. Gleason, 810 Hippodrome building, East Cleveland, O., contemplates building a garage.

C. E. Hutchinson, Fairmount, W. Va., has plans under way for a three-story garage, stable and servants' quarters, to cost $5000.

Jacob Meurer, 266 Lincoln place, Brooklyn, N. Y., has plans being prepared for a one-story garage to cost $6000 and to be built at Port Jefferson, L. I.

E. L. Jackson, Herkimer, N. Y., is planning to build a one-story garage to be 14 by 20 feet.

W. J. Van Keuren, 128 North La Salle street, Chicago, has prepared plans for a one-story garage, 23 by 16 feet.

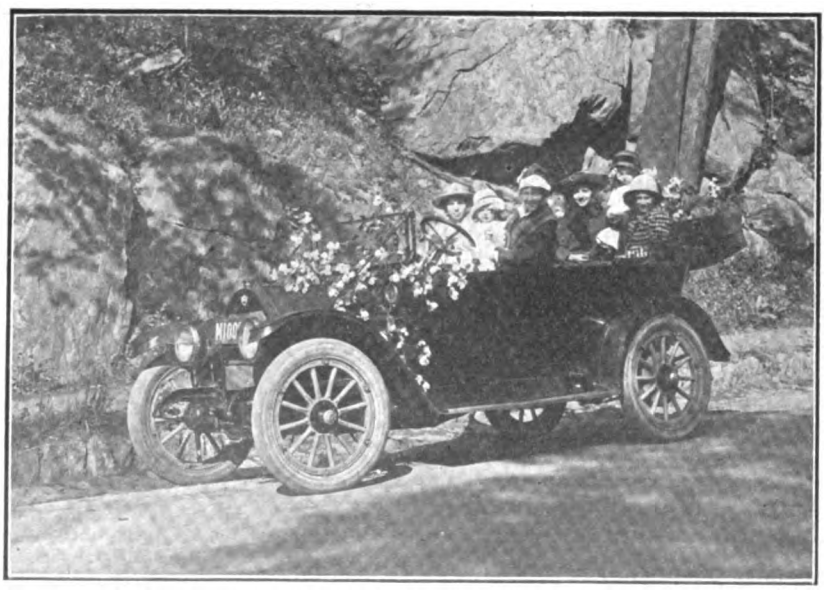
J. N. Dondelinger, St. Peter, Minn., has received bids for the erection of a one-story garage, 50 by 70 feet, to cost $6000.

H. P. Goertz, Mountain Lake, Minn., has invited bids for the building of a one-story garage to cost $4000.

Block Bros., Sixth and Felix streets, St. Joseph, Mo., has completed plans for a 1.5-story garage, 25 by 28 feet.

John McDevitt, Spokane, Wash., has called for tenders for the erection of a one-story garage, 50 by 156 feet, to cost $10,000.

W. F. Brand, 1218 North Vermillion street, Danville, Ill., has awarded the contract for the erection of a one-story garage. H. A. Linne, 246 West Main street, will lease the building when it is completed.



Party of Women and Children Enjoying a Day in Westchester County with a Reo the Fifth.

Duhring, Okie & Ziegler, Philadelphia, is preparing plans and specifications for a garage, stable and barn for W. L. Austin, to be erected at Villanova, Penn.

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Israel Samuels, 3440 Douglas boulevard, Chicago, has awarded the contract for a one-story garage.

H. D. Jones, 965 Lakeside place, Chicago, has given the contract for the erection of a one-story private garage.

Harry H. Larkin, Buffalo, N. Y., has let the contract for the erection of a two-story garage to cost $6000.

G. Stockhausen, St. Martin's, Penn., is having plans prepared for a garage to be erected at Moreland street and St. Martin's lane.

Nathan Douglas, 307 Harvard street, Cambridge, Mass., has given the contract for the erection of a one-story garage to cost $8000.

The Chaflin-Sumner Coal Company, 301 Shrewsbury street, Worcester, Mass., has let the contract for a one-story garage.

Fry & Son, 400 East Pratt street, Baltimore, Md., has awarded the contract for a two-story garage to cost $5000.

Peter Drummond, 702 South Meadock street, Saginaw, Mich., has given the contract for a one-story garage, which will cost $1500.

Dr. Charles Mayo, 419 West College avenue, Rochester, Minn., has let the contract for an $8000 two-story garage and flat building.

L. C. Watson, 2924 Prospect avenue, Kansas City, Mo., will build a private garage.

C. C. Tallman, Tallman building, Auburn, N. Y., has invited bids for a one-story garage to be erected at 47 Clark street.

The Peerless Motor Car Company, of which George H. Smith of 27 William street, Newark, N. J., is manager, will erect a garage and salesroom at 336 Central avenue, that city, to cost $25,000.

Nelson Brendle, Ashland, Penn., contemplates the building of a small garage in the near future.

Schrodt & Menges, 45 Hudson avenue, Albany, N. Y., has received estimates for a one-story private garage to cost $1800.

G. Liedike, Chicago, is to build a one-story garage to cost $2500.

N. A. Johnson, 1912 North Clark street, Chicago, has received estimates for a one-story garage.

Alexander Genard, 2320 Pentnam street, Toledo, O., has awarded the contract for a garage, 20 by 22 feet.

Howard Watkins, Wynnewood, Penn., has let the contract for the erection of a 1.5-story garage and stable to cost $7000.

The Charles McCaul Company, Philadelphia, is estimating on a brick garage, 80 by 30 feet, for Riddle & McCoach.

The Manning Estate, Philadelphia, is to build a brick garage at 1170 South Broad street, to cost $500.

J. P. Collins, 54 Linwood street, Roxbury, Mass., has awarded the contract for a one-story garage on Cliff street, Boston, Mass.

C. O. Bame & Co., 188 Chatterson street, Indianapolis, Ind., will build by day's labor a one-story garage.

The Board of Public Works, Indianapolis, Ind., is receiving sealed proposals for a one-story garage.

K. Blackledge, 720 West Walnut street, Kokomo, Ind., will build a moderate sized garage.

D. P. Dwight, 220 Burns avenue, Detroit, Mich., has plans for a one-story garage.

W. H. Boutell, 1500 Fourth avenue, Bay City, Mich., will build a 1.5-story garage, 40 by 44 feet, including chauffeur's living apartments.

Joseph Harper is receiving estimates from F. Roe Searing of Philadelphia for a factory and garage to be built at Chester, Penn.

E. G. Whitman, Cynwyd, Penn., has awarded the contract for a stone and shingle garage to Mowrer Bros., Merion, Penn.

Fredman's Garage, 2446 Libson avenue, Milwaukee, Wis., is making plans to build a new two-story structure in the near future

A. T. Johnson, 103 South Water street, Chicago, has let the contract, and work has begun on the erection of a one-story garage costing $6000.

J. T. Wellock, 122 Good street, Akron, O., has plans under way for a two-story garage and apartment building to cost $12,000.

H. Lindsay, Willoughby, O., is to build a 1.5-story garage, containing chauffeur's apartments, at a cost of $4500.

George J. Bing, 131 Tiffin street, Sandusky, O., has invited bids for the erection of a two-story garage and carriage repair shop.

James Lee, Pasadena Apartments, Grosse Pointe, Mich., has plans nearly completed for a two-story garage containing modern improvements.

F. W. Coleman, Grand Rapids Savings Bank building, has received bids for a two-story garage.

C. H. Bergstrom, 126 North Commercial avenue, Neenah, Wis., has plans under way for the remodelling of his garage at a cost of $2500.

Harry D. Hackman, Beattie, Kan., contemplates building a garage to cost $5000.

The Gering Improvement Company, Gering, Neb., is to build a one-story garage at a cost of $4000.

J. H. Madra, Geneva, N. Y., has completed plans for a one-story garage to cost $4500.

C. A. Bruhns, 152 Amsterdam avenue, New York City, will build a five-story garage and storage building at a cost of $30,000.

Joseph Cancelmo, 130 Dock street, Philadelphia, Penn., has awarded the contract for the building of a two-story garage to cost $10,000.

Obermeyer & Liebman, Bremen and Noll streets, Brooklyn, N. Y., is taking sub-bids for alterations to its garage, to cost $5000.

E. J. Scully & Sons, 895 Steinway avenue, Richmond Hill, Long Island, N. Y., has completed plans for a one-story garage, to be built at a cost of $5000.

F. Porschet, 33 Stillson street, Rochester, N. Y., is to build a two-story garage and store building.

Charles L. Earl, 411 Carolin street, Herkimer, N. Y., has plans under way for a one-story garage.

William J. Ferrera, Brockton, Mass., will build a one-story garage, to cost $12,000.

Henry Stehrer, Sea Isle City, N. J., will build a two-story garage to cost $4000.

The United Gas Improvement Company, Broad and Arch streets, Philadelphia, Penn., will erect a one-story garage to cost $25,000.

William Zingerfeller, Tyrone, Penn., has started work on the alterations of a stable which he will convert into a modern garage at a cost of $1200.

The Wilmington Automobile Company, Wilmington, Del., is to build an addition to its garage at a cost of $6000.

The Standard Garage Company, Main street, Tiffin, O., contemplates building a public garage at a cost of $6000 during the summer.

The Ticonic Investment Company, Milwaukee, Wis., has plans under way for a three-story garage and service station to cost $45,000.

J. T. Stack, Duluth, Minn., will build a garage to cost $1000.

L. Humbert, Sioux City, Ia., has completed plans for a two-story garage, to cost $15,000.

Consumers' Company, 332 South Michigan avenue, Chicago, has awarded the contract for a one-story garage to be erected at a cost of $13,000.

The American-La France Fire Engine Company, Elmira, N. Y., has awarded the contract to the William R. Compton Realty & Construction Company of that city, for the erection of a four-story building to cost $40,000.

E. Homan & Son, 1586 Boulevard, Jersey City, N. J., is to build a one-story garage to cost $7500.

H. B. Schwartz & Son, Fifth and Court streets, Reading, Penn., will build a three-story garage at a cost of $15,000.

S. D. Blackwelder, Bedford, Penn., has plans under way for a two-story garage which will cost $8000.

W. H. Grimdol & Son, 263 East Main street, Decatur, Ill., is to build a two-story garage.

M. A. Loeffler, New York City, is to rebuild his three-story garage at a cost of $10,000. The lessee is L. Burghardt, 105th street, near Columbus avenue.

Beadleston & Woers, 291 West 10th street, New York City, has awarded the contract for alterations to its garage, at a cost of $10,000.

E. E. Sultner, 551 West Market street, York, Penn., has awarded the contract for the erection of a two-story brick garage, which will cost $3000.

The Buffalo Cement Company, 110 Franklin street, Buffalo, will build a one-story garage at a cost of $10,000.

Peter Lammerts, 549 Sixth street, Niagara Falls, N. Y., has plans for a two-story garage, to cost $6000.

R. Hartney, Littletown, Penn., will build a one-story garage to cost $2500.

Charles P. Cramp, 612 Maryland street, Reading, Penn., will build a one-story garage soon.

The Central Auto Company, 220 Ionia street, Grand Rapids, Mich., is planning to build a two-story garage.

The Bellaire Auto Company, of which J. F. Johnson is president, located at 35th and Belmont streets, Bellaire, O., has given the contract for the erection of a one-story garage to cost $4000.

J. B. Bell, 1825 Collingwood avenue, Perrysburg, O., will build a one-story garage.

O. W. Holmes, 213 Irving street, Toledo, O., contemplates building a garage.

J. D. Eldridge, Augusta, Ark., has plans for a garage to be built shortly.

W. W. Wilson, 908 West Fourth street, Little Rock, Ark., contemplates building a garage in the fall.

M. B. Sanders, 1222 Cumberland street, Little Rock, Ark., is preparing to build a garage.

Dr. F. O. Rogers, 1500 Battery street, Little Rock, Ark., will build a private garage during the summer.

A. W. Pontious, 16 North Fourth street, Sunbury, Penn., has let the contract for the building of a one-story garage.

H. V. Gallagher, Milton, Mass., has awarded the contract for the erection of a one-story garage, to be 25 by 40 feet.

Charles Hummell, 521 South Division street, Buffalo, N. Y., has let the contract for the building of a modern garage.

A. R. Betts, Dana and Dakota streets, Cincinnati, O., has given the contract for a new $3000 one-story garage.

The Greenwood Cemetery Company, 170 Broadway, Brooklyn, N. Y., has awarded the contract for the erection of a garage to cost $25,000.

E. Pegan, 2591 Manderson street, Omaha, Neb., has plans under way for a one-story garage to be built at a cost of $1500.

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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING:

Information supplied at request.

Advertising Copy for the ACCESSORY and GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

BUILDING SUCCESS.

There is perhaps nothing more offensive to the enterprising business man than the attitude of hard luck and business depression assumed by some to account for their lack of success. One garage proprietor was heard recently to declare that the automobile business was the very worst in which a man could engage. Argument would have been fruitless in his case and none was attempted. However, his presence in any gathering was sufficient to cast a pall of gloom upon it.

Doubtless, investigation would have revealed the reasons for his failure to progress. Had he taken the time that he spent in berating the industry in general, to build up his business and study the details with a view to strengthening any deficiencies his story might have had a different tone. But he is of a type that would be unsuccessful in any line of endeavor he might elect to follow.

One cannot be impressed too strongly by the fact that a man takes out of his business exactly that which he puts into it. The business man who is slothful and slipshod; who is mentally lazy, cannot expect to travel far on the road to prosperity. The one who is alert every minute and who takes time to carefully study the problems confronting him, is bound to reap the rewards of his industry. The history of the lives of conspicuously successful men proves that nothing can be gained without constant hard work, both mentally and physically.

USING PROPER SIGNS.

Considerable has been said relative to the utilization of display windows and the necessity for keeping them attractive by showing seasonable and timely goods, involving a frequent change in adornment designed to make the windows interesting to passers-by. In calling attention to this the question of proper signs has perhaps been neglected. There are other factors to be considered aside from attractive and artistic signs, and perhaps the most important is in the matter of size.

It has been noticed that many garages and service stations display signs which, while neat, are rather small. It is undoubtedly a fact that a large percentage of the public is short sighted, although this may not have received any material consideration. Recently a manufacturer who was about to install a sign on his factory took this into account and his experience may well be imitated by garagemen.

Proceeding on the basis that hundreds of people cannot read ordinary signs from across the street, it is well to test the signs to be erected. One man about to place a new one above his establishment, selected the person with the most defective vision that he knew, to stand on the opposite side of the street while various sizes of letters were displayed. The one which he read the easiest was selected. The cost of installing a larger sign is not excessive, especially when one considers the greater number of readers secured, including the large number of nearsighted people.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.

Of **The Accessory and Garage Journal** Published **Monthly** at **Pawtucket, Rhode Island,** required by the act of August 24, 1912.

NOTE—This statement is to be made in duplicate, both copies to be delivered by the publisher to the postmaster, who will send one copy to the Third Assistant Postmaster General (Division of Classification), Washington, D. C., and retain the other in the files of the postoffice.

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None.

WILLIAM H. BLACK, Editor.

Sworn to and filed with Postmaster July 11, 1913.

ARTHUR H. CAPWELL,
Notary Public.
My commission expires June 30, 1914.

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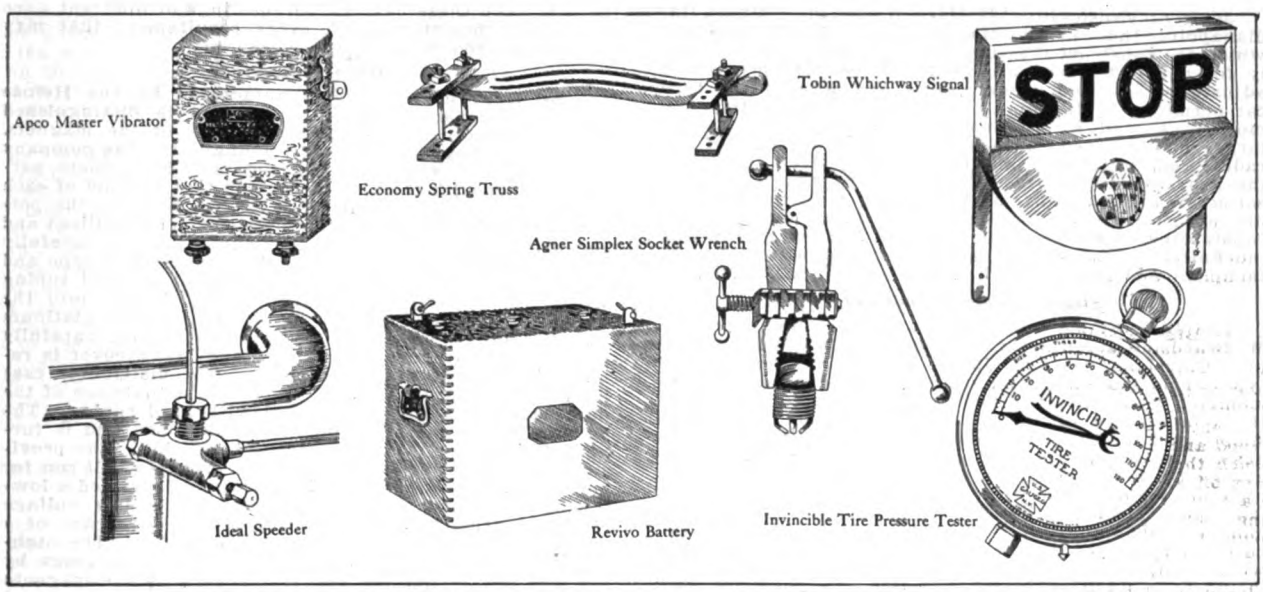
DESIRABLE ACCESSORIES FOR THE DEALER.

Apco Master Vibrator No. 3.

The Auto Parts Company, Providence, R. I., manufacturer of Ford specialties, has augmented its extensive list by a new master vibrator termed the No. 3. The company has had considerable experience with master vibrators, having previously marketed two designs, and states that the new instrument is superior in every respect to former models in that it is not only more compact, but produces a hotter spark with less consumption of current. The last named feature will appeal to Ford owners whose cars are fitted with electric lighting as a better light is obtained at low speeds. The new master vibrator is but 1.5 inches thick, 3.5 wide and five high, dimensions permitting of installation under the hood if desired, thereby eliminating possible obstructions from the dash. The case is of mahogany, highly finished, and the removable cover is accurately fitted, excluding dirt and moisture. All exterior components, such as locking parts, terminals, etc., are heavily nickel plated. The adjusting screw of the vibrator includes a special locking device, and the contact points are unusually large, assuring long life with minimum care. Particular attention has been paid to the windings and these are designed to withstand the high voltages generated by the flywheel magneto. Although constructed especially for model T Ford automobiles the master vibrator may be utilized with any coil system of ignition where the source of current is a battery or a low-tension magneto. Not only does it synchronize the spark, making for more power and flexibility, but starting is made easy, as each cylinder is assured a hot spark. Although the Apco vibrator is the lowest priced instrument marketed, the best of material and workmanship are incorporated, and it is guaranteed.



Economy Spring Truss.

The Economy spring truss is manufactured by J. C. Moore & Co., Racine, Wis., and is designed to be carried in the car for emergency when a spring breaks. It is slightly arched in the centre and carries a clamp and bolts at each end, the former being provided with a number of openings to fit different sized springs. In practise the centre of the truss is placed over the break and the bolts of the clamps tightened.

Tobin Whichway Signal.

A large number of rear-end collisions take place because of the inability of the operator of the leading car to notify the approaching vehicle when a stop is to be made. This is especially true in the evening when driving in congested traffic. The Tobin Whichway Signal Company, 50 Walker street, New York City, is marketing the Tobin Whichway signal, which presents practical features in that whenever the machine is slowed down or stopped the word "Stop" is automatically illuminated. It is a combination license tag holder and rear light operated by electricity, and includes the usual red semaphore. The word "Stop" is ground in red glass and the lamp is made of brass reinforced with a heavy piece of steel. Inside the lamp, which is constructed to withstand severe service, are two electric bulbs, one illuminating the semaphore and number plate continuously, and the other the signal. Control of the lighter is by an automatic switch which may be attached to either the clutch or brake.

Ideal Speeder.

The high price of gasoline has resulted in the marketing of a number of devices for controlling the mixture by introducing auxiliary air into the intake manifold. One of this type is the Ideal speeder, marketed by the Interstate Auto Accessory Company, 2124 East Washington street, Indianapolis, Ind. It comprises a valve device which is screwed into the intake manifold and the opening is controlled by a dash adjustment. Heated air is utilized to break up any particles of raw gasoline as well as to correct the mixture, a tube being placed in proximity to the exhaust pipe. The speeder is constructed to be utilized in combination with a primer which is mounted on the dash and manually operated.

Revivo Storage Battery.

The Revivo storage battery is the product of the Cook Railway Signal Company, Denver, Col., and differs from the usual types of lead batteries in that it is a dry member, no fluids being utilized for an electrolyte. It is claimed by the maker that the battery may be entirely discharged and that recharging will bring it back to its initial efficiency. It is charged in the same manner as wet batteries and it is maintained that overcharging is not injurious. It is made in several sizes and capacities.

Agner Simplex Socket Wrench.

The R. C. Agner Company, Burlington, Wis., is manufacturing the Agner Simplex adjustable socket wrench, which presents interesting features in that it may be utilized for a number of purposes. It is especially adapted for removing and replacing spark plugs, having as it does a pair of movable jaws which are locked by a small clamp. It may also be utilized on square or hexagonal nuts and bolts, or as a tap wrench. Another feature of the device is that it can be employed as a small hand vise. It is constructed of high grade material.

Invincible Tire Pressure Tester.

Lack of proper inflation is the greatest abuse of tires and to secure maximum efficiency from the casings the air pressure should be tested from time to time. The United States Gauge Company, 67 Wall street, New York City, is marketing the Invincible tire pressure tester, which is a self-recording instrument and one easily operated. It is similar in size and shape to a watch and may be carried easily in the pocket if desired. The dial is calibrated, registering in pounds from one to 120, and the proper inflation values for different sized casings are included. When taking a reading the hand remains at the maximum pressure until released by pressing a button. This is of convenience when inflating tires at night as the instrument can be carried to the nearest lamp and read.

Hughes Drip Pan.

The Foss-Hughes Company, Philadelphia, is marketing the Hughes drip pan, which was designed by A. E. Hughes for service in the salesrooms of the concern. It differs from the conventional pans in that an oiled paper is utilized to catch any lubricant that may drip from the motor, etc. The invention comprises a number of individual sheets of paper formed into a pad and held in a wooden frame by an iron member. Upon a sheet becoming soiled it is removed, exposing a clean one. It is especially designed for service in salesrooms, although equally applicable to the private garage.

Cox License Number Holder.

The Cox Brass Manufacturing Company, Albany, N. Y., is marketing what is known as the bracket A, a license number plate holder, arranged to retain two tags if desired, as when travelling in two states. The plate may be attached to either side of the front bracket,

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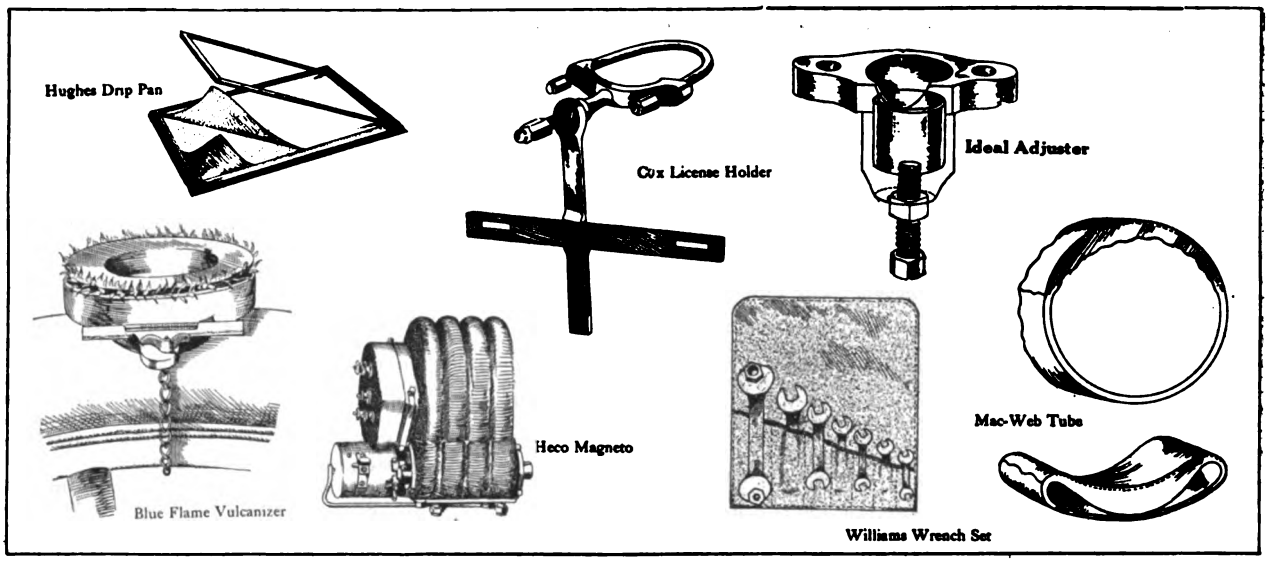


which by removing a nut on the top of the shank can be reversed easily. The holder is made of brass.

Ideal Ford Adjusters.

John A. Vansickle, 2122 East Washington street, Indianapolis, Ind., is manufacturing the Ideal adjusters, which are constructed in two sizes and designed especially for model T Ford automobiles. They are practically adjustable ball and socket joints and when fitted to a car permit of taking up all play, thereby preventing lost motion as well as eliminating annoying rattles. The larger size is used for adjusting the front end of the radius rod, while the smaller is employed on the steering gear connecting rod. The device is provided with a set screw and lock nut and by turning the former a very fine adjustment may be made. The Ideal adjusters are constructed of a high grade material and are guaranteed indefinitely. They do not require any special tool for attachment and may be applied by the most inexperienced.

Blue Flame Vulcanizer.

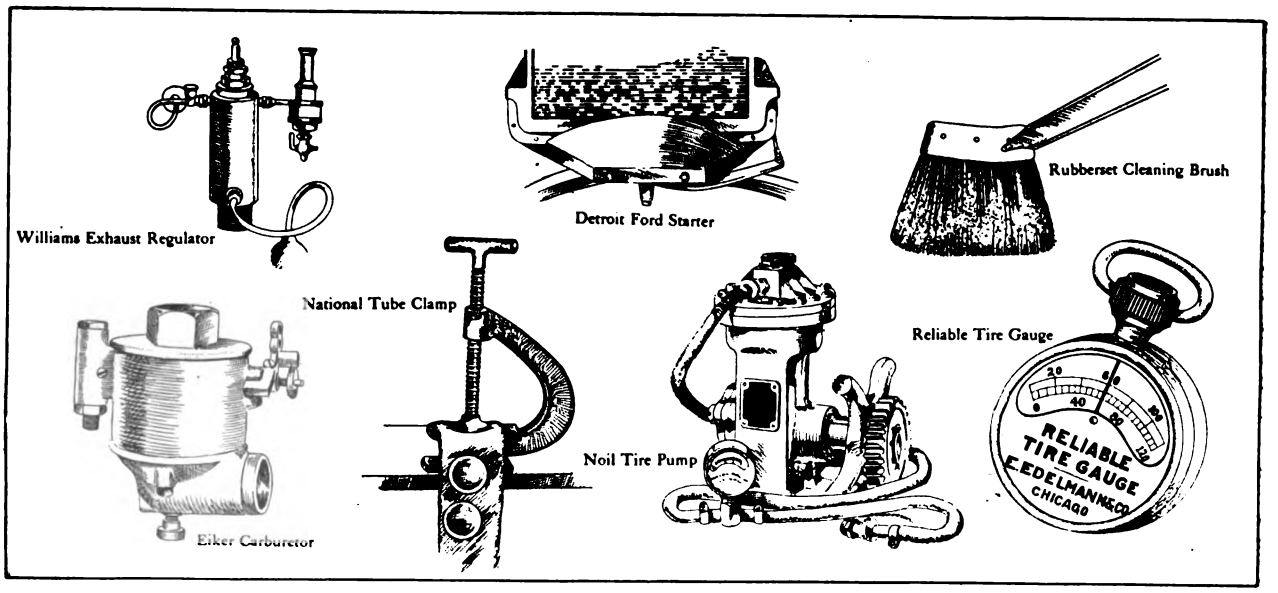
The Blue Flame vulcanizer is the product of the C. M. Beardsley Manufacturing Company, 1911 Euclid avenue, Cleveland, O., and differs from the conventional types of portable devices burning gasoline in that a thermometer is incorporated, enabling the operator to control the temperature of the heat. The vulcanizer is cup shaped and the fuel receptacle is provided with a wick to absorb the greater part of gasoline which when ignited gives off a blue, smokeless flame. Control of the heat is by a cover holding the temperature to the proper vulcanizing point, which is noted by the mercury in the thermometer. The vulcanizer is constructed in two parts, secured together by thumb screws, and is also equipped with a chain for vulcanizing tires on rims. The outfit includes, in addition to the vulcanizer, a specially prepared quick curing cement and rubber.

Williams Wrench Set.

The Waite Auto Supply Company, Providence, R. I., is marketing the Williams wrench set, which is made in two numbers, eight and nine respectively, these differing only in that a spark plug wrench is omitted with the smaller numbered outfit. The wrenches are drop forged and are designed to fit bolts and cap screws of varying standard measurements. There are seven wrenches to each set and these have milled openings of different sizes and are sufficient to meet every requirement that may be encountered in motor car work.

Heco Magneto.

The Heco magneto is manufactured by the Heinze Electric Company, Lowell, Mass., and is distinguished easily from other makes by the shape of the magnets, these being round instead of rectangular. The company maintains that the round magnet provides a more perfect contact with the pole pieces and that the end of each magnet is ground and fitted to reamed holes in the pole members. The best tungsten magnet steel is utilized and the armature is of high grade magnetic iron, carefully annealed. The bearings are of the annular ball type and the make and break case is constructed of steel tubing with fibre insulation, the latter being shrunk onto the outside. The points are ample in size, of platinum iridium, and the cam is chrome nickel steel, carefully ground and hardened. The make and break cover is removable without the use of tools. The distributor case is of hard vulcanized rubber and the terminals are of the detachable type and are covered with hard rubber. The advance lever is located on the breaker box and is furnished either on the right or left hand side. The provision for lubrication is such that the magneto will run for months without attention. The magneto is termed a low-tension instrument because it produces a low voltage from the armature, which is stepped up by means of a coil having primary and secondary windings. The high-tension current is distributed to the different plugs by the magneto. The dash coil furnished with the magneto is of mahogany, nicely finished, and the coil is equipped with a small kick switch and push button for starting under compression. A coil for mounting under the hood is also manufactured. When the independent dual ignition system is required, a four-cylinder coil is supplied, it having a switch so that either batteries or a magneto



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may be utilized independently or together. The Heco is constructed for one, two, four and six-cylinder motors. Owing to the special method of winding the secondaries the product of the company is guaranteed against burning out or breaking down.

Mac-Web Pneumatic Tube.

The Mac-Web pneumatic inner tube is manufactured by the Webster-Macdonnell Company, Haverhill, Mass., and it is held that it is not only puncture proof, but that it provides all the advantages of the conventional types of tubes. It is constructed with a strip of fabric running its entire length and a thickness of rubber over the fabric. When removed from the mandrel it is turned inside out and spliced. When punctured it is stated that the rubber tread will compress, sealing the opening.

Rubberset Cleaning Brush.

The Rubberset Company, Newark, N. J., is manufacturing a brush called Rubberset, which is made especially for removing oils, greases and dirt from the power plant and other components of the motor car. The brush proper is hatchet shaped and the bristles are extra stiff, making it possible to displace hard deposits. The bristles are gripped in hard vulcanized rubber.

Williams Exhaust Pressure Regulator.

The D. T. Williams Valve Company, Cincinnati, O., is manufacturing the Williams exhaust pressure regulator, which is designed for use on cars equipped with pressure fuel feed systems. Its function is to catch all dirt, moisture, etc., and to cool the exhaust gas before the latter passes to the tank. The device is provided with an adjustable valve which relieves the system of any excess pressure and assures a uniform feed at all times. The regulator is attached to the dash under the hood in a vertical position and the gas is led to it by a tube. The gas enters the regulator through a lower connection, passes upward, then downward over a series of ribs inside the casing, and all foreign elements are separated, falling to the bottom cap, which is removable. The exhaust in its course passes upward through a very fine mesh screen, where it is again filtered.

Detroit Ford Starter.

The Detroit Mechanical Starter Company, Detroit, is manufacturing a mechanical motor starter for model T Ford cars. It is operated from the seat by a nickeled lever located beside the emergency brake member, the former being connected with a sector and pinion gear just in front of the dash. The starter mechanism proper replaces the usual crank and does not detract from the appearance of the machine, it projecting but six inches. When the lever is moved connection is made between the crankshaft and a shaft of the starter, and a further movement of the hand lever turns over the motor by the application of considerable leverage through a gearing. The device weighs but 20 pounds and not only is it easily installed, but it is claimed that but little effort is required to crank the motor.

Elker Carburetor.

The Elker carburetor, manufactured by the Elker Carburetor Company, 1790 Broadway, New York City, differs from the conventional types of vaporizers in that the spray nozzle is located in the middle of the throttle disc and a tapered adjustable needle moves backward and forward, automatically increasing or decreasing the supply of fuel with the opening and closing respectively of the throttle. The maker holds that the construction eliminates the necessity of a venturi tube or extra jets. It has but one air inlet, the air passing upward across the spray nozzle, and as the latter is located in the centre of the mixing chamber it is pointed out that its efficiency is not affected by grades, etc. It is also stated that water and sediment in the fuel cannot clog the spraying nozzle, as the inlet port of the feed pipe is .5 inch below the level of the gasoline. The base, which includes the auxiliary air valve, air intake and hot air connection, adapts itself to four different positions making for convenience in installation. There are but two adjustments, the fuel and air, and it is said that the carburetor is set easily and is applicable to all types of motors. Easy starting qualities, economy of fuel and flexibility are emphasized with the Elker.

National Tube Patching Clamp.

The National Cement & Rubber Company, Toledo, O., is marketing an inner tube patching clamp which is stated to mend a puncture in four minutes at a slight cost. The clamp requires no heat, acid, etc., as it welds the self-curing rubber cement to the tube by the cold process. The equipment includes in addition to the clamp which makes a neat repair, a can of self-curing rubber cement.

Reliable Tire Gauge.

E. Edelmann & Co., 225 West Illinois street, Chicago, is marketing the Reliable tire gauge, which is very compact and in watch form. It registers the air pressure from zero to 120 pounds and is provided with an indicator hand which stops when the maximum pressure is registered. The hand can be reset to zero.

Taylor Noil Tire Pump.

The Taylor Manufacturing Company, box 485, Chicago, is marketing the Noil pump, so named because all lubricant or oily vapors are eliminated, nothing but pure, fresh air being forced to the shoe. It is a mechanical pump of the stationary type and is secured to the power plant of the car by a simple little bracket, this and the necessary gears being supplied as regular equipment and to meet the requirements of installation. The pump works on the plunger-diaphragm principle and the air chamber is independent of the crankcase, being separated from it by an air-tight rubber diaphragm. The pump is but 7.5 inches high, weighs but 6.5 pounds and is constructed of aluminum and bronze. It is held it will deliver from 90 to 150 pounds of air when operated at low speed on the average motor and that it may be fitted in from 15 to 40 minutes, depending on the design of the power plant. The equipment includes suitable length of hose and pressure gauge.

NEW PUBLICATIONS RECEIVED.

Luther's Dimo-Grit Grinders, catalogue No. 29, general information on abrasives. Luther Grinder Manufacturing Company, Milwaukee, Wis.

Universal Garage Equipment, dealing with turntables, their construction, installation and operation. Canton Foundry & Machine Company, Canton, O.

Heinze Low-Tension Magneto, special triple system for two-cylinder, four-cycle opposed motors. Heinze Electric Company, Lowell, Mass.

Arizona Tour Book—Compiled and published by Harry Locke for the Arizona Good Roads Association, Prescott, Ariz. Contains 200 pages of detailed information concerning road conditions, touring maps, routings, etc., covering the state. Fully illustrated. Price $2.

The Ideal Tour—Compiled and published by Almon C. Judd, The Elton, Waterbury, Conn. Illustrated routings for the so-called Ideal Tour of New England, occupying 11 days, with connection from the West and South, fully revised and brought up-to-date. Mailed free upon request.

Pastime Journeys for Electric Automobiles—Published for the Electric Motor Car Club of Boston by F. D. Stidham, 138 Pearl street, Boston. Contains a series of routes with Boston as a centre, practical for electric automobiles, with charging stations in the various cities indicated.

Dayton, a Story of the Great Flood—A brief but interesting history of the recent flood, comprising 32 pages, fully illustrated with photographic reproductions, published by the Dayton Engineering Laboratories Company, maker of Delco systems. The booklet is printed by the Franklin Press, Detroit.

Maine Automobile Road Book, published by the Maine Automobile Association, touring information bureau, 12 Monument square, Portland, Me. It contains routings compiled by pathfinding cars of the association, covering about 3000 miles in Maine and some 100 miles in New Hampshire. Handsomely illustrated. Copies may be had free at request made to the above address.

Gas Engines and Producers—Comprises three parts, the first two being devoted to gas and oil engines, by Lionel S. Marks, S. B., M. M. E., and the last taking up gas producers, by Samuel S. Wyer, M. E. A treatise on the modern development of the internal combustion motor and of efficient methods of fuel economy and power production. Fully illustrated. Published by American School of Correspondence, Chicago. Price, $1.

Good Roads Year Book—Published by the American Highway Association, Colorado building, Washington, D. C.; from the Waverley Press, Williams & Wilkins Company, Baltimore,; edited by J. E. Pennybacker, Jr. An interesting compilation, containing the history of road building and reports of work accomplished and contemplated in the various states. The subject is treated exhaustively and the reports are authoritative. Comprises 548 pages. Price, $1.

Topographical Maps—The United States Geological Survey, Washington, D. C., is issuing topographical maps for motorists, these being of a size suitable for carrying in the car at all times. They not only give the location of all towns, villages and hamlets and all the roads covering each district, but by their use the motorist is able to tell at a glance whether the road will be level or rolling, steep or hilly, etc. Those desiring information concerning the maps should make application for descriptive indices, designating the states covered by the inquiry. Price, 10 cents each.

Electric Vehicles—Published by the Electricity Magazine Corporation, Monadnock building, Chicago, now incorporated with Ignition. The May number contains the following articles of special interest: "The Electric Vehicle Association of America," S. F. McIntyre; "Co-Operation in Electrical Vehicle Progress," Arthur Williams; "Charging Your Own Car," John B. Rathbun; "How a Woman Sells Electrics," Mabel Condon; "Some Facts About Storage Battery Electrolyte," Hudson F. Smith; "Up-Keep Cost, Horse Drawn vs. Electric Vehicles," W. R. Metz; "Some Recent Electric Truck Applications," Fred W. Harrington; "Significance of Electric Truck Recorders," E. E. Witherby, and the electric pleasure car specifications for 1913.

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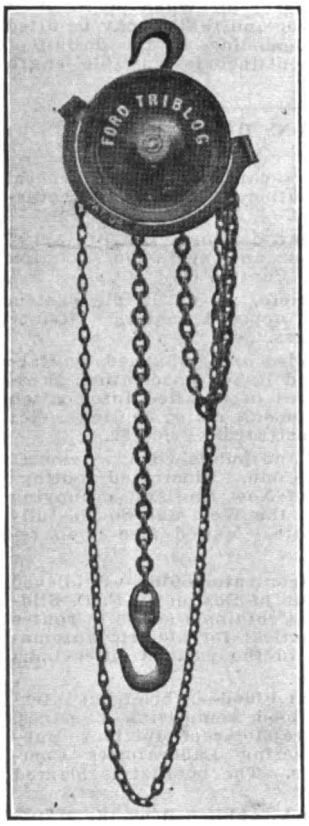
GARAGE AND REPAIR SHOP EQUIPMENT.

THE use of en bloc motors and the increasing number of commercial vehicles call for suitable equipment for handling this heavy work, and among the devices marketed is the Ford Tribloc, made by the Ford Chain Block & Manufacturing Company, 139 West Oxford street, Philadelphia. As will be noted by the accompanying illustration, it is a spur gear chain block of the hand hoist type, and one of its features is a patented loop hand chain guide, which prevents the hand chain from over riding the hand wheel when operating the hoist at any speed or in any direction.



Ford Tribloc.

In the Tribloc the load is held by a device entirely independent of the lifting mechanism. The maker points out that all of the applied power is the hoisting effort and that 80 per cent. of that applied to the hand chain is converted into lifting energy. The latter is so multiplied that one man pulling 82 pounds can lift a ton four feet a minute.

The parts are few and simple and the gears centre around the one main bearing. The gears are of steel covered by a dust proof steel case and are balanced. All working parts are of steel and the swivel hook is a steel forging. The Tribloc is made in sizes ranging from .25 ton to 40 and is guaranteed for five years. The patented loop guide can be furnished on all sizes and is interchangeable with the strap hand chain guide. The company also manufactures differential and screw gear hoists. Figures and data will be forwarded upon request.

AMERICAN SONOSCOPE.

Knocks and pounds about the motor are sometimes difficult to locate, especially when the noise is not very loud. The American Electric Company, State and 64th streets, Chicago, is manufacturing a device for this work called the Sonoscope and it is held that by it the most baffling click may be located easily. It operates on the principle of a telephone receiver, and owing to the construction of the part held to the ear the sounds are greatly magnified. The outfit comprises the receiver member and test rod, the latter being attached to the device when its use is desired. It is moderately priced and the maker claims that it is invaluable in the repair shop as considerable time and expense is saved in locating mysterious noises annoying to the owner.

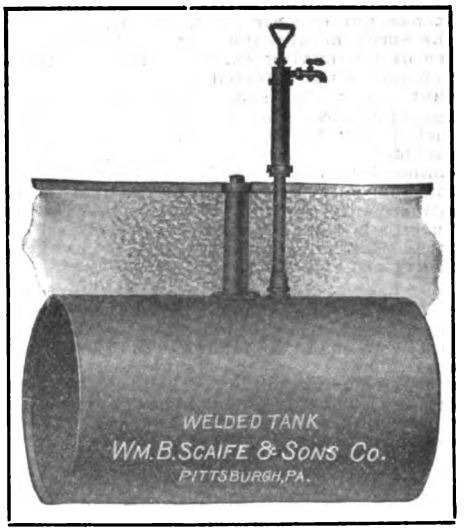
GASOLINE STORAGE OUTFITS.

The storage and handling of gasoline are becoming items of importance in these days of constantly increasing cost of fuel, and garages and service stations are giving the subject more attention than formerly. Not only must the system make for convenience, but it must provide accurate means for noting the amount utilized as well as prevent loss by evaporation or careless handling.

The William B. Scaife & Sons Company, Pittsburg, Penn., manufactures a wide variety of gasoline, oil and fluid storage systems, one of which is shown in an accompanying illustration. They are made in various sizes ranging from 60 gallons to 1000 and come complete for installation.

The tanks are constructed of a high grade open hearth steel and are free from rivets, etc., being welded by the autogenous process. They are thoroughly galvanized inside and out by a hot process and pure zinc is utilized. A coat of rust proof paint is applied to the exterior and each tank is tested with compressed air to insure absolute tightness.

The filler pipe is sturdily constructed and a galvanized malleable iron rim cap is grooved on the inside to fit tightly over two strong lugs on the filler pipe casting. A bronze padlock prevents tampering. The cap requires no tool to operate, a quarter of a turn with the hand releasing it after it is unlocked. Several lug slots are provided through which the air enters by suction while the contents of the tank are being pumped. A perforated brass strainer sets inside the pipe, easily removed for cleaning, and there is also a screen covering the vent space. When the filler pipe is installed under a driveway or sidewalk a cast iron box with hinged cover is provided at a slight additional cost.



One of Several Gasoline Outfits Made by William B. Scaife & Sons Company.

The long distance pump is of the suction type

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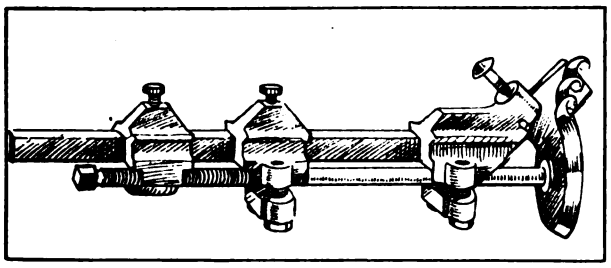
and it is stated that it is very powerful and easily operated. The base is provided with an opening to admit the suction pipe in case it is not desir-



Noonan Valve Turning Tool, a Compact, Adjustable Device for Recutting Seats.

able to cut a hole in the floor and have the supply pipe enter at the bottom. Either bolts or screws may be employed for securing it. The faucet is of the anti-drip type and has improved shut-off features. Provision is made for holding a can, etc. A bronze padlock is securely riveted to the top cylinder casting, and swings aside out of the way when the pump is operated. The foot valve is located in the lower cylinder casting and contains a ground bevel seat. The pump faucet, cylinder and inside parts are brass, the handle, top and bottom castings of malleable iron galvanized and the base is cast iron black enameled. The maker will forward particulars, including price list, upon application.

NOONAN'S VALVE TURNING TOOL.

A tool for obtaining a new seat on a valve is being marketed by F. A. Baker & Co., 10 Warren street, New York City. It is shown in an accompanying illustration, is adjustable and will take any size valve of any angle. The construction is simple and a quality of the device is that the cutters may be removed and resharpened when they become dull with service. The tool is 11 inches in length, constructed of high grade material and is highly polished. The method of fitting and recutting the valve is shown in the drawing.

TAPE GRIP WATER JOINT.

Herz & Co., 295 Lafayette street, New York City, is manufacturing the Tape Grip water joint, a device for making a connection between rubber hose and a metal pipe, such as the outlet manifold and the radiator. Rotating a ring member winds the tape firmly. It is held that it may be as easily displaced, and may be utilized over and over again.

TAD'S TROUBLE FINDER.

The Toledo Auto Devices Company, Toledo, O., has brought out what may be termed a mechanical stethoscope, called Tad's trouble finder. It is designed for locating mysterious noises which may develop in the power plant. The finder is made of wood and metal and is inexpensive.

RADICO.

The Radico Manufacturing Company, Springfield, Mass., is marketing a new compound known as Radico, which is guaranteed to stop leaks in radiators or other sections of the cooling system and without injuring the components. It is claimed that Radico will cure a leak in 15 minutes.

HILL-STAGE TUBE VULCANIZER.

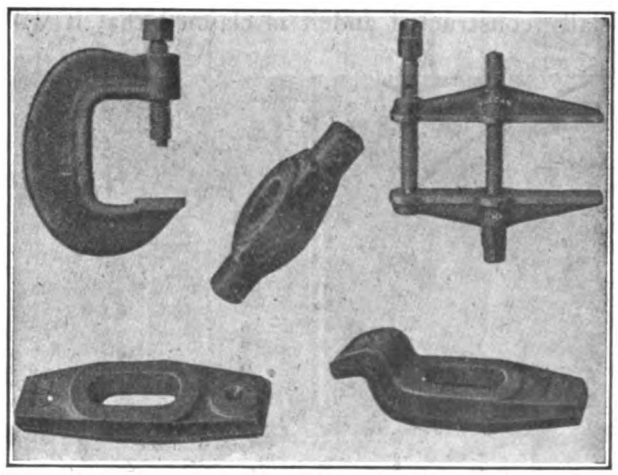
A revolving, quick steaming vulcanizer, said to permit the operator handling eight tubes at one time and without changing his position, has been brought out by the Hill-Stage Company of Anderson, Ind. The boiler is of porcupine construction where the flame strikes it, making for rapid and uniform heating. The vulcanizer can be operated with a gasoline burner or with direct steam. Details will be supplied on request.

VULCAN DROP FORGED CLAMPS.

Steel clamps for holding work on drill press tables or surface plates are very handy tools in the repair shop. J. H. Williams & Co., 40 South Clinton street, Chicago, is marketing a line of drop forged clamps known as the Vulcan and these are produced in a variety of forms to meet the requirements of different service. Several of the line produced by this company are shown in the accompanying illustration, including a machinist's clamp.

The last named type is constructed from a tough grade of steel which is submitted to a special process to increase strength. The knurled portion of the hardened and tempered screws permits of rapid and easy adjustment. They are made in three sizes having openings from 1.25 to 4.25 inches and are moderately priced.

The company also produces a number of drop



Vulcan Drop Forged Machinist's and Strap Clamps.

forged strap clamps, time saving devices, for use with the planer, lathe, drill press, milling and boring machines.

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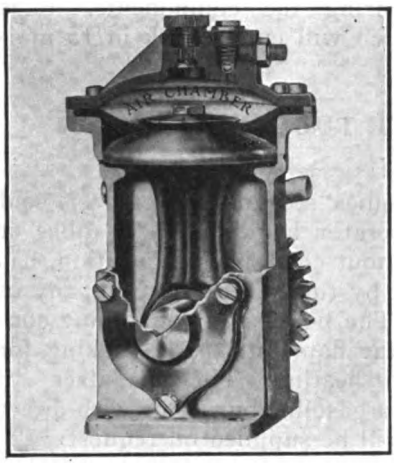
TAYLOR PORTABLE PUMP.

The Taylor Manufacturing Company, West 14th street and 48th avenue, Chicago, is marketing a new mechanically operated portable tire pump for garage service that presents interesting features because of its convenience and compactness. The pump proper is driven by a .25 horsepower electric motor, which is constructed either for direct or alternating current and for varying voltages.



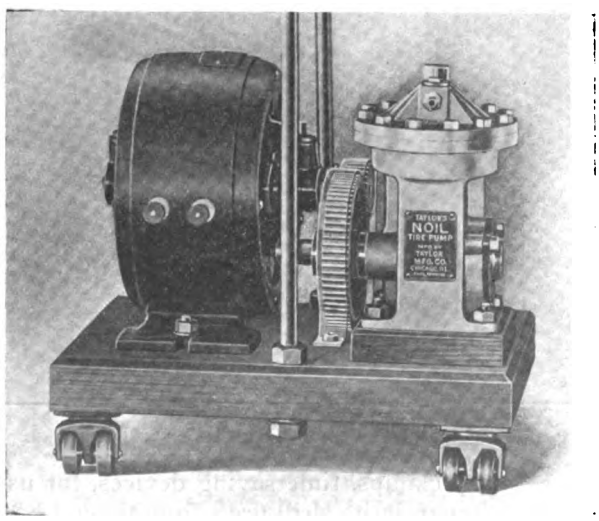
Air Chamber of Noil Pump.

The outfit is mounted on a heavy golden oak base and may be moved easily about the garage, it rolling on four heavy steel casters. A looped steel handle is provided, and its weight makes for convenience in operation.

The motor is mounted beside the pump and drive from the former is by means of steel pinions and cast iron gears. The equipment is very complete, including 15 feet of high grade flexible hose with connection and pressure gauge and 15 feet of electric wiring and socket.

The pump itself is known as the Noil, so named because its operation precludes all possibility of lubricant or oily vapors being carried with the air into the inner tube when inflating. The pump works on the plunger-diaphragm principle, and it is held that frictional heat is eliminated. It is but 7.5 inches high, weighs but 6.5 pounds and employs no leather cups, etc.

The crankcase is of aluminum and gears and plunger of solid bronze. The plunger is specially constructed and it is claimed that it will withstand a pressure of 1000 pounds. As will be seen from the accompanying illustration showing a cross section of the pump, its air chamber is independent of the crankcase, being separated from it by an air tight rubber diaphragm which forms the base of the air chest. Since no lubricant enters this chamber no oil can be discharged. One of the qualities claimed for the Noil is that it will deliver a steady flow of air and that it will supply 90 to 150 pounds at low speeds.

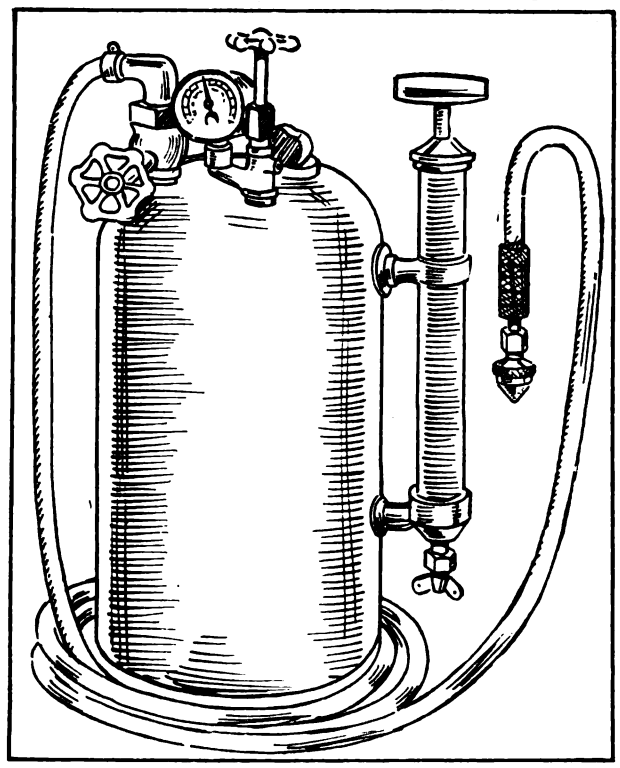


Taylor Noil Portable Garage Tire Pump, a Compact Unit Operated by Electricity.

TURNER MOTOR WASHER.

The Turner Brass Works, Sycamore, Ill., is manufacturing a new series of motor washers actuated by pressure. They are made in three sizes holding one quart, two and five gallons respectively. One of the largest sizes is shown in an accompanying illustration.

The tanks are constructed of drawn steel, equipped with a pressure gauge registering up to 100 pounds and have large hand pumps. The design is such that the washer may be connected to a pressure tank in the garage or repair shop, suitable connections being provided for incorporating in the line. Each washer is fitted with 10 feet of cloth insertion rubber hose having an adjustable nozzle.



Turner Motor Washer, Made in Three Sizes and Employing Fluids or Dry Air for Cleaning Purposes.

FOSTNACHT VALVE RESEATER.

The National Auto Specialty Company, Tama, Ind., is marketing the Fostnacht valve reseater, a tool designed especially for reseating and polishing valves with a minimum outlay of energy. The outfit comprises a large cutter, designed to fit all sizes of 45-degree valves and five sizes of cutters, from 1.5 to 2.25 inches. The latter are constructed of a high grade carbon steel.

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RECENT PATENTS OF INTEREST.

Piston Packing Ring, Norbert Danes Hamel, Gardner, Mass., No. 1,062,095. The combination with a split piston ring whose ends are recessed in both edges; of a reinforcing member channelled at one end with the base of the channel fitting inside one ring-end and the flanges thereof fitting in its recesses and adapted to slide into the recesses of the other ring-end, the base of said channel being longitudinally slotted, and a screw inside the other ring-end engaging said slot.

Muffler, Orville Z. Frazier, Elkhart, Ind., No. 1,062,092. A muffler comprising a main casing, a plurality of chambers arranged therein, said chambers being graduated in size and having the upper edges thereof in the same horizontal plane as the upper edges of the side and end walls of said main casing, communicating means between said chambers and the main casing, means to supply exhaust gases to the smallest chamber, and discharge pipes leading from said main casing.

Adjustable Alligator Wrench, Henry Adalbert Smith, Elgin, Ill., No. 1,062,047. In a wrench, the combination of a fixed jaw, a pivoted jaw, a handle having a recess in its forward end back of said pivoted jaw, a spring one end of which engages said pivoted jaw and tends to open the same and the other end of which spring is bent upon itself and sprung into the recess in the handle, means for closing the pivoted jaw against the tension of said spring, means for engaging the spring intermediate its ends during part of the movement of the pivoted jaw whereby said jaw is held under two different tensions during its movement, said means comprising an abutment formed by the extremity of the bent over portion of the spring, and a saddle attached to the fixed jaw and incasing the devices for operating the pivoted jaw.

Silencer for Gas Engines, Hiram Percy Maxim, Hartford, Conn., No. 1,060,925. A silencer for gas engines and the like comprising a reversely directed, eccentrically arranged, nested series of wide cylindro-spiral shells having slightly lapping ends and forming compound series of wide alternately reversing spiral whirl chambers, each gradually expanding radially from its admission end and gradually contracting towards its constricted discharge throat, each discharge throat being angularly advanced in its discharging direction beyond the admission end of the succeeding outer chamber receiving material therefrom, the final outer whirl chambers having corrugated or roughened walls and a progressively greater cross section than the preceding chambers, a casing within which said shells are arranged, grooved supports in which said shells and casings are mounted and provided with admission and discharge connections suitable for exhaust gases and for cooling fluid, said supports comprising an independently adjustable intermediate support within said casing for one end of each said shells and connecting means co-operating with said supports.

Inner Tube Valve, John S. Harper, Youngstown, O., No. 1,061,069. An inner tube valve comprising a casing adapted for attachment to a wheel rim, said casing having one end open and provided with a counterbore, the main bore of the casing terminating at a point intermediate of the ends of the casing, and the casing being provided with a reduced bore extending from the inner end of the main bore to the end of the casing, the face of the main bore being provided with a plurality of feed grooves, a valve having a cushion head and a stem slidable in the reduced bore, the inner end of the main bore forming a valve seat, the upper end of the valve stem being slotted, a transverse retaining member engaged in the wall of the casing and passing through said slot and a stop pivoted to the top of the stem to close the slot and thus prevent displacement of the valve when air is forced inwardly through the same.

FORMULAE AND USEFUL MECHANICAL TABLES.

Alloys for Metal Patterns.

An alloy suitable for small metal patterns is composed of tin one part and lead one part by weight. The result is a somewhat soft alloy which requires care in the handling of the patterns. Some harder mixtures are as follows:

Lead	Antimony	Tin
55.0	30.0	15.0
55.0	22.7	22.3
61.3	18.5	20.7

A white metal that has small shrinkage and is good for pattern plates is lead 90, antimony 10. A harder metal with small shrinkages and very good for pattern plates is zinc 66 per cent., tin 34 per cent. An amalgam, very convenient for stopping up holes that cannot be soldered easily, is made from the filings of the last named alloy, and mercury kneaded in the hand into stiff dough, squeezing out all the mercury possible. This amalgam should be pressed when first made, into the cavity and allowed to harden. When hard it may be filed or scraped like the metal itself.

Melting Points of Alloys.

The following table gives the melting points of alloys of tin, lead and bismuth:

Tin	Lead	Bismuth	Degrees Fahrenheit	Tin	Lead	Bismuth	Degrees Fahrenheit
2	3	5	199	4	1	—	372
1	1	4	201	5	1	—	381
3	2	5	212	2	1	—	385
4	1	5	246	3	—	1	392
1	—	1	286	1	1	—	466
2	—	1	334	1	3	—	552
3	1	—	367				

Gears for Screw Cutting.

Take from the index the number of threads cut by equal gears and multiply it by a number that will give for a product a gear on the index. Place this gear on the spindle or stud. Then multiply the number of threads an inch to be cut by the same number, and put the resulting gear on the screw. For example: The lathe cuts four threads by equal gears, and 13 threads an inch are wanted. then

$$\frac{\text{spindle or stud}}{\text{threads to be cut}} = \frac{4}{13}$$

The constant 5 will give for a product a gear on the index, and

$$\frac{4 \times 5}{13 \times 5} = \frac{20}{65}$$

Therefore, to cut 13 threads an inch, would require a gear of 20 teeth on the spindle or stud, and a gear of 65 teeth on the lead screw.

Care of Grinding Wheels.

When a grinding wheel becomes glazed or smooth it is necessary to redress the surface or it will continue to grow smoother, lose its cutting ability, heat the work and cause chatter. Glazing is caused by two factors—too high speed or too hard bond. After the wheel has been dressed by passing a diamond point across its face its speed should be reduced in an effort to prevent further glazing. If this does not do it, increase the speed of the work.

U. S. Standard Screw Threads.

Diameter of Screw at Top of Thread.	Threads per Inch.	Diameter at Root of Thread.	Width of Flat, Top and Bottom.
1-4	20	.185	.0063
5-16	18	.2403	.0069
3-8	16	.2936	.0078
7-16	14	.3447	.0089
1-2	13	.4001	.0096
9-16	12	.4542	.0104
5-8	11	.5069	.0114
3-4	10	.6201	.0125
7-8	9	.7307	.0139
1	8	.8376	.0156
1 1-8	7	.9394	.0179
1 1-4	7	1.0644	.0179
1 3-8	6	1.1585	.0208
1 1-2	6	1.2835	.0208
1 5-8	5 1-2	1.3888	.0227
1 3-4	5	1.4902	.0250
1 7-8	5	1.6152	.0250
2	4 1-2	1.7113	.0278
2 1-4	4 1-2	1.9613	.0278
2 1-2	4	2.1752	.0313
2 3-4	4	2.4252	.0313
3	3 1-2	2.6288	.0357
3 1-4	3 1-2	2.8788	.0357
3 1-2	3 1-4	3.1003	.0385
3 3-4	3	3.3170	.0417
4	3	3.5670	.0417
4 1-4	2 7-8	3.7962	.0435
4 1-2	2 3-4	4.0276	.0455
4 3-4	2 5-8	4.2551	.0476
5	2 1-2	4.4804	.0500
5 1-4	2 1-2	4.7304	.0500
5 1-2	2 3-8	4.9530	.0526
5 3-4	2 3-8	5.2030	.0526
6	2 1-4	5.4226	.0556

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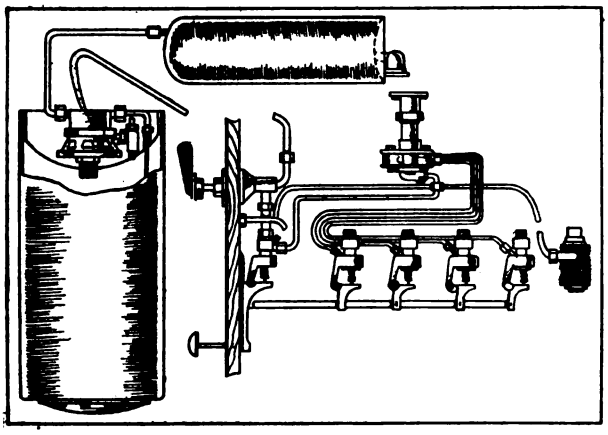
MECHANICAL NOTES FOR GARAGEMEN.

A MOTOR starter utilizing the pressure principle where the crankshaft of the internal combustion engine is rotated through application



H & M Automatic Pressure Motor Starter Employing Carbon Dioxide Chemically Produced.

of carbon dioxide to the piston, is the H & M automatic pressure starter, produced by the Ham-Meix Manufacturing Company, Indianapolis, Ind. The carbon dioxide is chemically produced, being controlled and maintained by the use of a liquid tank, generating or storage container and an automatic diaphragm valve. It is held by the maker that carbon dioxide is non-explosive, will not injure metals or rubber and that it may be employed for inflating tires.

The larger tank is carried at the rear of the machine, is tested to withstand a pressure of 500 pounds and is equipped with a diaphragm valve so constructed that it may be adjusted to control any pressure from five pounds to the maximum. The liquid tank is smaller and is equipped with a filler cap for replenishing the charge when necessary, but it is stated that one filling will suffice for 60 days. Extra recharges are put up in convenient packages and are moderate in price.

A pipe is led from the storage tank to a dash shut-off valve having a detachable key for locking purposes, thence to a diaphragm valve. The gas flows through another tube to a distributor which may be a four or six-cylinder unit, and which is driven at camshaft speed. The discs and ports of the device are so arranged that pressure is admitted in the proper firing order of the motor.

After leaving the distributor the gas passes to a diaphragm motor valve on top of each cylinder, thence to the combustion chamber, forcing the piston downward. The construction is such that compression is relieved, enabling the motor to be spun easily with a very low pressure. The motor valves are operated by a push button on the dash. Actuating this button also permits of the passage of gas from the storage tank to the distributor.

The system is applicable to any type of gasoline car and is made in several sizes to meet requirements of installation. All valves are adjusted and assembled before leaving the factory and are held to be non-leakable.

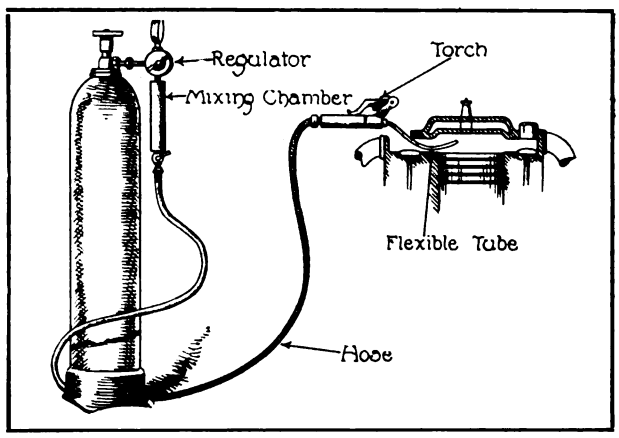
OZO, A CARBON DESTROYER.

The progressive repairman does not hesitate to install time and labor saving devices. Not only is he benefited, but the customer as well, in that the latter is saved considerable expense. The cost of removing carbon from the cylinders of a motor varies, but in the majority of instances it is necessary to displace the cylinders to clean out the deposits, and the entire work not only takes time, but the labor is costly.

A carbon removing outfit, which not only is said to be practical, but capable of doing the work at slight expense and in short time is the Ozo, marketed by the Ozo Company, 18 Tremont street, Boston. Its principle feature is that the accumulations may be removed without any other work than taking out the spark plugs or valve caps, and the maker states that an ordinary four-cylinder motor may be cleaned in about 20 minutes.

The system does not include chemicals or liquids, a harmless gas being introduced into the cylinders where it burns the carbon and without any accompanying flame. The accompanying illustration presents the outfit and shows method of operation. The gas stored in a container provided with suitable valves, etc., passes through a retarding chamber or regulator, which is employed for the purpose of reducing the pressure to the required number of pounds.

It then flows through a rubber hose to the automatic torch, attached to which is a flexible tube. The latter is inserted through the spark plug or valve cap opening into the cylinder and the gas uniting with the carbon destroys the latter entirely. Suitable controls are provided for the workman and it is stated that the operation is so simple that the work may be accomplished



Ozo Carbon Destroying Outfit, Utilization of Which Removes Deposits Without Displacing Cylinders, Etc.

easily by one who has had but little experience.

The Ozo method has been adopted by a number of garages and service stations.

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TEMPERING SCREW DRIVERS.

Occasionally one will pick up a screw driver that is too soft. While they should be hardened to a degree of toughness, beyond that is not necessary as they are not called upon to do any cutting. When water is used for hardening it has a tendency to make the metal too hard. Oil is superior. If water is to be used it should be heated until it reaches nearly the boiling point.

ADJUSTING COLE OILER.

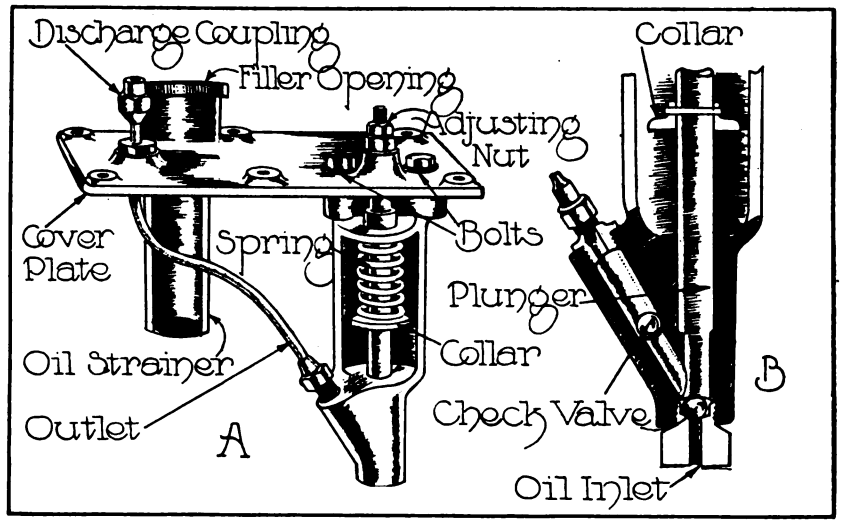
A knowledge of the components of the lubricating system and their operation will simplify the work of cleaning and adjusting. Although properly set at the factory the motorist may neglect to follow the instructions of the maker as to care and maintenance, resulting in inefficiency. Then again a different grade of lubricant may be used or conditions may arise when the amount of oil fed to the working parts requires augmenting. Dirt or lint may clog the filter member and pipes, necessitating cleaning of these parts.

In an accompanying illustration is shown the working parts of the lubricating system utilized on the Series Eight Cole cars and the adjusting mechanism is very simple, comprising a nut which is raised or lowered, increasing or diminishing the quantity of oil pumped. As will be noted the assembly is a unit and is removable. The pump member shown in detail at B is also removable, being secured to the cover plate by three bolts.

The fresh oil is poured into the reservoir through the filler opening and passes through a strainer, thence to the sump. The lower end of the pump body extends approximately to the bottom of the reservoir, oil entering by an inlet. The plunger of the pump has a collar secured to it, and also carries a spring. The collar serves a double purpose: First, to transmit the downward pressure of the spring, and second, to lift the pump piston when the eccentric which bears against its lower side rotates to the proper position. Thus it will be seen that the pump is raised by a cam and returned by a spring. Drive is by means of a worm gear from the camshaft, the reduction being 25:1, so that the pump eccentric cam makes only one revolution to 25 of the camshaft. The supply of lubricant is, therefore, proportional to motor speeds.

The operation of the system is simple. Upon the raising of the plunger oil is drawn in through the inlet and past the check valve. The latter is utilized to prevent the escape of the lubricant back into the sump when the plunger descends. On the down-stroke the oil is forced up past another check through a tube to the discharge coupling, thence to a sight feed on the dash. From the dash member it flows back to the crankcase, the circulation being maintained when the motor is operating.

To increase the amount of lubricant the adjusting nut is backed off or raised, permitting the plunger to make a longer stroke. To decrease the supply the nut is lowered.



Oiling System of Series Eight Cole Cars: A, Showing Adjusting Nut Controlling Stroke of Plunger; B, Plunger in Detail, Including Check Valves.

SOLDERING ALUMINUM.

In soldering aluminum difficulty is encountered in getting beneath the slight film of oxide which forms over the surface of the metal and which is caused by exposure to the air. The oxide is the same color as the metal and cannot be distinguished easily. The object sought is to get underneath this oxide while the surface is covered with the molten solder. Remove all dirt and grease with benzine, apply the solder with a copper bit, and when the molten solder is covering the surface of the metal, scratch through it with a steel wire scratch brush. This will break up the oxide underneath the solder, which containing its own flux, takes up the oxide and enables the surface of the aluminum to be tinned properly.

RENOVATING OIL LAMPS.

Unless the wicks are given attention and care is exercised not to turn them up too high, the interior of oil lamps will become smoked, especially the metal. If the finish is silver and it has become discolored, sometimes it is possible to restore it with a silver polish. If this treatment fails the finish may be made as good as new by utilizing a silver plating preparation, such as U-Kan Plate described in these columns a short time ago. When applied according to directions a brilliant surface is possible. The material is not expensive and a small bottle will keep the lamps in first class condition for some time.

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SYSTEM IN LARGE SERVICE STATION.

Complete in Every Detail, Having Several Unique Features and Preventing Possibility of Leaks Existing Undetected--Is Rigidly Enforced.

GARAGE and service station methods of keeping account of labor, material and costs, must necessarily be complete in every detail in order that no item incidental to the business may be overlooked. It is usually the apparently small and insignificant things which are neglected, and it is really surprising the number of business men who possess only a superficial, or at best a general, working knowledge of their business. Attention is given more particularly to the most important phases of their enterprises, small details being utterly neglected and allowed to work themselves out as best they may.

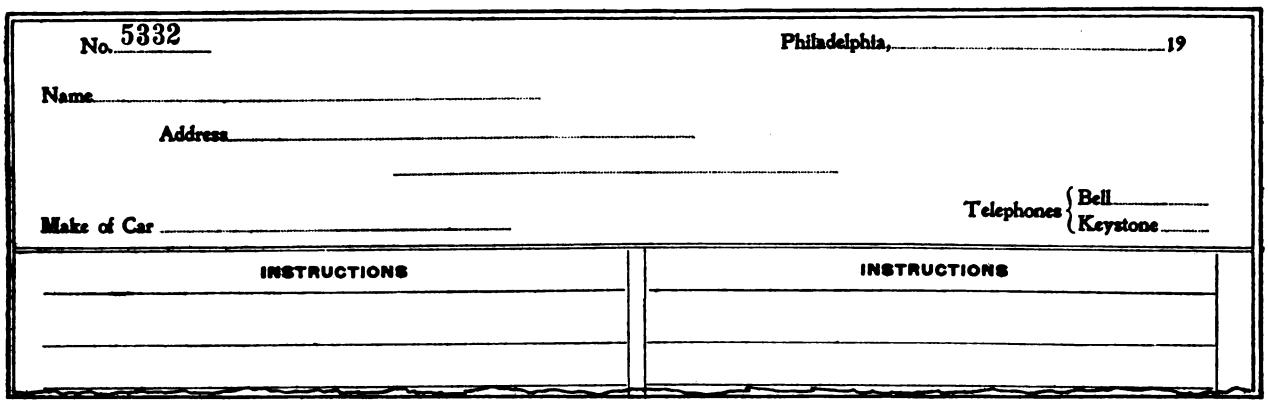
Waste thus creeps in and if the business be prosperous passes by unnoticed. But if these small items could be gathered together and totalled, and the results shown for inspection, many proprietors of establishments would be staggered by the large aggregate allowed to be thrown away in the course of a year. In most instances it becomes not merely a problem of placing a concern upon a prosperous basis, but one of putting it upon a foundation of greater earning power.

If the system here described does not apply to the reader's particular establishment, a careful perusal of those which have been presented in previous issues of the Accessory and Garage Journal will doubtless serve the purpose, as they cover many phases of the automobile business. If it is found that some desirable feature has not yet been mentioned, systems to appear in future issues will probably meet all requirements.

It must be borne in mind, however, that system alone will not always cure the ills it is designed to remedy. The fault does not lie with system, however, but with the manner in which it is applied. Attention has been directed to business men who installed really efficient systems in their establishments and because they did not give satisfactory results, immediately became enemies of anything suggestive of orderly method in regulating accounts and were severe in their condemnation of what they called "new-fangled" innovations.

However, a careful investigation of the situation will reveal the cause for failure, the main reason developing as a non-observance of the method installed. To cite an instance, a garage keeper installed a system in which was included a requisition on the stock room for all supplies, in order that the status of this department could be accurately maintained. It was found by the stock clerk that in his absence workmen had entered the stock room and taken such supplies as were needed. When he called the proprietor's attention to these liberties, the workmen were questioned, with the result that they pleaded a rush job which would be lost unless attended to immediately. The proprietor saw that this job meant money to the garage and commended the workmen for their zeal in the interest of the establishment. With this approval the taking of stock without requisition became more frequent and often workmen afterwards neglected to report the transaction to the stock clerk, who could not account for the discrepancies between his records and the stock on hand. Add to this the stock clerk's discouragement at the failure of appreciation of his efforts, and it can easily be seen why the concern was no better off than before. The amount gained by the completion of the rush job was more than offset by the loss resulting from the lax enforcement of the system. Of course the proprietor placed the blame on the system, it never occurring to him that he might be the one at fault.

In large service stations, where elaborate methods of keeping account of business are employed, rigid enforcement is insisted upon. This is true with the Foss-Hughes Company, one of the largest distributing houses in the country, with headquarters at Philadelphia, Penn., and branches at Providence and Newport, R. I.; Wilmington, Del.; Baltimore, Md., and other cities. The system in vogue in the branch stations is substantially the same as that at the home office.


No. 5332 Philadelphia, 19

Name

Address

Make of Car

Telephones { Bell / Keystone

INSTRUCTIONS	INSTRUCTIONS

Fig. 1—Numbered Service Blank Filled Out in Duplicate, Two Going to the Office and One Being Kept by the Garage Foreman.

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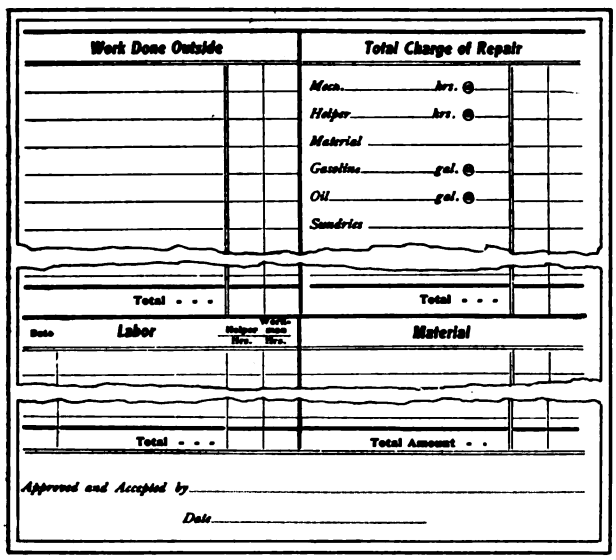

Fig. 2—Reverse Side of Service Blank Shown at Fig. 1, Which Contains Spaces for Complete Summary of Job.

It is complete in every detail and there is but little if any opportunity for leaks to exist undetected.

Every department is properly accounted for, and each is checked and rechecked against the other. In the service department every job is known by number and is so designated throughout the course of the transaction. When a car enters the service station, a numbered service blank, shown at Fig. 1, is filled out in the office of the foreman. This blank is numbered and upon it is entered the date, name and address of the owner of the vehicle, also the make of the machine. Beneath this is ample space for instructions as to what is to be done, whether it be overhauling the motor or merely washing and polishing. Included in these instructions may be put the time the car is promised in order that no mistake may be made in attending to the work.

The foreman keeps for his own use a card upon which is entered each job as received, with the date and time promised. This is followed out and the time of completing the job and delivery is entered, thus furnishing a complete record of the work when it has been concluded. This can be referred to instantly and any required detail ascertained. These cards, which are about two feet square, are devised for working convenience, to keep account of the progress of each job, but when one is filled with entries, it is filed away, adding another factor to the chain of evidence that can be referred to if necessary when checking up items in connection with various jobs.

The service blank, Fig. 1, is made out in triplicate, a pink sheet going to one bookkeeper, while a white sheet is given to a second in another department. The third sheet is a light brown cardboard, which is retained by the foreman. These blanks are 11 by six inches in size and on the reverse side are spaces for a complete summary of the job, including work done outside, if any, labor by hours, material and the total charge of the repair work. This portion of the blank is shown at Fig. 2.

The entries made upon this reverse side are the result of records taken from other departments of the establishment. When an employee starts work on a particular job he takes a time card, upon which he puts his name. This card, shown at Fig. 3, he then passes through an automatic time clock, which registers the exact time in a space marked "began." When he has finished the job, or is forced to leave it for any reason, the card is again placed in the clock and the time stamped in a space provided for "finished." When he again returns to the job the process is repeated, thus keeping a complete record of the number of hours he has worked upon the car. A space at the top is provided for the job number, the card being eight by three inches in size. These are also utilized in recording the total time of each workman for the week, in figuring up the payroll.

Should the workman find it necessary to insert a new part in a machine, he goes to the stock room and makes out a requisition for the part needed, inserting upon this blank the number of said part. This requisition is made in duplicate one of which the stock clerk retains, the other going to the workman, showing that the part in question has been received and delivered. When the stock clerk receives the requisition blank he notes the number of the part needed and then

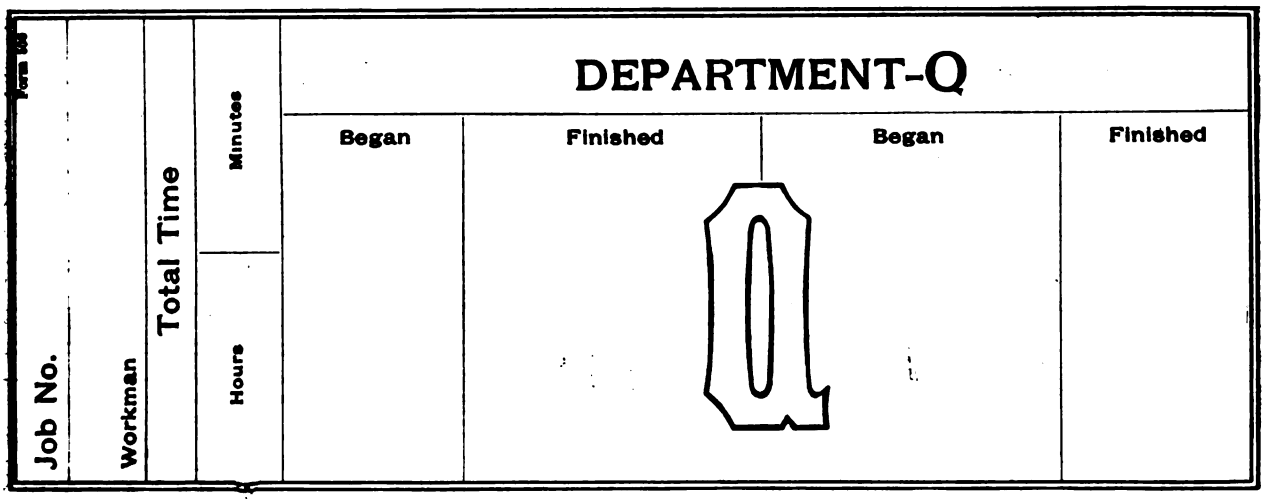

Fig. 3—Time Card Utilized by Workmen in Connection with Time Clock, Which Besides Being Used for Payroll, Proves Time Spent Upon Each Job.

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turns to a card index drawer, in which is indexed all the various parts kept in the establishment. In this drawer the index is arranged by hundreds,

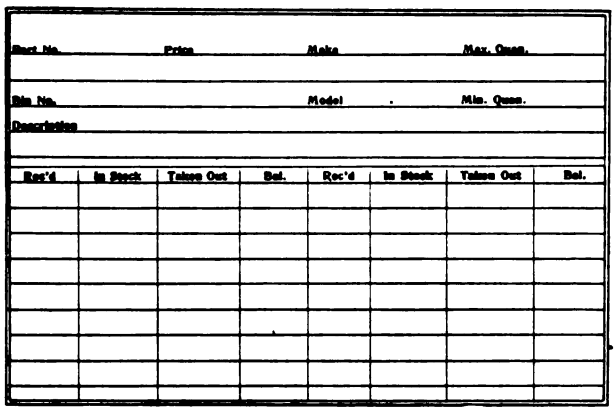

Fig. 4—Card Used in Index Drawer, Which Tells at a Glance Amount of Stock and Where It Can Be Found.

the numbers ranging in hundreds in the thousands, so that if a part should be numbered 2346 the clerk would seek his number between 300 and 400 in the 2000 column.

Having readily found the card, shown at Fig. 4, bearing the required number, he would learn that this part cost a certain amount, was of a specified make and model, also the maximum and minimum quantity carried in stock, and in what compartment or bin it could be found, each bin being numbered. From the spaces on the lower part of the card he could tell at a glance the number of those parts that had been received, the number in stock, the number that had been used, thereby leaving a certain balance in stock. If that particular part should have been allowed to become exhausted, which rarely happens, he could tell at a glance without indulging in a long, fruitless search. It will be seen how expeditious this method of stock keeping proves. Having secured the part and turned it over to the workman, the price is inserted in the requisition blank in accordance with the price given in the card index, thus fixing a uniform charge throughout and with no possibility of mistakes being made. The bin tags also carry a description of the part carried, with maximum and minimum quantity and the price, as a sort of voucher for the correctness of the card in the index file. The index card is six by four inches.

In addition to the record which the stock clerk has of material issued to the workshop, he takes his requisition blanks and proceeds to a triplicate autographic register in the office, upon which is entered the parts or supplies furnished to each job, the number being inserted in the space reserved for the name of the customer. Two of these slips are given to the two bookkeepers before specified, while the third is given to the customer, who may retain it for comparison with his bill if he so desires. This triplicate blank is shown at Fig. 5. It is 8.5 by six inches in size.

Every item of whatever nature is entered upon the blanks in this machine and can be checked against the stock requisition sheets, the repair and all other departments. One bookkeeper's duty is to record the various items upon the numerous blanks received to each individual account, which is totalled at the end of the month. The second bookkeeper records in a book provided for the purpose each item to the various accounts, except that the different entries are recorded in spaces provided for the separate departments, such as stock, gasoline, oil, labor, etc., enabling him at the end of the month to total each column, giving the total business done in each particular line, this being designated as the sales analysis for the period stated. The totals of each individual account must tally with that of the other bookkeeper, and if they do not, the account is checked up with the assistance of the various department blanks, until the discrepancy is discovered.

It will be seen that the duty of the second bookkeeper is not only to keep record of the numerous accounts, but the form is varied so that he may at the same time account for the different departments. At the end of the month, instead of the fatiguing labor involved in going through the books and placing each item in its proper space, all that is necessary is to add his columns, those running vertical, or from top to bottom of the page, representing the garage's departments, while the individual accounts may be totalled by adding the figures on the horizontal lines across the page.

The gasoline supply is accounted for by an ingenious arrangement attached to the fuel tank in the garage. In this instance a meter is arranged in a closed compartment, so that it is concealed from the view of employees. In some instances an employee may not even know of its existence if he is unfamiliar with the mechanical construction of gasoline tanks. The key to this compartment containing the meter is of course kept in the office and at stated times the device is read and the result compared with the accounts of sales on file in the office, so that there is little

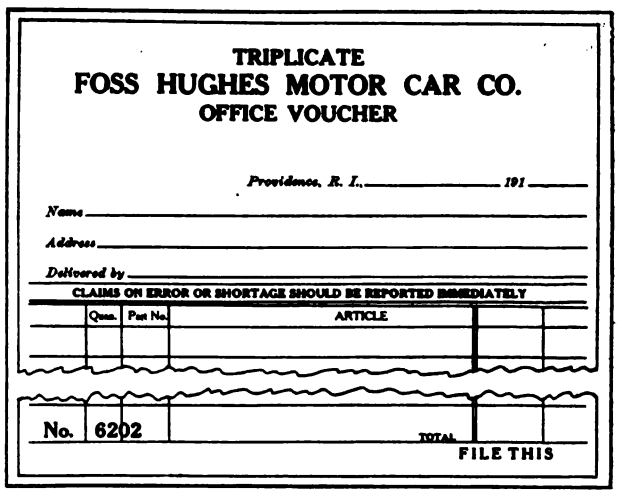

Fig. 5—Blank Used in Triplicate Autographic Register, One Blank Going to Patron, the Remaining Two Being Given to Bookkeepers in Office.

chance that fuel will be lost either through neglect or otherwise.

Numerous other features are included in the

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system which prevents possibility of mistakes being made. In the stock room for instance, bins are provided for customers who may order parts that must be secured from the factory. With each factory order is sent an invoice card, containing spaces for the price, quantity and charges of the goods shipped, and this is filled out at the factory and returned with the order. Thus, express charges and other costs are charged to the customer's account and the invoice filed away for reference if needed. When a part is received the customer's name is entered upon a book provided for the purpose in the stock room, and the part is placed in a bin, the number of which is inserted opposite the customer's name in the book. Should an inquiry be received relative to the arrival of the order, the book is consulted, and if a number appears opposite the name the patron is informed that his part has arrived, if it be a telephone communication, or he is given the article if he inquires in person. The placing of an article in a numbered bin facilitates the delivery to patrons, which is especially appreciated in cases where time is an important factor.

No transaction is consummated without the signature of the customer. For instance, in the case of a repair job, when the total is summarized on the reverse side of the service blank, shown at Fig. 2, the patron is presented the blank and after inspection to his satisfaction he signs his name in the space at the bottom of the tag reserved for "Approved and accepted by," and the date.

In the matter of cash payments, such as express charges, etc., a special book is kept, and when a sum is paid, opposite that amount is secured the signature of the recipient of the money. Thus cash outlay is kept separate and in very simple form, with the protection afforded by the bona fide signature of the person to whom the money was paid. Cash receipts are, of course, carried in the usual manner, the system outlined here being in the nature of a safeguard against mistake or injustice to either service station or patron.

That the Foss-Hughes system does this has been amply proved during the several years that it has been in use and the thousands of patrons of the concern have yet to find an instance where a mistake, when made, was not readily traced and rectified. Such mistakes are very infrequent, but when they do occur they are found to be clerical and due to the human element entering into all business and not to the system employed.

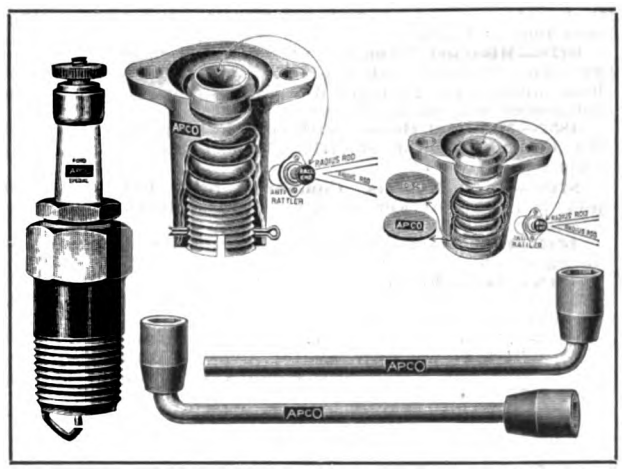
NEW FORD SPECIALTIES.

Auto Parts Company Announces Four New Apco Accessories.

The Auto Parts Company, Providence, R. I., manufacturer of Ford specialties, announces three new Apco accessories designed and constructed for Ford automobiles. These include an all steel socket wrench, a special spark plug and two types of anti-rattlers. The first named article is a handy and practical tool for removing and tightening the nuts retaining the cylinder head of the model T Ford motor, which members are difficult of access with ordinary tools, owing to the recess in which the nuts fit. The wrenches are constructed of a high grade, tough steel, in two styles. One has a single and the other a double end. The finish is blue steel.

The Apco spark plug is designed solely for the Ford motor and is based on the company's experimentation with this type of engine. The body or shell is made long to facilitate removal and with the use of an ordinary wrench, while the oil drip point is designed to prevent short circuiting through the use of excessive lubrication. The porcelain is packed with a copper gasket, is gas tight and the plug may be disassembled and reassembled without interfering with the proper gap. The shell is nickelled and highly polished. The retail price is moderate.

The Apco anti-rattlers are made in two styles, one with discs and the other with a screw adjustment. They are designed to eliminate the wear



New Products of Auto Parts Company, Including Ford Anti-Rattlers, All Steel Socket Wrench and Ford Special Plug.

of the ball and socket parts of the torsion rod. It is pointed out that filing the parts to stop play or rattling makes for misalignment and invites opportunity of breakage.

The disc design comprises a hard bronze member containing a socket which is pressed against the ball member by a coil spring. The tension is regulated by a number of small hardened discs of sufficient thicknesses to permit of very accurate adjustment. The other style is similarly constructed, a screw plug replacing the discs. The former is provided with slots which register with openings in the housing, and both parts are locked by a cotter pin. The manufacturer has an interesting proposition for dealers and garages.

Bert Dingley, in a National racing car, made by the National Motor Vehicle Company, Indianapolis, Ind., recently created a new record between Modesto and Stockton, Cal., covering the 30 miles in 29 minutes.

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TRADE INFORMATION EXCHANGE

BUSINESS PROPOSITIONS.

Opportunities Are Offered Below for Agents to Secure New Lines, for Manufacturers to Extend Their Representation, and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. All Are Opportunities for Live Men and Firms Seeking Profitable Relations.

The Following Details of Trade Opportunities Presented by Members of the Trade Information Exchange Are Published Without Names, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

CAR AGENCIES DESIRED.

5627—Minnesota Concern is in the market to represent a pleasure car listing between $700 and $2800.

2863—Vermont Firm, recently established, wants the agency for a pleasure car to sell from $450 to $1500.

6528—North Carolina Company is seeking the agencies for pleasure cars selling between $900 and $2500, and motor trucks listing from $900 to $3000.

6734—New York State House, doing thriving business, is anxious to take agency for pleasure cars listing from $985 to $2750, and power wagons between $1000 and $3500.

3861—Connecticut Concern is seeking to represent in its territory pleasure and commercial vehicles listing from $900 to $1200.

9478—Missouri Firm, recently changed hands and selling two standard makes of pleasure cars, wants additional agency for pleasure line listing from $500 to $5000, and power wagons at the same figures.

4857—Missouri House, with complete equipment, would like the agency for electric pleasure and commercial vehicles.

8769—Massachusetts Company, now handling two lines, is in the market for a high class pleasure car selling between $3750 and $6200.

1645—Iowa Concern wants information relative to pleasure vehicles selling between $850 and $1000.

4518—Massachusetts Garage, newly formed, is in the field to represent an automobile to sell from $800 to $2000, and motor trucks from $750 to $2000.

8432—Michigan Company, doing business on a large scale, will take the agencies for pleasure cars listing between $800 and $2500, and commercial vehicles selling from $800 to $1800.

9431—Illinois Firm, occupying up-to-date establishment, can handle to advantage a line of pleasure cars listing from $900 to $1500.

6125—Oregon Company would like the agency for pleasure car to sell from $1100 to $1800.

8751—Boston Man is interested in motor trucks from one to five tons capacity and would welcome information relative to the same.

EQUIPMENT NEEDED.

6237—Massachusetts Man, conducting repair shop, is asking prices for 90 days on machine and hand tools for repairing automobiles.

8620—New York State Firm, increasing its business, is in the market for garage, repair shop and automobile equipment and supplies.

7652—Minnesota Concern, in enlarged quarters, is interested in all kinds of equipment and supplies for garage and repair shop, also automobile equipment and machine tools.

2816—Vermont Company, doing general automobile and repair business, is in the market for air compressor and tanks, drill press and planer.

8427—Alabama Company, with large business, is in the market for all kinds of automobile equipment.

6725—Indiana Garage Company is interested in equipment for repair shop, including machine tools and supplies for garage.

5728—New York State Concern, doing accessory business, is seeking agency for first class automobile equipment.

8562—North Carolina Firm, recently established, is in the field for equipment for power wagons and automobiles, also for garage and repair shop, including machine tools.

2715—Maryland House, in new quarters, is interested in equipment and supplies for garage and repair shop and machine tools, also equipment for automobiles.

4763—New York State Company, about to enlarge business, is seeking power wagon and automobile equipment.

9421—California Concern, recently established, is in the market for garage and machine shop equipment and supplies and machine tools.

9714—Iowa Jobber, engaged in business since the first of the year and recently incorporated, wants particulars and jobbing quotations on all new equipment for motor cars of all makes.

8769—Pennsylvania Firm, engaged in supply business, is in the market for a complete line of garage equipment, machine tools and supplies for pleasure and commercial vehicles.

4578—Missouri Concern is in the field for all kinds of electrical equipment for garage and repair shop and pleasure and commercial vehicles.

ACCESSORY AGENCIES WANTED.

2806—New York State Firm, doing excellent repair business, is in the market for automobile accessories and supplies.

2765—Minnesota Concern, in enlarged quarters, is interested in all kinds of automobile supplies and accessories.

8612—Vermont Company, incorporated, wants information relative to a good line of automobile supplies.

7842—Alabama House, doing exclusive business in accessory line, wants agency for first class line of accessories and supplies.

7662—Indiana Company, having established large, modern electric garage and catering to exclusive clientele, is in the market for electric lighting systems of standard and recognized value.

8572—New York State Concern, doing accessory business on large scale, is interested in automobile accessories and supplies and is open for the representation of any article that will strengthen its line of business and not interfere with same.

5825—North Carolina House, doing complete automobile business, is in the market for all kinds of automobile accessories and supplies.

7512—Maryland Company, about to build new and larger quarters, would take good line of accessories and supplies.

7472—Kentucky Concern, capitalized at $500,000 and manufacturing standard automobile, is desirous of hearing from concerns handling first class lines of acces-accessories and supplies.

7942—New York State Company, occupying large garage and salesrooms and handling high grade cars, is interested in complete line of accessories and supplies.

6879—New York State House, with modern supply store, wants information of accessories and supplies for automobiles, garage and repair shop.

6180—Massachusetts Company is interested in all kinds of accessories and supplies for garage, repair shop, automobiles and trucks.

3869—Iowa Concern, recently established, wants information of supplies and accessories of select types for pleasure and commercial vehicles. Garage and repair shop supplies of exceptional qualities will also be welcome.

2769—Kansas Company would take agency for supplies and accessories and garage and repair shop supplies.

5723—Illinois Firm is interested in garage and repair shop supplies, also supplies and accessories of all kinds for automobiles and motor trucks.

SPECIAL OPPORTUNITY.

2817—New York State Concern wishes a partner to take a third interest in its garage, which is a two-story building containing all modern improvements and located on the main line between Albany and Syracuse. The firm carries the Cole, Alpena, K-R-I-T and Ford cars.

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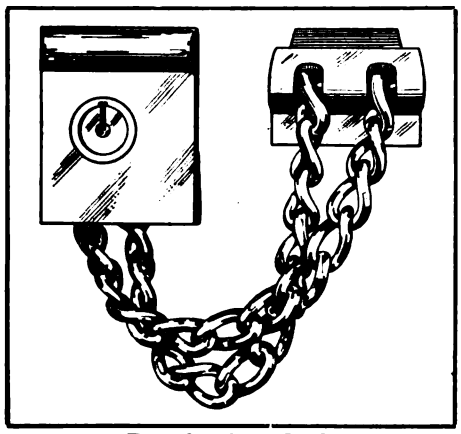
BRACELET AUTO LOCK.

Effective Device Designed to Prevent Operation of Car—Fits Any Machine.

The Bracelet Auto lock is the product of the Bracelet Auto Lock Company, 32 North Clark street, Chicago, Ill., and its design is such that it may be used to lock the throttle and spark levers or both, the steering wheel, or all three. It is a universal lock in that it will fit any make of motor car and consists of a Yale lock body, attached to which are two chains.



Bracelet Auto Lock.

The bracelet cannot be broken after being secured to the parts without so much damaging them as to prevent operation of the machine. All keys are different. The Bracelet Auto lock is constructed in sizes to meet the dimensions of different machines. The Bracelet Auto Lock Company has an attractive proposition for dealers.

BOWERS CARBURETOR.

Gilbert Manufacturing Company Announces New Popular Priced Design.

Announcement is made by the Gilbert Manufacturing Company, New Haven, Conn., of a new type Bowers carburetor which will sell at a popular price. The model G contains all of the latest improvements and is guaranteed to show a high efficiency as well as economy of fuel. The company also makes a high grade line of accessories, including tire and lamp covers, tube bags, etc.

SPECIAL WEED CHAIN PRIZES.

Maker Will Award Cash for Best Window Displays of Product.

Tourists and others cannot help but have their attention called to the necessity for carrying Weed tire chains during the next few weeks. The maker, the Weed Chain Tire Grip Company, New York City, is offering $250 in cash in prizes —$100 to the first, $50 to the second and $10 each for the next 10—for the best window displays, the award being based upon general attractiveness.

The company does not furnish display material for this contest, the idea being to secure originality on the part of the dealer. The Waite Auto Supply Company, Providence, R. I., for instance, has evolved an interesting object lesson in reproducing a scene at a railway crossing, in which one of the cars is equipped with Weed chains and the other—the one which is the victim of the accident—is not. Toy cars and locomotive and miniature dolls are used with good effect.

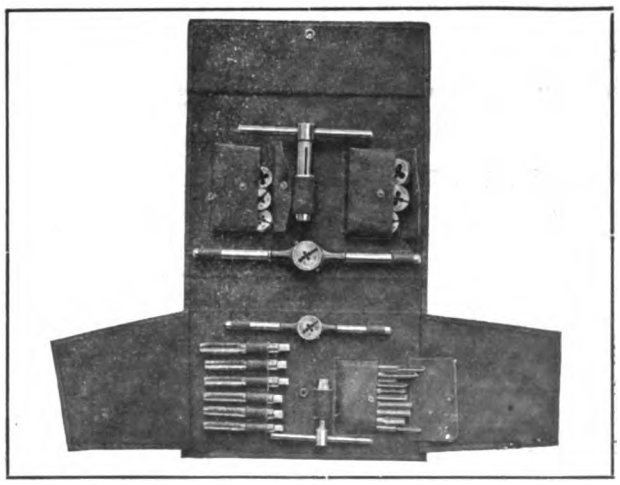
LIGHTNING REPAIR KIT.

Equipment Designed for Wide Variety of Work on Different Makes of Cars.

The Lightning automobile repair kit, which should prove a valuable addition to the repair shop and garage, as well as an interesting proposition to the owners of model T Ford, Maxwell, Metz and all medium priced cars, is being marketed by the Wiley & Russell Manufacturing Company, Greenfield, Mass., well known maker of screw cutting tools. The fine threads used in motor cars make close and accurate fits imperative, else the efficiency of the part is greatly impaired. The screw cutting assortment produced by the company is very complete and was designed with special reference to the screw threads found on the machines above mentioned. It comprises 16 taps, 16 dies, two stocks and two tap wrenches, permitting of the cutting of threads from 18 to 32 an inch, also pipe threads; in fact, the equipment is adapted to a large variety of work and different makes of cars, etc.

The assortment comes in a genuine goat skin leather case having compartments to protect the cutting edges of the tools, and the container is not only very compact, but durable. An illustration of the case presenting the arrangement of tools is shown herewith. The same high grade material and workmanship noticeable of the product of the Wiley & Russell Manufacturing Company are incorporated. The company has a very interesting proposition for the trade.

The Saurer Motor Company, Charles P. Coleman, president, a subsidiary of the International Motor Company, New York City, has purchased the plant of the Manganese Steel Safe Company,



"Lightning" Auto Repair Kit, Made by Wiley & Russell Manufacturing Company.

on West Front street, Plainfield, N. J., near the Clinton avenue station of the Central Railroad of New Jersey.

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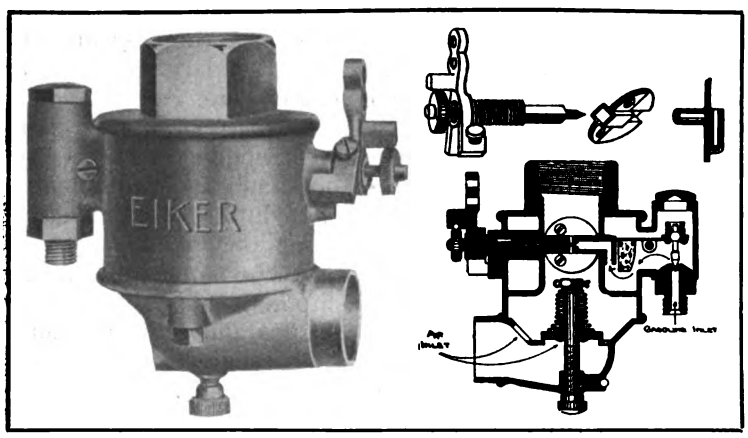
LEAVES WESTINGHOUSE COMPANY.

H. G. Mills Becomes Manager of Detroit Branch of Electric Auto-Lite Company.

One of the most interesting announcements in the automobile world recently is that of the resignation of Horace C. Mills from his position as special representative for the automobile starting, lighting and ignition division of the Westinghouse Electric & Manufacturing Company, to become affiliated with the Electric Auto-Lite Company, Toledo, O. He will be manager of the Detroit branch, with headquarters in the Boyer building, and will be closely associated with C. O. Miniger, secretary and treasurer of the company. Together they will have charge of the sales and service throughout the country.

VIEWS OF EIKER CARBURETOR.

The accompanying illustrations present exterior and sectional views of the Eiker carburetor, manufactured by the Eiker Carburetor Company, 1790 Broadway, New York City, which is described in detail elsewhere in this issue. The view at the right shows the spray nozzle, located in the middle of the throttle disc and the tapered adjustable needle which moves backward and forward automatically, increasing or decreasing the supply of fuel with the opening and closing, respectively, of the throttle.



Eiker Carburetor: At Left, Exterior View Illustrating Its Compactness; at Right, Sectional View, Showing Arrangement of Components.

WOOLER WITH CONTINENTAL MOTOR.

Well Known British Engineer and Designer Remains Behind in This Country.

Ernest Wooler, until recently designer for the Rolls-Royce Company, Ltd., and Brazil Straker & Co., Ltd., England, and a member of the Institute of Automobile Engineers of Great Britain, one of the recent party of visiting British engineers, did not return to his home country, having taken a position with the Continental Motor Manufacturing Company, Detroit, maker of Continental motors.

Mr. Wooler was enthusiastic over the automobile industry in this country and its magnitude appealed strongly to him. The future of the business in America and the wider field to be found here were factors which induced him to remain.

Mr. Wooler is a mechanical engineer of wide perience and his acquisition by the American industry is a distinct gain. He has designed some of the most expensive cars made, including the famous Crossley racing machine, and he is a driver of considerable reputation.

CROW COMPANY EXPANDING.

New Machine Shop Ready for Occupancy and More Land Is Acquired.

A new machine shop affording 5000 square feet of floor space has been built adjoining the south side of the Crow Motor Car Company's plant at Elkhart, Ind. The ever increasing demand from all parts of the country for Crow Elk-Hart motor cars has made it necessary to expand the factory and to install new machinery. The new structure was built to give plenty of light and will be utilized as a machine room. The floor is of concrete, to give a solid foundation for the heavy milling machines, lathes, drills, etc.

A large tract of vacant land west of the plant has also been acquired. At present this property is being used for switching purposes, but will accommodate other factory buildings when the volume of business indicates that additional floor space is needed. Adequate fire protection has been provided, the factory being equipped with an automatic sprinkling system. The latter comprises 10,000 feet of pipe with more than 1000 release heads. Heavy pressure is furnished at all times as the system is connected with both the city water supply and with a tank of 33,400 gallons capacity, which rests upon a brick tower and rises 60 feet above the ground.

A new, large elevator has been installed to hoist the heavy six-cylinder machines from one floor to another, the old elevator being used for the smaller models, thus effecting a great saving of time. The 1913 season has thus far been a notable one in the manufacturing career of the Crow Motor Car Company. The sales of the product have not only increased in all parts of the country, but in the foreign fields as well. At present there is a day and night shift employed in the factory and the work progresses with very little intermission.

While announcement has already been made that Earl Cooper in a Stutz won two events in the meet at Tacoma, Wash., July 5-7, additional information shows that Stutz cars took all three and finished in second place in the Inter-City race as well. In the contest for the Potlach trophy, the first day, Cooper lowered Tetzlaff's record for the course, made in 1912.

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KING MOTOR CARS

AGENTS, READ THIS!

Because we are financially able to *wait* for profits, we are putting a quality in the *KING* which no other car can offer at the price. As our production increases our profits will come, but in the meantime you can possibly be the first in your field to secure a *KING* agency, and reap the "repeat" sales which every *KING* sold will inevitably make. Write or wire *today*.

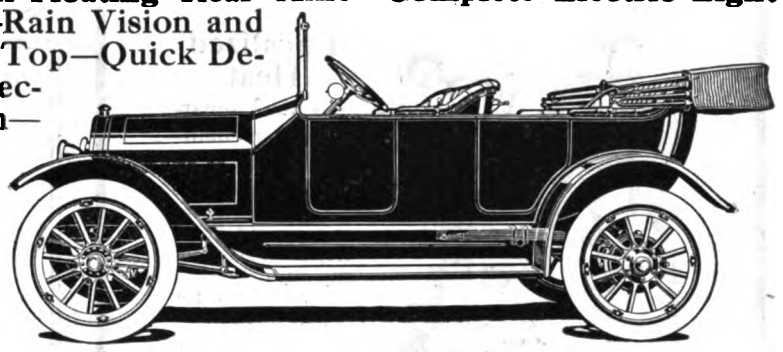
TWO STYLES—ONE CHASSIS—30-35-H. P.
TOURING CAR AND ROADSTER

"Expensive Car" Features and Service for $1095 Complete

Handsome and Sturdy, They Daily Question the "Big Fellow's" Price

Long Stroke Motor—Unit Power Plant—Center Control—Left Hand Steer—18 in. Steering Wheel—Three-Point Suspension—Full Floating Rear Axle—Complete Electric Light Equipment—Side Lights Set in Dash—Rain Vision and Ventilating Wind Shield—Silk Mohair Top—Quick Detachable Curtains—Speedometer—Electric Horn—33"x4" Tires—Extra Rim—Tire Irons—Pump—Tools, etc., all included in regular equipment—*KING* Patent Cantilever Rear Spring (revealed in white outline on cut.) insures perfect comfort and makes shock absorbers unnecessary.

Ward Leonard Electric Starter and Generator for $100 net additional



KING MOTOR CAR COMPANY, 1300-1324 Jefferson Avenue, DETROIT, MICH.

New York Agency and Showroom, Broadway at Fifty-Third Street. Write for Folder.

AUTOMOBILE SECURITIES.

Following are the latest stock quotations of automobile securities. The changes over previous reports were scarcely noticeable.

	—1912—		—1913—	
	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber Co., com.	120	..	145	160
Ajax-Grieb Rubber Co., pfd.	..	100	94	100
Aluminum Castings, pfd.	100	..	97	100
American Locomotive Co., com.	42½	43½	30	30¼
American Locomotive Co. pfd.	108½	109	101	102
Chalmers Motor Company, com.	..	..	105	112
Chalmers Motor Company, pfd.	..	..	98	102
Consolidated Rubber Tire Co., com.	12	14	14	18
Consolidated Rubber Tire Co., pfd.	..	59	64	75
Firestone Tire & Rubber Company, com.	275	285	275	281
Firestone Tire & Rubber Company, pfd.	105	107	103	105
Fisk Rubber Company, pfd.	..	..	..	100
Garford Company, pfd.	99	101	85	95
General Motors Company, com.	33	34	27⅞	29¼
General Motors Company, pfd.	76	77	74	74½
B. F. Goodrich Company, com.	75	76¼	29	30
B. F. Goodrich Company, pfd.	108½	109	90⅞	92
Goodyear Tire & Rubber Company, com.	298	304	310	316
Goodyear Tire & Rubber Company, pfd.	103	105	98½	99½
Hayes Manufacturing Company	..	97	..	90
International Motor Co., com.	22½	25	3	5
International Motor Co., pfd.	83	85	18	25
Lozier Motor Company, com.	..	..	15	20
Lozier Motor Company, pfd.	..	..	..	90
Maxwell Motor Company, com.	..	..	2¾	3½
Maxwell Motor Co. 1st pfd.	..	..	24	26
Maxwell Motor Co., 2nd pfd.	..	..	6	8
Miller Rubber Company	145	150	133	137
Packard Motor Company, pfd.	105	106½	98	102
Peerless Motor Company, com.	..	..	45	50
Peerless Motor Company, pfd.	..	..	..	96
Pope Manufacturing Co., com.	30	31	9½	10¾
Pope Manufacturing Co., pfd.	73½	74½	28	33
Portage Rubber Co., com.	..	..	..	45
Portage Rubber Co., pfd.	..	..	..	90
Reo Motor Truck Companyy.	8¾	10	9	11
Reo Motor Car Company	21	24	19	21
Rubber Goods Mfg. Co., pfd.	..	..	100	110
Studebaker Company, com.	31½	33	23	25
Studebaker Company, pfd.	94	95	82	86½
Swinehart Tire Company	96	99	85	88
U. S. Rubber Co., com.	..	..	60½	60¾
U. S. Rubber Co., 1st. pfd.	..	..	104	104½
White Company, pfd.	107½	108	102	104
Willys-Overland Co., com.	..	..	56	62
Willys-Overland Co., pfd.	..	..	84	90

EXPORTS AND IMPORTS.

Although the exports of automobiles to Canada in May of this year were not so large as during the same month in 1912, that country continues to be the largest customer of American manufacturers. Following are the detailed figures of imports and exports for the month, just made public by the bureau of foreign and domestic commerce of the Department of Commerce:

	1912		1913	
Country	No.	Value	No.	Value
Imports.				
France	41	$95,965	17	$49,515
Germany	5	10,114	8	21,154
Italy	11	17,424	9	23,615
United Kingdom	11	28,324	3	6,300
Other countries	8	13,932	5	13,153
Totals	76	$165,759	42	$113,737
Exports.				
France	63	$48,980	108	$72,149
Germany	49	36,719	192	145,799
Italy	30	35,605	5	12,500
United Kingdom	673	465,722	473	354,686
Other Europe	204	155,125	294	236,447
Canada	1109	1,352,856	862	1,255,771
Mexico	8	15,370	6	5,110
West Indies and Bermuda	29	36,237	45	47,591
South America	162	183,292	213	248,707
British Oceania	445	412,565	234	220,372
Asia and other Oceania	152	149,309	282	272,174
Other countries	85	72,038	322	283,883
Totals	3009	$2,963,818	3036	$3,155,189

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Tire Repairing

Is a great and fast increasing business. Pays repair men $40,000,000.00 a year now with about a million cars in use. Think what the future will be. Pays big profit and requires little capital. Get in the repair business and get your share.

Akron-Williams Equipment

Is the best equipment made. Built by tire factory experts. Used by nearly all tire manufacturers—27 out of the 30 leaders. That fact proves Akron-Williams superiority.

Localized Heat

The 3 separate steam chamber feature gives heat just where needed—limits heat to repaired part. Repair Plants of any capacity—and all appliances for tire repairing.

Write us for catalog No. 12. It tells all. Write now.

The Williams Foundry & Machine Co.
ASH STREET, AKRON, OHIO.

No. 240
Vulcanizing Cement

Is made of Pure Para Gum, milled with only those ingredients which make it vulcanize thoroughly.

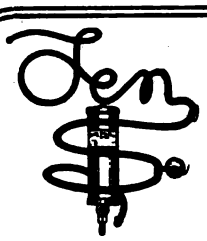
This cement can be used in the manufacture and repair of all articles made of rubber.

Especially adapted to the repairing of Automobile Tires and Inner Tubes.

No Sediment **No Waste**

Supplied in all quantities. Prices quoted upon request.

TUXEDO TIRE CO., Inc.
149th Street and Grand Concourse
NEW YORK CITY



Economy Says:
Save Your Tires With a DEWEY Power Tire Pump

Costs only $10 Complete; Pays for Itself Over and Over Again

Don't think of the Dewey as merely a lazy man's friend. It saves more than hard work; it prolongs the life of your tires. The Dewey insures exact inflation, enabling you to comply literally with the conditions under which your tires are guaranteed. More than that, the Dewey pumps only pure air. It can't grease-rot an inner tube, because it is the only tire pump that is never oiled.

The Dewey, with high grade dial and all connections, including 12 ft. of special hose, tested to 1,000 lbs., sold everywhere under a year's rigid guaranty for **$10**

We'll supply you direct *if* your dealer hasn't the Dewey. Ask him first.

THE DEWEY-ANDERSON CO., 450 Woodruff Ave., Toledo, Ohio

"PASS THEM ALL"

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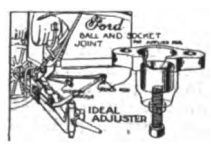
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX AUTO CO., Springfield, Mass.

Equip Your FORD with IDEAL ADJUSTERS
BALL AND SOCKET JOINT

Easy to Install
Easy to Adjust
Made Especially for the FORD Car



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FORD Radius Rod and Steering Rod

The largest size is used for adjusting front end of radius rod, and enables you to take up at any time all lost motion on these parts, also eliminates the rattle and noise. All this is done by a turn of the setscrew which tightens the bearing on the inside.

The small size is used for adjusting the ball and socket joints on the steering gear connecting rod.

We guarantee all adjusters for the life of a car and they are so simple they can not work out of adjustment or need repair.

WILL FIT ANY FORD MODEL. Will give territory and special discount to dealers. List Price, Large Size, $2.00; Small Size, $1.75. If unable to purchase from your dealer, order direct. Manufactured by

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TRADE MARK REG. U.S. PAT. OFF.
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ARE PURE OILS

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Portsmouth, N. H.	Providence, R. I.
Newburyport, Mass.	Newport, R. I.
Montpelier, Vt.	Pawtucket, R. I.
Burlington, Vt.	New London, Conn.
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Worcester, Mass.	Mystic, Conn.
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For transmissions and differentials, flows with the gears at all temperatures and will not run off when the gears are stationary. The graphite coats the metal surfaces with a veneer that protects them from wear, and makes cool, quiet-running gears and bearings. "Lubricating The Motor", No. 49, explains more fully.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Co.

Established 1827

"ALLEN FRICTION" WRENCH SET

"Allen Friction"

Is NOT a Ratchet

NO Teeth Springs Pawl Rolls Balls

No Lost Motion

Instant Grip

Best Pressed Steel Sockets.

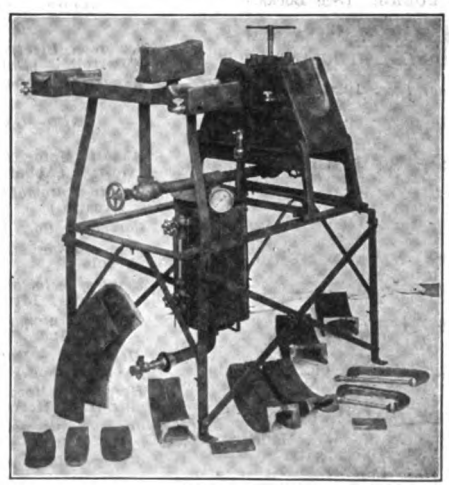
Retail Price

$10, $8, $5

Ask Your Supply House for Circular and Standard Discounts.

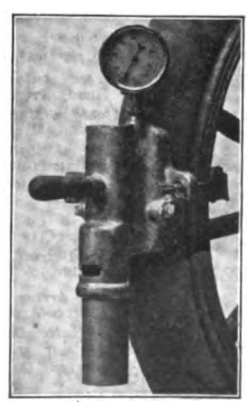
We Also Make a Ford Special Set

M. A. BRYTE, Representative, SAN FRANCISCO, CAL.



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit. Ask for Catalogue C. Tells how to do the work.



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$5.75 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver. Also repairs tubes.

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Springfield, Ohio

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Auto Parts Co., Providence, R. I.

Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight streets, Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 237 Jefferson St., Detroit; 259 Peachtree Street, Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.

Shaler Co., C. A., Waupun, Wis.

Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

ADJUSTERS.

Vansickle, John A., Indianapolis. (Ford Ideal Ball and Socket Joint.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AUTO LOCKS. (See Locks.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Summer, George, Inc., 1926 Broadway, New York.

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Breis Co., J. S., 250 W. 54th St., New York. (F. & S.)

Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)

Waite Auto Supply Co., 81 Exchange place, Providence. (Success.)

Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA Lighting and Starting.)
Branches: 186 West 52nd St., New York; 1191 Woodward Ave., Detroit; 2241 Michigan Ave., Chicago; 243 Monadnock Bldg., San Francisco.

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BLOW-OUT PATCHES. (See Patches.)

BODIES, TRUCK.

Motor Truck Body Co., 320 Franklin St., Detroit.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Raybestos.)

Standard Woven Fabric Co., Worcester, Mass. (Multibestos.)
Branches: 903 Boylston St., Boston; 276 Canal St., New York; 720 Main St., Buffalo; 422 River St., Troy, N. Y.; 1427 Vine St., Philadelphia; 1430 Michigan Blvd., Chicago; 1598 Woodward Ave., Detroit; St. Louis; San Francisco.

BRAKES.

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Duplex.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBURETORS.

Planhard Mfg. Co., 1790 Broadway, New York. (Planhard.)

Summer, George, Inc., 1926 Broadway, New York. (S. U.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Abbott Motor Co., 141 Waterloo St., Detroit. (Abbott-Detroit.)

Austin Automobile Co., Grand Rapids, Mich. (Austin.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Cole Motor Car Co., Indianapolis, Ind. (Cole.)

Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)

Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)

Henderson Motor Car Co., Indianapolis. (Henderson.)

Herreshoff Motor Co., 620 Harper Ave., Detroit. (Herreshoff.)

Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)

Keeton Motor Car Co., Detroit. (Keeton.)

Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)

Knox Automobile Co., Springfield, Mass. (Knox.)

K-R-I-T Motor Car Co., Detroit. (K-R-I-T.)

Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)

Michigan Motor Car Co., 147 Lay St., Kalamazoo, Mich. (Michigan.)

National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Speedwell Motor Car Co., 80 Essex Ave., Dayton, O. (Speedwell.)

Studebaker Corporation, Detroit. (Studebaker.)

Stuts Motor Car Co., Indianapolis. (Stuts.)

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.

Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Available Truck Co., 2334 Hamilton Ct., Chicago. (Available.)

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Blair Mfg. Co., Newark, O. (Blair.)

Brown Commercial Car Co., Peru, Ind. (Brown.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Clark, E. S., 242 Freeport St., Dorchester Dist., Boston. (Clark.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

Garford Co., Elyria, O. (Garford.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Knox Automobile Co., Springfield, Mass. (Knox.)

Mais Motor Truck Co., Indianapolis. (Mais.)

Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Sullivan Motor Car Co., 611 East Ave., Rochester, N. Y. (Sullivan.)

Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 10 Postoffice Sq., Boston. (Atlantic.)

Baker Motor Vehicle Co., Cleveland. (Baker.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.

General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.

Knox Automobile Co., Springfield, Mass. (Knox.)

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

Willys-Overland Co., Toledo, O. (Overland.)

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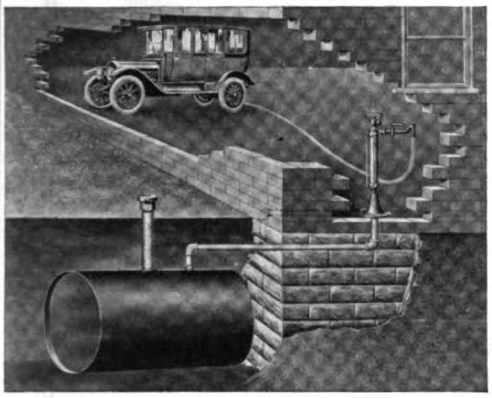

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Every part of this apparatus is listed by the Underwriters' Laboratories.

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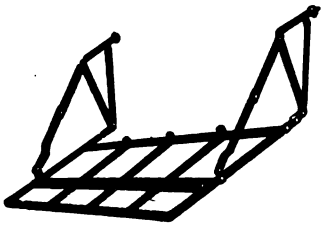
"SPECIAL" 1913 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



1913 Ford Rack

This Rack Will Fit Any 1913 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

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For Automobiles and Motorcycles

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The only ball bearing that takes load from any direction with equal efficiency.

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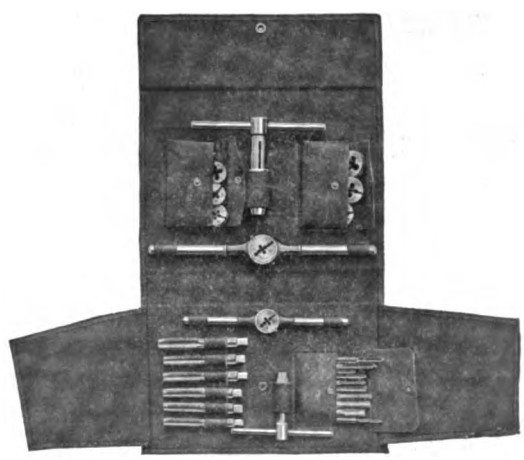
Genuine Goat Skin Leather

Contents: 16 Taps, 16 Dies, 2 Die Stocks, 2 Tap Wrenches.

Assortment selected with special reference to Screw Threads found on Ford Automobile, Model T; but also adapted to any moderate priced car.

A complete Screw Cutting Assortment

Retails for $15.00



Weight 2 1-2 lbs.

Size 6 1-4"x 9 1-2"x 1"

This is not a cheap, bargain-counter eye-catcher. The Taps, Dies, Stocks and Tap Wrenches are of the same high standard that has kept Wiley & Russell Mfg. Co. in the front rank for over 40 years as makers of first quality screw cutting tools.

This Repair Kit has our Guarantee and Reputation back of it

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BUYERS' GUIDE---Continued

CATALOGUE SYSTEMS.

Catalogue Systems Co., Fisher Bldg., Chicago, Ill.

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. H., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

CLOCKS FOR DASHBOARDS, ETC.

Boston Clock Co., 16 State St., Boston.
Chelsea Clock Co., 16 State St., Boston.

CLUTCHES—AUTOMOBILE FRICTION.

Brets Co., J. S., 250 W. 54th St., New York. (Hartford Cone.)

COILS.

Heinze Electric Co., Lowell, Mass.

CONTROLLERS AND ECONOMIZERS.

Moller Brothers Controller & Economizer Co., 700 Betz Bldg., Philadelphia. (M. & M.)

CYLINDER CLEANING COMPOUND.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GARAGES, PORTABLE. (See Houses, Portable Steel.)

GASKETS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

GAUGES.

National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Tire Pressure and Gasoline Tank.)
Branches: In all principal cities.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HEADLIGHTS.

Sumner, George, Inc., 1926 Broadway, New York City. (Diva.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)
Randall-Faichney Co., Boston. (Jericho, Jubilee.)
Branch: 918 Eighth Ave., New York.

HOUSES, PORTABLE STEEL.

Kolb Sales Co., 1790 Broadway, New York. (Ruby.)

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

LICENSE NUMBER BRACKETS.

National Motor Supply Co., 1911 Euclid Ave., Cleveland, O.
Branches: In all principal cities.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apleo.)
Dean Electric Co., Elyria, O. (Dynalux.)
Remy Electric Co., Anderson, Ind. (Remy.)

LOCKS, AUTOMOBILE.

Bracelet Auto Lock Co., 32 No. Clark St., Chicago.

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)
Branches: Boston, Fall River, Philadelphia.
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)
Branch: 143 No. Wabash Ave., Chicago.
Hawe, Geo. A., 142-144 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)
Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.
Refineries: Georgetown, Ky.; Lawrenceville, Ill.
Invader Oil Co., 80 Broad St., New York. (Invader.)
Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 3556 11th St., N. W., Washington, D. C.
Miller, Chas. H., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, NemFluid, Kejex.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Texas Company, The, 7 West St., New York.
Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Brets Co., J. S., 250 W. 54th St., New York. (U. & H.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Marburg Bros., 1790 Broadway, New York. (Mea.)
Remy Electric Co., Anderson, Ind. (Remy.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MEASURERS.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

MIXING DEVICES, GASOLINE.

Approved Auto Specialties Co., 1781-87 Broadway, New York. (Wolf.)
Royal Equipment Co., 422 Housatonic Ave., Bridgeport, Conn. (Gyrex.)

MOTORCYCLES AND SUPPLIES.

American F. N. Co., Boston. (F. N.)
Branches: 49 Union St., Providence; 415 Trumbull St., Hartford, Conn.
Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTORS AND POWER PLANTS.

Continental Motor Mfg. Co., Detroit. (Continental.)
Rutenber Motor Co., Marion, Ind. (Rutenber.)

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Apple.)
Remy Electric Co., Anderson, Ind. (Remy.)

PACKING, FIRE

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Anti-Rust Paint Co., Dept. T, Akron, O. (Thomas.)

PATCHES.

Invincible Puncture Proof Tire Co., 53 Sabin St., Providence. (Invincible.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland.

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PRIMERS.

Interstate Auto Accessory Co., Indianapolis. (Ideal.)

PUBLICATIONS, AUTOMOBILE.

The Automobile Journal, 24 issues, $1.00 the year.
The Motor Truck (Commercial Car) Monthly, $1.00 the year.
The Accessory and Garage Journal, Monthly, $1.00 the year.
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Overhauling, Rebuilding and Equipping the Motor Car..... .50
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The A B C of Internal Combustion Engine Maintenance and Repair..... .65
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Sent Postpaid to any address in United States upon receipt of price. Address all communications to The Automobile Journal, Pawtucket, R. I.

PUMPS, OIL AND GREASE.

Randall-Faichney Co., Boston. (B-Line.)
Branches: See Horns.

PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)
Dewey-Anderson Co., Toledo, O. (Dewey Power.)

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Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
Firestone Tire & Rubber Co., Akron, O.
Branches: In all principal cities.
Standard Welding Co., Cleveland. (Stanweld.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

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STOP CRANKING!

H. E. Co. Priming Spark Plugs

Make Cranking of Motor Easy in the Coldest Weather

The simplest and most Scientific Priming Spark Plug yet devised.

Made of mica and guaranteed against leaking compression.

A set of one-half inch for ... $4.00

List Price $1.25

We have an interesting proposition which we are making to jobbers and dealers. *Write.*

HEINZE ELECTRIC COMPANY

LOWELL, MASS. **DETROIT, MICHIGAN**

A CATALOGUE OF AUTO SUPPLIES

will pay for itself in a few weeks through the extra profits it brings the Dealer. We furnish Jobbers and Dealers with these catalogues.

CATALOGUE SYSTEMS CO., FISHER BLDG., CHICAGO, ILL.

PATENT YOUR INVENTION—FREE SEARCH and opinion. Send for Inventors' Primer; free. MILO B. STEVENS & CO., Established 1864. F Street, Washington, D. C. Third Floor, Monadnock Block, Chicago.

KEROSENE FOR AUTOMOBILES—Our new model B uses successfully half and half mixture lowest grades kerosene and gasoline. Satisfaction guaranteed or money refunded. Greatly increased power, very slow speed on high. Starts easy at Zero. Special Agents' prices. Dept. T, THE AIR-FRICTION CARBURETOR CO., Dayton, Ohio.

FOR SALE—Attention of Truck Makers—We have on hand about 500 jack shafts for a 1000 to 1200-pound truck. These we will not be able to use owing to a change in design and to an interested party that can use these parts we will make a sacrifice price. Box 50, Accessory & Garage Journal.

AUTOMOBILE MAILING LISTS.

13,191 Automobile Dealers.....$25.00
9,627 Automobile Garages..... 20.00
5,681 Automobile Repairs..... 12.50
3,541 Automobile Supplies..... 10.00
150,000 Ford owners.....$3.00 per thousand

Neatly typewritten, showing Financial Rating in Dollars of each one, alphabetically by States and Towns, 1913 compilation.

Ask for certain States if you do not want all.

877,000 Automobile Owners by States. Price on application.

Ask for our "Silent Salesman" showing 2000 other lists, etc.

Send check with order.

TRADE CIRCULAR ADDRESSING COMPANY,
166 West Adams Street,
Chicago.

Established 1880.
Phone Franklin 1188.

"IDEAL" Atomizing Primer

"The Primer that's Different"

Did you ever CRANK and CRANK and CRANK and then wonder why? The Ideal (Atomizing) Primer eliminates hard starting difficulties by forcing only a certain amount of the mixture (contained in the reservoir) into the intake manifold at each stroke of the handle. The mixture (high test gasoline or gasoline and ether mixed) is forced into the different branches of the manifold in an atomized spray, causing quick evaporation and an immediate ignition. This is what you want—with our guaranteed satisfaction or money back.

If your dealer cannot supply you, order direct from Manufacturer.

Complete polished brass $5.00. Nickel plated 10c extra. Special discount to Dealers and Jobbers.

Interstate Auto Accessory Co.
2124 E. Washington Street
Indianapolis, Ind.

WANTED—A man to handle a line of Tread Stocks, Cements, Tubing, Patches, Etc. on commission, for a factory that is manufacturing the finest grade of goods on the market. The Standard Rubber and Cable Co., Bridgeport, Conn.

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BUYERS' GUIDE---Continued

SELF-STARTERS. (See Motor Starters.)

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.
J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)
Sumner, George, Inc., 1926 Broadway, New York. (Velvet Auxiliary, Acme.)

SOAPS.

Hopewell Brothers, Newton, Mass. (Paes.)
Branch: 1974 Broadway, New York.

SPARK PLUGS AND IGNITERS.

American Ignition Co., 319 Adams St., Dorchester, Mass. (Amico.)
Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.
Heinze Electric Co., Lowell, Mass. (H. E. Co. Priming.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Mosler, A. B., & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)
Randall-Faichney Co., Boston. (Mac-Kae.)
Branches: See Horns.
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.
Standard Co., The, Torrington, Conn. (Black Eagle.)

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Randall-Faichney Co., Boston. (Mac-Kae Blits.)
Branches: See Horns.

SPEEDERS.

Interstate Auto Accessory Co., Indianapolis. (Ideal.)

SPEEDOMETERS, RECORDERS, ETC.

Hoffecker Co., The, Motor Mart, Boston. (Hoffecker.)
Jones Speedometer, New Rochelle, N. Y.
Branches: Broadway and 76th St., New York; 109 Massachusetts Ave., Boston; 1416 Vine St., Philadelphia; 1480 Michigan Ave., Chicago; 852 Main St., Buffalo; 253-255 Jefferson Ave., Detroit; 530 Golden Gate Ave., San Francisco; 1229 So. Olive St., Los Angeles, Cal.; 529 Ankeny St., Portland, Ore.; 917 E. Pike St., Seattle, Wash.
Servis Recorder Co., 2245 East 105th St., Cleveland. (Servis.)
Stewart-Warner Speedometer Corp., Chicago. (Auto-Meter.)
Branches: 116 Edgewood Ave., Atlanta, Ga.; 925 Boylston St., Boston; 720 Main St., Buffalo; 2420 Michigan Ave., Chicago; 807 Main St., Cincinnati; 2062 Euclid Ave., Cleveland; 1518 Broadway, Denver; 870 Woodward Ave., Detroit; 350½ North Illinois St., Indianapolis; 1613 Grand Ave., Kansas City; 748 S. Olive St., Los Angeles, Cal.; 1902 Broadway, New York; 802 N. Broad St., Philadelphia; 5940 Kirkwood Ave., Pittsburg; 14 N. Seventh St., Portland, Ore.; 36-38 Van Ness Ave., San Francisco; 611 E. Pike St., Seattle, Wash.; 3928 Olive St., St. Louis; 559 Yonge St., Toronto, Can.

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)
Perfection Spring Co., No. 1 Plant, 2414 Superior Ave., N. W.; No. 2 Plant, East 65th and Central Ave., Cleveland.

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL PARTS, SEAMLESS.

Standard Welding Co., Cleveland.

STORAGE SYSTEMS—GASOLINE AND OIL.

Scaife & Sons Co., Wm. B., Pittsburg, Penn.
Branch: New York City.

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS FOR FUEL AND WATER.

Scaife & Sons Co., Wm. B., Pittsburg, Penn.
Branch: New York City.

TANKS, TIRE INFLATING.

Prest-O-Lite Co., 271 East South St., Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Firestone Tire & Rubber Co., Akron, O.
Branches: See Rims—Removable and Detachable.
Shaler Co., C. A., Waupun, Wis.

TIRE CASES.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Approved Auto Specialties Co., 1781-87 Broadway, New York. (Goodman Tire Shield.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)
Diamond Rubber Co., Akron, O. (Diamond.)
Firestone Tire & Rubber Co., Akron, O. (Firestone.)
Branches: See Rims—Removable and Detachable.
Fisk Rubber Co., Chicopee Falls, Mass. (Fisk.)
Branches: 811-813 Boylston St., Boston; 17½ Dorrance St., Providence.
Gaulois Tire Co., 1926 Broadway, New York. (Gaulois.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.
Walpole Tire & Rubber Co., Walpole, Mass. (Walpole.)

TIRES—CUSHION.

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Firestone Tire & Rubber Co., Akron, O. (Firestone.)
Branches: See Rims—Removable and Detachable.
Mots Tire & Rubber Co., The, Akron, O. (Electric Special Mots Cushion.)
Branches: Boston, New York, Philadelphia, Pittsburg, Chicago, Kansas City, Detroit, Cleveland, Los Angeles.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright. G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Diamond Rubber Co., Akron, O. (Diamond.)
Firestone Tire & Rubber Co., Akron, O.
Branches: See Rims—Removable and Detachable.
Fisk Rubber Co., Chicopee Falls, Mass.
Branches: See Tires—Casings and Inner Tubes.
Mots Tire & Rubber Co., The, Akron, O. (Mots.)
Branches: See Tires—Cushion.
Polack Tyre and Rubber Co., 246 W. 59th St., New York City. (Polack.)
Republic Rubber Co., Youngstown, O. (Republic.)
United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TROUBLE FINDERS.

Hopewell Brothers, Newton, Mass. (Vibrator.)
Branch: 1974 Broadway, New York.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

TURNTABLES.

Beach Co., T. C., 108 Ottawa St., St. Johns, Mich. (Beach.)

UNIVERSAL JOINTS.

Brots Co., J. S., 520 W. 54th St., New York. (Hartford.)

VALVE GRINDERS.

Wall, J. H., 290 Hope St., Bristol, R. I. (Ford.)

VULCANIZERS.

National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Garage and Individual.)
Branches: In all principal cities.
Shaler Co., C. A., Waupun, Wis. (Shaler.)
Vanderpool Co., Springfield, O.
Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Co., 309 W. South St., Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WELDING, STEEL.

Standard Welding Co., Cleveland.

WHEELS.

McCue Co., The, Buffalo, N. Y. (Wire.)

WIRES AND CABLES.

Diamond Rubber Co., Akron O. (Diamond.)

WIRE MECHANISM.

Brots Co., J. S., 250 W. 54th St., New York. (Bowden.)

WRENCHES AND COMBINATION OUTFITS.

Allen Wrench and Tool Co., Providence, R. I. (Allen Friction Socket Sets.)
Coes Wrench Co., Worcester, Mass.
Cutter, George A., Taunton, Mass.
Walworth Manufacturing Co., Boston. (Stillson.)

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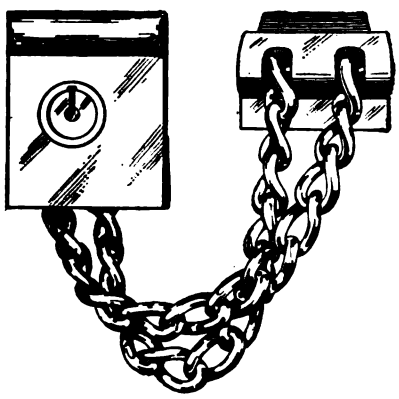
THE LOCK THAT LOCKS

Gasoline Lever or Sparking Lever, or Both—Steering Wheel or All Three

Retail Price **$2.50**

DEALER'S SPECIAL OFFER!

A SAMPLE LOCK WILL BE SENT POSTPAID FOR $1.00 LESS THAN REGULAR PRICE



FREE

Fine Metal Display Case, including Demonstrating Lock and showing your firm name, FREE with order of twelve locks or more.

The Bracelet Auto Lock

Strong—Simple—Durable

There is no better lock made at any price. Each lock has a different key. Lock number 2 has two-inch chain; lock number 3 has three-inch chain. Order by number. Numbers 2 to 10. Measure parts to be locked and order accordingly. NOTICE: When no special size is ordered, we send number 6, which fits the greatest number of cars.

Any Lock Exchanged and Money Refunded at Any Time

DISTRIBUTORS:

MARSHALL FIELD & CO. . . .	Chicago
AMERICAN AUTO SUPPLY CO. . .	Chicago
BRACELET AUTO LOCK CO. . .	Chicago

DEALERS Sample Lock, complete, prepaid, for **$1.50**

Many Thousand Sold This Summer. Order Now.

Bracelet Auto Lock Co., 82 N. Clark St., Chicago.
Enclosed please find money order, check or express order for $1.50, for which send me sample Bracelet Auto Lock number, (Indicate which).

Name .....

Street .....

City .....

State .....

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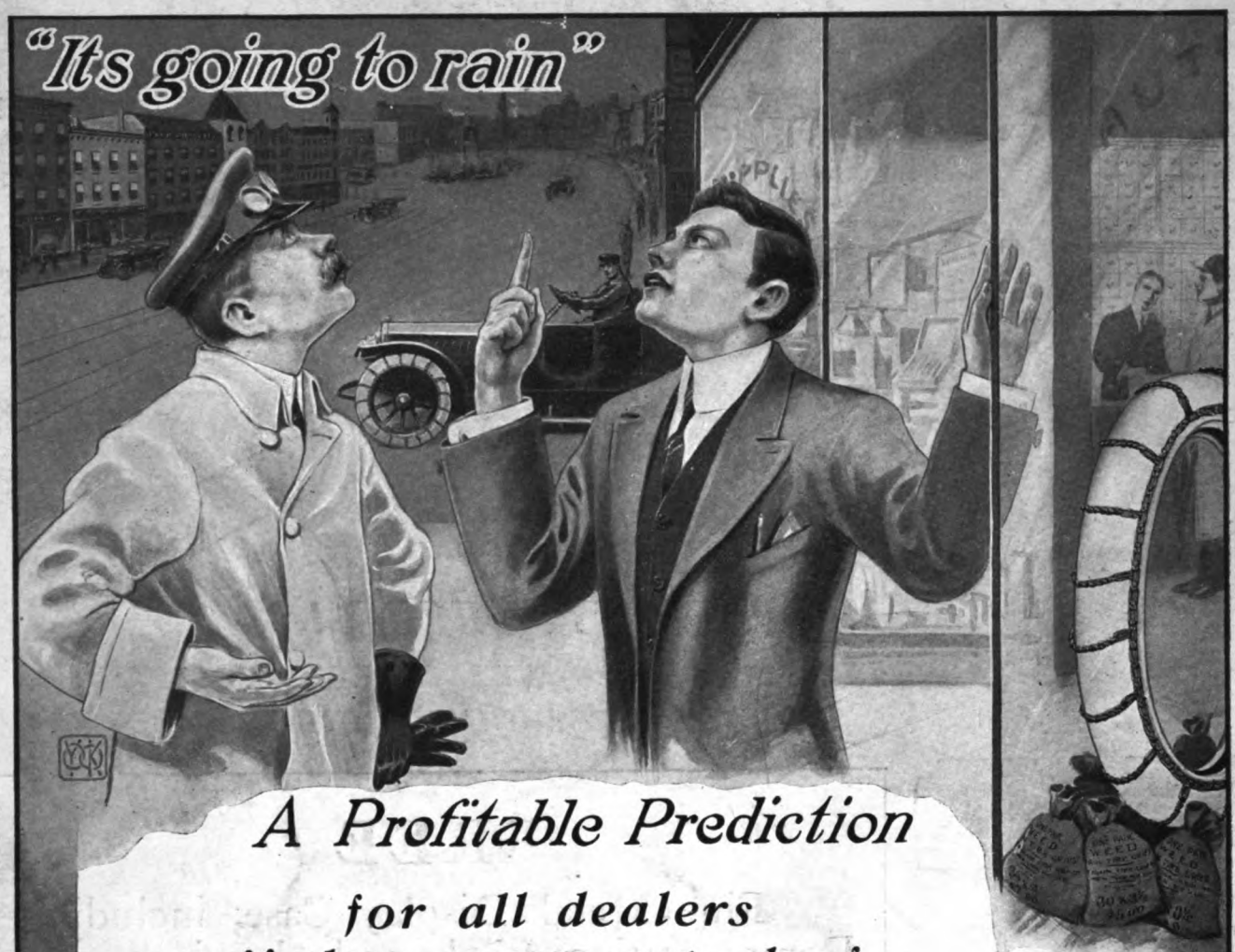

A Profitable Prediction

for all dealers
if they carry a stock of

Weed Anti-Skid Chains

"A Sure Bet When It's Wet"

You should always be ready for a rainy day, Mr. Dealer—a stock of Weed Chains on your shelves to supply the demand that always "reigns when it pours."

Write us for particulars regarding our Window Display Contest

Weed Chain Tire Grip Company

28 Moore Street **New York, N. Y.**

Manufactured for Canada by
Dominion Chain Co., Ltd.—Head Office, 137 McGill Street, Montreal, Canada

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15 CENTS the COPY

Industrial News Pages 5-11, Trade News Pages 11-20, Trade Information Exchange Page 35, Buyers' Guides and Trade Directories Pages 44-48, New Accessories Pages 22-25, Garage Equipment Pages 25-28.
SEPTEMBER DISTRIBUTION—12,000 GUARANTEED—ALL TRADE.

$1.00 the YEAR

THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., AUGUST, 1913. NO.

INVADER OIL

¶ Invader Oil is better than other oils. It costs more than other oils.

¶ Double page spreads of Invader Oil are appearing weekly and monthly in all the leading trade papers.

¶ Invader Oil will be the most efficient lubricant to use---because its quality is the highest.

¶ Invader Oil will be the most profitable to sell---because our advertising is creating an extensive demand.

INVADER OIL CO.,—Main Office—80 BROAD ST., N.Y.

BOSTON
234 Columbus Avenue

BRANCHES:
PHILADELPHIA
113 Arch Street, 719 Broad Street

WASHINGTON
3627 New Hampshire Avenue, N. W.

TERRITORIAL AGENTS:
Beck & Corbitt Iron Co., St. Louis, Mo.; Boyer-Campbell Co., Detroit, Mich.; American Lubricating and Supply Co., Kansas City, Mo.; Lee Hardware Co., Salina, Kan.; Motor Car Supply Co., Chicago, Ill.; James Bailey Co., Portland, Me.

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.
For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

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I

II

III

The Four Factors

IN the sale of Texaco Motor Oil by garage, supply houses and ourselves four factors play important parts. The first three are Texaco bulletin advertising, Texaco magazine advertising, and the Texaco sign. The fourth, and the vital factor, is the oil itself.

TEXACO
MOTOR OIL

owes its phenominal sale to its high quality, its actual worth. The extensive advertising done in its behalf would have been wasted if the oil itself had not at all times, under all circumstances, *made good.*

You can recommend Texaco Motor Oil to your customers without fear or favor. It will always prove worthy of your endorsement. You can afford to recommend it for this reason, and because it is, on account of extensive advertising, well known and an easy seller. You don't have to explain about Texaco. Simply produce the familiar can, one or five gallons. Your customer will do the rest.

If you aren't carrying Texaco Motor Oil write us for prices, advantageous delivery particulars, and information regarding dealers' helps. Address Dept. 9.

THE TEXAS COMPANY

WHITEHALL ANNEX NEW YORK

EXECUTIVE OFFICES

HOUSTON NEW YORK

BRANCH OFFICES

Boston Dallas St. Louis Tulsa New Orleans Chicago Pueblo Atlanta Philadelphia El Paso Norfolk

IV

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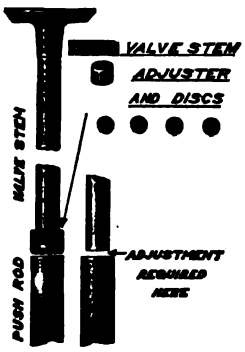
SOME MORE FORD SPECIALTIES

THERE ARE SIXTY OF THEM

VALVE STEM ADJUSTERS



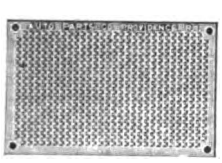
If you do not keep your valve stems adjusted properly your car will lose power, and as the valves are intended to open at a certain time, even a fraction of a second late means a great loss. The valves on a Ford car open about ⅜ of an inch and if there is ⅛ of an inch play between push rod and valve stem the valve only opens ¼ of an inch, or in other words you lose one-third of the power. Still another thing to be considered is the noise caused by this play and ninety per cent. of motor noises arise from this source (note the quietness with which the large cars run, due to the fact that the push rods are adjustable). The APCO Valve Stem adjusters consist of hardened caps made from Jessops steel and a quantity of very thin hardened steel discs. To apply the adjusters all that is necessary is to raise the valve slightly and slip an adjuster on the end, and if this is not sufficient put enough discs in the cap to reduce the play to the thickness of a piece of newspaper. The whole set can be put on in less than an hour and wear can be taken up very easily by inserting discs. All the high priced cars have an adjustment, and if our price was $10.00 you could not afford to be without them. State model and year of car or diameter of valve stems when ordering. Made in three sizes, 5-16 in., 3-8 in., 7-16 in. For Model "T" Fords we recommend the size 7-16 in., as they fit on the push rods of this car and do not have to be removed when grinding valves. Set includes eight adjusters and a quantity of discs to take up wear as occasion requires. The price is nominal, the improvement phenomenal. **PRICE $1.00 Complete.**

RUBBER FINISHED ROBE RAIL

Cut shows one end of the new Black Rubber Finished Robe Rail we are making especially for the Ford Touring Car. It is thirty inches long, finished in our famous hard rubber finish which is guaranteed not to chip. The rod is ⅝ inches in diameter and when open leaves a four-inch space between the body and the rail, this being ample accommodation for two light robes or one of the heaviest.

The Rail comes complete with screws and is a nobby addition and convenience. **PRICE $1.00.**

HEEL REST



This device is intended to be placed directly back of the three pedals on the Model "T" Ford and is a necessity on new cars to prevent wearing of the rubber mat and on the old cars to hide this worn spot. The plate is made from high grade aluminum, five inches wide and eight inches long. It will outwear ten of the stamped variety and will not rust or turn black like the imitation aluminum or iron ones. **PRICE $1.00.**

FORD FAN BELTS

If you have ever replaced a fan belt on your car you know that it is not an easy matter; then why buy a cheap belt that will not last a thousand miles? The APCO belt is made throughout of high grade belt leather and is triple stitched besides being cemented, and the joint is so well made it is nearly impossible to find it. We absolutely guarantee it to wear five thousand miles. **PRICE 60c EACH.**

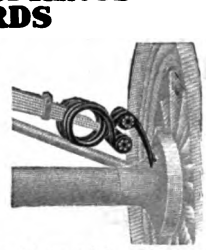
STARTING CRANK HOLDER

The aluminum starting crank handle makes more noise when the car is running than any other three parts of the car. The APCO holder keeps this quiet and also keeps it clean. This device is one of the lowest priced articles we list but it is one of the best. **PRICE 50c.**

WHEEL PULLER

The 1912 and 1913 Ford Cars are equipped with taper rear axles and when the wheel is put on and tightened up, it is almost impossible to remove it without a tool of some kind, and the one we offer will remove the wheel easily without marring the spokes or spoiling the thread on the hub. To remove wheel, simply screw our wheel puller on the hub and tighten the bolt which forces the wheel off. The device is exceptionally well made and is guaranteed to do the work in a satisfactory manner. **PRICE COMPLETE $1.00.**

ACME TORSION SPRINGS FOR "T" FORDS



The Ford is a fairly easy riding car, but with the Acme Torsion Springs we honestly believe it is the easiest riding car built. They don't make a boulevard out of a stone quarry but for smoothing out the rough spots in the road they have no equal. We absolutely guarantee them to make your Ford ride 100% better than it does now, and by the elimination of jolts and jars, strains and vibrations, they add miles and miles to the life of your tires and car. All shock absorber makers claim great things for their particular brand but you be the judge, and if you think you could get along without ours, return them at our expense and you can have your money back without a murmur. They are put on in an hour without machine work by simply replacing the Ford hangers with the ones we furnish. **PRICE For Complete Set of Rear Absorbers $12.50.**

EXHAUST WHISTLE

Undoubtedly you have felt the need of a long-distance warning signal that could be operated without removing your hands from the steering wheel, and for 1913 we offer the APCO Exhaust Whistle that has made good on thousands of cars all over the country during the past three years. The device is very simple, weighs a pound and can be put on your car in half an hour. There is nothing to get out of order, no back pressure, and it positively will not clog up, as no part of the whistle comes in contact with the exhaust gases except when the whistle is in use (most other whistles are always in contact with the gas and therefore they are clogged up and inefficient half the time). Remember, the APCO Whistle is not a musical instrument but a producer of real noise that will make the teamsters "sit up and take notice." Made for 1 in.—1¼ in.—1⅜ in.—1½ in.—1⅝ in.—1¾ in. pipes back of muffler, and is furnished complete ready to attach, including brass pedal, cable and screws. **PRICE $3.50—Half the Price, Twice the Noise.**

DEALERS DISCOUNT ON REQUEST

AUTO PARTS CO., Providence, R. I.

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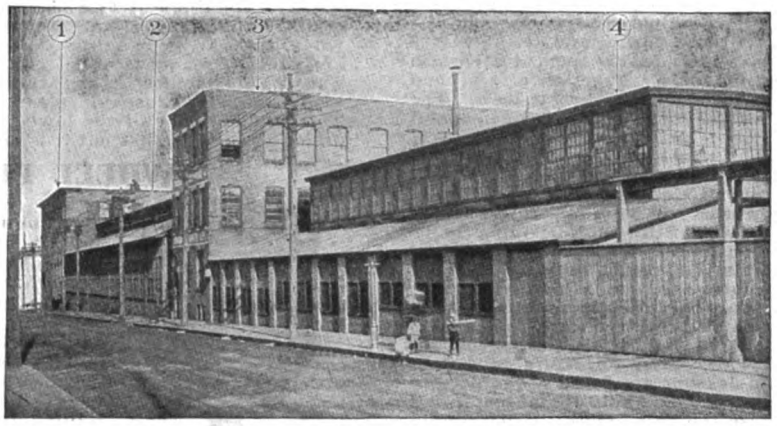
An Opportunity for a Big Auto Truck Garage and Repair Business in Providence, R. I.



THE GROWTH OF A LARGE MANUFACTURING COMPANY ENABLES US TO OFFER FOR SALE THE ABOVE PLANT, SPLENDIDLY LOCATED IN THE CENTRE OF THE WHOLESALE, WAREHOUSE AND MANUFACTURING SECTION OF PROVIDENCE.

The General Fire Extinguisher Company has outgrown its Providence Foundry Department and has been forced to combine it with its Auburn, R. I., plant, where large additions have just been made. The removal of the Company from this part of its Providence plant offers a splendid opportunity for the institution of a garage and repair shop. Motor trucking is bound to increase rapidly which will make the need of a centrally located place of this character well nigh imperative. The property we are now offering for sale is ideally located for just such a business for it is convenient and easily accessible to the many large business houses which are situated in that vicinity.

Building No. 1.

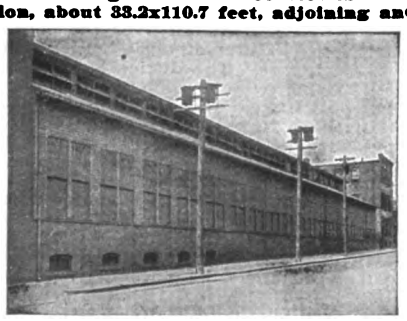
Building No. 3.

The plant is fully equipped with Grinnell Automatic Sprinklers, thus insuring low insurance rates. It is also piped for heating. The property will be sold as a unit or divided into nine parcels on five of which there are buildings as follows:

Building No. 1.—Three stories and high basement, brick, heavy construction, about 113.2x75.2 feet, adjoining and communicating with Building No. 2.

Building No. 2.—High, one story, brick and frame foundry, with monitor roof, about 199.6x75.2 feet, adjoining and communicating with Building No. 1 and Building No. 3.

Building No. 3.—Three stories and high basement, brick, heavy construction, about 33.2x110.7 feet, adjoining and communicating with Building No. 2 and Building No. 4.

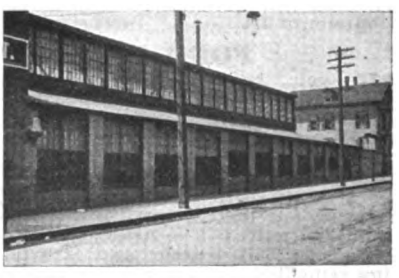


Building No. 2.

Building No. 4.—Brick and frame foundry, with monitor roof, about 120x55 feet, adjoining and communicating with Building No. 3.

Building No. 5.—One story, brick and stone, about 312.3x25 feet, separated from main buildings by driveway and connected by two overhead passageways.

The land fronts about 507.82 feet on West Exchange Street, about 219.30 feet on Bradford Street, about 257.12 feet on Cedar Street, containing an area of about 84,064.46 square feet.



Building No. 4.

Illustrated circular, prices and all further information may be obtained by applying to

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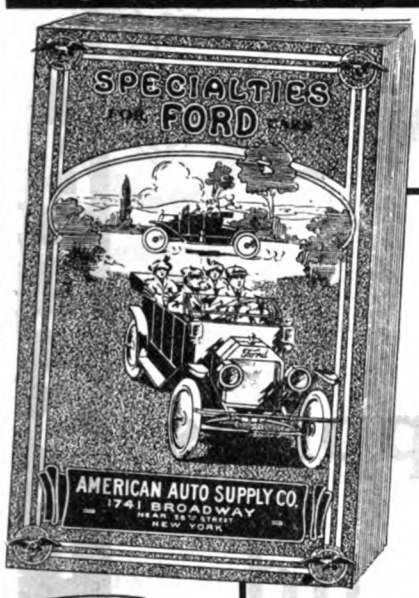
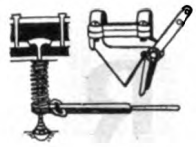
WRITE TO DAY FOR ILLUSTRATED CATALOG
MONEY SAVING FORD SPECIALTIES





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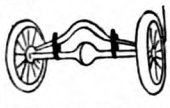
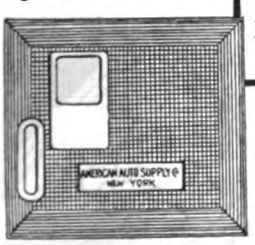
Our FORD SPECIALTY CATALOG describes every kind of accessory or special part now made for the Ford car—TOP COVERS—SEAT COVERS—MASTER VIBRATORS—ELECTRIC LAMP OUTFITS—OIL & GREASE CUPS—VALVE GRINDERS—VALVE ADJUSTERS—OIL GAUGES—ANTI-RATTLING BALL SOCKETS—TIRE TOOLS—HOOD PROTECTORS—GASKET SETS—LAMP COVERS—SLIP COVERS—RADIATOR COVERS—TRUNK RACKS—TIRE HOLDERS—TIMERS—CARBURETORS—SPECIAL TOOLS—WHEEL PULLERS—COIL REPAIR PARTS—HORNS—WHISTLES—SHOCK ABSORBERS—PUMPS—LICENSE-PAD BRACKETS—FORE-DOOR VENTILATORS—FOOT ACCELERATORS—ELECTRIC LIGHT REGULATORS—PISTON RINGS—MUFFLER CUTOUT OUTFITS—BRAKE LINING—FAN-BELTING—TIRE SLEEVES—VULCANIZERS—SPARK PLUG PUMPS—TIRE TRUNKS—TOOL & BATTERY BOXES—SPARK PLUGS—BOW SEPARATORS—PENNANT HOLDERS—GASOLINE ECONOMIZERS—GASOLINE GAUGES—RADIATOR CAPS—HUB CAPS, and hundreds of other special articles especially designed for use in connection with the Famous Ford Universal Car.





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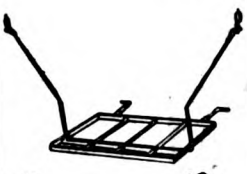

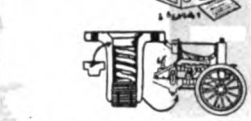

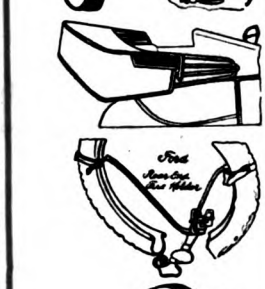

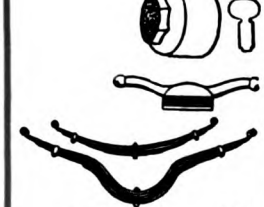
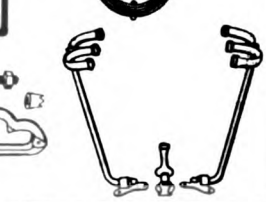

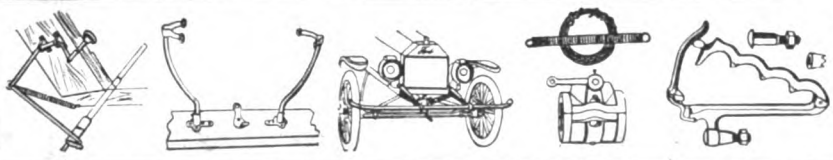

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

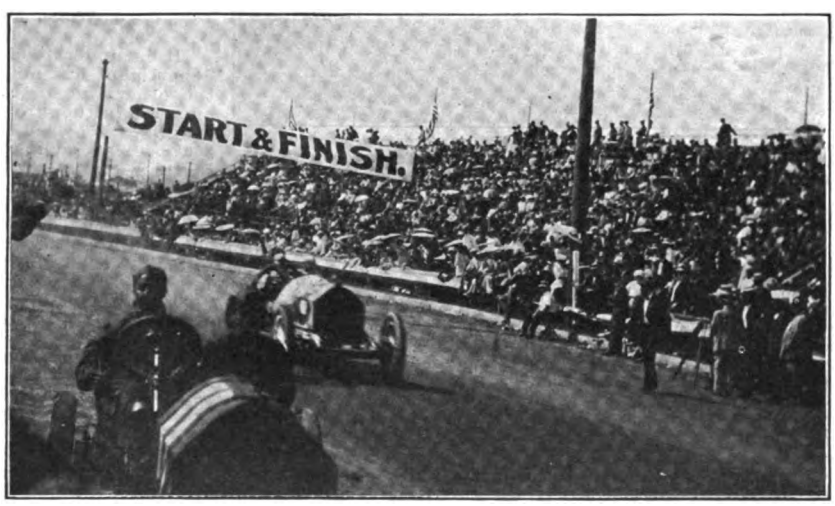
VOL. III. PAWTUCKET, R. I., AUGUST, 1913. No. 4.

STUTZ WINS AT SANTA MONICA.

Earl Cooper Takes His Third Long Distance Road Race for the Season—Barney Oldfield and Louis Nikrent, Driving Mercers, Finish Second and Third.

IN WINNING the Santa Monica road race of 1913, Earl Cooper not only has created for himself an enviable reputation among the racing drivers of the year, but he has established the Stutz car as a worthy contender for premier honors in a field comprised of some of the fastest makes of machines in the world. This was the third great victory for Cooper and the Stutz on the Pacific Coast this season. July 5, he took the 220-mile race for the Potlach trophy at Tacoma, Wash., only to follow this with the Montamarathon award, July 7, over the same course, this latter event being for 250 miles.

This year, the road race over the course at Santa Monica, Cal., was for 445 miles. Cooper's time for the distance being 6:01:52. In this respect the event ranks in importance with the 500-mile contests which are held on the Indianapolis speedway. If memory serves correctly, it was the longest race of this character held in this country. And for this reason and because the cars were limited to 600 cubic inches piston displacement, it was not expected that the speed would prove record breaking. Cooper's average was 73.8 miles an hour.



Earl Cooper, Winner of the Fifth Annual Santa Monica Road Race, Crossing the Finish Line in His Stutz.

In 1910, Teddy Tetzlaff in a Lozier covered the 202 miles at an average speed of 73.22, which at that time was a new American road-racing record. In 1911, Harvey Herrick in a National covered the 202 miles at a speed of 74.63, a new world's record. Last year, Tetzlaff regained the honors lost in 1911, this time driving a Fiat 303 miles at a speed of 78.5 miles an hour, which figure is still the world's record. Tetzlaff's Fiat had a piston displacement of 904.7 cubic inches, against 400.2 for Cooper's Stutz this year. Cooper was a contender last year, also in a Stutz, and was running in fourth place when the race was called immediately after three drivers had finished.

Barney Oldfield, driving a Mercer, finished second in this year's race, his time being 6:07:45. Louis Nikrent in another Mercer was third in 6:28:17. Four other cars were running when the race was called immediately after Nikrent crossed the finish line. Frank Verbeck in a Fiat completed 49 laps in 6:23:17; E. F. McConners in a Speedwell, 43 laps in 6:23:14; Charles Soules, Cadillac, 39 laps, 6:07:11, and T J. Beaudette, Cadillac, 36 laps, 6:24:44. The race was for 53 laps of the course, and the other cars entered were: Gaston Morris, Berlin special; Harris Hanshue, Apperson; Teddy Tetzlaff, Fiat; Dave Lewis, Stutz; John Opsahl, Buick; Frank Goode, Apperson, and Frank Siefert, National. It will be noted that practically all of the California favorites took part.

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TAKES OVER MARATHON SALES.

Herff-Brooks Corporation to Handle the Entire Product in United States and Abroad.

The Herff-Brooks Corporation has been incorporated under the laws of Indiana with a capital of $100,000, to handle the output of the Marathon Motor Works, Nashville, Tenn. The offices of the new concern will be maintained at Indianapolis, Ind., and the sale of Marathon cars will be controlled throughout the United States. Branch agencies also will be established in foreign countries. According to present plans of the incorporators of the company, eight men will be immediately placed in the field to organize agencies, and the export business will be in competent hands.

The officers of the Herff-Brooks Corporation follow: President, Jacob Herff; vice president, Herbert Herff; treasurer, George Herff; secretary and sales manager, H. H. Brooks, who has been with the Marathon company for several years as general sales manager. All are experienced automobile men. The treasurer has been manager of the State Auto Company for five years, and with him has been associated his brother, Herbert, in handling Marathon cars in Indianapolis.

AUTO-LITE COMPANY EXPANDS.

New Factory at Toledo Provides More Than 25,000 Additional Square Feet of Floor Space.

The Electric Auto-Lite Company, Toledo, O., maker of starting, lighting and ignition systems, has greatly increased its available manufacturing space by the addition of a new plant, shown in an accompanying illustration. This plant adds over 25,000 square feet of floor space, and affords room for more than 100 additional skilled workmen and three floors of labor-saving automatic machinery. The rapid rise of the Electric Auto-Lite Company since it started five years ago at South Bend, Ind., to its present position has been interesting to note as an example of the remarkable success made possible by energy, ability and determination behind high-class goods.

New Three-Story Factory of Electric Auto-Lite Company at Toledo, O., Which Greatly Increases Manufacturing Facilities.

In an interview, S. L. Kelly, vice president and general manager of the company, who has been actively interested and instrumental in its success since the beginning, stated that the large demand for the Auto-Lite systems for 1914 delivery made the new factory necessary. It is anticipated that it will be imperative to again double factory facilities before the end of the present season, although the concern is now able to turn out in the neighborhood of 30,000 complete starting, lighting and ignition systems a year, or more than 100 every working day. Mr. Kelly said that the complete system will be installed as regular equipment on at least 10 of the standard cars in 1914.

SECURES HANLON PATENT.

Anderson Electric Car Company Purchases Entire Window Rights.

After many months of negotiating, the Anderson Electric Car Company, Detroit, maker of the Detroit electric line of cars and trucks, has purchased the entire rights in the Hanlon patent for electric car windows. This invention is held to cover the basic principles of the clear vision type of window, and the Anderson company secures control in America and abroad.

The features of the Hanlon window are held to be protecting the occupants of the machine from undesirable weather, and at the same time to enable the driver to see ahead clearly at all times. Adjustable from within, the operator may incline the front window to any desired angle, and in the event of rain, snow or heavy dust it may be closed from within in such manner that the storm will not beat against the front glass. When closed in very cold weather, it is maintained that it is impossible for frost to form on the glass. It is announced that this is but one of a number of new features which will be incorporated in the 1914 Detroit electric line.

EQUIPPING NEW CASE PLANT.

The J. I. Case Threshing Machine Company, Racine, Wis., maker of Case cars, has equipped its new South works at Lakeside, Racine, with machinery. The plant consists of a foundry and machine shop costing more than $1,250,000. A power plant is being built and the drive will be electric throughout. Considerable of the company's motor car work will be done in the new works.

DUPLEX COMPANY ELECTS OFFICERS.

The following directors were elected at the annual meeting of the Duplex Power Car Company, Charlotte, Mich.: Frank P. Town, M. J. Lamson, Maurice Bolstrom, George A. Williams, Frank L. King, Horton H. Bryan and Truman Gillette. Mr. Town and Mr. Lamson were elected president and secretary, respectively.

ALCO TO DISCONTINUE PRODUCTION.

American Locomotive Company, Maker of Cars and Trucks, Decides to Retire from Industry.

Not in years has the industry experienced a greater surprise than was occasioned when the American Locomotive Company, New York City and Providence, R. I., maker of Alco pleasure cars and motor trucks, announced its decision to discontinue the automobile department of its business, in the following statement issued from the New York office at 1886 Broadway:

The board of directors of this company, at a meeting held on Aug. 18, 1913, decided to discontinue the manufacture and sale of automobiles and motor trucks. The company takes this opportunity to assure all owners of Alco vehicles that arrangements will be made to furnish them with repair parts for a period of not less than five years to come, and, further, that it will fulfill in every respect its obligations given under guarantee to its customers.

AMERICAN LOCOMOTIVE COMPANY,
W. H. Marshall, President.

It is understood that the automobile department has not been as profitable as the other line in which the company is engaged, although the Alco car is one of the highest priced in America, selling at $6000. The company began the manufacture of Alco automobiles in 1906, when the machine was known as the American Berliet, the American rights to the Berliet patents having been secured. The plant at Providence, with its equipment, is valued at $3,000,000. Nearly as much more capital is invested in branches and service stations in various parts of the country.

WILLYS PURCHASES LAMP CONCERN.

The assets of the Castle Lamp Company, Battle Creek, Mich., have been purchased by John N. Willys, president of the Willys-Overland Company, Toledo, O., maker of Overland cars. The machinery and stock of material will be transferred to Toledo, where the manufacture of lamps will be carried on to supply Overland machines.

TO PRODUCE MUIR HUB.

Following the recent return of John Muir to London, England, it was announced that the Hayes Wheel Company, Jackson, Mich., had taken over the manufacture of the shock absorbing hub invented by him. The hub is said to contain a large number of balls, which distribute the road shocks before they are transmitted to the axle spindle.

EDWARDS RESIGNS FROM A. A. A.

F. E. Edwards, chairman of the technical committee of the American Automobile Association, has resigned, saying that his acceptance of a New York City agency for an automobile company made him ineligible to longer hold his office in that organization. Mr. Edwards has been a most prominent figure in the automobile world, having served as technical expert at all of the most important race meets held under the direction of the A. A. A. in the last few years.

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HANDLEY FORMS NEW COMPANY.

Million Dollar Concern Established to Handle American and Marion Sales.

From Indianapolis comes the announcement of the formation of a new $1,000,000 concern, to be known as the J. I. Handley Company, which will own all of the Handley interests in the American Motors Company, the Marion Motor Car Company, the American Motors Realty Company, the A. & M. Sales & Service Company, all of Indianapolis; the American-Marion Sales Company of New York and the American Motors California Company of San Francisco. The new company is to be the sole selling agent of the American Motors Company and the Marion Motor Car Company, marketing all American underslung and Marion models.

J. I. Handley, President, J. I. Handley Company.

President J. I. Handley states that this move is to accomplish two purposes: First, it will unify all of his interests in these companies, and second, it will departmentalize more specifically the work of the various units. "With the sales, advertising and service work entirely removed from the manufacturing companies and thrown into another individual company, whose functions will be the distribution of the product of both the American and the Marion companies," says Mr. Handley, "we will be able to pursue a more concrete manufacturing programme. In other words, the American Motors Company will have nothing to do but build the famous American underslung models. Similarly the Marion Motor Car Company will concentrate entirely upon the production of the Marion sixes and fours. Thus the new company will be able to specialize and concentrate all its efforts in successfully distributing and promoting both of these products."

V. A. Longaker, in addition to continuing as chairman and general manager of the American Motors Company, will also, at the request of President Handley, accept the vice presidency of the new corporation. D. S. Menasco, vice president of the American Motors Company, will continue in this capacity, but will also become president and general manager of the American Motors California Company, with headquarters at San Francisco. J. I. Handley will retain the presidency of both the American and Marion companies.

REGAL INSTALLS EQUIPMENT.

Modern Machinery Designed to Make Vital Parts of Regal Cars Accurately, Secured at Heavy Expense.

Following closely upon the recent expansion of the Regal Motor Car Company, Detroit, maker of Regal cars, President Fred W. Haines announces the purchase and installation of a number of modern and proven automobile making machines. This is said to be one of the largest orders of its kind placed this year.

The majority of the machines were built especially for the manufacture of automobile parts and to assure accuracy and reliability in the construction of Regal machines. These devices have been installed in a large building at the Regal plant, which now covers a total area of 7.5 acres.

PROVIDENCE WINS AWARD.

Waite Auto Supply Company Gets Capital Prize in Weed Tire Chain Contest.

In the contest concluded by the Weed Chain Tire Grip Company, in which 12 prizes were offered, totalling $250, for the best trimmed window arranged by supply and accessory dealers, the first prize of $100 went to the Waite Auto Supply Company of Providence, R. I. The latter concern dressed its window to represent a village with houses, roads, railroads and dangerous grade crossings, a snow scene and other effects. Into this setting was woven the danger of skidding and the safety of Weed chains. Miniature automobiles were used and there were shown numerous wrecks of cars which had no chains, while those equipped with them proceeded in safety. The display was effective and realistic.

Following is the complete list of winners: First, $100, Waite Auto Supply Company, Providence, R. I.; second, $50, Bannister & Pollard Company, Newark, N. J.; ten prizes of $10 each, Tri-State Supply Company, White Plains, N. Y.; Albert E. Goodby, Providence, R. I.; Hamilton Hardware Corporation, Waterbury, Conn.; Blue Ribbon Garage, Bridgeport, Conn.; Herr & Co., Lancaster, Penn.; Post & Lester Company, Boston, Mass.; Louisville Auto Supply Company, Louisville, Ky.; Dayton & Walker Hardware Company, Paterson, N. J.; Ferris-Dunlap Auto Supply Company, Dallas, Tex.; Bi-Motor Equipment Company, Boston, Mass.

PURCHASES CINCINNATI CONCERN.

Rock Island Battery Company's Plant Added to the Manhattan Electrical Supply Company's Holdings.

The Manhattan Electrical Supply Company, 17 Park place, New York City, purchased the business and plant of the Rock Island Battery Company of Cincinnati, O., and took possession Aug. 1.

This important move does not mean that the Rock Island brand of dry battery will be discontinued, for it is the intention of the Manhattan company to make it in connection with Red Seal, Hi-Up, Blue Seal and Mesco batteries, now made at the other factories of the New York concern.

WEBB COMPANY IN DIFFICULTY.

The Webb Company, Allentown, Penn., maker of Webb automobile fire apparatus, has been placed in the hands of a receiver as the best way out of the difficulties in which the company finds itself. Robert E. Wilbur, who formerly was connected with the Lehigh Car & Axle Works, has been recommended to take charge of the business.

FOSDICK RE-ENTERS NEW ENGLAND.

With Frank F. Wentworth Has Organized Company to Handle Hupmobile—Both Have Wide Exerience.

Harry Fosdick and Frank F. Wentworth, two of the best known men in the industry in New England, have organized a company, with headquarters at 926-928 Commonwealth avenue, Boston, to take over the distribution of Hupmobile cars, made by the Hupp Motor Car Company, Detroit, in New England. Mr. Fosdick recently retired from the Hupmobile factory organization for this purpose, and his association with Mr. Wentworth is expected to increase the sale of this make of car very materially.

Mr. Fosdick is without doubt one of the best informed men concerning the history of the motor car in America. He began his connection with the industry in 1899, when he became associated with the first retail automobile salesroom in the country, at Boston. He is best remembered as having introduced the Mobile in that city. Later he established the Boston branch of the Winton, and after serving a number of years as its manager he organized the Harry Fosdick Company, which was interested in a number of foreign importations. He disposed of his stock in this concern to become identified with the Hol-Tan Company of New York City, of which he was vice president, handling the American sales of the Fiat. He also was associated with Vincenzo Lancia in introducing the Lancia car in this country. Some years ago he became sales manager of the Stevens-Duryea Company, Chicopee Falls, Mass., and left that concern to become sales director for the Hupp Motor Company.

Harry Fosdick, Pioneer Automobile Salesman.

Mr. Wentworth is quite as well known throughout New England, having interests other than in the automobile field. He did much toward popularizing the Overland car in the New England States, and has also been decidedly interested in the sale of the American, the Marion and other cars.

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NEWSOM GOES WITH KEETON.

Executive Well Wnown in Connection with Successful Industries Assumes Important Duties.

H. H. Newsom, formerly manager of the McCord Manufacturing Company and later in a similar position with the Hayes Manufacturing Company, has been appointed manager of the Keeton Motor Company, maker of Keeton cars. He is well and favorably known as an executive of successful industries, his tenure of office with the McCord and Hayes companies witnessing a marked growth in both.

H. H. Newsom, Manager, Keeton Motor Company.

Mr. Newsom will relieve Vice President Keeton of much of the detail of the Keeton company's affairs. Mr. Keeton is also president of the Keeton Motors, Ltd., Brantford, Can., and the addition of Mr. Newsom to the Detroit factory organization will allow the former to give more of his time to the affairs of the Canadian company. Preparations are being made for an immediate enlargement of the manufacturing facilities of the company and an increase in the output for 1914 of about 3000 cars.

Mr. Newsom is a graduate of the mechanical engineering department of the Purdue University. He entered the automobile industry in its earliest stages and specialized in gas engines. He was the first secretary of the Wolverine Automobile Club of Detroit, to which position he was twice elected, and is popular in motor car circles in that city.

BECOMES VICE PRESIDENT.

Alvan Macauley Adds Duties of That Office to Those of General Manager.

Alvan Macauley, general manager of the Packard Motor Car Company, Detroit, maker of Packard pleasure cars and commercial vehicles, has been made a vice president of the concern, his title also including that of general manager. Mr. Macauley has been identified with three concerns, each of which occupies a commanding position in its field. Trained in the legal profession, he developed a grasp of large business affairs as patent counsel for the National Cash Register Company, Dayton, O. In 1901 he became identified with the American Arithometer Company of St. Louis, Mo., and was instrumental in its removal to Detroit, where it became the Burroughs Adding Machine Company. He resigned from the Burroughs company in 1910 to join the Packard company. He directs an organization of 7000 men and a business of $20,000,000 a year.

Alvan Macauley, Vice President Packard Motor Car Company.

WILL HANDLE SALES END.

Bump Assumes Important Position with the J. I. Handley Company—Other Appointments.

Following the formation of the J. I. Handley Company for the purpose of distributing the product of the Marion Motor Car Company and the American Motors Company, Indianapolis, Ind., makers of Marion and American cars, President J. I. Handley announces that he has associated with him F. R. Bump, who becomes general sales manager. With the acquisition of Mr. Bump, the new Indianapolis concern has acquired the services of one of the best known men in the automobile industry.

Mr. Bump graduated from Cornell University in 1896 and entered the bicycle business at the completion of his course. He was identified with several of the largest concerns in the country until 1904, when he became associated with the H. H. Franklin Manufacturing Company, Syracuse, N. Y. Within one year he became general sales manager of that company and built up one of the strongest sales organizations in the country at that time. He later became assistant general manager of the R-C-H Corporation, Detroit, at the time of its organization and remained there until the present. He has become acquainted with distributors and dealers all over the world, in his experience in the sales department of the industry. The reputation he has made in the motor car field is an enviable one, and automobile authorities look for his continued success with the Indianapolis firm.

In connection with Mr. Bump's appointment comes the information that Dr. M. D. McNab will assume the position of director of sales for the Middle West, with headquarters at Chicago. Dr. McNab is vice president of the Marion Motor Car Company, and this move will in no way affect that office. He is also well known in the sales end of the industry, having been manager of the Chicago branch of the Maxwell-Briscoe Motor Company for a number of years, and later acting in the same capacity

F. R. Bump, General Sales Manager, and M. D. McNab, District Sales Director, J. I. Handley Company.

when the United States Motor Company was organized.

W. S. Jewell, well known to many in the automobile industry, will have charge of the metropolitan district, with headquarters in New York City, which includes parts of New York, New Jersey and Connecticut.

FEDERAL ENLARGES PLANT.

Demand for Increased Production Makes Necessary Additional Room and Machinery.

The large addition to the plant of the Federal Motor Truck Company, Detroit, maker of Federal trucks, which will increase the floor space 33 per cent., will be ready for occupancy within 30 days. This addition to a factory that was already extensive was made necessary because of the demands for increased production. With the improved production facilities, which include new machinery as well as more room, the output will be increased fully 50 per cent. The impetus to a larger production has already been felt, for during the last month 50 per cent. more trucks were turned out than during the same month last year.

FORMS MARTIN TRACTOR COMPANY.

Concern Has Exclusive Rights Except for Knox Automobile Company to Make Tractor.

The Martin Tractor Company, Springfield, Mass., with a capital stock of $350,000, is a new concern in the commercial vehicle world, having been formed with the following officers: President, Harry G. Fisk; vice president and general manager, C. H. Martin; treasurer, E. O. Sutton; secretary, C. E. Beckwith. One of the largest stockholders in the new concern is said to be S. S. Eveland of Philadelphia.

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CONTINENTAL BUYS MACHINERY.

Detroit Concern Took Advantage of Good Business Opportunity Offered by Lozier Motor Company.

As a result of a recent purchase of machinery for the Detroit plant of the Continental Motor Manufacturing Company, maker of Continental motors, a story has been circulated that the Continental company has acquired the Lozier Motor Company's motor-making plant. The latter concern has designed and built its own motors since Lozier cars were first built, 10 years ago, and will continue to build them in future, according to N. R. Feltes, treasurer of the company.

In explaining the report, George W. Yeoman of the Continental company says: "It is only fair to the Lozier company to kill this rumor before it has had time to spread. What really happened was this: Our Detroit plant was flooded with orders and we were trying to procure some new motor machinery quickly. In this dilemma we were offered a part of the new equipment in the Lozier plant for immediate delivery and we instantly purchased it."

BECOMES GENERAL MANAGER.

Clarence H. Booth Wins Place at the Head of Studebaker's Automobile Division.

In the appointment of Clarence H. Booth as general manager of the automobile division of the Studebaker Corporation, Detroit, maker of Studebaker machines, the directors of that company have clearly recognized merit, as it is generally conceded that the promotion was well deserved. Mr. Booth has been closely identified with the expansion of the Studebaker automobile business since its development began. When the E-M-F Company was making decided advances in the automobile field, he was operating a large independent steel stamping mill at Detroit, known as the Pressed Steel Sanitary Manufacturing Company. The automobile concern needed such a factory for the manufacture of fenders, hoods and other parts, but lacked the time to build a new plant, and as a result it became a part of the fast growing Studebaker business. Mr. Booth was retained in charge and in a short time was given Studebaker plant No. 3 in addition, with 2500 employees in his charge. He demonstrated his capacity and soon became manufacturing manager of the entire automobile division. Within a year he became assistant general manager and it is from this office that he has taken the position of highest responsibility, that of general manager of the entire automobile business. Within four years the men under his direct charge have increased in number from 1000 to 10,500.

Clarence H. Booth, General Manager, Studebaker Corporation.

COMMER TRUCK IN AMERICA.

English Firm to Establish Direct Factory Branch at New York—May Manufacture Here.

Commercial Cars, Ltd., Luton, England, maker of the well-known Commer truck, is to establish a direct branch of the company at New York City, with A. C. Platt, formerly connected with the Wyckoff, Church & Partridge firm, as manager. It is stated that arrangements for the production of the line in this country may be made later.

When the Commer Truck Company of America was incorporated in March with a capital of $3,000,000, it was assumed that it was for the purpose of taking over the Commer business in this country, which was interrupted by the failure of Wyckoff, Church & Partridge. The English company decided, however, at the expiration of the contract that a direct branch here would serve its interests better.

WINS DESERVED PROMOTION.

George H. Kelly Becomes Secretary and Sales Director of Baker Company.

The Baker Motor Vehicle Company, maker of Baker electric pleasure and commercial vehicles, has elected George H. Kelly, formerly manager of the truck department of the concern, to the office of secretary and sales director. R. C. Norton, heretofore secretary and treasurer, will continue as treasurer. E. J. Bartlett becomes sales manager of the truck department and O. B. Henderson continues as sales manager of the pleasure car department. The election of Mr. Kelly follows his success in developing the truck sales of the Baker company. Established scarcely two years ago, this department has the enviable record of placing machines not only in each section of the United States, but in cities in Europe, Africa, Japan, South America and Alaska. In giving Mr. Kelly the additional office of sales director it has been the purpose of the company to correlate the sales policies of its pleasure car and mechanical transport departments under one managing head, so that in their co-operative work with dealers the two divisions may be brought closer together and go forward on a mutually strengthened basis. His many friends throughout the industry will see in this a satisfactory recognition of his merit.

George H. Kelly, Secretary, Baker Motor Vehicle Company.

HOOD WITH EMPIRE COMPANY.

Becomes Commercial Manager in Charge of Combined Pleasure Car and Truck Departments.

Wallace C. Hood, formerly general manager of the Westcott Motor Car Company, Richmond, Ind., has been appointed commercial manager of the Empire Automobile Company, Indianapolis, Ind., maker of Empire cars. The constantly increasing volume of its business has made necessary many additions to the organization of that concern, Mr. Hood's being one of the most important to be made recently and one which will please his many friends. He will supervise the sales and advertising policies of the company and in the triangle composed of Cecil E. Gibson, general manager, and L. R. Wilbur, his assistant, should develop some very profitable sales policies for Empire distributors throughout the world. Mr. Hood is a man of keen ability in the forming and execution of sales policies. He was at one time sales manager of the Chalmers Motor Car Company, and later of the Metzger Motor Car Company, both of Detroit, and is one of the best known automobile men in the country.

Wallace C. Hood, Commercial Manager, Empire Automobile Company.

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TAYLOR PORTABLE GARAGES.

New Jersey Concern Manufacturing Buildings Suitable for One or More Cars, Incorporating Many Features.

The Taylor Manufacturing Company, Montclair, N. J., has placed on the market a line of portable garages, suitable for one or more cars and complete in every respect as regards the private structure. The sides, roof and framework are made of steel of such construction as to produce a strong, rigid building. Three to five shelves are placed in each corner, tire hooks are put in convenient positions and robe rails are located on the side.

Taylor Portable Garage.

These garages are so constructed as to be exceptionally cool in summer, owing to the concealed ventilated ridge which keeps the air in motion and allows the warm air to escape. A work bench with a combination vise is placed in one corner. The front and side windows are guarded by heavy grill work, securely fastened on the inside, and the doors have interlocking devices. Concealed durable springs are placed on the windows for the purpose of raising and lowering them. The fold-over front doors when closed, being narrow and panel shaped, permit of the opening of one panel for entrance, thus establishing a single and double-door combination. These doors are guarded on the inside by a top chain bolt and a bottom foot bolt, making the building safe and weather proof. The Taylor garages are lighted by various means and several unique devices are adapted for heating purposes. The company will furnish detailed information upon request.

LAMB WITH NATIONAL TRUCK.

Frank E. Lamb of Lima, O., a former resident of Bowling Green, O., and promoter of the Gramm Motor Car Company, has been elected president and general manager of the National Motor Truck & Manufacturing Company of Gibsonburg, O., capitalized at $250,000, with $100,000 worth of stock issued. Other officers of the company are: First vice president, A. T. Crossett; second vice president, C. H. Hutchison; secretary, John O'Leary; treasurer, J. A. Nieset. The company will manufacture one and 2.5-ton motor trucks.

KISSELKAR MANAGERS MEET.

Annual Gathering of the Branch and Factory Executives Held at Milwaukee.

An occasion of unusual interest for all present was the annual gathering of the branch managers and the factory executives of the Kissel Motor Car Company, recently held at Milwaukee, Wis. The conference afforded opportunity for the company's officials to receive first hand information relative to the conditions wherever a branch establishment is located, and the heads of the branches gained precise knowledge as to policies and the mechanical details of the machines that are now being produced for the 1914 season. Practically all sections of the country were represented and the prevailing opinion was that the outlook was decidedly encouraging. While most of the managers have been associated with the company for a considerable length of time, few had seen the large auxiliary plant at Milwaukee, which is to be devoted largely to the production of Kisselkar pleasure cars, while the wagons and trucks will be made at the factory at Hartford, Wis.

The Officials and Branch Managers of the Kissel Motor Car Company During the Annual Meeting at Milwaukee, Wis.

The accompanying illustration shows the following who were present: Left to right, upper row—G. C. Frey, sales manager; J. M. Daggett, auditor; J. F. Lynch, manager St. Paul branch; P. J. Pollock, manager Chicago branch; Paul A. Rix, assistant sales manager; B. M. Linsley, manager Dallas branch; F. B. Hughes, manager Minneapolis branch; T. W. Warner, president Warner Manufacturing Company, Toledo, O. Middle row—Otto J. Koch, Koch Advertising Agency; H. B. Prudden, manager Boston branch; F. J. Edwards, manager Milwaukee branch; C. L. Curtis, manager Kansas City branch; E. Roger Stearns, manager Los Angeles branch; J. J. Kane, Jr., manager Philadelphia branch; H. S. Daniels, publicity manager. Lower row—George A. Kissell, president of the Kissel Motor Car Company; C. H. McCausland, manager New York branch; W. L. Kissel, treasurer of the Kissel Motor Car Company.

DISCUSSES STANDARDIZED CAR.

Important Convention of Parts Makers at Factory of Cole Motor Car Company in Indianapolis.

A meeting of many of the most representative men in the automobile industry was held at Indianapolis, Ind., recently, to discuss what was termed the new standardized type of automobile. The convention was called at the request of President J. J. Cole of the Cole Motor Car Company, and its object, as outlined by him, was to ascertain how best to scientifically handle the problems of volume and overhead, with the idea in mind of increasing the quality of the motor car and at the same time reducing its cost to the user. The question was gone over thoroughly and the companies represented included the following:

Timken-Detroit Axle Company, Detroit; Northway Motor & Manufacturing Company, Detroit; Mayo Radiator Company, New Haven, Conn.; Gemmer Manufacturing Company, Detroit; Timken Roller Bearing Company, Canton, O.; Dayton Engineering Laboratories Company, Dayton, O.; Detroit Steel Products Company, Detroit; Spicer Universal Joint Manufacturing Company, Plainfield, N. J.; Hydraulic Pressed Steel Company, Cleveland, O.; Firestone Tire & Rubber Company, Akron, O.; Stewart-Warner Speedometer Corporation, Chicago; Stromberg Motor Devices Company, Chicago; Janney, Steinmetz & Co., Philadelphia, Penn.; Curtain Company, Jackson, Mich.; Taylor Tire Pump Company, Chicago.

Cole representatives were present from New York, Boston, Brooklyn, Newark, Sioux City, Spokane, Toronto, Winnipeg, Vancouver, Washington, El Paso, Butte, Baltimore, Atlanta, Birmingham, Mobile, Buffalo, Chicago, Cleveland, Dallas, Denver, Des Moines, Detroit, Jacksonville, St. Louis, Los Angeles, San Francisco, Kansas City, Louisville, Little Rock, Memphis, Minneapolis, Omaha, Philadelphia, Portland, Me.; Portland, Ore.; Seattle, San Antonio.

STEWART-WARNER CLOSES BRANCHES.

The Stewart-Warner Corporation, Chicago, maker of Stewart-Warner speedometers, has decided to close 12 of its 20 branches in the principal cities and in their stead will establish a chain of 150 service stations throughout the country, which will more adequately serve the requirements of dealers and users.

Each of these newly established service stations will be completely stocked with instruments and replacement parts and equipped with machinery for installations and repairs. Eight branches will be retained as follows: New York, Chicago, Boston, Cleveland, Detroit, Indianapolis, Buffalo and San Francisco.

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GENERAL NEWS OF THE INDUSTRY.

Latest Information of the Activities of Manufacturers and Dealers, New Concerns, and Removals, Incorporations, Building Operations, Changes in Personnel, Etc.

INCORPORATIONS.

The following concerns have been incorporated recently to manufacture or deal in motor cars, accessories, supplies, etc.:

City Automobile Company, Washington, Ind.; $3000; G. H. Greenwood, L. G. Helphenstine, A. L. Kennedy.

Schick Wheel & Tire Company, Wheeling, W. Va.; $150,000; A. Schick, J. E. Morgan, D. H. Taylor, L. F. Gundling, R. Walter, Marshall Statler, O. A. Statler.

Bell Locomotive Works, Yonkers, N. Y.; $20,000; H. W. Bell, J. H. Bell, W. G. Bellows.

Steinbeck Engineering Company, New York City; $250,000; H. F. Steinbock, A. B. Gormully, F. C. Slevers.

City Auto Corporation, Pulaski, Va.; $10,000; S. M. Lyons, W. H. Wysor, R. L. Gardner.

LeCompte Cycle Car Corporation, New York City; $60,000; G. Goldmark, L. S. Higgins, H. R. Buckingham.

National Motor Truck & Manufacturing Company, Gibsonburg, O.; $250,000; E. C. Rassell, C. H. Hutchison, J. H. O'Leary, A. T. Crossett, F. E. Lamb, J. E. Weisel, N. W. Rassell.

John E. O'Neil, Lawrence, Mass.; $3000; automobiles; J. E. O'Neil, M. J. Ganley, E. J. Farley.

Talking Horn Company, Middletown, N. Y.; $10,000; N. C. Oddo, T. H. Bingham, F. W. Morgan.

Motor Machine Company, Mobile, Ala.; $10,000; W. D. Bellingrath, J. E. Lewis, G. W. Morse.

Anthony Auto Repair Company, New York City; $10,000; J. Yandrasitch, F. M. Struckhausen, H. Struckhausen.

Vacuum Tire Corporation, New York City; $50,000; W. J. Woodcock, C. G. Ross, F. L. B. Gartner.

W. L. Auto Top Lifting Company, Cincinnati, O.; $10,000; W. Wirth, Oscar Lane, H. W. Fraser, G. M. Reswick, J. B. Clark.

Ohio Buick Company, Cleveland, O.; $200,000; R. H. Lee, W. J. Patterson, G. R. Collar, G. M. Gallagher, E. M. Holmgren.

C. & B. Garage, Chicago; $1000; A. E. Cosey, K. R. Ballentine, S. J. Matthews.

John V. Wilson Company, Boston, Mass.; $20,000; E. T. Carr, J. V. Wilson, P. H. Skidmore.

Trautman Corporation, Brooklyn, N. Y.; $1000; to manufacture tires; E. M. Trautman, F. A. Webb, C. Colsten.

Blue Hill Avenue Garage, Boston, Mass.; $10,000; F. H. Sidelinger, W. A. Clark, S. W. Culver.

Grand Avenue Company, Brooklyn, N. Y.; $500; to manufacture motors; G. F. Mason, F. G. E. Strohsall, H. W. Bender.

Chauncey S. Greene Company, Boston, Mass.; $20,000; A. A. Hoyt, B. S. Atwood, C. S. Greene.

E. A. Laboratories, Brooklyn, N. Y.; $200,000; to manufacture accessories; E. Aufiero, M. Aufiero, D. Aufiero.

Meebus Wheel Company, Boston, Mass.; $10,000; A. F. McGettrick, G. B. Ryan, F. E. Peaslee.

Wood Auto & Machine Company, Carrollton, Ky.; $10,000; E. A. Wood, J. P. Monnyhan, E. C. Smith, P. B. Gaines.

Marathon Automobile Company, Boston, Mass.; $20,000; W. S. Killars, A. L. Schoolcraft.

Modern Motor Car Company, Bowling Green, O.; $1000; W. P. Albey, Dale I. Ladd, R. E. Ladd, J. A. Walker, T. E. Moore.

Huffman Manufacturing Company, Youngstown, O.; $10,000; tire protectors for motor trucks, E. S. Walton, W. B. Hall, H. H. Stambaugh, Richard Garlick, John T. Harrington.

Pneumatic Gear Shift Company, Chicago; $25,000; George W. Killalea, E. O. Leowen, D. Krinsky.

Overland-Garford Sales Company, Cleveland, O.; $10,000; Malcolm Bridgman, Royal R. Scott, George F. Russell, Herbert O. Fitch, Charles M. Ackerman.

Dayton-Buick Company, Dayton, O.; $10,000; L. J. Haughey, Charles Abel, Joseph A. McKenny, Earl Simon, A. J. Smith.

Auto Drive & Parts Company, Indianapolis, Ind.; $100,000; John J. Kennedy, John J. Kelly, L. D. Buenting.

Auto Maintenance Company, Newark, N. J.; $10,000; Bernard A. Kelly, Catherine Kelly, John E. Anderson.

Uhrlandt Gas Generator Manufacturing Company, Columbus. O.; $100,000; Daniel N. Hyman, Oswell C. Phillips, Harry D. Shepard, Arthur Uhrlandt, Samuel Esswein.

Standard Purchasing Company, Inc., New York City; $10,000; Harry L. Cook, Harry F. Dexter, William H. Brooks.

Bremen Garage Company, Bremen, O.; $10,000; Albert E. Godfreyn, Edward A. Hufford, Arthur D. Hufford, Howard D. McCandlish, Milton L. Campfield.

Dallas Automobile Association, Dallas, Tex.; $5000; S. H. Breen, A. V. Lane, P. H. Keene.

Orleans Motor Company, Beaumont, Tex.; $7500; C. L. Smith, J. K. Smith, S. F. McMcConnico.

Eagle Manufacturing Company, Fort Wayne, Ind.; $50,000; automobile plows and machinery; H. F. Schnelker, W. J. Barth, Frederick Krejbaum, F. Green, Charles B. Orff.

Merchants Garage, Indianapolis, Ind.; $15,000; C. S. Shotwell, M. J. McGarr, H. H. Rice, W. A. Atkins, B. D. Christian, C. W. Dicks, C. B. Marshall.

G. B. Sales Corporation, New York City; $5000; Edward E. Reardon, Francis J. O'Grady, Irving C. W. Williams.

Consolidated Garage Company, San Jose, Cal.; $100,000; L. W. Bush and others.

D. & R. Storage Battery Company, Inc., Brooklyn, N. Y.; $100,000; A. F. Lucker, J. E. Reid, R. Drambourgh.

Findeisen & Kropf Manufacturing Company, New York City; $5000; F. Findeisen, O. F. Kropf, Charles A. Reigelman.

Demos Auto Repair & Garage Company, New York City; $3000; Demos Tsaconas, James E. Bradley, Gustave A. Gsell.

College Avenue Garage, Indianapolis, Ind.; $2000; F. H. Rupert, M. Rupert, H. A. Davis.

Murchison Garage & Machine Company, Benson, N. C.; $25,000; Alonzo Parrish and others.

Williams Automobile Transmission Company, Nashville, Tenn.; $100,000; P. H. Cain, H. H. Campbell, Thomas L. Herbert, Benjamin S. Williams.

Turin Garage & Supply Company, New York City; $5000; Anna Grabschield, John F. O'Neil, Frank H. Coyne.

Biggam Engineering Company, Buffalo, N. Y.; $200,000; to manufacture transmissions, clutches and other automobile parts; H. F. Biggam, N. D. McDowell, C. E. Buck.

Seaton Metal Products Company, Akron, O.; $20,000; to manufacture and deal in automobile accessories; L. J. Rothenbecker, Charles A. Seaton, W. O. Lee, C. F. Miller, Charles Scimeca.

MANUFACTURERS.

The Lauth-Juergens Motor Car Company, Fremont, O., maker of Lauth-Juergens trucks, has elected the following directors: J. Lauth and P. Lauth of Chicago; L. C. Worst, J. W. Worst, J. W. Forsyth, W. A. Lucas, L. W. Overmeyer and A. E. Culbert.

W. F. Evans of the McCue Company of Buffalo, N. Y., has made the announcement that Roger B. McMullen has been made general distributor of McCue wire wheels and axles, with headquarters at Chicago and Detroit.

The Lozier Motor Company, Detroit, maker of Lozier cars, believing that its business interests and patrons are better served by capable agents than by branch houses, has discontinued its branches in all the large cities, replacing them by well known and strong dealers. Harry S. Houpt, Inc., New York City; Albert W. Woodruff, Inc., Boston, and the Bigelow-Willey Motor Car Company, Philadelphia, are concerns which have just been organized to handle Lozier machines. The Bird-Sykes Company, Chicago, has taken the Lozier interests in that city, while the Bekins-Speer Motor Car Company, Los Angeles, Cal., which has represented the Lozier in that city the past three years, has also taken over the San Francisco territory.

The Falls Cities Motor Company, organized to take over the plant of the Ohio Falls Motor Company at New Albany, Ind., has been incorporated.

The Whitney Manufacturing Company, Hartford, Conn., has sold its 20-inch water tool grinder to the Taylor & Fenn Company, Hartford, and will now devote its entire attention to the manufacture of driving chains, keys and cutters for the Woodruff system of keying and hand-feed milling machines.

The A. O. Smith Company, Milwaukee, Wis., announces that because of the necessity for additional space for its frames and other pressed steel parts, the manufacture of the Smith multiple disc clutch will be transferred to the Universal Machinery Company of Milwaukee, which will hereafter make the clutch under the supervision of the Smith company.

The Splitdorf Electrical Company of New York, branch of the Splitdorf Electrical Company, Newark, N. J., maker of Splitdorf ignition devices, announces the opening of a factory branch at 210-212 North 13th street, Philadelphia, Penn., equipped to supply every form of Splitdorf product and to render an ignition service complete in every detail. C. C. Munson, a member of the Society of Automobile Engineers, is in charge of the branch.

The Peerless Motor Car Company of New York, factory branch of the Peerless Motor Car Company, Cleveland, O., maker of Peerless machines, has appointed Fred

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H. Cozzens manager of the motor truck sales department.

The Keeton Motor Company, Detroit, maker of Keeton cars, has started work on the first of a series of additions to its plant. The first structure will be 100 feet in length, 60 feet in width and one story in height, of modern factory construction. It will be used for a testing plant. Others will be located on the present property of the company, while a still larger building than the present plant is contemplated on land lying between the Keeton factory and the Michigan Central railroad tracks.

The United States Tire Company has broken ground in Baum boulevard, Pittsburg, Penn., for a new service station for its solid motor tire department. A two-story and basement brick building will be erected. The company occupied its present building in October, 1911, and since then the business has grown to such volume that the new structure required will be the largest building devoted to the rubber tire trade in Pittsburg.

The Hexter Motor Truck Company of New York, which several months ago was acquired by John N. Willys, president of the Willys-Overland Company, Toledo, O., and several subsidiary concerns, has been legally authorized to change its name to the Willys Service Corporation. The change will become effective Aug. 11.

The Willard Storage Battery Company, Cleveland, O., maker of Willard storage batteries, has established a new branch office at 438-439 Indiana Pythian building, Indianapolis, Ind.

The White Company, Cleveland, O., maker of White pleasure and commercial vehicles, recently opened a new salesroom and service station at 216-218 North Broad

New Salesroom and Service Station of the White Company in Philadelphia.

street, Philadelphia. As is true of all the branch houses of the White company, provision is made to take care of every need of White users in the entire district served from Philadelphia. An accompanying illustration presents the new building.

The Economy Electric Company, Beaver, Penn., succeeding the Economy Manufacturing Company of that city, as maker of magnetos, generators and electric lighting equipment for automobiles and motor boats, has been chartered at Harrisburg, Penn., with a capital stock of $60,000. D. A. Anderson is among the incorporators.

The Howe Rubber Company, New Brunswick, N. J., proposes to expand its business and to manufacture automobile tires in connection with its other lines. It will expend $300,000 for new buildings and modern machinery, and the capital stock will be increased.

The Braunsdorf-Mueller Company, Elizabeth, N. J., maker of automobile tools, has enlarged its plant.

The Republic Rubber Company has moved its northwest branch from St. Paul, Minn., to Minneapolis, Minn., and it is now located at 13th and Hennepin streets.

The Federal Rubber Manufacturing Company, Milwaukee, Wis., has established a branch at 707 North Broad street, Philadelphia.

The Niagara Motors & Manufacturing Company, Dunkirk, N. Y., has purchased land and will erect a new plant.

The Auto Drive & Parts Company, Indianapolis, Ind., has been incorporated with a capital of $100,000. It will establish a factory at Indianapolis to manufacture drives and differentials invented by W. H. Harris.

The Huston Multiple Spring Company, Philadelphia, Penn., has established a new factory at 1342 Carpenter street. The springs made by the company are used in the automobile business.

Gauer, Blaylock & Co., 2 West Preston street, Baltimore, Md., has sold its automobile specialty business to Maurice V. Heatcote, who will continue the industry. The former company manufactures the Plugit tire filler and will devote its attention to this feature.

The Gibbs Machinery Company, Columbia, S. C., maker of trucks and automobiles, has erected a new factory. The company is also distributor for Packard and Chalmers cars.

John G. Anderson, owner of the Rock Hill Buggy Company, Rock Hill, S. C., is making arrangements to manufacture automobiles.

Home Motors Company, maker of Barker automobile motors, Los Angeles, Cal., is to have a new factory erected to provide additional room.

A. H. Wells & Co., Waterbury, Conn., manufacturer of seamless brass and copper tubing, recently opened offices at 1311 Dime Savings Bank building, Detroit. Charles C. Limbocker is its representative.

The Autocar Company, Ardmore, Penn., maker of Autocar delivery trucks, has instituted a new department, headed by C. A. Wells, formerly chief engineer of the Adams Express Company for 10 years. He is to be known as installation engineer and the duty of his department will be the thorough study of the delivery and transportation conditions of various concerns, with a view to determining the number and size of motor or horse drawn units that will give the most efficient service. Mr. Wells is a fellow of the American Institute of Electrical Engineers, a member of the American Society of Mechanical Engineers, member of the Society of Automobile Engineers, and other scientific societies.

The Metz Company, Waltham, Mass., maker of Metz cars, which recently won the Glidden trophy, has established a factory branch at 887 Boylston street, Boston. Carl Spiegelberg, who has been connected with the sales department of the Metz company since its inception, is manager of the new branch, in charge of the selling for the whole of New England.

The Chemical Rubber Company of Western Pennsylvania, with headquarters at Pittsburg, Penn., has secured a charter for manufacturing, buying, selling and leasing all articles used in the construction and operation of motor vehicles and in handling a product known as chemical rubber. The incorporators are William F. Baxmayer, William F. Vegeler, Robert A. Fulton, J. Grant Cumming and Harvey S. Fouse.

The Klumb Engine & Machine Company, Sheboygan, Wis., is erecting three new buildings, a machine shop, pattern works and power house, which will form the nucleus of its large gas engine and parts plant. The company was organized several months ago by Paul Klumb, for many years secretary of the Globe Foundry & Machine Company, and his three sons.

The Downing-Detroit Motor Car Company has completed arrangements for a factory site at Cleveland, O., where it will manufacture cyclecars.

The Federal Pressed Steel Company, Milwaukee, Wis., which will be an active factor in the motor car parts industry, and which is completing a large plant at Keefe avenue and North Pierce street, has increased its capital stock from $50,000 to $150,000 in preparation for the commencement of operations.

The Allen Motor Company, Fostoria, O., has taken over the plant of the Peabody Buggy Company and will use it for the manufacture of the new Allen cars. It was stated that the purchase price was $150,000 of the capital stock of the new company.

The Hampton Kerosene Carburetor Company, Inc., New York City, recently purchased the plant of the Motor Appliance Company of America, located at Perth Amboy, N. J. The company is erecting a large addition to the plant with a capacity of about 100 carburetors a day.

TRADE PERSONALS.

F. Richard, who resigned as general manager of the Only Car Company last December, has since completed plans for a new car, to be known as the Richard. He is at present engaged in building the machine, which will soon be in the market.

George S. Waite, recently resigned as manager of the New York branch of the Oakland Motor Car Company, Pontiac, Mich., maker of Oakland cars, to take charge of the sales department of the recently organized Grant Motor Car Company, Detroit, maker of Grant cars.

Garrett Cupp has joined the staff of the A. Elliott Ranney Company, New York City, where he will devote his time to the exploitation of the Hudson car, made by the Hudson Motor Car Company, Detroit.

Fred C. Harrington, formerly with the Peerless and Atterbury companies at Boston, has become manager of the truck department of Myer Abrams & Co., Boston, New England distributor of Lauth-Juergens motor trucks, made by the Lauth-Juergens Motor Car Company, Fremont, O. Mr. Harrington has had much success during his long experience in the truck industry.

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Nelson C. Hyde, advertising manager of the E. B. Van Wagner Manufacturing Company and the Enterprise Metal Company, Syracuse, N. Y., has severed his connection with those concerns to become associate editor of the Syracuse Herald. S. P. Knisely, general manager, will assume Mr. Hyde's former duties.

Benjamin Smith, who has been prominent in connection with the New York City branches of the Packard, Thomas and other companies, has sailed to the Argentine Republic, where he will remain for several months, investigating the field with a view of establishing business relations.

A. M. Wolf, who helped materially in developing the Wolf mixer, a gasoline mixing device for insertion in the intake manifold, has disposed of his rights in the invention to the Approved Auto Specialties Company, New York City. He is now connected with the Twombly Motors Company, New York City, and will assist in developing the Twombly cyclecar.

Charles E. Stone, who has been closely identified with the development of the motor truck industry in New York City, has become associated with the Walter Motor Truck Company, and will assist in marketing the Walter and Walter-Latil trucks. He was formerly connected with the Peerless Motor Car Company of New York.

H. M. McCord, local agent at Toledo, O., for the Cadillac Motor Car Company, Detroit, maker of Cadillac cars, has disposed of his interests in that city in order to identify himself with a large Cadillac agency in another state.

The Kissel Motor Car Company, Hartford, Wis., maker of KisselKar pleasure and commercial lines, has secured the coveted honor of having one of its pleasure cars photographed in front of the service building at the Panama-Pacific exposition grounds in San Francisco. This is the first structure to be completed and there was considerable rivalry among the machines represented in the San Francisco district in an effort to secure the first photograph to be taken of it. The result is shown herewith.

Fred A. Law, until recently superintendent of the Selden Motor Vehicle Company, Rochester, N. Y., maker of Selden cars and trucks, has returned to Boston, where he is conducting a general supply agency. He was formerly identified with the Electric Vehicle Company, later the Columbia Motor Car Company, Hartford, Conn., having designed the first four-cylinder motor ever made by it.

F. George Walker, formerly connected with the sales force of the Oldsmobile and Garford companies, has joined the Hartford Auto Parts Company, Hartford, Conn., as sales manager and service engineer.

P. Hughes Moyer, formerly chief engineer of the Firestone Tire & Rubber Company's rim department at Akron, O., is now chief engineer of the General Rim Company, Cleveland, O., where a manufacturing plant and headquarters of the company have been established.

F. W. Sutton, formerly in charge of outside production of the American-La France Fire Engine Company, Elmira, N. Y., and the F. B. Stearns Company, Cleveland, O., has taken a similar position at the Detroit plant of the Continental Motor Manufacturing Company.

Adolphe C. Hoppe, until recently secretary and treasurer of the Smith-Hoppe Automobile Company, 215 Wisconsin street, Milwaukee, Wis., agent for Chalmers, R-C-H and Detroit electric cars, has organized the Hoppe-Hatter Motor Company, to handle the state agency for the Chalmers cars. Headquarters have been established in the Mulkern garage, 604 Downer avenue, until the new concern builds a garage and salesroom of its own. C. P. Hatter, secretary and treasurer of the company, is direct from the Chalmers factory at Detroit.

R. F. Ketchum, formerly manager of the Mack Motor Truck Company of Boston, distributor of Mack trucks, made by the International Motor Company, New York City, has been appointed manager of the Boston branch of the R. & L. Company, distributor of Garford trucks, made by the Garford Company, Elyria, O. P. C. Chrysler, the former manager, has returned to the home office at New York City.

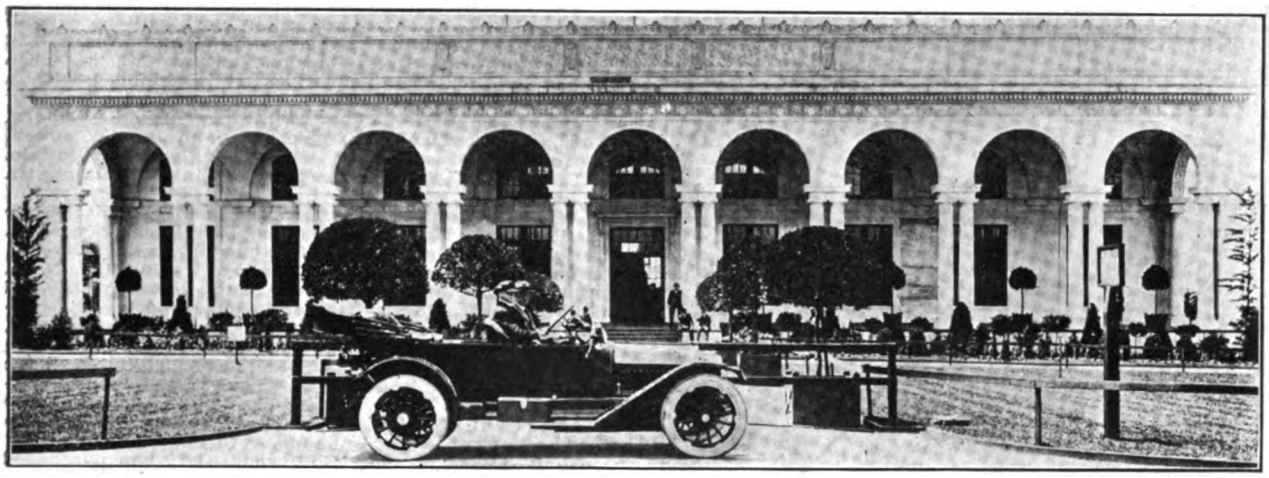
L. R. Speare, formerly president of the American Automobile Association, has disposed of his interest in the W. L. Russell Company, Boston agent for Regal and Haynes cars, and Mr. Russell is now conducting the business alone.

A. C. Weaver, formerly manager of the Lozier Sales Company, Cleveland, O., has become general manager of the company. A. W. Woodruff, formerly manager, has become manager of the Lozier branch at Boston.

Edward Hayes and A. J. Diefenderfer, for a long time connected with the New York branch of the Lozier Motor Company, distributor of Lozier cars, have gone into the used car business. These men, who have been identified with the automobile business for the last 12 years, have opened headquarters at 19 West 62nd street.

Harry M. Bronner, formerly manager of the Stoddard Dayton Company, and later of the Edwards Motor Car Company, New York City, who has been president of the Automobile Dealers' Association in that city since the first of the year, has resigned from the association on account of his going out of the automobile industry. The vice president, Arthur M. Day, of the Elliott Ranney Company, was elected to fill the vacancy. C. H. Larson of the Cutting-Larson Company, was chosen to the office of vice president. There being a vacancy on the board of directors caused by Mr. Bronner's resignation, R. H. Johnston of the White company was elected.

Arthur C. Brady, who with A. T. Brady formed the Brady-Murray Motors Corporation at New York City in March to handle the Chandler car, made by the Chandler Motor Car Company, Cleveland, O., has withdrawn from the concern. Both men were formerly connected with the factory of the International Motor Company at Allentown, Penn.



KisselKar in Front of the Service Building, Panama-Pacific Exposition Grounds, San Francisco—First Photograph of a Car at the Exposition.

E. J. Moon, president of the Moon Motor Car Company, St. Louis, Mo., maker of Moon cars, recently visited the principal Moon agencies in the West, his trip lasting five weeks. Among the cities visited were San Francisco, Los Angeles, Seattle, Ogden, Salt Lake City and Denver.

Fred J. Wagner, recently elected vice president of the Ajax-Grieb Rubber Company, New York City, maker of Ajax tires, has completely recovered from an operation, following which he entered upon a western trip in the interests of his firm.

J. E. Kirchner has become chief engineer of the Mogul Motor Truck Company, St. Louis, Mo., maker of Mogul trucks. The company recently moved from Chicago and in securing Mr. Kirchner it obtained an automobile engineer of recognized ability.

L. A. Austin, 210 Medbury avenue, Detroit, has resigned as general manager of the Mais Motor Truck Company, Indianapolis, Ind., maker of Mais trucks. Mr. Austin is entertaining several offers, none of which he states he can accept until later in the year.

H. H. Robinson, southern travelling representative of sales department of the Keeton Motor Company, Detroit, recently visited the factory and shipped a Keeton touring car from Detroit to Newport News, Va., from which point he toured the South along the coast of Miami, Fla., visiting all the large cities. Mr. Robinson has covered much of his territory in a Keeton car this year.

Arthur Bunker, Seattle, Wash., has succeeded H. L. Hornberger as manager of the new branch at San Francisco, Cal., of the Oakland Motor Car Company, Pontiac, Mich., maker of Oakland cars.

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NEW CONCERNS.

William H. Baxter, who formerly conducted a garage at 163 Dwight street, Springfield, Mass., has taken possession of a new building at Oak and State streets. The garage is said to be the largest in the city. Mr. Baxter handles Paige-Detroit and Marion cars and Federal trucks.

The Standard Motor Car Company, Columbus, O., has been formed by H. J. Schwartz and Samuel J. Morris and salesrooms have been opened.

George A. Haws, New York City, founded the oil firm bearing his name in 1875, and since his death in 1888, the business has been conducted as a co-partnership without change of designation. From the first it has specialized in products of Pennsylvania crude, and when automobiles first began to be a factor of any real importance, this firm realized that thin, highly filtered oils of good viscosity would give better results than the very heavy steam cylinder stocks originally used. When Panhard oil first was placed in the market most automobile experts were skeptical, believing that it could not have sufficient body to lubricate. But as one after another was induced to try it, the conversions were speedy and permanent. Recently it was found necessary to erect a new building at 142-144 Front street, and this is the fifth or sixth which the firm has occupied, each succeeding one being larger than its predecessor; the result of the demands of a constantly growing business in the face of ever increasing competition. The latest structure, which is shown in an accompanying illustration, will be used for offices, packing, shipping and storing of stock. It is equipped with an up-to-date system of piping and pumps, which makes for an easier and speedier handling of the oil; can filling machinery and compounding vats. The

New Building of George A. Haws, Maker of Panhard Oils, at 142-144 Front Street, New York City.

managing partner of the firm is M. J. Martin, whose special care is for the mill and factory trade in general lubricating oils and greases of all kinds, while the automobile trade is in charge of Henry E. Haws.

John A. Hamilton, for many years in charge of the accessory department and buyer for Gibbes Machinery Company, Columbia, S. C., on Aug. 1, opened an accessory and supply business under his own name at 1216 Main street, Columbia. It is understood that the Gibbes Machinery Company will discontinue the accessory jobbing business and that Mr. Hamilton will succeed to that branch of its business.

The Miles Standish Auto Company, Oakland, Cal., will open a garage on 22nd street, Richmond, Cal.

E. B. Stimson has organized the Stimson Automobile Company at Minneapolis, Minn., and will handle the Wahl car, a new machine on the market.

Harry H. Keech, Edmund A. Ringel and Clarence Salenstine have opened the Grove Street Garage at Milwaukee, Wis., the business being capitalized at $5000.

The W. S. Williams Auto Sales Company has opened for business at Oshkosh, Wis. It has a three-story building at Otter and State streets.

G. W. Stephens, formerly with Carl Estabrook of Three Rivers, Okla., has opened a garage at Pawhuska, Okla.

The State Automobile Company, Detroit, has been formed to handle R-C-H cars, made by the R-C-H Corporation, Detroit, in northern Indiana and the lower peninsular of Michigan. Comprising the new firm are A. H. Collins and D. E. Wells, both men of wide experience and well known in the selling end of the industry.

The Stocum-Bronson Automobile Company has been organized at Oshkosh, Wis., to take over the garage of Philip W. Stocum, 43-45 Ceape street. The garage will be enlarged and much new equipment added. The principal owners of the concern are Mr. Stocum and Leslie K. Bronson.

E. V. Bothwell and C. F. Bush have formed a partnership and have purchased the Central Garage and Ford agency on College street, Covina, Cal.

Frank Norris of Norris & Blakesly, Thomaston, Conn., has resigned from the firm, which is being continued by Mr. Blakesly.

The Automobile Supply Company, Rome, Ga., has opened a new garage on Broad street. The company will carry tires, automobile supplies and accessories.

James F. Pease, Merrimac, Mass., is to conduct an automobile and carriage business in the factory building formerly occupied by S. C. Pease & Sons.

Howard H. Young, Binghamton, N. Y., has sold his automobile garage at 227-229 Water street, to William J. Stephenson, who is conducting the business.

Laursen & Kondrop, Red Bank, N. J., has rented the building owned by W. A. Close, near the Matawan station, and it has been converted into a garage and repair shop.

The Chevrolet-Little Motor Car Company, Des Moines, Ia., is located in the Hawkeye Transfer building at West Fifth street and Court avenue. W. A. Oldfield is manager of the company.

The East Nashville Auto Company, East Nashville, Tenn., has opened its new and modern garage at 112 Woodland street.

E. Westerman, Carlisle, Ill., has purchased the Ford agency at Tulsa, Okla., of W. S. Hall and will continue business at 215 East Second street.

Frank McMullen and E. A. Kessler have joined partnership at St. Petersburg, Fla., and have opened an automobile supply shop in the Billman building.

Lewis H. Smith has leased the Riden garage on Central avenue, St. Petersburg, Fla. In addition to repair work a large stock of supplies will be carried.

The Electric Garage has been opened on Broad street, Fremont, Neb., and general repair work will be carried on under the direction of the owner, Wright Bros.

The California Street Garage, Ventura, Cal., has been opened by Dickinson & Weigle. It is equipped with a complete repair department.

James E. Brennan of 25 Library street, Danbury, Conn., has purchased the Green garage of John W. Green.

McCarthy Bros. & Ford, 41 East Eagle street, Buffalo, N. Y., has opened a repair department in connection with its business.

James Lougheim has taken the management of the Far Rockaway Motor Car Company, Far Rockaway, N. Y., and will conduct the business along progressive lines.

The Washington Buggy Company, Washington, N. C., has taken over the business of George Nackney, Jr., and has been incorporated with capital of $200,000. The concern will manufacture and deal in automobiles, buggies, carriages, etc.

P. P. Bishop and C. A. Schmidt, Dubuque, Ia., have taken over the garage formerly conducted by the Dubuque Auto & Garage Company, Sixth street. The building will be remodelled and in future the concern will be known as the Dubuque Auto Supply Company.

N. B. Tilden & Sons, Hollywood, Cal., has purchased the automobile garage formerly conducted by R. P. Cassil, 1660 Highland avenue.

C. C. Griggs has purchased the interests of E. J. Delaney and associates in the Columbia garage at Wenatchee, Wash., and will make improvements.

Wisely & Shortt has opened a new garage on Dingan street, West New Brighton, N. Y. It is thoroughly modern in every respect.

The Bechler & Ogden Motor Company, Baltimore, Md., has opened a service station of which L. D. Thompson is manager. The company handles K-R-I-T cars, made by the K-R-I-T Motor Car Company, Detroit.

D. D. Freese, Gardner, Mass., has leased the garage on North Main street, formerly owned by A. Rosenberg. Additional equipment will be installed.

William Reid, formerly with Montague & Reid, Traverse City, Mich., has leased the garage of the Traverse City Iron Works, and will open a first class repair shop and automobile supply station.

F. D. West, Kingsley, Kan., has sold his interest in his garage to D. O. Dotson, who has taken possession.

William Schropp has purchased a half-interest in the garage owned by J. B. Lewis of Washington, Kan.

The Commercial Motor Truck Company has been formed at Reading, Penn., and headquarters have been located at 23 South River street.

Elmer Halley, Poplar Bluff, Mo., has purchased the plant of the iron works, which has been converted into a modern garage and repair shop.

The Kleinschmidt & Hemphill Automobile Company, Joplin, Mo., has been formed and is located at Sixth and Wall streets.

The Reynolds Garage has been opened on North Main street, Port Chester, N. Y. It is equipped with modern appliances.

The Garland Automobile Company, Saco, Me., with headquarters on Pepperell square, has been reorganized and the new firm comprises William A. Gilman and Ira Garland. A larger building will be secured.

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The General Repair Machine Company, Connellsville, Penn., has opened a new garage on Central avenue, which will be devoted solely to the repair of automobiles and machinery.

George Miller, Almo, Kan., has purchased a half-interest in the garage owned by John Miller. Agencies for several good cars will be taken.

James Betchel, Chino, Cal., has purchased the property and business of the Mission Garage & Auto Livery.

The Kavanaugh Hotel Garage, Harrisburg, Va., has been opened for business. A complete line of tires and accessories is carried.

C. V. Murphy and L. Henningsen, Dike, Ia., have opened an automobile and motorcycle repair shop in connection with the garage operated by C. D. Vought.

L. H. Larson, Los Angeles, Cal., has leased the garage at 221 East Fifth street and is operating it under the style of Fifth Street Garage.

J. M. Doom of the J. M. Doom Motor Car Company, Bowling Green, Ky., has taken over the City Garage & Transfer Company, Prince street, Knoxville, Tenn.

Elias Bamberger, Freeport, Ill., has opened a garage on Adams street.

The Chemical Rubber Company, Pittsburg, Penn., has installed a new plant on the Boulevard. The office is located in the People's building.

C. W. Brashear, San Bernardino, Cal., has taken over the business of the Auto Service Company, 337 F street. Extensive improvements will be made and new machinery installed.

T. J. Murray has purchased the Central garage on 12th street, Anderson, Ind., and has installed a modern repair shop.

F. B. Moore, Tulare, Cal., has opened a new garage and repair shop in that place.

L. Phelps, Grand Rapids, Mich., has opened a garage on Michigan street, and is handling the Cartercar and King lines.

E. O. Weckel and William Laughery, Springfield, Ill., have opened a new garage at 403 East Jefferson street.

Giles H. Dickinson has purchased an interest in the Blue Ribbon Auto & Carriage Company, Bridgeport, Conn., and is in charge of the New York City office of the company at 58th street and Broadway.

The Colleton Automobile Repair Company, Walterboro, S. C., has been chartered with capital stock of $1000. H. E. Savage and others are the incorporators.

W. P. Schmidt Auto Repair Company, Louisville, Ky., has been formed by W. K. Schmidt and G. H. Schmidt with $10,000 capital stock.

Albert W. Bow & Co., West Somerville, Mass., has opened a new garage at 12 Newbury street.

The Greensburg Transportation Company, Greensburg, Penn., has been granted a charter at Harrisburg, Penn., to operate an automobile passenger line. The capital stock of the company is $10,000.

W. P. Romans of 1427 Broadway, Seattle, Wash., has taken an interest in the Magic Carbon Remover Company, which has located in that city.

The Georgetown Garage & Supply Company, Georgetown, Del., has been formed with capital of $10,000.

L. W. Phillips & Sons has established a garage business at Orlando, Fla.

The Michigan Auto Joint Company, Lansing, Mich., has been incorporated with capital stock of $30,000.

The Central Maine Transportation Company, with headquarters at Waterville, Me., has been incorporated and will maintain automobile transportation lines between various cities in the state.

A. S. Holzendorf, St. Petersburg, Fla., has opened an automobile tire factory in that city.

The Haynes Auto Sales Company, San Francisco, Cal., has opened a branch at Fresno, Cal., to handle Haynes cars, made by the Haynes Automobile Company, Kokomo, Ind.

W. C. Patch has opened an automobile livery business at East Fairfield, Vt.

The Southern Tire & Repair Company, Houston, Tex., has opened a branch at Beaumont, Tex..

The William J. Tracey Motor Car Company, Braddock, Penn., has opened a new garage and salesroom at 5 Braddock avenue. The company handles a large assortment of accessories.

Philip Wieneckey has opened a modern garage at 4315 Highland avenue, Baltimore, Md.

O. D. Strader of Nicolette, W. Va., has purchased the interest of L. G. Mead in the Market Garage & Machine Company, Parkersburg, W. Va. It is proposed to incorporate the concern and make extensive improvements.

William H. Parkinson has opened a modern garage on Lexington street, Waltham, Mass.

Hannan & Henry, Plattsburg, N. Y., has opened a modern garage in that city on Margaret street.

Harry Cooper has established a supply store at 23d street and South Park avenue, Chicago. He is well known in automobile circles.

R. Foster Bray, Easton, Penn., has purchased the garage formerly owned by S. E. Teel, on North First street, Bangor, Penn.

Dorsey & Holland, McRae, Ga., has opened a new garage, which is known as the City garage.

W. B. Bender has opened a new garage on E street, Visalia, Cal.

The Standard Auto Repair Company, Eighth street, Milwaukee, Wis., has opened an up-to-date repair department.

T. J. Wilson, Ocean Beach, Cal., has taken over the garage on First street, San Diego, Cal.

Calvin Cunnius, formerly of Long Branch, N. J., has opened an automobile repair shop and garage on Schuyler street, New Brunswick, N. J.

E. D. Parsons has opened an automobile tire and general supply business on Bank street, Petersburg, Va.

The Artesia Garage, Terrell, Tex., has been opened in the Grinnan building, South Virginia street. McGin & Lecliner is the owner.

Racey & Stanbury, Ft. Madison, Ia., is a new partnership formed to operate a garage and repair shop, located at 811 Front street.

P. J. Foster, Sheldon, N. D., is installing equipment in a garage at the rear of the Taylor hardware store. He will conduct an up-to-date repair shop and carry a line of automobile supplies.

H. E. Dierker of Los Angeles, Cal., has opened a garage and repair shop on East Chapman avenue, Orange, Cal.

The Leonard Garage & Auto Repair Company, Brooklyn, N. Y., is located at 482 Leonard street, near Driggs avenue.

L. L. Stanfield has taken over the Central Garage & Machine Works at Barstow, Cal.

Wilkinson & McClure has leased a garage building at Kingsburg, Cal., and has established an automobile, motorcycle and bicycle repair shop.

The Hemet Garage, Hemet, Cal., has been purchased by Crosson & Whetstone, who will install first class equipment.

Morgan N. Smith of Cleveland, O., has purchased the Acme Machine Company, San Diego, Cal. Mr. Smith has the agency for Henderson cars, made by the Henderson Motor Car Company, Indianapolis, Ind.

The Wholesale Automobile Corporation, San Francisco, Cal., has opened quarters on Van Ness avenue.

The Hardman Tire & Rubber Company, New York City, has established a branch at 1923 Sansom street, with J. A. McTaggart as manager.

J. M. McDade, expert mechanician and repair man, has opened a repair shop at Houston, Tex., and will do guaranteed repair work.

M. N. Baker recently purchased the Shaper garage, Goliad, Tex., formerly owned by T. L. Shaper. He contemplates moving the building to his property on Fanning street.

The Overland Auto Company and the automobile department of the D. & D. Hardware Company, Sheridan, Wyo., have consolidated, and in future will be known as the D. & D. Automobile Company. C. C. Riley is manager.

Harry Franklin has opened an automobile repair shop at Rockwell City, Ia.

C. Durant Jones has purchased the business of the Waters Motor Company, Perry, Ia., including the agencies for the cars it handles.

The Brown-Rowan-Buck Auto Sales Company, Indianapolis, Ind., has taken over the retail business of the Studebaker Corporation in that city and is capitalized at $40,000. There will be no change in the wholesale department, of which R. L. Sutherland is in charge. This change will enable Mr. Sutherland to build up the Studebaker sales organization in Indiana and adjoining states.

The Guarantee Auto Company, Blaine, Wash., has dissolved partnership and the business will be continued by G. M. Thrift.

W. A. Crawford, Woodward, Ia., has purchased the Woodward garage of C. B. Gooch.

The Gas Tank Recharging Company, Milwaukee, Wis., has established offices and a service station at 256 Fifth street and will make an effort to secure the acetylene gas tank business. John J. McJesky is president and Fred J. Pagels is secretary and treasurer.

Jacob Nielemor of Granite Falls, Minn., has purchased the interest of Frank Brown in the Wheaton Auto Company, Wheaton, Minn.

Grover Stolts and Fred Tesman, who conducted the Lost Hills garage, Lost Hills, Cal., have dissolved partnership, Mr. Tesman taking over the business.

Barton Parish has purchased the garage formerly owned by Wingfield & Hood at Allerton, Ill. He will operate a machine shop and maintain a sales department, the name of the establishment being the Barton Parish Garage and Machine Shop.

J. H. Klieber has opened salesrooms at 2328 Michigan avenue, Chicago. He has secured the 1914 agency for Henderson cars, made by the Henderson Motor Car Company, Indianapolis, Ind.

R. P. Galbraith has established a garage and repair shop at 112 19th street, Rock Island, Ill. He will handle a line of supplies and make a specialty of used cars.

C. E. Herman and S. C. Munson, 55 West Blake avenue, Columbus, O., have secured a patent on a new motor truck tire and a company is being organized for its manufacture. The tire has a steel shoe fitted to the tread to receive the wear.

The Champion Motor Car Company will build a factory at 14th avenue, N. E., and Northern Pacific tracks, Minneapolis, Minn. The concern will employ 30 men and six and four-cylinder machines will be made.

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Basil White, who recently purchased the Studebaker garage on South Miami street, Wabash, Ind., has also secured the Storey garage on South Wabash avenue, that city. The enterprises will be consolidated and will be known as the Wabash City Garage.

T. J. Holbridge, Jr., has purchased the interest of Charles Smyth, Jr., in the Cadillac service station at Wichita, Kan.

Nob Hill Garage & Auto Company, and the H. L. Mann Motor Car Company, Portland, Ore., have combined under the former name. This brings together the agencies for Stutz, Henderson and American cars. The new company will also be distributor for Lippard-Stewart trucks. A new garage just completed at 690-706 Kearney street has been occupied by the concern, but the old garage will be retained.

NEW BUILDINGS.

Charles Morton, Baltimore, Md., has leased the building located at 207 North street and will remodel it for use as an automobile supply house.

George A. Kershner, proprietor of the Berkley garage at Martinsburg, W. Va., will erect a garage on West King street. It will be modern throughout and will cost $32,000.

Anderson & Gow, Duluth, Minn., has awarded the contract for an addition to its garage on East Third street.

The Ball Auto Company, Fargo, N. D., of which W. M. Ball is proprietor, is erecting a new garage on Fifth street, costing $25,000.

The Johnston Motor Car Company, Atlanta, Ga., one of the oldest automobile firms in that city, has moved to 455 Peachtree street.

The Greenlease Motor Company, Kansas City, Mo., has located at 1612-1614 Grand avenue, that city.

Coon & Patrie, Hudson, N. Y., is having a building on Eighth street remodelled and will occupy it as soon as the improvements are completed. The company, in addition to its garage, carries a line of accessories and supplies.

The Bellaire Automobile Company, Bellaire, W. Va., is having a new garage erected on 32nd street.

The Capital Equipment Company, Jefferson City, Mo., has moved from West High street to a building formerly occupied by Natsch Bros.

Clarence I. Williams, owner of the livery at 305 Common street, Lawrence, Mass., is erecting a new garage.

J. E. Walker, Redondo, Cal., has moved into a new garage on Hermosa avenue, recently completed.

The United Motors San Francisco Company, San Francisco, Cal., agent for Maxwell cars, made by the Maxwell Motor Corporation, has located in new quarters on Van Ness avenue.

The Riegel Auto & Garage Company, 603 North Third street, Reading, Penn., is enlarging its plant by the erection of a large addition.

The Utica Motor Car Company, 52 Jay street, Utica, N. Y., has taken over the Weaver building, 45 Jay street, and will remodel it for the company's use.

Rush M. Cline has erected a modern garage at McConnellsville, Penn., which is equipped with new machinery.

The Overbrook Motor Company, Overbrook, Penn., is to erect a new garage with modern appointments.

The Standard Garage Company, Fairmont, W. Va., is planning extensive improvements to its plant.

The American Supply Company, Tampa, Fla., is now located in new quarters on Zack street.

The Union Motor Company, Davenport, Ia., has erected a new, modern building on Western avenue. The company handles Buick and Oldsmobile cars.

J. L. Murphy, Colfax, Cal., has had a new garage, modern throughout, erected on Grass Valley street.

Charles L. Behlert, 161 Prospect Park, West, Brooklyn, N. Y., is to have a new garage erected on Church street.

The Delko Garage Company, St. Louis, Mo., has leased the premises at 5881 Delmar boulevard, to be used as a garage.

The Pathfinder Automobile Company and the Splitdorf Magneto Company, San Francisco, Cal., have jointly leased a building on Geary street, in which to locate their plants.

The Cadillac Automobile Company, Farnam street, Omaha, Neb., is having its quarters enlarged and greatly improved.

The Winton Motor Car Company, San Francisco, Cal., has moved into new quarters on Sutter street.

The Reo Pacific Company, San Francisco, Cal., has moved into new and larger quarters on the upper end of Van Ness avenue.

The Bradley, Merriman & Smith Company, Council Bluffs, Ia., has erected a new, modern garage building.

Fred Campbell, dealer in automobile accessories and tire lines at 1127 Olive street, St. Louis, Mo., has taken a long term lease of the building at 1109 Locust street, to which is being made extensive alterations and improvements.

The Schrader Auto Company, Clay Center, Kan., is having its garage completely remodelled.

The George G. Goll Company, Champaign, Ill., has moved to North Hickory street. The concern is agent for Overland cars, made by the Willys-Overland Company, Toledo, O.

The A. K. Auto Supply Company, Allentown, Penn., is enlarging its garage. The company handles a full line of automobile accessories.

The Oskaloosa Motor Car Company, Oskaloosa, Ia., is now located in its remodelled building at 217 First avenue, West.

The Ocean Boulevard Garage, Neversink, N. J., is having a large addition built, to be used for a repair shop.

The Murwin Gasoline Company, Pittsburg, Penn., has erected a new, modern garage and gasoline filling station on Grant boulevard.

The Forest Park Garage, Dickinson street, Springfield, Mass., has been enlarged and improved. W. C. Bartlett is the proprietor.

The Yuma Gas Engine & Auto Company, Yuma, Ariz., has enlarged its garage to care for increasing business.

The Turnbull Auto Company, Willimantic, Conn., has made numerous improvements to its garage.

Anderson & Benson, agent for Studebaker and Cadillac cars, has moved to larger quarters at 115 East Fifth street, Austin, Tex.

The Service Garage Company, Seattle, Wash., is located in a building on 12th street.

The McKeesport Auto Repair Company, McKeesport, Penn., is to erect a new, modern garage on Fifth avenue.

Myers Bros., Alexandria, Va., has begun the work of erecting a new, modern garage.

The Council Bluffs Automobile Company, Council Bluffs, Ia., is making extensive improvements to its building.

The Willis Supply Company, Rensselaer, Ind., of which J. L. Willis is proprietor, will occupy a new, modern garage to be erected in the near future.

J. H. Burns & Son, Janesville, Wis., agent for Commerce trucks and Cartercar pleasure vehicles, is erecting a modern garage on Prospect avenue.

Benjamin Kiernan has leased a fine garage, which is being erected at a cost of $5000 at Truckee, Cal. He will carry a full line of automobile supplies.

D. N. Clark, Shelton, Conn., has had a new garage erected for his use.

James Bros., automobile concern of Tampa, Fla., has moved into a new, modern building on Tyler street.

William H. Baxter, formerly located in a garage at 163 Dwight street, Springfield, Mass., has moved into a new fireproof building at Oak and State streets. It is said to be the largest garage in the city. Mr. Baxter handles Paige-Detroit and Marion cars and Federal trucks.

The Lincoln Motor Car Company, San Francisco, Cal., has leased part of a building at Van Ness avenue and has opened a modern service station.

The Queen City Motor Delivery Company, Cincinnati, O., is to build a large garage at Second and Plum streets. Albert Heheman is president of the company.

Henry Bodson, Breckenridge, Minn., has started work on the erection of a garage to be of brick, with steel floor.

Eric Anderson, Upsala, Minn., is having a large garage and repair shop erected, which will be up-to-date in every way.

James Wickham, Eau Claire, Wis., is having a modern concrete block garage erected.

The Century Rubber Works, Chicago, reclaimer of rubber and maker of motor car accessories, has located its general offices in the Rector building, under the direction of Paul G. Niehoff & Co.

The Compo Automobile Company, Defiance, O., has purchased the building on Front street, which it occupies, and has made extensive improvements, including a new heating system, steel ceiling and new machinery.

Fred W. Files, Willard, Me., is building a garage on Angell avenue, which will have accommodations for 30 cars.

Rene J. Marx & Co., agent for Mercedes cars, has moved to a new and attractive two-story garage on Geary street, below Van Ness avenue, San Francisco, Cal.

C. E. Carter, Trinidad, Col., will occupy a new garage on the Military grounds, which is being erected at a cost of $9000. He also will conduct a repair business.

L. A. Brown, Wilmington, Del., has moved his garage from East Main street to the Wheeler building on West Main street.

The Oakland Motor Company, New York City, has leased the third floor of the Postal Service Company's building, Broadway and 62nd street.

Cook, Williams & Wallace, Lakewood, N. J., is erecting an addition to its garage on Holly street.

The Peerless Motor Car Company, Philadelphia, Penn., has begun construction work on the erection of a new plant near Chestnut street.

The G. C. Kuhlman Car Manufacturing Company, Cleveland, O., will erect additions to its plant.

The Federal Motor Truck Company, Detroit, maker of Federal trucks, is building a large addition to its plant, which will increase its floor space about 33 per cent. It is expected that it will be ready for occupancy in about 30 days, and the production will be increased 50 per cent.

The Troy Carriage Sun Shade Company, Troy, O., has completed a two-story addition to its plant, having 35 square feet of floor space.

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The Humes Auto Company, Tarentum, Penn., contemplates the erection of an addition to its building, which will be used as an office and accessory supply house.

The D. K. S. Auto Supply Company, Cape May, N. J., is building a new garage which is nearly completed. The company handles Ford cars, made by the Ford Motor Company, Detroit.

The Hilmer Shull Auto & Supply Company, La Porte, Ia., is to erect a new garage.

The Chevrolet Motor Company has located salesrooms at 1651 Broadway, New York, and 1505 Bedford avenue, Brooklyn, N. Y. George H. Connor is in charge of the New York branch and Warren A. Suklon is manager of the Brooklyn office.

The Gauntlett Auto Sales Company, Toledo, O., Buick distributor for northwestern Ohio and southern Michigan, has moved into the three-story building at 1014-1016 Madison avenue, formerly occupied by the Packard agent. E. D. Gauntlett is the head of the firm, which was formed at Toledo during the spring automobile show, since which time its territory has been materially increased.

The Republic Rubber Company, Youngstown, O., maker of Republic tires, recently held a convention of branch managers, officials and department heads at the factory, during which the present sales situation and future prospects were discussed at length. An accompanying illustration presents the members of the party, which included the following: President T. L. Robinson, Vice President L. T. Peterson, General Sales Manager J. H. Kelly, Superintendent A. H. Harris, Assistant Superintendent W. D. Harris, Secretary C. F. Garrison, Treasurer M. I. Arms, Second Assistant Sales Manager H. W. Bixler, Advertising Manager Web Brown, Purchasing Agent N. W. Sayles, Auditor G. L. Stansbury, Manager O. M. Norby of the credit department, Manager E. N. Frase of the hose department, Manager Thomas Matchett

The Horton Motor Car Company, 706 East Pike street, Seattle, Wash., has secured the agency for McFarlan cars, made by the McFarlan Motor Car Company, Connersville, Ind.

L. C. Kirkham, Brooklyn, N. Y., has taken the agency for Pioneer cars and is located at 33 Grant square.

H. O. Harrison Company, Los Angeles, Cal., has taken the agency for Hudson cars in northern California, made by the Hudson Motor Car Company, Detroit.

Billings Garage, Topeka, Kan., has taken the agency for Chevrolet cars, made by the Chevrolet Motor Car Company, Detroit.

The National Motor Car Company, Pittsburg, Penn., has closed contracts for the agency for Davis cars, made by the G. W. Davis Motor Car Company, Richmond, Ind.

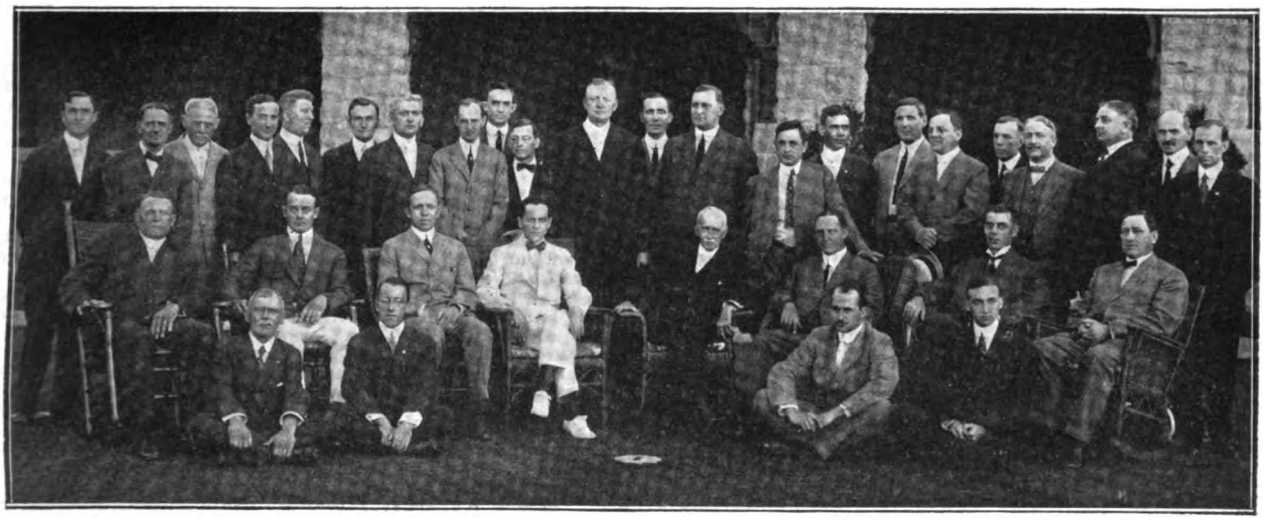
P. C. Smalley, Lincoln, Neb., has taken the agency in his territory for Premier cars, made by the Premier Motor Manufacturing Company, Indianapolis, Ind.

The Woodward Carriage Company, San Antonio, Tex., has taken the agency for Hupmobile cars, made by the Hupp Motor Car Company, Detroit.

Druet & Page Company, Inc., 1890 Broadway, New York City, has taken the agency for the Palmer-Singer cars, made by the Palmer & Singer Manufacturing Company, Long Island City, N. Y.

The Salt Lake Hardware Company, Salt Lake City, Utah, has taken the agency for Fisk tires, made by the Fisk Rubber Company, Chicopee Falls, Mass.

The H. J. Koehler Sporting Goods Company, New York City, one of the largest distributors of low priced cars in the East, will sever its connection with the Hupp Motor Car Company, Detroit, maker of Hupmobiles, at the close of its yearly contract and will handle instead the new Grant car, made by the Grant Motor Car Company, Detroit, in which H. J. Koehler himself is said to have taken a substantial interest. The Koehler commercial



Officials, Branch Managers and Department Heads at Recent Convention of the Republic Rubber Company's Factory in Youngstown, O.

of the belting department, Engineer C. E. Rice, Paymaster W. Dunn, Shipping Clerk W. D. Norris, T. J. Mell, Inventor of the Staggard tread, and the following branch representatives: H. K. Wick and John C. Wick, Youngstown, O.; M. E. Murray, San Francisco; C. W. Hardin, New York City; J. W. Maguire, Chicago; W. S. Carleton, Boston; B. C. Swinehart, Philadelphia; J. C. Kearne, Detroit; B. F. Morris, Buffalo; G. A. Sohl, Atlanta; J. Palmer, Chicago; F. G. Hill and H. W. Pratt, New York; F. W. Osmun, Minneapolis; G. M. Hoffman, St. Louis; G. N. Talcott, Cleveland.

NEW AGENCIES.

E. Pryce Mitchell, proprietor of the El Camino Real Garage, Santa Barbara, Cal., has taken the agency for Pierce-Arrow cars, made by the Pierce-Arrow Motor Car Company, Buffalo, N. Y.

C. R. Parker of the Parker garage, 113 Harrison street, Davenport, Ia., has taken the agency for Peerless cars, made by the Peerless Motor Car Company, Cleveland, O.

The Gerlinger Motor Car Company, 901 East Pike street, Seattle, Wash., has taken the agency for the Herreshoff cars, made by the Herreshoff Motor Company, Detroit, and also for the Federal, Menominee and Standard trucks.

Oscar Lear, Columbus, O., has taken the agency for Buick cars, made by the Buick Motor Company, Flint, Mich.

Gilbert A. Wehr, Baltimore, Md., has taken the agency for Reo cars, made by the Reo Motor Car Company, Detroit. It is located at 128 West North avenue.

car, which is made in the company's own factory at Newark, N. J., will continue to play an important part in the concern's activities, while it is probable that another car listing around $750 will be added to the line.

A. S. French of the French Auto Company, Vancouver, B. C., has taken the agency for Napier, Havers, Overland and KisselKar machines.

Anderson, Spencer & Co., White Sulphur Springs, Mont., has secured the agency for Studebaker cars, made by the Studebaker Corporation, Detroit.

The Haynes Motor Car Company, Minneapolis, Minn., has secured the agency for R-C-H cars, made by the R-C-H Corporation, Detroit, for Minnesota and northwestern Wisconsin.

The Nebraska Auto Specialty Company, Omaha, Neb., has been incorporated as selling agent for the Gray pneumatic gearshift and air starter. The company is composed of Omaha men, headed by Manager Koller of the Gordon Fireproof & Storage Company.

Charles E. Riess & Co., 1896 Broadway, New York City, has completed arrangements for taking over the agency for the Hupmobile cars in New York City, that agency having been relinquished by the H. J. Koehler Sporting Goods Company at the conclusion of its contract.

The New Era Auto Company, Baltimore, Md., has taken the agency for the Chevrolet car, made by the Chevrolet Motor Car Company, Detroit.

The E. V. Stratton Company, Albany, N. Y., as a result of its exceptional 1913 business in Hudson cars, made by the Hudson Motor Car Company, Detroit, has had its 1914 territory extended to include all of New York State west to and including Montgomery and Franklin counties, and south to part of Ulster and Duchess; five counties in Vermont and three in Massachusetts, including the city of Springfield. John S. Harrington, formerly of

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Worcester and Boston, has been secured by the Stratton company to handle its Springfield district on Hudson cars and Stewart trucks.

The Henderson Motor Car Company, Indianapolis, Ind., maker of Henderson cars, has appointed the following agents for its product: Henderson Motors Company, Toronto, Can.; Crossem & Searer, Joliet, Ill.; J. W. Gronewold, Golden, Ill.; Lane Hardware Company, Robinson, Ill.; Jackson Motor Car Company, Nashville, Tenn.; Dunham & Long, Westboro, Mo.; American Sales Company, Louisville, Ky.; T. M. Bowler, Sheyboygan, Wis.

The Kissel Motor Car Company, Hartford, Wis., announces the following agents for KisselKar trucks and pleasure vehicles: J. T. Gentry, San Bernardino, Cal.; Glenn A. Calkins, Riverside, Cal.; Fred Duvall, Pomona, Cal.; George Gilmore, El Centro, Cal.; Joseph S. Peoples, Petaluma, Cal.; Benjamin L. Brundage, Bakersfield, Cal.; P. J. Weisel & Co., Anaheim, Cal.; J. C. Phelan, Fresno, Cal.; Pacific KisselKar branch, Oakland, Cal.; West End Garage, Santa Ana, Cal.; E. B. Jones, Hornell, N. Y.; Empire garage, Middletown, N. Y.; Flato & Allen, Kingsville, Tex.; Oliver-Nussbaum-Scharf Company, Grosbeck, Tex.; W. S. Mattox, Greenville, Tex.; Lyscio & Walker, Joplin, Mo.; Nemic & Biscenius, St. Cloud, Minn.; J. W. Bush, Oakes, N. D.; New Island City Garage, Galveston, Tex.; Reno Nevada Company, Reno, Nev.; William Daly, Paterson, N. J.; Thomas Plimley, Victoria, B. C.; Kentucky KisselKar Sales Company, Lexington, Ky.; Waterloo KisselKar Company, Waterloo, Ia.; Douglass Motor Car Company, Douglass, Ariz.

NEW GARAGES.

Nathan Harris, 268 Alexander street, Rochester, N. Y., will build a one-story garage to cost $5000.

Andrew Kraska, Stanislaus and Mill streets, Buffalo, N. Y., will build a two-story garage to cost $2500.

The F. P. Auto Construction Company, Inc., Brooklyn, N. Y., of which Frank K. Fairchild, 178 South Portland avenue, is president, has received bids for a one-story garage to cost $7000.

Olden & Tucker, Chrisman, Ill., has completed plans for a one-story garage to cost $10,000.

Edmund B. Gilchrist, Philadelphia, is preparing plans for a two-story stone and rough cast garage to be erected at Chestnut Hill.

Harry P. Schneider, Old York road, Philadelphia, is estimating on plans and specifications for a large public garage to be built at Sixth and Oak Lane avenues, for E. B. Hedley.

James C. Pettee, 1698 Lake avenue, Cleveland, O., has awarded the contract for the erection of a one-story garage.

Porter & McLeod, 366 Ash street, Brockton, Mass., has obtained the contract to build a one-story garage for F. E. Shaw, 326 West Elm street.

Herman Monk, 1902 North Pennsylvania street, Indianapolis, Ind., will build a one-story garage.

Mrs. B. G. DuPont, Wilmington, Del., has plans under way for a two-story garage to cost $5000.

M. E. Connell, Scranton, Penn., is planning to build a two-story garage in the fall.

Louis T. Dougherty, Plainfield, N. J., will erect a 2.5-story garage to cost $6000.

A. Halsey, Little Falls, N. J., will build at Newark, N. J., a two-story garage to cost $2000.

Stephen Flam, 411 Francis avenue, Schenectady, N. Y., will soon start work on the construction of his new garage.

Edward J. Scully & Sons, 895 Steinway avenue, Long Island City, N. Y., has completed plans for a two-story garage to cost $6000.

Herman Avleis, 210 Lewis avenue, Brooklyn, N. Y., has completed plans for a two-story garage and storage house to cost $9000.

The Havemeyer Realty Company, Havemeyer building, Church street, New York City, will alter its present two-story garage to the extent of $3000.

F. G. Bartels, 6441 West 33rd street, Berwyn, Ill., will erect a one-story garage at a cost of $4000.

Theodore Steuben, 3217 Lincoln avenue, Chicago, is preparing plans for a one-story garage.

The Turner Construction Company, 312 Prudential building, Buffalo, N. Y., has obtained the contract to erect a one-story garage for the Jacob Dold Packing Company, 740 William street.

Albert Hesbol, 953 Belmont avenue, Chicago, has obtained the contract to erect a one-story garage for George F. Lovdall.

Niederpruen Building Company, 1170 Jefferson street, Buffalo, N. Y., is to make alterations to the garage of L. Newman, to cost $1900.

E. L. Smith, West Concord, Minn., is planning the erection of a one-story garage in the near future.

R. Kamp, Ashland, Wis., has plans under way for a one-story garage and machine shop, to cost $5000.

J. J. Hefferman, Woonsocket, R. I., is preparing plans for a one-story garage.

J. Schoonmaker, 124 West Chestnut street, Kingston, N. Y., is taking bids for a $6000 garage.

L. F. Urbain, 20 North Jackson boulevard, Chicago, is preparing plans for a modern garage to be erected soon.

E. D. Dean, York, Neb., has awarded the contract for a one-story garage to cost $5000. The brick work is now being laid and will be completed shortly.

J. E. McDonald, Detroit, will build a one-story brick garage, work to be started as soon as the plans are completed.

F. M. Hills of the Hercules Buggy Company, Evansville, Ind., has awarded the contract for the erection of a large garage in that city.

J. E. & A. L. Pennock, Land Title building, Philadelphia, has secured the contract to build a two-story garage for Robert T. Moore, at Haddonfield, N. J.

Flynn & Tonin, 74 Pekin street, Providence, R. I., has secured the contract to build a one-story garage for Walter S. Ingraham.

George Deiker, 703 Genesee street, Utica, N. Y., has let the contract for the erection of a two-story garage, store and apartment building, to cost $25,000.

G. Schneider, 2441 Wentworth avenue, Chicago, has obtained the contract to build a garage and store building for H. N. Bruns, at a cost of $6500.

Leslie Mathews, Benson, Minn., has completed plans for a one-story garage.

A. B. Coryelle, 721 Lawton avenue, Detroit, will build a garage in the near future.

Dtuckenmilles, Stackhouse & Williams, Land Title building, Philadelphia, is preparing plans for four garages to be built at Merion, Penn.

George K. Renninger, 1232 Cotton street, Reading, Penn., will build a 2.5-story garage.

John Owens, 7215 Germantown avenue, Philadelphia, is preparing plans and specifications for repairs to the garage of Samuel Herbner, at 318 West Highland avenue, Chestnut Hill, Penn.

T. S. McVaugn has obtained the contract for the erection of a residence and garage on Rising Sun lane, Philadelphia, for Charles R. Brady.

Thomas M. Leeds is estimating on plans for a garage to be erected at Villanova, Penn., for H. L. Walker.

Charles M. Wells, Philadelphia, is preparing plans for a three-story brick garage to be erected at Morton, Penn.

D. N. Postlewaite, Columbus, O., has awarded the contract to Nichol & Carn, 400 Arcade building, for the erection of a one-story garage to cost $1000.

Miss Alice Butler and Miss Mae Butler, 2134 Linton avenue, Cincinnati, O., have awarded the contract for the erection of a two-story garage to cost $7000.

The Standard Oil Company of Ohio, East 55th street, Cleveland, O., has awarded the contract for a one-story garage.

John Hoos & Son, 135 West Camden street, Baltimore, Md., has awarded the contract for a two-story garage, to cost $1500.

W. S. Taqua, Jenkintown, Penn., has given the contract for the building of a one-story garage to cost $1500.

Mary E. Hunt, Thurlow terrace, Albany, N. Y., has let the contract for a garage and stable to be one story high and to cost $4500.

The National Sugar Refining Company of New Jersey, Long Island City, N. Y., is to build a one-story brick and concrete garage.

Thomas Kennedy, 221 South Main street, Rochester, Minn., is taking bids for a 1.5-story garage, which will cost $8000.

Downs & Eads, 712 New York Life building, Minneapolis, Minn., is preparing plans for a residence and garage, at a cost of $10,000.

Alfred Pulisbury, 116 East 22nd street, Minneapolis, Minn., will build a two-story garage at Stevens and 22nd street to accommodate four cars.

The Pier Auto Company, Richmond Center, Wis., is to build a one-story garage at an outlay of $11,000.

S. Linderoth & Co., 5844 Elizabeth street, Chicago, has prepared plans for a one-story garage and store building to cost $18,000.

Joseph E. Tilt, 512 West Huron street, Chicago, is to expend $125,000 for the erection of a three-story residence and one-story garage, for which he has plans.

S. J. Pyanowski, 2219 South Whipple street, Chicago, has received bids for a one-story garage to cost $7000.

L. Novy & Son, 3223 West 22nd street, Berwyn, Ill., has prepared plans for a one-story garage to cost $4000.

Henry Bristol and Jacob Simon, 26 Court street, Brooklyn, N. Y., are taking sub-bids for a one-story garage to be erected at a cost of $10,000.

Daniel A. Mossman, 821 Fourth avenue, Huntington, W. Va., will build a three-story store and garage building at a cost of $15,000.

Ridde McCoach, Philadelphia, has let the contract to the George Kessler Contracting Company for the erection of a one-story brick garage. The cost is $7500.

New York Telephone Company, New York City, is to build a two-story garage at Long Island City, to cost $45,000.

The Joseph Bird Company, Philadelphia, has obtained the contract for the erection of a public garage to be built on Spring street, between 10th and 11th streets.

Moore McQuigg, 724 Elinore street, Kalamazoo, Mich., has secured the contract to erect a one-story garage to cost $7000. On its completion it will be leased by the Cadillac Motor Company.

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Westley Fagle, 600 Clay street, Laporte, Ind., has let the contract for an addition to his garage, to cost $4000.

W. C. Leiter, Harvey's Lake, Penn., has awarded the contract for a two-story garage to cost $7000.

J. C. Thompson, Eau Claire, Wis., will build a one-story garage at a cost of $12,000, the contract for which has been awarded.

George F. Pawling, Philadelphia, has secured the contract of L. J. Bergdoll for the erection of a three-story terra cotta and brick automobile sales building at 250-254 North Broad street. The building will cost $65,000.

George Thomas, Nanticoke, Penn., has given the contract for a two-story garage to cost $3000.

Roy A. Hunt, 4916 Wallingford avenue, Pittsburg, Penn., has given the contract for a two-story residence and garage, to cost $75,000.

Kahn & Greenburg and Murray White have signed leases with the Peerless Motor Company, the International Truck Company and the Garford Truck Company, Philadelphia, Penn., for the three large automobile warehouses and salesrooms which are being built on the south side of Chestnut street, west of 23rd street. The leases are all for 10 years. The building at 2304-2308 Chestnut street and 106-108 South 23rd street, containing about 40,000 square feet, has been leased to the International Truck Company; 2310-2312 Chestnut street, to the Garford Truck Company, and 2314-2318 Chestnut street and 105-107 South 24th street, containing about 35,000 square feet, will be occupied by the Peerless Motor Company. The buildings are being constructed of fireproof material and will be equipped with freight elevators. The tenants will furnish the salesroom with terrazzo floors, panelled walls and decorated ceilings.

W. H. Dwikee, Providence, R. I., has let the contract to Hale & Doyle, 27 Exchange street, for the erection of a 2.5-story residence and one-story garage, to cost $17,000.

L. J. Stevison, Webb City, Mo., is planning to build a one-story garage.

J. W. Ayler, Carthage, Mo., will completely rebuild his garage. The alterations will cost $10,000.

William F. Goodrich, 310 Sun building, Detroit, is preparing plans for alterations and additions to a garage at Bloomfield Hills, Mich.

R. L. Mills, 212 Lafayette avenue, N. E., Grand Rapids, Mich., has started plans for the erection of a garage in the near future.

Dr. William E. Tyson, 499 Seminole avenue, Detroit, has received bids for the erection of a private garage.

Snyder Bros., Mt. Carmel, Penn., is excavating preparatory to building a modern garage.

Clarence E. Burlingame, 75 Westminster street, Providence, R. I., is preparing plans for a 1.5-story garage to be built at Edgewood, R. I.

Alfred Popik, American National Bank building, Newark, N. J., is planning to build a two-story garage to cost $10,000.

Norman D. Scheffreen, Fremont building, Boston, Mass., will build a two-story garage to cost $18,000, at Roxbury, Mass.

Benjamin L. Jones, Ellicott square, Buffalo, N. Y., is to build a garage at Derby, N. Y.

C. S. Millington, Herkimer, N. Y., has received estimates for a one-story garage, to cost $2500.

E. Levene, 124 North Third street, Philadelphia, is securing estimates for a two-story brick garage to be erected at Diamond and Croskey streets.

F. Porshet, 33 Stillson street, Rochester, N. Y., will built a two-story garage.

Andrew Rasmussen, 111 West Broadway, Council Bluffs, Ia., will build a two-story rear addition to his garage.

Mrs. F. Faulke, 126 North Sixth street, Cedar Rapids, Ia., has plans under way for a two-story garage and hall building, to cost $30,000.

Louis Trammontin, 68 Champlain street, Detroit, will build a one-story garage and factory building.

L. D. Krause, 1401 Hamilton street, Allentown, Penn., will build a three-story garage and apartment building.

The First National Bank, McKees Rocks, Penn., will erect a one-story garage to cost $5000.

Warren Unger, Shamokin, Penn., is having plans prepared for a three-story garage and store building. It will cost $25,000.

The D. A. Calhoun Contracting Company, 17 Madison avenue, New York City, will take sub-bids in the fall for building four garages.

The McKeon Realty Company, 191 Ninth avenue, New York City, will build a one-story garage to cost $30,000.

H. J. Clark, 2831 Forest drive, Des Moines, Ia., has awarded the contract for a two-story garage and office building to cost $20,000.

The Henry Elias Brewing Company, 403 East 54th street, New York City, has given the contract for alterations and additions to its garage to cost $20,000.

H. Pierce, 48 West Bridge street, Oswego, N. Y., has plans for a two-story garage and office building.

J. C. Bowditch, 16th street, Boston, has invited bids for a one-story garage.

Marshall E. Van Arman, 909 State Life building, Indianapolis, Ind., will build a one-story garage, for which he has plans.

The Norman Construction Company, Essex building, Newark, N. J., is to build a one-story garage to cost $7000.

The Central Manufacturing Company, Chicago, is to erect a four-story garage warehouse and paint factory at the northwest corner of 37th and Iron streets. The contract for the construction work has been awarded and the building has been leased to John Lucas & Co., 1521 North Wabash avenue, Chicago.

L. Dalton, Elmwood, Ill., has received estimates for the erection of a two-story garage and hall building, 50 by 75 feet.

The Felt & Tarrant Manufacturing Company, 1717 North Paulina street, Chicago, is having plans prepared for the erection of one-story garage and warehouse.

The Times Square Auto Company, 1710 Broadway, New York City, has plans under way for a two-story addition to its garage, to cost $70,000.

Richard A. Ruedebusch, Fred J. Lang and Anton Lang, Mayville, Wis., have organized the Badger Auto Company, with $20,000 capital, to erect and operate a garage.

Charles Kopp, 250 Dove street, Albany, N. Y., will build a one-story garage.

HAYNES' SALES MANAGER.

George H. Strout Has Had Wide Experience in the Automobile Industry.

The Haynes Automobile Company, Kokomo, Ind., maker of Haynes cars, enjoys the distinction of having two men connected with its organizaiton that were born in Portland. One is Elwood Haynes, builder of what is held to be America's first gasoline car, who first saw the light of day at Portland, Ind., while the other is Sales Manager George H. Strout, whose birthplace is Portland, Me. Mr. Strout was recently manager of sales and advertising for the Cole Motor Car Company, Indianapolis, maker of Cole machines, but resigned to take a similar position with the Haynes factory.

George H. Strout, Sales Manager, Haynes Automobile Company.

He was born Dec. 26, 1870, and he was fitted for college in Boston. He graduated from Swarthmore College in Pennsylvania and after teaching for a year at the Harvard preparatory schools in West Newton, Mass., he entered upon a business career. After two years in the bicycle business in Boston he went to New York to become branch sales manager of the Monarch Cycle Manufacturing Company, Chicago. With the advent of the American Bicycle Company in 1899 the Monarch company was included in the general plan of consolidation and Mr. Strout resigned, going to the Alaskan gold fields, where he remained for two years. In 1903 he entered the motor car business, forming the Western Automobile Company, St. Paul, Minn., which he sold in 1905, going to Hartford, Conn., to take charge of sales of the Columbia electric and gasoline cars. He next became identified with the Apperson Bros. Automobile Company, Kokomo, Ind., and later went to New York for a short time in the interest of a Detroit truck concern. His return to Indiana was to join the Cole company, with which firm he remained until his recent connection with the Haynes organization.

REMOVED TO FRAMINGHAM.

Standard Woven Fabric Company Finds Worcester Plant Too Small for Its Needs.

To meet the decided increase in the demand for Multibestos brake lining, standard woven belting and solid multiple hose fabrics, the Standard Woven Fabric Company, which for many years has been located at Worcester, Mass., has occupied its new factory recently built and equipped at Framingham, Mass.

This step was made necessary because the facilities at Worcester had become inadequate to meet the growth and expansion of the business. In the new factory at Framingham is incorporated every modern feature tending to promote quality and economical production, which embraces everything in the way of woven fabrics.

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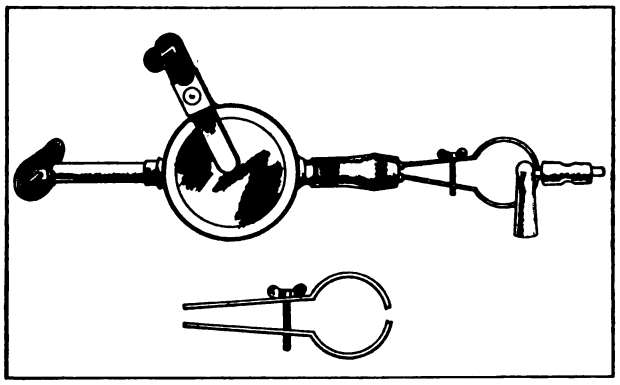
MECHANICAL NOTES FOR GARAGEMEN.

IN THE overhaul of a car it is possible that a new exhaust pipe may be needed because of the old member having been damaged or rusted



Device for Grinding in Petcocks with a Breast Drill.

out. While copper or brass pipes, especially if annealed, are bent easily, the shaping of steel or larger tubes is more difficult. In fitting a new exhaust pipe it is desirable to eliminate kinks, which are not only unsightly, but obstruct the flow of the gases. Copper pipes up to 1.5 inches may be bent cold if suitable blocks and levers are utilized, but steel tubes generally require heating and are more troublesome to handle.

A method of bending is shown in an accompanying illustration, from which it will be seen that the pipe is passed through the hole in the block, while the copper loop forms a fulcrum for the lever. The leverage obtained enables short bends to be made without kinking, and is secured by gradually moving the block, so that the pressure is not exerted continually at any one particular point during the operation.

Before commencing to bend the pipe, a wire templet of the shape required should be made. If the tube be of copper it should be filled with resin, run in while hot and allowed to cool. Three articles are required, as will be noted in the drawing; first, a hard wood block with a hole slightly larger than the diameter of the pipe; second, a loop made from an old piece of copper pipe, and third, a stout pinchbar of convenient length.

In bending steel tubing the same process is utilized, but the pipe is filled with sand, and the block should be of metal. The pipe is heated at the point at which the bend is desired, and is cooled off slightly on the side which forms an inner radius of the circle, to prevent kinking. A small hole should be drilled in the pipe in any convenient position to allow for the expansion of the sand when heated. Otherwise the contents are likely to be blown out during the bending process. Before fitting the pipe to the part it should be tested and inspected for flaws.

MAKING A TIRE PROTECTOR.

If one is so unfortunate as to be caught with a small blow-out and without an inside or outside patch these can be made with some cloth and friction tape. Take a piece of cloth several times larger than the opening in the shoe and on one side lay strips of tape, much in the same manner as a surgeon plasters a cut. Next fold the cloth with the tape inside and lay a few strips of tape on the side that goes next to the inside of the casing. In replacing the inner tube be careful that the patch does not slip. If the shoe is cleaned carefully the tape will adhere. Partially inflate the shoe. Prepare another patch slightly larger than the opening in the tire, but tape both sides. Press the patch firmly against the blow-out and then wind tape around the shoe and felloe, taking care to have each wrap very snug. Inflate in the usual manner. This repair if properly executed will endure for some time and will at least serve to get one home.

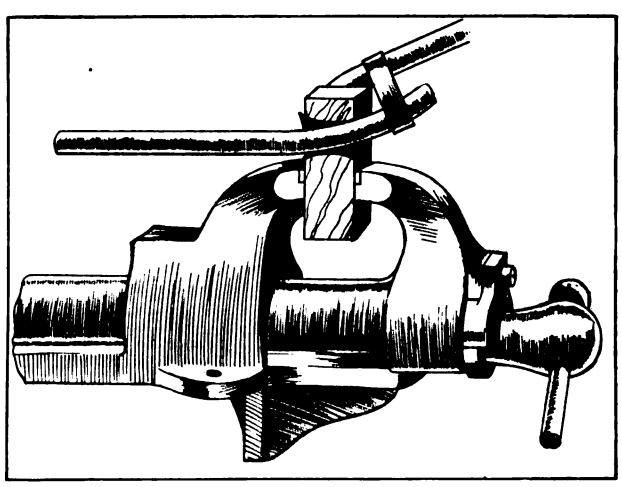
FITTING NEW PISTON RINGS.

In fitting new piston rings to an old cylinder, the walls of which are smooth, it is an excellent plan to stone the rings before placing them on the piston, if they are simply of the machined type. It is an easy matter to create a glass like surface by polishing the periphery of the ring on an oil stone, using plenty of lubricant. A slight pressure should be exerted and the ring turned from time to time to insure a smooth, even surface.

GRINDING IN PETCOCKS.

Sometimes petcocks in the fuel line leak unless the valve portion is driven in its seat. This will generally prevent leakage, but makes it difficult to utilize the petcock, which often becomes frozen, resulting in damage when moving the lever.

While grinding in the valve will usually cure the trouble, considerable time is required when the work is performed by hand. In an accompanying illustration is presented a suggestion for using a breast drill and facilitating the work.



Suggestion for Bending Copper and Steel Pipes of Large Diameter Without Kinking.

The materials are not expensive and com-

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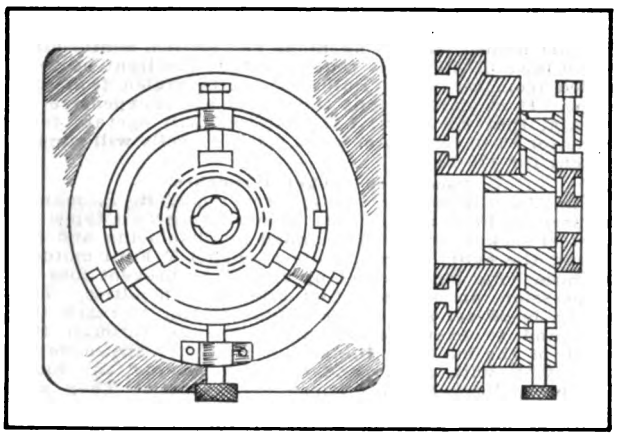
prise two pieces of sheet steel about five inches by .75 by .125. The ends of these are shaped to fit the chuck of the drill as shown. When being



A Gear Pinion Jig for Keyway Cutting Which May Be Utilized for Any Desired Number of Slots.

ground in the valve plug of the petcock is retained in the auxiliary jaws by a thumb screw, which clamps the part securely. By rotating the handle of the breast drill the valve member may be ground in easily. The direction of rotation should be reversed from time to time.

JIG FOR KEYWAY CUTTING.

A jig designed for holding gear pinions when cutting keyways, and which can be changed to cut one, two, three, four or any desired number of slots which may be required in the pinion, is shown in an accompanying illustration. An elevation view is presented at the right. The view at the left is of the T slotted base, which is bolted on the machine table of a slotting or keyway cutting machine.

The base is bored out in the centre, and a second jig is machined to drop into this bored-out section. The upper piece has three bosses cast onto it, through which set screws are taken serving to hold the pinion. Between the end of the set screws and the pinion, however, are three hardened steel pieces which are machined to the outside radius of the pinion which is being cut. Equidistant and tapered slots are cut in any required number around the holder, which has the cast lugs on it, and a spring controlled register pin runs through a boss cast on the main base. The pinion is held as shown by the dotted line. The spring controlled key drops into one of the slots and the keyway is cut, and any other slots may be brought into register for the purpose of cutting a second, third, fourth keyway, etc.

When this jig is made up, and suitable distance pieces have been made, it will be found a great convenience where a large number of pinions are continually being slotted, as the tool can quickly be adjusted to different sized wheels. The various distance pieces and blocks need not be made up at first. They will accumulate as different work is done, until a complete set is obtained.

REMETALLING OF BEARINGS.

The remetalling of bearings requires care if satisfactory results are to be secured. In an accompanying illustration is presented a suggestion for a jig which is said to prevent blow holes and to provide a smooth bearing surface. It comprises a stiff iron plate of suitable dimensions and drilled to receive the stud member. The clamp, which is shaped to leave a space for pouring the metal between the inner side of the bearing and the tube, is secured to the stud as shown.

Between the edges of the brasses are placed graphited tin strips secured by a clip. To prevent leakage of the molten metal from the bottom a piece of asbestos packing is utilized. This arrangement permits of metalling a pair of brasses at a time. If care be exercised in heating the brasses the old metal may be removed without injuring the tinned surfaces. It is important that there be a sufficient number of holes in the shell for securing the new lining in addition to the tinning.

A HARDENING HINT.

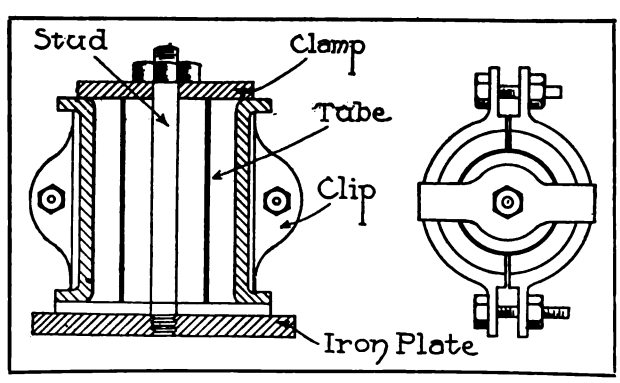
Brittleness of small cutting tools, drills, taps, etc., may be prevented and economy effected by plunging the part into a cake of soap or wax after hardening when being cooled.

CARE OF SHELLAC.

Shellac is useful in the garage and as it dries up very quickly it should not be exposed to the air. Place it in a bottle and fit a wooden stopper. The latter may be utilized for smearing the liquid when its service is required.

CUP GREASE MIXTURE.

The practise of the manufacturer to provide grease cups for parts subject to friction is becoming more general. While makers of lubricants produce grease especially adapted for the



Suggestion for a Jig for Metalling Brasses for Big End Bearings.

parts, an excellent compound may be made by mixing a small quantity of powdered graphite with the grease.

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DESIRABLE ACCESSORIES FOR THE DEALER.

Electrene Fire Gun.

The Western Electric Company, 17 Battery Place, New York City, and with branches in numerous cities, is manufacturing the Electrene fire gun, a fire extinguishing device which is constructed in three styles. That designed especially for service with the motor car, garage, motor boat, etc., is the lightest and of one quart capacity. Lightness and ease of operation are emphasized with the Electrene, and to use it the nozzle is turned and the stream directed at the base of the blaze. It is stated that the stream can be directed accurately by one hand, and that one person can operate two extinguishers at once. The fluid is forced out in a fine spray by compressed air and it is maintained that its efficiency is not impaired by age, heat or cold, and that it will not conduct electricity. Although the fluid will extinguish burning oils, gasoline, etc., it is claimed that it will not injure the most delicate of fabrics nor leave any trace of its presence. The container is sturdily constructed, but light. The company also manufactures sizes adapted to shops, etc.

Newcomb Carburetor.

The Newcomb carburetor is manufactured by the Holtzer-Cabot Electric Company, Chicago and Boston, and attracted attention in motoring circles by its performance in the recent fuel economy test of a Franklin car when the machine travelled 83.5 miles to a gallon of gasoline. The Newcomb is of the float feed type, having a metering mechanism, which measures the quantities of fuel and air in service. The carburetor operates on a constant vacuum and automatically enlarges the effective air and fuel openings in proportion to each other and to the demand of the motor. The metering mechanism is located in the vaporizing chamber, comprising a hollow plunger surrounding a pipe at the top of which the fuel nozzle is located. A fuel controlling needle is fixed to the upper part of the plunger, near the bottom edge of which are a number of small holes, these distributing the fuel after it has issued from the main fuel measuring orifice. These holes are arranged to register with an equal number of narrow air slots cut in the plunger tube chamber. The plunger is seated on a regulating collar, the function of which is to withdraw the fuel needle from its closed position by raising the plunger without uncovering the air slots. Normally, the fuel nozzle is nearly closed, thus the opening of the fuel port is given a lead with respect to the air ports, slightly enriching the mixture for slow operation. When air is drawn through the carburetor the plunger lifts in proportion and the needle in the nozzle raises at the same time, supplying the fuel required to provide a correct mixture. The higher the plunger is lifted the larger the air and fuel openings. The effective areas of the air and fuel ports are so proportioned that it is held that the mixture is correct for every air flow. A homogeneous and dry mixture is claimed for the Newcomb, one making for economy of fuel and the elimination of deposits in the cylinder or smoke in the exhaust. A starting device is incorporated. The vaporizer is also water jacketed.

J-M Mobilite Electric Lamp.

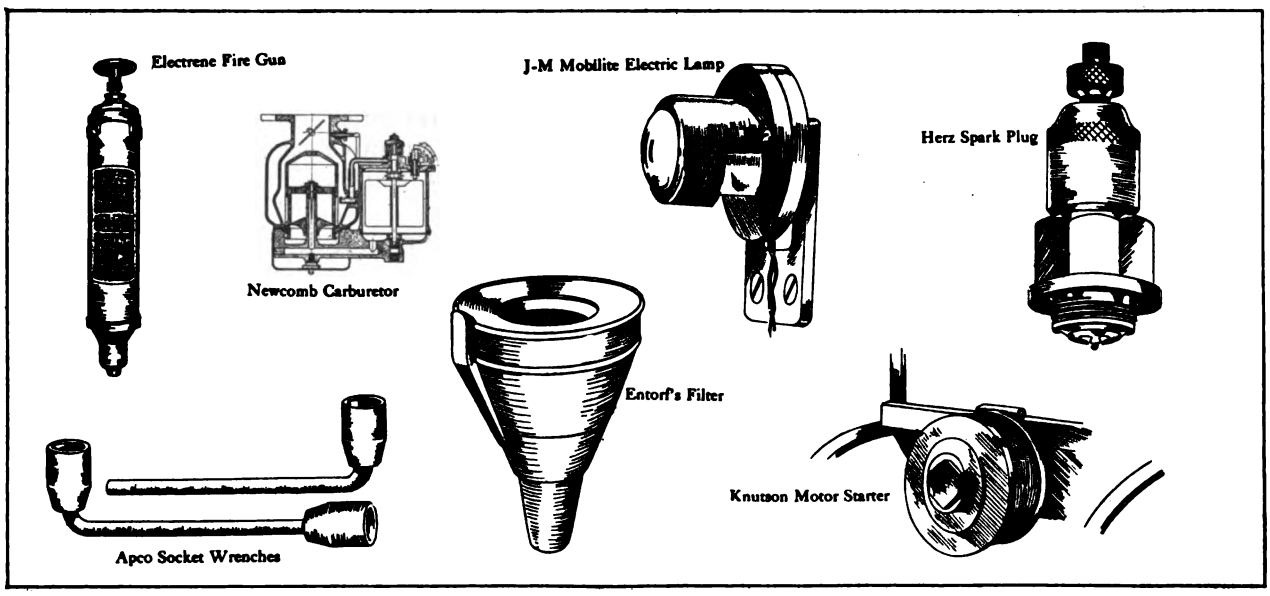
The J-M Mobilite electric lamp is marketed by the H. W. Johns-Manville Company, New York City, and comprises a vulcanized rubber socket fitted to a powerful lens and reflector. The bulb utilized is a special tungsten and it is stated that the light is unusually brilliant. The lamps are made in three styles, the No. 1 being designed for mounting in the dash, while the No. 2 is an automobile type and a rear signal, it having the conventional red semaphore and white light for the license plate. The third design is the dash. A complete equipment of these lamps consists of two set-in, one dash and a tail member. The last named has an ingenious key switch, conforming to the laws of all states requiring that the light be controlled from the rear. Bulbs cannot be stolen from the lamps. It is claimed that the lights are inexpensive to operate; that six No. 6 J-M batteries will operate four lights for 80 to 120 hours, while six No. 8 cells will supply current for 420 hours.

Apco Ford Socket Wrenches.

The Auto Parts Company, Providence, R. I., manufacturer of Ford accessories, is marketing two types of all steel socket wrenches designed for displacing and replacing the cylinder head bolts of model T Ford motors. As these bolts must be set up snugly to prevent loss of compression, an ordinary tool presents difficulties. The wrench is off-set and it is a simple matter to reach the bolts and to exert considerable leverage through the length of the handle. The socket wrenches are made in two styles, with single and double ends, and the tools may be utilized for a number of purposes. They are moderately priced and guaranteed.

Knutson Motor Starter.

The Automatic Devices Company, Galesburg, Ill., is manufacturing the Knutson motor starter, which is of the mechanical type and fitted to the extension of the crankshaft, replacing the usual starting handle. A pressure of the foot on a pedal conveniently located releases a spring, which unwinds slowly at first to prevent sudden stresses. This action is controlled by a brake band and a positive lock. Upon the crankshaft rotating the speed is automatically increased. The spring is rewound by the rotation of the crankshaft. It is held that the device is mechanically perfect, has few parts, is simple in its operation and that it can be easily attached to any type of gasoline vehicle.



Herz Bougie Mercedes Spark Plug.

Herz & Co., 295 Lafayette street, New York City, is manufacturing the Herz Bougie Mercedes spark plug, which has as one of its several features a double blue enamel stone, a construction which it is claimed makes it unbreakable and decidedly efficient. The balance of the components are sturdy and the electrodes are constructed of a material which eliminates burning and sooting. The plug is liberally guaranteed. The company also manufactures the Herz magneto.

Entorf's Water Separating Filter.

Entorf's water separating filter is manufactured by the Entorf Filter Company, Amboy, Ill., and is designed for service with gasoline, kerosene and other similar oils. It resembles a common fuel, but near the top is a fine screen, which retains the oil, thus forming a film and preventing the passage of any water in the fluid. Above the screen is an opening into a drain duct or vent on the outside of the funnel, which the water can enter. Below the first screen is a second member, and another opens into the drain duct. A mechanical device is incorporated at the bottom of the filter, so arranged that the oil will pass through into the spout, while the heavier substance will flow to a reservoir and be discharged outside.

Norisko Wheel and Ignition Lock.

The Norisko steering gear and ignition lock is marketed by the C. J. Rogers Manufacturing Company, Abbott building, Philadelphia. It comprises a sturdy shackle permanently secured to the steering post by a unique screw arrangement. It is claimed that the lock cannot be

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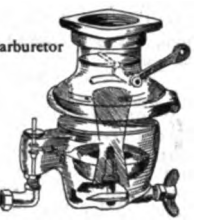
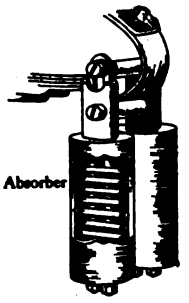
Norisko Lock

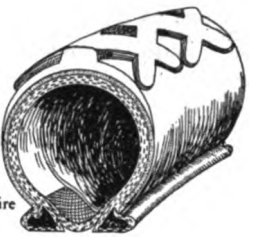
Burn-Boston Battery

Narco Tire Cut Filler


Bowers Carburetor

Hoyt Pocket Voltmeter


J-M Shock Absorber


Mohawk Non-Skid Tire

tampered with short of drilling. Within the shackle is a plunger which, when pushed in part way by the thumb, breaks the ignition circuit. A further movement engages the plunger with a slot in the steering post proper, locking the gear after the wheels have been turned at an acute angle. This prevents the car being operated or towed. The Norisko locks automatically and is provided with a Corbin lock and key. The device is nickel plated.

Narco Tire Cut Filler.

Narco tire cut filler is the product of the National Rubber Company, St. Louis, Mo., and comes in a compressible tube having a convenient nozzle. The contents of the tube are a special preparation which it is stated will weld itself to the walls of a cut in a casing, becoming integral with the rubber and providing a union so perfect that no road abuse will remove it. The Waite Auto Supply Company, Providence, R. I., is Rhode Island distributor.

Burn-Boston Battery.

The Burn-Boston battery, made by the Burn-Boston Battery Company, 19 Doane street, Boston, differs from the conventional dry cell in that a liquid is utilized for an electrolyte. It is square shaped, occupies relatively the same space as a dry cell, and is not affected by heat, cold or moisture. The cell is securely sealed and it is claimed that it will not deteriorate when out of service for a considerable period. The connections are unusually durable, not being affected by vibration, and the zinc terminal comprises a special wire. The leading features of the Burn-Boston are its long life and efficiency. The voltage is standard.

Bowers Carburetor.

The Bowers model G carburetor is marketed by the Gilbert Manufacturing Company, New Haven, Conn., and is simply constructed in that there is but one adjustment to be made, that controlling the fuel. Variable climatic changes are compensated for in the Bowers by the use of an annular brass disc surrounding the central or fixed air inlet, which consists of a venturi shaped tube. The disc contains a plurality of three or more correctly proportioned air ports which admit an additional supply of air and which are controlled progressively to the requirements of the motor by variable tensioned phosphor bronze reeds. These are held to be self-cleaning and not to alter in tension. The adjustment of the Bowers is by a conveniently located needle valve. It is made in standard sizes, is moderately priced, and economy of fuel as well as maximum motor efficiency are emphasized with the construction.

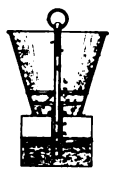
Hoyt Pocket Voltmeter.

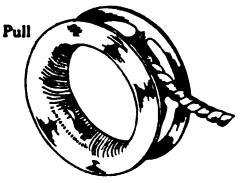
The storage battery, utilized for lighting or ignition, requires proper care and the cells should be tested from time to time to note their condition. The Hoyt Electrical Instrument Works, Penacook, N. H., maker of current indicating devices, is marketing a voltmeter of the pocket type which is guaranteed to be accurate and which is of the coil type. The new meter, which comes in a sturdy case, averages about 40 ohms a volt, is dead beat in action, slightly larger than a watch and is moderately priced. Being designed particularly for service with storage batteries it forms a valuable addition to the owner's equipment.

J. M. Shock Absorber.

The J. M. Shock absorber, marketed by the J. M. Shock Absorber Company, Inc., 210 South 17th street, Philadelphia, is the invention of Jacquet Maurel, a French mechanical engineer, who claims to have solved the problem of applying a helical spring principle to the laminated spring of the motor car. Except on a car having a full elliptic spring, the car spring is attached at its end by a shackle to allow for elongation of the laminated member. In the J. M. this shackle is replaced by its equivalent, a bronze head, which acts as a guide for the helical bolts of the absorber and a bearing for the hanger bolt. Attached to the bronze head is a tube in which is confined the helical spring. This tube allows the spring to be compressed along a true plane at right angles to the car spring, thus obtaining its maximum efficiency. The tubes and springs are of four different diameters, which permit of attachment of the J. M. to any size of machine.

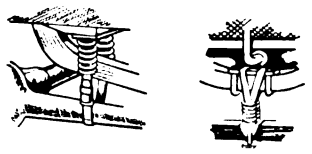
Presto Ford Cigar Lighter

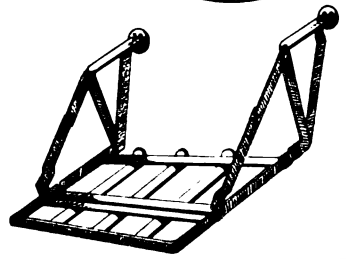

Nospill Funnel


Pillsbury Auto Pull

Dover Radiator Filler

Stafford Combination Tail Lamp


Buckeye Ford Shock Absorbers


Standard Ford Trunk Rack

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The J. M. is designed to increase the efficiency of the regular spring, operate as effectually over smooth as rough roads, and save the tires and components of the vehicle from vibration and shocks. It is made in single and twin types, for any make of car, also a Ford special, and is guaranteed.

Nospill Funnel.

The F. L. Hoaglin Manufacturing Company, Waupaca, Wis., is producing the Nospill funnel, so termed because it eliminates overflowing of the gasoline or liquid used. In addition there is a device which shows the rise of the liquid and means are provided for stopping its passage to the container. When the fuel attains a desired height this is denoted by the central indicator, and further flow is instantly stopped by lifting the funnel ring, which closes a spherical brass valve in the lower portion of the discharge tube. The funnel is of enamelled lead covered steel and polished brass, is of five gallons capacity and a filter is incorporated.

Stafford Combination Tail Light.

The Stafford combination tail lamp and illuminated number is produced by the Stafford Manufacturing Company, 1475 Michigan avenue, Chicago, and was designed to meet requirements of various state laws for rear numbers that can be read as well in the night as in daylight. The lamp includes the usual red semaphore, but the illumination of the numbers is by another electric light within the casing, causing the figures and letters to stand out so as to be perfectly legible at a greater distance than is required by law. All lamps are fitted with an Edison base socket of the latest type and the device is constructed of the best of material. It is finished in black with nickel listed as slightly extra. The Stafford lamp is moderately priced. The company also manufactures a lamp with a top reflector, having an adjustable bracket and adapted to retain any state license plate.

Dover Radiator Filler.

The Dover Stamping & Manufacturing Company, Cambridge, Mass., is producing a handy article for the garage in the nature of a radiator filler. It is a six-quart container and in addition to a serviceable handle, has a hooded spout, which permits of replenishing the supply of the radiator without the usual spilling. It is constructed of heavy galvanized steel and a brass strainer is provided, preventing the entrance of foreign elements into the cooler. The Dover radiator filler is moderately priced.

Pillsbury Auto Pull.

The Pillsbury Auto Pull is manufactured by the Pillsbury Sales Company, Minneapolis, Minn., and is a device for fitting over the rear hub cap of the wheel of the motor car to enable extricating the machine from deep sand, etc., which would ordinarily slip the wheels. The device comprises a pulley to which is attached a long rope having a hook at one end. The hook is attached to a stake in the ground, some distance from the car, and upon starting the machine the rope and pulley arrangement pulls the vehicle as far as the stake.

Standard Ford Trunk Rack.

The Connecticut Steel & Wire Company, Hartford, Conn., is manufacturing a high grade trunk rack especially designed for model T Ford cars. It is made of the best .875 by .1875-inch flat steel with hangers one by .25 inch and the finish is black enamel baked on. The rack is secured to the car by means of four sturdy bolts and is braced in such manner as to be sufficiently strong to support any weight in proportion to the size of the car. It is moderately priced.

Mohawk Non-Skid Tire.

The Mohawk non-skid tread tire is the product of the Mohawk Rubber Company, Akron, O., and it is claimed that maximum traction is afforded by the suction cups in the centre of the tread, also that the heavy broad ribs take the wear and prevent side slip. It is stated that the best of Sea Island cotton and Para gum are utilized in the construction and that the workmanship is first class in every respect. The New York City branch of the company is at 1864 Broadway.

Presto Ford Cigar Lighter.

The Metal Specialties Manufacturing Company, 738 West Monroe street, Chicago, is marketing the Presto Ford cigar lighter, which is designed especially for the model T Ford cars, and current is taken from the magneto of the machine. It is constructed to withstand the voltages developed by the flywheel generator, and the electricity heats a platinum wire contained in the lighter, enabling the lighting of a cigar. The device comes with 10 feet of silken cord and can be easily installed by attaching one of the leads to the magneto terminal and the second to metal or ground. By pressing a button in the top of the handle of the lighter, the circuit is closed, heating the platinum. All metal parts of the device are thoroughly insulated and the instrument is not only handy, permitting as it does lighting a cigar in a gale of wind, but it makes for safety. It is moderately priced.

Buckeye Ford Shock Absorbers.

The Central Brass & Fixture Company, Springfield, O., announces a new set of shock absorbers designed for Ford automobiles. There are three in a set, one being utilized in the front and two at the rear of the machine. The principle of the Buckeye absorber is the absorption of the recoil of the spring, it being accomplished by a spring coil and strap arrangement. The springs are fully oiled and tempered and the absorber fitted to the front of the chassis is secured by a clip device, easily attached and locked. The rear members are attached as readily. It is claimed that the Buckeye will prevent excessive compression as well as undue recoil of the springs. The set is inexpensive and may be fitted by the most inexperienced.

RECENT PATENTS.

Vehicle Wheel, John Sinnott, Philadelphia. A vehicle wheel comprising a hub, a rim, two sets of shoes, one set being arranged alternately to the other, and springs between the fixed and movable members, also springs in the spoke housings.

Lubricator, Alexis R. Pribil, Detroit, assignor to the Penberthy Injector Company of the same city. A lubricating cup for explosive motors, having a sight chamber and a ball valve, also means for regulating, starting and stopping the flow of oil.

Battery, Charles F. Burgess and Carl Hambuechen, Madison, Wis. A primary battery having a zinc container with bottom soldered in place, a tar paper disc over said bottom and a porous paper lining, said lining having its upper edge trimmed to lie directly in contact with said container.

Exhaust Purifier, Paul Gerli and Guido Blenio, New York City. A device for purifying the exhaust of an internal combustion motor, comprising a tank located below the muffler and divided by transverse partitions into two end compartments, these constituting inlet and outlet members The chambers are connected by tubes and another compartment is provided with an agitating device.

Vehicle Tire, Le Roy Hess, Joliet, and Adelbert S. Burdick, Lockport, Ill., assignors to Samuel J. Drew, Joliet, Ill. A shoe for pneumatic tires comprising an inner wall lapping strips of fabric with V shaped ends, united by strips of cementing material, suitable breaker, complemental beads and a rubber tread.

Lathe Dog, Ralph H. West, Cleveland, O. A lathe dog having an opening for the work, a tail piece and a threaded opening for a set screw at substantial right angles to the opening for the work. The body is provided with an integral set screw guard which bridges and overlies the set screw opening.

Vehicle Tire, Howard M. Ambler, Philadelphia. A pneumatic tire having a flanged tread and a solid tire mounted upon flanges which fit those on the casing.

Engine Starter, Ernst A. Bostrom, Atlanta, Ga. The combination of a shaft and crank, an intermediate coupling and means for preventing the reverse direction of crank.

MAYO JOINS MAGUIRE COMPANY.

H. C. Mayo, one of the most popular automobile salesmen of Boston, and for many years associated with the Peerless company of that city, has joined the sales organization of the J. W. Maguire Company, agent for Pierce-Arrow cars, made by the Pierce-Arrow Motor Car Company, Buffalo, N. Y. Mr. Mayo will travel through New Hampshire and Vermont.

WHITNEY IS SOUTHERN MANAGER.

H. C. Whitney, for several years general southern representative of the American Locomotive Company, maker of Alco cars, and more recently connected with the branch of the Locomobile Company of America, Bridgeport, Conn., maker of Locomobile machines, at Atlanta, Ga., has taken the position of southern district manager of the Lozier Motor Company, Detroit, maker of Lozier cars. Mr. Whitney is well known in the South, where he is best remembered for his famous automobile trip through the southern states, when he opened up 21 new agencies and did over $1,000,000 in business. As district manager for the Lozier company Mr. Whitney will make his headquarters at New Orleans.

NEW CHANDLER DISTRIBUTORS.

The Chandler Motor Car Company, Cleveland, O., has designated the following new distributors of Chandler cars: Chandler Sales Company, Cincinnati, O.; Overland Automobile Company, Denver, Col.; Joseph DeBona, Eagle Pass, Tex.; W. C. DeForrest & Son, Sharon, Penn.; Chandler Motor Car Company, Baltimore, Md.; American Motor Sales Company, Burlington, Ia.; R. W. Tierney, Fall River, Mass.; Guy W. Lawrence, Gardiner, Me.; W. W. Kenble, Greenwich, Conn.; Burke Bros. Company, Jersey City, N. J.; Van's Garage, Kingston, N. Y.; A. V. Hageman, Lorain, O.; Smith & Johnson, Manchester, N. H.; Spencer, Wilkie Motor Company, Morristown, N. J.; Banker Auto Company, Muscatine, Ia.; Van Motor Company, Newburg, N. Y.; F. E. Lockwood & Co., Norwalk, Conn.; Nathaniel Fink, Paterson, N. J.; William P. Young, Pottstown, Penn.; Stryker & Stryker, Red Bank, N. Y.; J. C. Henry, Somerville, N. J.; N. L. Otis, South Bend, Ind.; William A. Clark, Stamford, Conn.; E. Neumann & Sons, Stapleton, N. Y.; H. L. Fink, Westfield, N. J.; J. Ralph Seidner, Youngstown, O.

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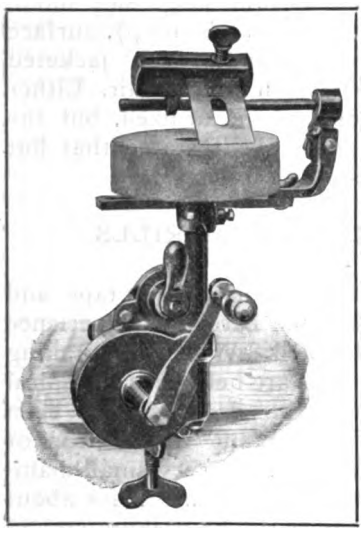
GARAGE AND REPAIR SHOP EQUIPMENT.

ARBOR presses may be employed for a number of purposes in the repair shop, such as straightening rear axles, for example. Edwin E. Bartlett, 330 A street, Boston, manufactures a wide variety of Greenerd arbor presses and in an accompanying illustration is shown the No. 7, one of the largest types produced by the concern.



Luther Grinder Attachment.

It takes a diameter of 36 inches and has a leverage of 250:1, and a pressure of 25 tons is obtained easily. No change in principle or design has been made from the well known No. 5 Greenerd machine except in size and capacity. When the lever is in the position indicated in the illustration, the rack or ram may easily be moved up or down by means of the hand wheel.

The knee is operated by the crank shown, revolving a screw through a pair of miter gears. This screw runs in a nut in the base. The design is such that the knee can be lowered to its extreme position without the screw reaching the floor, making it possible to place the press in any position without cutting the floor for the screw. The knee is held to the frame by two studs and nuts, the nuts being adjusted and locked so that the knee can be moved easily. The pitch of the elevating screw is such that these nuts do not require tightening to hold the knee under the heaviest of pressure.

The No. 15 Greenerd is especially adaptable to automobile repair shops and has advantages over the No. 3.5, 4 and 5 sizes in that the capacity is 36 inches between the uprights and the opening under the revolving plate is 10 inches. One man can obtain seven tons, while two can secure 10 tons pressure. The maker is issuing a circular on arbor presses, which will be mailed upon request.

LUTHER HONING ATTACHMENT.

The Luther Grinding Manufacturing Company, Milwaukee, Wis., is marketing a new plane bit and chisel honing attachment for its machines of the Best Maide type. The parts to be sharpened, etc., are held rigidly in a clamp, which is moved back and forth across the face of the wheel, insuring a perfect angle and a smooth edge. The wheel is run in a horizontal plane. The Best Maide types of machines have a double grit wheel, the face side of the wheel on which the hone runs being extra fine for finishing purposes. This same attachment can be utilized on the round face of the wheel and the machine clamped into a horizontal position, as shown in the illustration.

A PATTERN HINT.

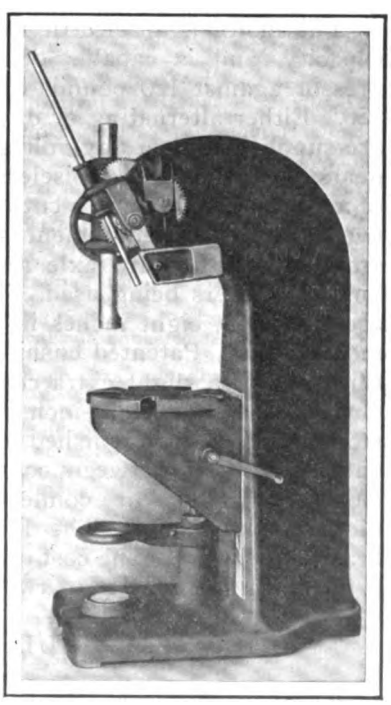
All metal patterns should be thoroughly cleaned with a stiff brush, then coated with a brush having plenty of beeswax in it and dipped in powdered plumbago. Brush the pattern well and it will draw much better and a smoother casting will be the result.

IMPROPER USE OF REAMERS.

A reamer should never be employed to ream out a pipe of any kind. The scale inside the tubing caused by the flux used in welding or brazing is as hard as glass, and no reamer can be made hard enough to cut it.

ACKLIN BREATHER-OILER.

Some types of old motors are not fitted with breathers to relieve pressure in the crankcase, which results in a loss of lubricant. The Acklin Stamping Company, Toledo, O., is manufacturing a combination oiler and breather, the main body of which is of No. 16 gauge sheet steel. The metal is drawn to a depth of five inches and the bottom is necked so that there is one inch diameter at the lower half of the shell, while the upper part is 2.5 inches in diameter. A bead is thrown up around the bottom, and the flange is permanently secured in position by it and by the metal in the end of the shell being expanded back against it on the other side, making a rugged joint.



Bartlett Greenerd Arbor Press.

The cap is constructed of a lighter steel and is held on the breather by means of a bead which fits over a similar member on the main piece. There are openings in both the cap and the breather and these members may be adjusted as desired. The cap is easily removable.

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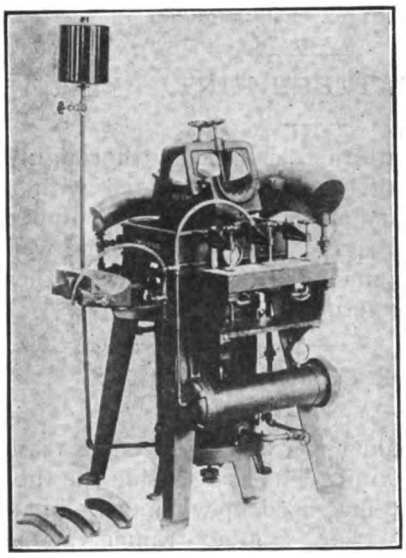
BRUNNER AIR COMPRESSOR.

The Brunner Manufacturing Company, Utica, N. Y., maker of Parker and other forms of air compressors, is producing what is termed the No. 50 portable outfit, which is high grade in every particular and designed to meet every requirement of service in public or private garages. It is a complete unit, as will be noted by an accompanying illustration, and is easily operated, a socket being fitted to a convenient circuit.



Hill-Stage Vulcanizer.

The compressor has a capacity of one cubic foot of free air a minute, and the utilization of a safety valve permits of any desired pressure. The tank is of extra heavy steel, tested to 250 pounds, and is 30 inches long and 12 in diameter. Its capacity is 15 gallons (two cubic feet) and it is claimed that it will inflate two flat tires and harden up from eight to 12 according to their size. When the container is filled it will inflate one 36 by 4.5 casing to 90 pounds, also three to six ordinary sizes before it is necessary to start the motor.

The motor is an electric unit, .25 horsepower capacity, and is capable of starting the compressor against 120 pounds and increasing it to 150. Either alternating or direct current motors are supplied, and of any voltage and cycle. The gears are held to be noiseless through the use of a rawhide pinion and a cut cast iron spur. The truck carrying the equipment is substantially constructed, the forward axle revolving on a king bolt, no casters being used. The forward wheels are cast iron, eight inches in diameter, the rear members 10. Patented cushion tired wheels are furnished at a slight extra cost. Each outfit includes 12 feet of .1875-inch rubber tubing, one stop cock, a 2.5-inch polished brass gauge, a globe valve controller between compressor and tank, electric cord and a tire connection. The finish is gloss black enamel. The fittings are polished brass and copper. The cost of operation is stated to be from one-quarter to two cents an hour.

HILL-STAGE VULCANIZER.

The Hill-Stage Company, Anderson, Ind., is marketing what is termed its No. 4 A outfit, which combines compactness and capacity, and it is moderately priced. The unit is wholly self-contained and has a jacketed boiler of large size equipped with either a gas or gasoline burner. It has a capacity of four casings, three tubes, one motorcycle and two bicycle tires at one heat. It is adapted for casings up to four inches, all sizes of tubes and any motorcycle tire.

The equipment includes one tread mold for casings, two inside molds, one large side mold, bead molds (both clincher and Dunlop), surface heating motorcycle molds and steam jacketed bicycle molds, also expansion tank for air. Either air bags or solid pads may be utilized, but the former are recommended. It is stated that but three sizes of air bags are necessary.

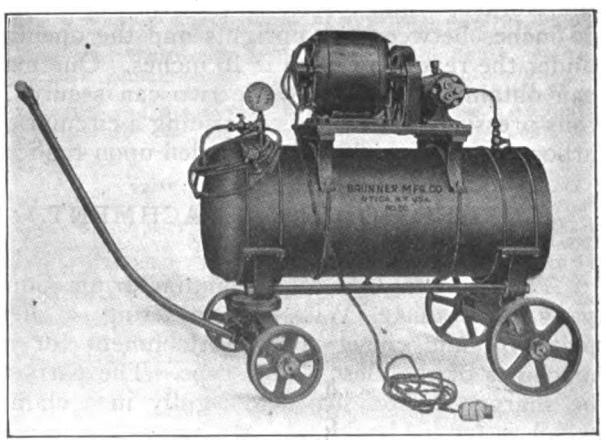
HARDENING SMALL DRILLS.

Hardening and tempering small taps and drills requires considerable care and experience if perfect work be obtained. When undertaking the work the drills or taps are held with the spiral or thread immersed in lead which has been brought to the melting point in an iron or earthenware crucible. Pieces of very small diameter should be left in the molten metal for about 60 seconds. They should then be withdrawn and plunged into cold water. If the bath be of the correct temperature no lead will adhere to the work when they are removed. After chilling the tools should be cleaned and tempered.

The most convenient method is to lay them on a sheet of old iron held over a charcoal and gas fire. The tray should be rocked a little during the process in order that the pieces may be heated uniformly. When they attain a dark straw or gold color they should be again plunged in water. It is held that by the above treatment the degree of heat is strictly limited, and it is impossible to burn the edges as with an open fire.

BUFFALO AIR BRUSH.

The F. J. Leder Company, Buffalo, N. Y., is manufacturing the Buffalo air brush, which is a small automatic hand device designed for spraying or atomizing paint, oil, gasoline or similar substances. It is operated by compressed air and



Brunner Portable Air Compressor Outfit Utilizing Electricity for Driving the Compressor.

may be fitted with a flexible air hose if desired. The spray may be controlled as required. Special outfits are made for painting bodies, etc.

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SUGGESTED FAN ATTACHMENT

It Provides for Two Speeds and Neutral and Is Controlled from Seat.

It is customary to remove the fan belt in extreme cold weather and to replace it when needed, the change being made in accordance with the judgment of the operator. Many times the temperature will rise rapidly or fall suddenly in the winter, resulting in the motor overheating or becoming too cool to obtain maximum efficiency from the fuel. A suggestion for a two-speed fan appeared recently in The Commercial Motor, an English motoring print, which is reproduced, and although primarily intended for commercial cars, could be adapted to pleasure vehicles.

An accompanying sketch shows the device with the components lettered. It comprises, in addition to the details set forth, a connection from the lever member to the dash whereby the driver can utilize either of the two speeds or render the fan inoperative. The materials employed were obtained from the scrap heap with one exception, the rubber rollers.

The device comprises a casing of about 4.5 inches in diameter, which was constructed of a four-inch pipe having the threads turned off. This is free to revolve independently from the shaft. Inside of the casing is a perfectly plain wheel which is keyed to the shaft and is 2.5 inches in diameter, also four rubber rollers which are mounted on pins protruding from the disc member. The last named carries the pulley, from which power is transmitted to the fan, and is so mounted that it is free to turn and slide through a limited distance along the shaft.

The rubber rollers were made from three-gallon ammonia flask stoppers. These are of slightly greater diameter than the difference between the radii of the inside of the case and the wheel. In assembling it is necessary to force them into position and by this means they remain under compression, which prevents slipping. Small holes are burned or punched through the rollers, and brass tubing of suitable diameter and length is forced into position to act as bearings.

On the plate of the disc and on the side of the wheel are screws with the heads protruding, so that when the disc is shifted toward the casing the heads interfere, and the pulley wheel is driven at the same speed as the shaft. The shifting of the disc is accomplished by means of the lever which protrudes through the floorboard. Pressure on the brake member, which can be located in either an "in" or "out" position, causes the casing to come to a standstill, and the disc being moved toward the timing gear casing as far as possible, the pulley wheel is caused to revolve at approximately half the speed of the shaft. When the brake is released and the improvised dog clutch is disengaged, the casing revolves in the opposite direction to the shaft, due to the rollers remaining idle. This obtains the two speeds referred to. The rollers are the most delicate part of the device. When replacement becomes advisable, however, it is only necessary to loosen the collar member, which serves to retain the casing on the shaft.

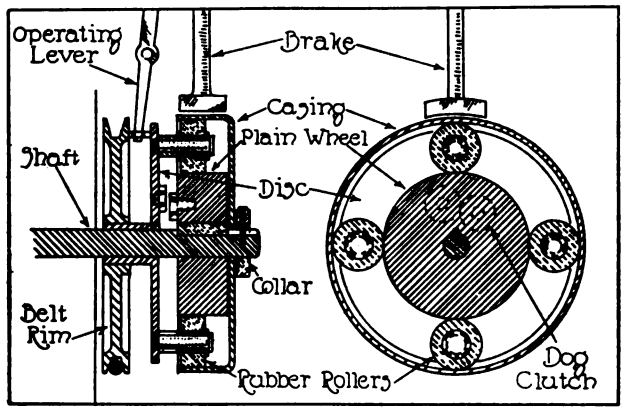
FOUR VS. SIX-CYLINDER CARS.

President of Mercer Automobile Company Discusses Present Situation.

It will be remembered that about a year ago it was freely predicted that the season of 1913 was to be a six-cylinder year. The machines on view at the various shows last winter failed to bear out this assertion entirely, although the number of new sixes was noticeably large. The following discussion of the subject is from the pen of William T. White, president and general manager of the Mercer Automobile Company, Trenton, N. J., maker of Mercer cars:

It is our confident belief that the popularity of six-cylinder cars is gradually on the wane, and that before many months four-cylinder cars will again be in greater favor than they ever were before. This belief is borne out by the fact that buyers of the current season are extremely painstaking in determining the weight, fuel consumption, tire mileage and general upkeep expense of the car they contemplate buying.

This condition is quite largely the result of the rapid



An Epicycle Gear for Fan, Permitting Two Speeds as Well as a Neutral Position.

rise in the price of gasoline. The average motorist can very easily see the folly of using a six-cylinder car and getting only about seven or eight miles to the gallon of gasoline, when he can secure a high grade medium weight four-cylinder car that will average 12 to 14 miles to a gallon of fuel. Coupled with the excessive use of gasoline in a six-cylinder car he has tire and general upkeep expense almost out of reason, owing to the extra weight.

It has always been claimed for the six-cylinder car that it is superior to the four because of its efficiency and flexibility. This may be true so far as the comparison with some four-cylinder cars is concerned, but the Mercer Automobile Company has been very successful in its manufacture of four-cylinder cars, and anyone who will take the trouble to investigate will find that it would be very difficult indeed to find a six-cylinder motor capable of showing greater efficiency, flexibility, silence, or smoother operation than the Mercer motor. As for speed, it is a well known fact that no speed records of any consequence have ever been made with anything but four-cylinder cars.

Europe has always been a fairly good barometer of the trend of automobile conditions, and it has been observed that already the French and English makers are reverting to fours after several years of very strenuous six-cylinder activity. Over on the other side the four-cylinder motor is unquestionably now recognized as the standard, and the six is slowly but surely being rejected.

It is true there will always be six-cylinder advocates, but the present outlook indicates most clearly that four-cylinder cars are again coming into popular favor.

It will be noticed that the trend of design in both Europe and the United States is toward the motor that has a bore not larger than 4.5 inches and is capable of very high speed, some attaining 3000 revolutions a minute, and developing much greater horsepower than the old motors of larger bore or the newer motors having six cylinders.

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TRUCK SERVICE IN PUBLIC GARAGE.

Outlining Methods of Systematic Attention to Machines by Which the Average Garageman May Build Up Successful Commercial Vehicle Business.

WHILE in most cities garages make a specialty of caring for pleasure cars, it is nevertheless true that the rapid increase in the use of commercial motor vehicles has directed attention to the care of such transports. Numerous service station proprietors who have given consideration to the future possibilities have made preparation to handle this business. While many concerns utilizing motor trucks maintain their own private garages, the matter of having their vehicles inspected systematically and regularly is of decided moment. It is recognized that with expert care and inspection the machines are kept in better condition and the liability of costly breakdowns on the road is minimized.

The result has been that garage owners who have entered this field have been given a lucrative trade, both in the matter of storage and of weekly or monthly inspections and repairs. As in the case of maintaining pleasure cars, it is necessary that some sort of system be adopted to record the various transactions connected with service to commercial machines, for many of the problems relating to expense and keeping accurate account of the time spent upon each job are identical.

CONTRACT WITH OWNER.

The Eastern Garage & Service Company, in consideration of ..... dollars, hereby agrees to provide a weekly inspection, and to keep in perfect running order for one year from date, exclusive of the expense of new parts, the .... ton ..... truck, kept at the garage of said service company, and owned by and operated under the direction of .....

Date.....

Signed

.....For the Owner.

.....Garage Representative.

Fig. 1—Contract Covering Full Service, Six Inches Long and Three Inches Wide.

CONTRACT WITH OWNER.

The Eastern Garage & Service Company, in consideration of .... dollars, hereby agrees to provide a weekly inspection, and to keep in perfect running order for one year from date, exclusive of the expense for new parts, the .... ton ..... truck, owned and operated by ....., and kept at the latter's garage, said truck to be delivered at garage of Eastern Garage & Service Company for the inspection and necessary repairs.

Date.....

Signed,

.....For the Owner.

.....Garage Representative.

Fig. 2—Contract Covering Weekly Inspection Service, Six Inches Long by Three Wide.

The system installed should be as simple as practical results will allow. It is assumed that the garage will render service and care for trucks other than those for which it may have the agency, in order that its business may be developed to the maximum point. With the Eastern Garage & Service Company, which name is assumed for the purpose of illustrating an efficient truck station system, the service given is of two types. The plan is one that has been employed with good results by a factory branch in one of the larger cities. The types of service are explained in the contract forms shown at Figs. 1 and 2. The former provides for inspection and service for trucks kept at the garage of the service company, while the second contract covers the same essentials for machines owned by business houses having their own garages, but without the facilities for expert attention. In the latter instance the trucks are regularly presented at the garage of the service company for inspection and necessary repairs.

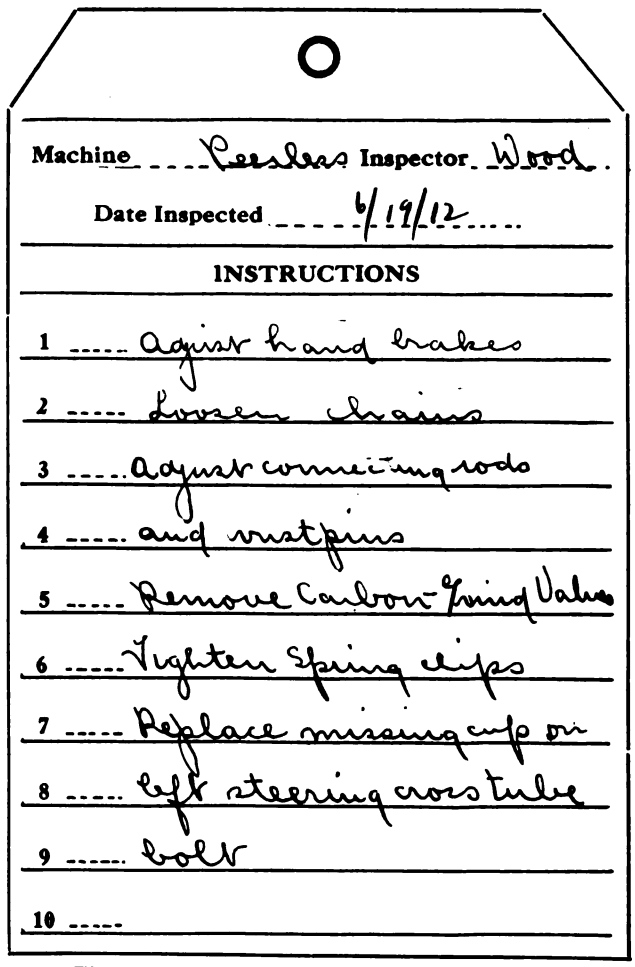

Fig. 3—Repair Ticket, Four by Seven Inches.

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It must be borne in mind that in entering this field most of the work will be done at night, inasmuch as the machines are in constant use during business hours, except in the case of accidents, which cannot, of course, be foreseen. In many instances owners have relied upon pleasure car garages for truck service, and while the work performed has been painstaking and thorough, there has been much to be desired. In the pleasure car garage, the bulk of the repair work is done in the day, the night force consisting of employees who clean, oil, etc., and many stations do not pretend to give the same service at night as in the day. Another reason for this difference is that the machine and tool facilities, and the stock, are not available at night, for these

REPAIR TICKET

Machine Peerless Truck Owner R. H. Preble Co

Received June 27-'12 Promised 4 P. M. June 29

Start	Finish
6:28 10:30 A. M.	6:28 12:00 M.
6:28 1:05 P. M.	6:28 3:20 P. M.
6:28 4:05 P. M.	6:28 5:10 P. M.
6:29 8:15 A. M.	6:29 8:25 A. M.
6:29 2:15 P. M.	6:29 3:35 P. M.

Total Time 6 hours 20 mins

NEW PARTS.

One Grease Cup

Repairman A. Ames Foreman Johnson.

Fig. 4—Reverse Side Repair Ticket for Checking Time.

are under lock and key and accessible only to those responsible. Where commercial motors are cared for to any extent, however, these conditions are reversed, and employees with the required equipment are at hand to perform all necessary repairs that may develop.

The contract specifies what repairs shall be assumed by the company. It is bound to make such adjustments at once, but if the report indicates that work not covered by the contract is required, the owner is apprised of this, and can use his own judgment in the matter. It hardly will be expected that such repairs will be delayed longer than is absolutely necessary.

When the inspector has discovered necessary work the office force makes out the repair ticket, shown at Fig. 3, which is attached to the car on the floor. The repairman is thus informed as to what is required and no time is lost in going over the machine. Since the contract specifies the

EASTERN GARAGE & SERVICE COMPANY

Stock Requisition Date 6/29/12

Part No.	Model	Quantity		Price	Am't
47		2	Connecting rod bolt nuts	.10	.20
		24	cotter pins		.12
		2	taper pins	.05	.10

Repairman A. Ames || Foreman Johnson

Fig. 5—Stock Requisition, Four Inches Long by Two Wide.

sum to be paid for ordinary care and inspection of all machines, no charge is made for labor, the additional items being for supplies in the quantity used and for new parts utilized in replacements.

It will be recognized that on a majority of nights the only work necessary will be the inspection, oiling, washing and cleaning, taking not more than an hour of a man's time, while at another time, a job may develop which will require several men for a number of hours. Whenever a workman begins work on a truck the time card, which is on the reverse side of the repair tag, as shown at Fig. 4, is passed through the clock, thus registering the hour and minute at which work is started. Whenever he is called away, no matter for what purpose, he first visits the time clock, as a result of which when the work is finished he has a complete record of the job, to which the owner has access whenever he desires. These repair tickets show just what work was done and how long it took, accurately accounting for the workman's time.

When stock is necessary, a requisition blank, Fig. 5, is made out by the repairman and presented to the foreman, who has charge of the stock room under ordinary circumstances. This department is kept under lock and key and the foreman secures the part called for by the requisition. In the case of stock which has been secured and found not to have been needed, provision is made for its return, accompanied by a credit voucher, Fig. 6, which is made out by the foreman and given to the repairman.

EASTERN GARAGE & SERVICE COMPANY

Credit Voucher Date 6/29/12

Part No.	Model	Quantity		Price	Am't
		1	taper pin	.05	.05

Repairman A. Ames || Foreman Johnson

Fig. 6—Credit Voucher, Four Inches Long by Two Wide.

When it is found that unusual repairs are needed, the owner's attention is immediately directed to them and his sanction secured before

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the work is undertaken. Such work usually entails some expense, and it obviates friction when the owner's consent is given before the work is performed. For such work a small slip is filled out in duplicate, one copy of which is sent to the owner and the other retained in the office for reference. On this slip the nature of the work is specified, and its method of accomplishment cited, as shown in the form at Fig. 7. This official notification of such necessary work establishes a responsibility for any condition that might arise for failure to authorize the work needed. The statement of outside work serves to establish the charges as legitimate and also any cause for delay or failure when returned.

The foundation for attention to the mechanical condition of trucks is the reports made by the drivers, who are required to notify the foreman or the office of any trouble experienced or condition developed during the day. If there are in the reports any evidences of need for adjustments, breakages, or damage or wear, these are inquired into immediately and necessary work is begun at once. Experience has proven that it is well to take all the time available, because of possibilities of other developments, and as the

AUTHORIZED REPAIRS—SPECIAL WORK.

Date.....

..... Truck No. ....

Owner, Moulton & Roche.

1 Weld crankcase.

2 New high speed transmission gear.

3 Repair Radiator.

1 Sent to J. F. Ellis Company, Rochester, N. Y.

2 Gear blank forged in shop, cut by Willis & Baker.

3 Sent to maker, Fedders Company, Buffalo, N. Y.

Fig. 7—Small Sheet Made in Duplicate—Original Sent to Owner and Copy to Office.

mechanical force is limited no chances can be taken. Where work can be completed it is taken care of, but in some instances a temporary repair is made until restoration of a permanent nature or replacement is practical. There are times when the tightening of a bolt or the adjustment of a part will mean the saving of many dollars, and nothing needed is left undone.

In addition to the nightly inspection the trucks are systematically inspected and gone over once a week. This duty is usually performed on Sunday, when the vehicles are not in use. The engine is run to determine its condition; the radiating, ignition and lubricating systems are examined; the clutch is tested; the transmission cover is removed and the gears tried by feeling; the chains are loosened, and the jackshaft, its bearings and differential are operated by hand to detect lost motion or wear; the brakes are operated and the connections gone over. Next the wheels are jacked and the condition of the bearings learned by testing with a pinch bar, and the steering gear and the lever arm, tiebar, knuckles and pivots are examined carefully. The work is thorough, and every bolt that is slack is tightened.

Nothing is taken for granted and each piece of work is tested. This means that the machines are always serviceable and that no time is lost except when laid up for painting or perhaps an overhaul. In order that the owner of a truck may know that he is getting the service he is paying for, a weekly inspection blank is filled out after the inspection, one copy being sent to the owner and the other retained at the garage office. This blank covers the work in every respect and is always available for reference when needed or to check against the other repair tags. The sheet indicates that all parts of the machine received attention and that adjustment, repair or replacement was made, with the time for the work, together with such supplies as were necessary and a reading of the odometer to show the work of the truck during the week.

In addition to this, there is a monthly report to accompany the bill, which gives the hours of service for the month, the mileage, the fuel, oil and grease used, the supplies furnished, the parts required, the charges for labor other than regular attention, with a summary of the condition of the truck and suggestion as to work needed or desirable. The value of the weekly report is to show that the truck was systematically examined and the proper care given. The monthly report details the cost of operation aside from the service charge, which, with the other detail available, gives the owner an accurate account of the expense of operation. This report is sent to the owner with his bill, a duplicate being kept in the office.

It readily will be seen that with this system as applied to commercial vehicle service, the interests of both owner and garagemen are conserved. The weekly inspection reports keep both parties closely in touch with each other; the repair tickets show just what work was done, how long it took and how the workman's time was employed; the requisitions, properly checked up at stated intervals, indicate the condition of the stock room at all times. Not only is this a satisfactory method of keeping watch of the business, but the work of the office force is greatly simplified. Much of the system outlined will be found adaptable to the average garage and repair shop, whether or not its service includes commercial vehicles.

Most garages doing business with owners of motor trucks started on a small scale, and this feature will be found lucrative to establishments dealing with pleasure cars. It is an added source of revenue that may well be cultivated as a side issue until such time as the business increases to an extent requiring either a separate building or a substantial addition to present facilities to be used as a commercial service department. The demand for a suitable check upon the various departments of a garage is so apparent that the suggestions given herein may be found of distinct value in working out a plan to meet individual needs.

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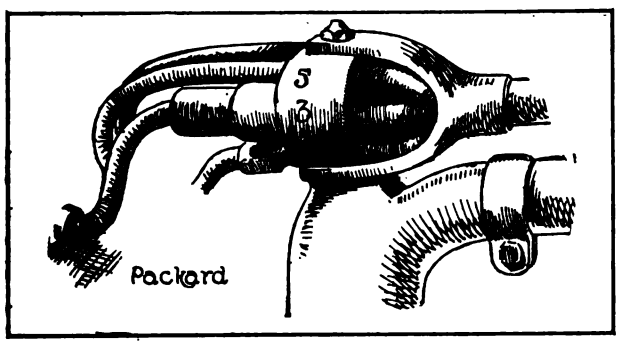
PROTECTING THE HIGH-TENSION CABLES.

THE owner of the modern automobile, whose experience is limited to the more recent types of internal combustion engines, does not fully appreciate the perfected ignition systems now in service. Instead of a tangled mess of wires, inviting trouble in the shape of short circuits, bothersome coils and exhaustible batteries, are compact, durable, efficient magnetos and simple wiring methods. And in place of yards of primary and secondary wires are a few short leads. Improved terminals and water proof instruments have reduced the care of the present ignition system to a minimum, the magneto requiring no other attention than an occasional oiling.

As the high-tension cables carrying the current get severe service, it is well to give these members the slight attention they require. They should not be exposed to the deteriorating action of heat or oil, either of which will in time lay the foundation for trouble in a mysterious miss or a loss of motor efficiency. It should be borne in mind that the wires carrying the high-tension current are subject to a pulsating current of high

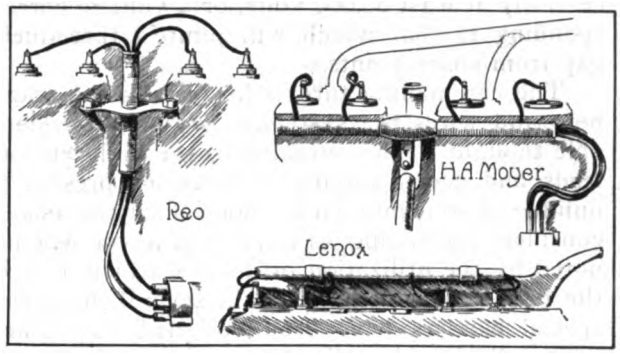


Illustrating Packard Method of Supporting High-Tension Cables and Numbering of Leads to Facilitate Location of Troubles.

voltage, but small capacity; that is, the current is small. The uniform carrying capacity of this cable is between No. 14 and 15 B & S gauge. The conducting material is sub-divided into finer wires for the sake of flexibility as well as for mechanical strength. High-tension wires are subject to a capacity effect which is inherent in all high-tension apparatus that carries a pulsating or varying current, such as an alternating one.

This capacity effect is sometimes apparent, especially when the cables are covered with dirt and water, forming a temporary conductor of greater or less conductivity. It is pointed out by the Packard Electric Company, Warren, O., manufacturer of ignition cable, that this is sometimes mistaken for a break down of the insulation, which is denoted in the dark when a light blue or tiny spark can be seen to jump from the wire to metal parts of the chassis, or to ground.

The company holds that this phenomenon does not indicate that the insulation has broken down or is even weak, for this so-called static effect is apparent in all insulation wires, but is magnified or intensified when the outer insulation is covered with water or dirt. The disagreeable effect of such phenomenon is demonstrated by the fact that a person can experience a severe shock by touching the high-tension cables when they are

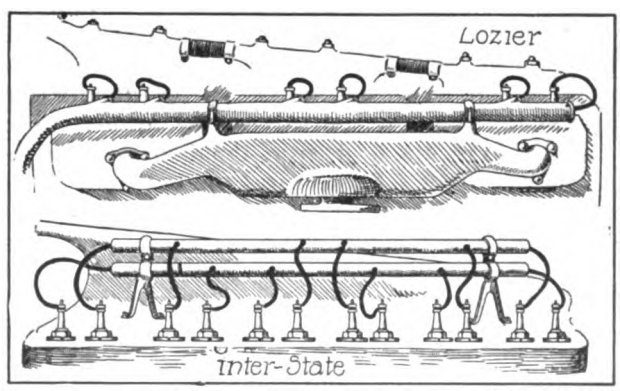


The Lenox Employs a Tube Clipped to the Water Manifold and the Reo a Vertical Tube Between the Cylinders—Moyer Design Is Also Shown.

wet, and if they are run sufficiently close to iron it is possible that enough heat will be generated at a single point where this static current is jumping to the metal, to heat the cable at that point and eventually burn it through until there is an actual break down from the conductor to the iron frame. Under the last named condition a new wire will be required.

There is another effect to be considered, namely, that of mutual induction. If two wires are parallel to each other and close enough, a supposedly dead conductor will be caused to have generated in itself from the effect of the live conductor in proximity to it, a sufficient voltage to jump across the spark gap of the plug, thereby producing two explosions at the same time, one of which is, of course, out of time. The effect of the static current on the outside can be reduced by sufficiently enlarging the diameter, but this is again limited to the size of the terminals provided on the magneto, coils, etc., and the cost of the cable is also a factor.

For example: Increasing the diameter by two; that is, doubling it, would make the cable contain 267 per cent. more insulating material and would only decrease the capacity effect 36 per cent. The effect of mutual induction can



The Inter-State Has Dual Tubes Well Away from the Cylinders and the Lozier a Single Tube.

be reduced by separating the cables so that they will be about an inch apart.

It has been held by some that a high-tension

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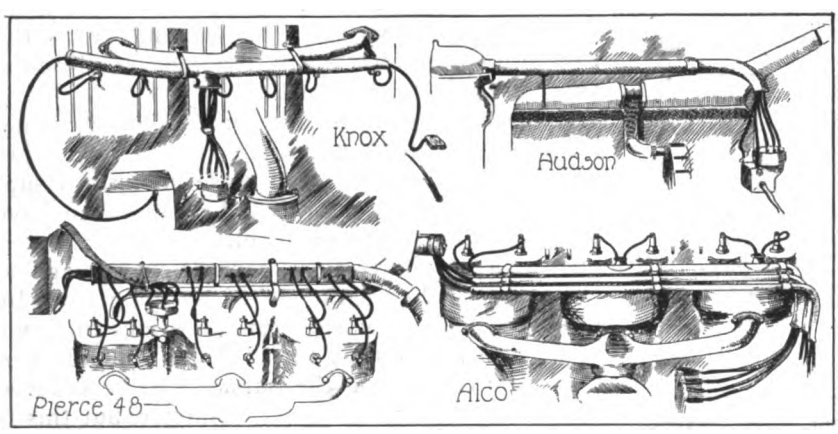
cable will leak in service after becoming dry. The Packard Electrical Company states that while it may be true of ordinary cable, it does not apply to a high grade wire. Relative to the usual breakdown tests of a high-tension cable it may be stated that it should be able to withstand successfully at least 30,000 volts, or a voltage corresponding to that which will jump a three-inch gap from sharp points.

The car manufacturer who installs the magneto and wires the system, has given considerable thought to the retention of the high-tension leads and accompanying illustrations present a number of conventional methods. That the maker considers the wiring an important factor will be noted by the utilization of devices which add to the cost of production, and in several instances special carriers have been designed. In practically all of the installations coming to the attention of the writer, the wires are so supported that opportunity for mutual induction is reduced to a minimum.

In several instances the wiring has been greatly simplified by utilizing a numbered carrier; for example, the cable connecting the No. 3 terminal of the distributor of the magneto and the plug of the third cylinder is plainly marked. The Packard 38 utilizes this arrangement, as will be noted by an accompanying illustration, which depicts the special carrier and shows the leads entering a tube. Another Packard model employs a form of numbered block. With both, it is possible for the owner to trace a faulty connection very easily.



Showing Differing Installations of High-Tension Cables, Including Those Utilized on the Knox, Hudson, Pierce-Arrow and Alco.

The Knox and Hudson employ a tube for carrying the high-tension cables, the former utilizing it also for the leads from the distributor of the battery system. These wires are led from a central opening of the tube, while those connecting with the spark plugs have individual openings. The Hudson carries its wires from the dash through a rubber hood, thence to a straight tube having an end curving downward and ending in proximity to the distributor device of the Delco system employed on this make.

The carriers are not always constructed of non-conductive material, as is noted in the case of the Alco and the Cadillac. The former employs three pipes, the inside member carrying the leads from the magneto, another the wires from the distributor and the third for the primary members. The Pierce-Arrow favors an aluminum carrier, having a flat top, and provision is made for two sets of high-tension cables, two sets of plugs being fitted to the 6-48. The Lozier also affects metal, utilizing a brass tube retained by studs to the intake manifold, and having hard rubber inserts to protect short circuits by possible chafing of the insulation. The Pierce-Arrow adopts similar precautions against opportunity for short circuits.

The dual sets of high-tension wires of the Inter-State motor are carried in metal tubes, one above the other, the container being fitted with suitable insulation where the leads leave the tubes. The latter are carried on special brackets sufficiently spaced from the top of the cylinders. The Fiat carries its wires in a long brass tube bolted to the cylinder studs, and the White also affects the tube design. The last named car encloses its magneto as well, using a leather cover, a practise noted of a large number of cars.

The maker of the Peerless, which for several seasons has employed a hard rubber cable carrier, continues the practise, and the material of the design shown in an accompanying illustration is in the form of a T, the lower portion of which extends very close to the source of current supply.

A number of makes utilize the outlet water manifold of the motor to support the cable carrier, among which is the Overland. The design referred to is a split clamp like device of fibre, and it will be noted that the wires are well spaced from one another. Just above the magneto the leads are maintained in a separated condition by another similar holder. The Metz employs a construction very similar to that of the Overland. The leads of the Marmon Six are retained in a bracket between the cylinder units, either end of the carrier being attached to the top of the cylinders. A similar method is noted in the Reo with the exception that the bracket retains a tube passing vertically through it and extending well above the top of the cylinders.

The Lenox carries its wires compactly and with a minimum length. Clipped to the top of the outlet water manifold is a copper tube and the use of rubber inserts not only prevents movements of the cables but the possibility of short circuits.

Ebony as a support for the cables is noted on one prominent make of car, while others employ metal brackets, fitting the wires snugly to prevent vibration chafing the insulation. There appears to be a wide diversity of opinion as to the proper protection of the high-tension cables, but it may be said that the majority of the manufacturers so attach the leads that they are not sub-

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jected to heat, dirt or oils. The practise of some to extend the protective material in proximity to the magneto, thereby preventing deterioration through the action of grease, is noticeable.

AUTOMOBILE SECURITIES.

An almost general increase of stock prices characterized the market in automobile securities, due to a steady demand. Gains were registered from fractions to eight points, the latter record being that of Firestone common. Following are the quotations:

	1912		1913	
	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber Co., com...	150	200	150	170
Ajax-Grieb Rubber Co., pfd....	95	100	95	100
Aluminum Castings, pfd.....	..	..	97	100
American Locomotive Co., com.	44½	45½	33¼	33½
American Locomotive Co., pfd..	99	102	104¼	101
Chalmers Motor Co., com.....	..	..	105	115
Chalmers Motor Co., pfd.....	..	..	97	102
Consol. Rubber Tire Co., com..	13	16	21	21
Consol. Rubber Tire Co., pfd...	50	59	72	90
Firestone Tire & Rub. Co., com.	273	276	270	280
Firestone Tire & Rub. Co., pfd.	106½	..	103	105
Garford Co., pfd.....	99	101	92	96
General Motors Co., com.....	35	37	35½	37
General Motors Co., pfd.....	78	79	76	78½
B. F. Goodrich Co., com.....	72½	73	30	31½
B. F. Goodrich Co., pfd.....	107¼	108	90½	92
Goodyear Tire & Rub. Co., com.	330	334	295	300
Goodyear Tire & Rub. Co., pfd.	104¼	105¼	98½	99½
Hayes Manufacturing Co.....	..	97	..	..
International Motor Co., com...	27½	28½	..	5
International Motor Co., pfd..	84	85	10	18
Lozier Motor Co., com.....	..	..	16	18
Lozier Motor Co., pfd.....	..	..	..	90
Maxwell Motor Co., com.....	..	..	4	5
Maxwell Motor Co., 1st pfd....	..	..	33	36
Maxwell Motor Co., 2nd pfd...	..	..	10	11½
Miller Rubber Co.....	..	146	135	140
Packard Motor Co., pfd.....	105	107	..	97
Peerless Motor Co., com.....	..	..	30	40
Peerless Motor Co., pfd.....	..	..	85	92
Pope Mfg. Co., com.....	37	40	9	11
Pope Mfg. Co., pfd.....	74	75	38	42
Portage Rubber Co., com.....	..	..	35	45
Portage Rubber Co., pfd.....	..	..	..	90
Reo Motor Truck Co.....	9¾	10½	..	11
Reo Motor Car Co.....	21	24	..	18
Rubber Goods Mfg. Co., pfd...	..	..	102	106
Studebaker Co., com.....	44	45	22	24½
Studebaker Co., pfd.....	97	99	80	86
Swinehart Tire Co.....	95	97	88	92
U. S. Rubber Co., com.....	..	..	60⅛	60⅞
U. S. Rubber Co., 1st pfd.....	..	..	104	104½
White Co., pfd.....	107½	..	104	108
Willys-Overland Co., com.....	..	..	59	62
Willys-Overland Co., pfd.....	..	..	85	90

GARAGEMEN SECURE STAY.

New York City Association Takes Appeal in Case to Have Ordinance Declared Invalid.

The New York Garage Association, which stands behind the Joscelyn Stable Company, operating the Joscelyn garage, in its court action, has appealed from the recent decision of the appellate division of the supreme court, which held the New York City ordinance relative to the installation of gasoline separators in garages legal. The case will now go before the court of appeals at Albany, the highest court in the state. The Joscelyn Stable Company asked for a writ of mandamus to compel the fire commissioner to issue a garage permit when a separator has not been installed, but this was denied.

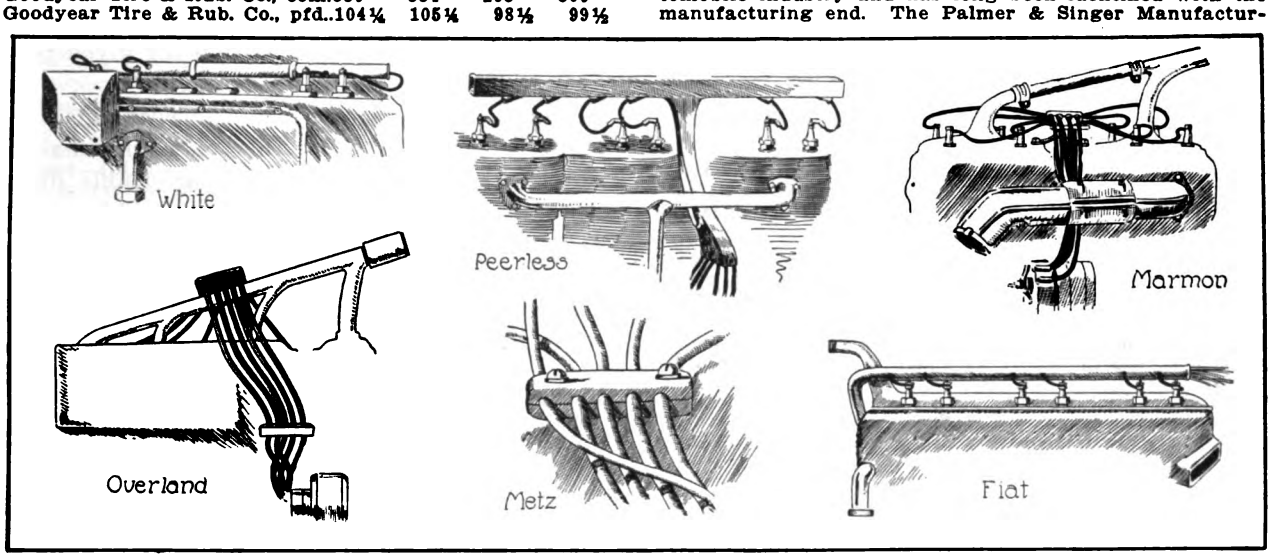
The appeal acts as a stay until a decision has been rendered, which will not be until November or December. The claim of the garages is that the separator device prescribed to remove oil and gasoline from waste water going into the sewer is ineffective, and inasmuch as considerable outlay is entailed in its purchase, the ordinance is inflicting an injustice on the trade. The garage association has been reinforced in its fight by the New York Automobile Dealers' Association and the Brooklyn Garage Owners' Automobile Board of Trade, which recently held a joint meeting to consider the matter.

MATHESON WITH PALMER-SINGER.

Well Known in the Industry He Becomes Western Manager of the Company.

C. W. Matheson, for eight years chief executive of the Matheson Automobile Company, Wilkesbarre, Penn., maker of Matheson cars, has formed an association with the Palmer & Singer Manufacturing Company, New York City, producer of the Palmer-Singer automobiles. Mr. Matheson will be western manager, in charge of the business of the company in the territory between Pittsburg, Penn., and the Pacific Coast.

Mr. Matheson is one of the best known men in the automobile industry and has long been identified with the manufacturing end. The Palmer & Singer Manufacturing Company recently doubled its factory output and is preparing to double it again within the next 12 months. The company is therefore in a position to develop the western territory, which was neglected in the past.



Indicating That There Is a Difference of Opinion with Makers as to the Proper Method of Retaining and Protecting the Leads Conveying the High-Tension Current to the Spark Plugs.

PREST-O-LITE HAS TWO SHIFTS.

The Prest-O-Lite Company, Indianapolis, Ind., has placed its plant at Speedway on a day and night basis. The company announces, however, that the demand for acetylene tanks still keeps the factory considerably behind its orders.

BOSCH ENLARGES SERVICE FACILITIES.

Establishes Branch at New York City, Which Takes Over Details of Business of Executive Office.

A New York branch of the Bosch Magneto Company, New York City, has been organized for the purpose of giving undivided attention to the increasing number of Bosch users in its territory. The details of operations previously carried on by the executive officers and staff are now taken care of by the new branch, in a field, known as the Eastern territory, made up of all the states east of the Ohio and Mississippi rivers.

Space in the Bosch building, 223 West 46th street, New York City, has been temporarily made over to the new branch, and its activities will be carried on there until the growing needs of the executive office and main office forces, or the normal increase of its own needs shall make it necessary to find new quarters. Alfred J. Poole, formerly assistant chief engineer, has been appointed manager of the new branch, and with a staff of experienced assistants is aggressively furthering the business of the company.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

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CARRYING STAPLE GOODS.

When a business man discovers that he is expected to have in stock lines that are well known, a fact which he quickly learns, he also appreciates that the products most widely advertised have the greatest demand. The reason is not hard to find. The articles that are continually brought to the attention of the public through recognized mediums soon come to be regarded as standard and staple. They carry with them the reputation of the maker and his intention to maintain their character and value, a consideration which has its effect upon the general public.

A firm's money invested in this class of goods is more quickly turned over than can be true of lines that are not advertised and which are little known in consequence. It is obvious that it requires much more time and salesmanship to dispose of an article, concerning the worth of which the customer must be convinced, many times against his better judgment. The extra profit that may be derived from such a sale is more than offset by the fact that no argument is necessary in order to acquaint the purchaser of the merits of the well advertised product, to say nothing of the possibility of dissatisfaction arising from the acquisition of inferior goods.

It also is well to remember that the advertised merchandise has no opportunity to deteriorate on the shelves. The capital invested is not tied up for long periods, nor is it subjected to a percentage of loss on the final disposition of the stock. It not only pays to advertise, but it pays to carry advertised goods.

SPECIALIZING DISTRIBUTION.

While it cannot be contended that the principle of placing the product of the factory in the hands of a sales company for distribution is by any means new in the industry, there appears to be a decided tendency toward the adoption of this method. Within the past few months several new companies have been formed to take over the entire output of certain factories, with sales rights in this country and abroad, while other manufacturers have abandoned their local branches to place the distribution for given territory in the hands of sales companies.

The movement is quite in line with this age of specialization. Under this plan, the maker occupies the position of being responsible only for the actual production of the machines at a fixed manufacturing price, while the marketing is to be done by concerns making a specialty of sales policies. Although the wisdom of this may be questioned by some, the principle appears sound. It would seem that those best fitted to engage in their respective fields could lend their co-operation to each other in such manner as to be provocative of the best results.

GENEROSITY IN GIVING SERVICE.

Much stress has been laid upon the giving of service to garage patrons. So fine has the line been drawn that it is sometimes difficult to distinguish where gratuitous service begins and ends. No garage should fail to give patrons those little attentions which go to make its service agreeable, but it is undeniable that there are many who are prone to take undue advantage of a system which permits of slight services for nothing.

There are many who enter a garage and request that certain things be done to their cars, consuming considerable of a mechanic's time, for which the garage has to pay. They imply that this work is to be done as a favor and it is difficult to determine just how far car owners may be permitted to go along this line. To affront them may mean the loss of customers and revenue. It is a situation that calls for tact and a patron's record must in many cases be the determining factor regarding generosity in service.

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TRADE INFORMATION EXCHANGE

BUSINESS PROPOSITIONS.

Opportunities Are Offered Below for Agents to Secure New Lines, for Manufacturers to Extend Their Representation, and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. All Are Opportunities for Live Men and Firms Seeking Profitable Relations.

The Following Details of Trade Opportunities Presented by Members of the Trade Information Exchange Are Published Without Names, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

ACCESSORY AGENCIES WANTED.

2814—Texas Firm, recently changed hands, is in the market for all kinds of automobile accessories and supplies.

9842—New York State Company, under new and progressive management, is interested in all kinds of accessories and supplies for pleasure and commercial vehicles.

2632—Iowa Concern, which has enlarged its plant for increased business, would like additional lines of first class accessories and supplies.

5866—Iowa House, with several makes of standard motor cars, can handle to advantage new lines of automobile accessories and supplies.

6332—Minnesota Firm, increasing its scope of business, is in the market for all kinds of automobile supplies and accessories.

5907—Illinois Company, agent for a line of high grade cars, is anxious to handle approved makes of accessories and supplies.

5639—Michigan Concern, conducting a first class repair and automobile supply station, can handle accessories and supplies of guaranteed manufacture.

3864—Florida Supply House, incorporated for $50,000 and occupying modern quarters, is interested in accessories and supplies for pleasure cars and motor trucks.

3957—New Zealand Company, planning to build electric vehicles, is in the field for electric motor car chasses, bearings, brakes, chains, controllers, sprockets, wheels, rims, motors and general accessories for building vehicles complete.

7315—California Company, recently established, is interested in accessories and supplies for pleasure and commercial vehicles.

7634—Texas Firm is in the market for a complete line of accessories and supplies for automobiles.

7854—Michigan Party would like information relative to all parts for motor truck assembly, except motors and tires.

7894—Missouri Company, under progressive management, will investigate automobile accessories, etc., and garage and repair shop supplies.

4758—District of Columbia Firm, making a specialty of supplies, would like repair shop supplies and accessories for automobiles.

6247—Connecticut Firm is in the market for automobile accessories and garage and repair shop supplies.

6124—Minnesota Company desires information of automobile, garage and repair shop supplies.

EQUIPMENT NEEDED.

8643—Florida Firm, doing a big supply business and covering a certain part of Florida and all of the South bi-monthly, is in the market for all kinds of repair shop supplies and garage and repair shop equipment.

6935—Michigan Repair and Auto Supply Station, recently established, desires garage and repair shop supplies and equipment, including machine tools, etc.

3462—Minnesota Company, increasing its business, is interested in all kinds of equipment and supplies for the garage and repair shop, including tools and other necessities.

8675—Iowa House, handling two standard makes of cars, is in the market for garage equipment.

6231—Iowa Firm, making extensions, is in the market for garage and repair shop equipment.

8249—New York State Company, under new management, is interested in all kinds of equipment for the garage.

8142—Texas Concern, recently changed hands, is in the market for equipment for garage and repair shop, machine tools, etc.

5126—Oregon Company is interested in machine tools and repair shop equipment of all kinds; also garage equipment, including lathe, drill press, air pump, vulcanizer, etc.

4931—Illinois Firm, enlarging its business, wants equipment for garage and repair shop, also machine tools.

6857—Connecticut Concern, recently formed, is in the market for machine tools, garage and repair shop equipment.

3148—Michigan Company would like to secure good line of garage and repair shop equipment, including machine tools and fittings for automobiles and power wagons.

5891—Illinois Firm, engaged in repair and general automobile business, is interested in machine tools, garage and repair shop equipment and power wagon fittings.

2351—California Company is in need of repair shop equipment for repairing and retreading automobile tires.

CAR AGENCIES WANTED.

6473—Texas Company is in the market for a line of pleasure cars selling between $950 and $2500.

7421—California Concern, doing large business in second-hand cars, can with advantage take on a line of pleasure cars selling from $500 to $1000, and motor trucks from $650 to $1200.

3598—Texas Firm, operating first class garage and repair shop, would like a line of pleasure cars listing between $650 and $2500.

6483—Minnesota House, enlarging place of business, can accommodate another make of automobile to sell between $600 and $1250.

4928—New York State Concern, now handling two standard lines of pleasure cars, would like the representation in its territory of another line listing between $500 and $2000, and motor trucks to sell between $700 and $4000.

3162—Iowa Company, now having additional room, is in the market for another line of pleasure machines listing between $500 and $2000.

7564—Iowa Firm, having good pleasure car business, is about to branch into the commercial field and wants agency for trucks selling from $500 to $1500.

5824—Michigan Company, recently established in modern plant, is seeking agency for pleasure automobiles to sell from $400 to $850, and commercial vehicles listing at $800 to $1200.

3719—New Jersey Company is seeking line of commercial vehicles selling from $800 to $3000; also will take agency for motor fire fighting apparatus selling up to $10,000.

1130—Illinois Firm, conducting automobile agency, supply and garage business, is interested in agencies for pleasure cars selling up to $3500, and motor trucks listing from a low figure to $2000.

4966—Pennsylvania House, recently established, with good line of cars, is desirous of adding a good pleasure vehicle selling between $1425 and $1850.

5098—Illinois Company is desirous of taking agency for pleasure cars selling between $1000 and $2200, and motor trucks listing from $1000 to $2500.

7854—Missouri Firm, strongly established, is interested in securing the agencies for pleasure cars and trucks selling at all prices.

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RECENTLY ANNOUNCED 1914 MODELS.

Packard Adopts Worm Bevel Gear Drive—Church Features Pneumatic Transmission—Marion Brings Out a Six—Two-Speed Rear Axle on Cadillac.

WHILE there has been prediction that the 1914 announcements of the pleasure car manufacturers would offer little that was radically new in design or construction, it would appear that effort had been made by some to present features that are worthy of special consideration. Among the details made public recently may be mentioned the following, particularly attention being directed herein to the important features only:

Marion—Marion Motor Car Company, Indianapolis, Ind. Marion Six models G5, five-passenger touring, and G2, two-passenger roadster. Motor, six-cylinder, L head, cast in threes, 3.75-inch bore, 5.25-inch stroke; lubrication, combination force feed and automatic level splash, in which conventional breather pipe is eliminated; Westinghouse lighting and starting system, with drive direct to the front end of the crankshaft through silent chain at a reduction of 15:1; magneto ignition, multiple dry disc clutch, Marion type rear system with three-speed transmission rigidly bolted to differential housing, left hand drive, centre control.

Packard—The Packard Motor Car Company, Detroit, is soon to produce new 38 and 48 horsepower models which will incorporate a new type of worm bevel gear drive. It is explained that this drive will comprise a bevel gear and pinion having teeth which bear the same relation to ordinary bevel gear teeth as do the teeth of the now familiar spiral or helical spur gears to ordinary spur gear teeth.

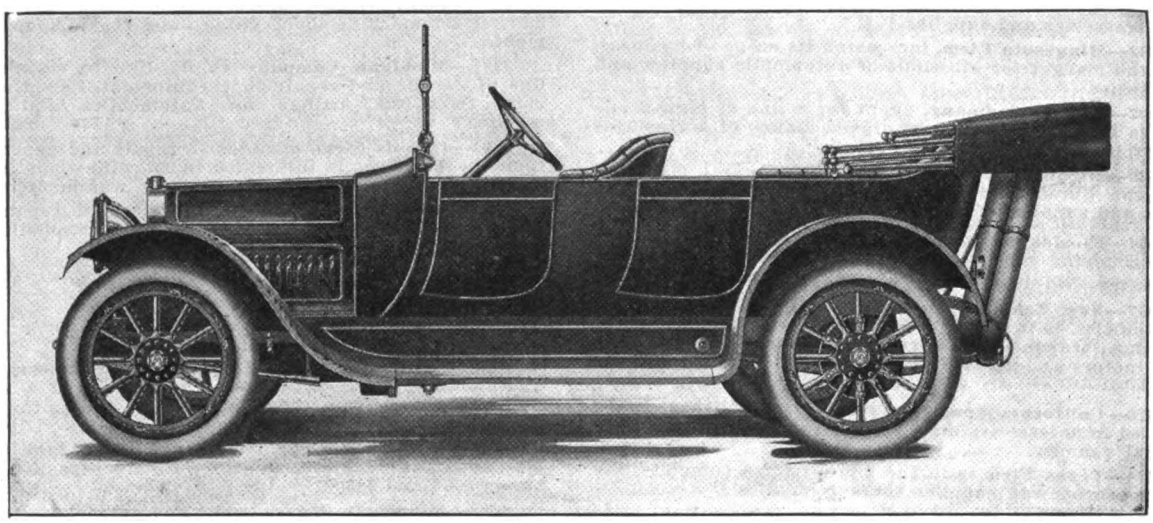
Church—The Church Motor Car Company, 2019 Michigan avenue, Chicago, has placed in the market a new car embodying the Church pneumatic system. The motor is a four-cylinder, two-cycle unit, cast en bloc, with bore of 3.5 inches and stroke of five. Connection with the propeller shaft is through a rotary air pump, which takes the place of both clutch and transmission, at the same time precompressing the air used in the motor cylinders, the fuel being injected later. Two bodies, a four and a six-passenger, will be fitted. Equipment includes electric lighting, air starter, tire inflator, air jack, etc.

Palmer-Singer—Palmer & Singer Manufacturing Company, Long Island City, N. Y. Model K Brighton Six; two-passenger roadster, four-passenger toy tonneau, five-passenger touring. Motor, six-cylinder, cast in threes, four-inch bore, five-inch stroke, rated at 45 horsepower; ignition, Eisemann duel high-tension magneto; lubrication, combined splash and pump system; three jet carburetor; multiple disc clutch, three speeds forward and reverse; full floating rear axle; tires, 36 by 4.5 inches; wheelbase, 128 inches. Equipment includes Westinghouse electric lighting and starting systems, demountable rims and one extra rim.

Allen—Allen Motor Company, Fostoria, O. Model 40 five-passenger touring car. Motor, four-cylinder, en bloc, 4.125-inch bore, five-inch stroke; unit power plant, three point suspension; thermo-syphon cooling; constant level splash lubrication; Splitdorf dual magneto; multiple disc clutch, lined with Raybestos; three-speed transmission; full floating rear axle; semi-elliptic springs forward, three-quarter rear; 34 by four-inch tires; left hand drive, centre control; Auto-Lite electric starting and lighting, demountable rims with one extra rim. Roadster will be built on same chassis.

Abbott-Detroit—Abbott Motor Company, Detroit. Belle Isle model, three-passenger roadster and seven-passenger touring. Motor, six-cylinder, rated at 50-60 horsepower. Standard equipment includes electric lighting and starting, with separate motor and generator units, and magneto ignition. Other models in the line will include 34-40, four-cylinder, five-passenger touring car and roadster; 44-50, four-cylinder seven-passenger touring, five-passenger demi-tonneau and three-passenger roadster.

Cadillac—Cadillac Motor Car Company, Detroit. The chief feature in the new model is the use of a two-speed direct drive rear axle, which has a low speed ratio of 3.66:1 and a high speed ratio of 2.5:1. It is maintained that with an engine speed of 700 revolutions a minute the low gear direct drive will give a car speed of 21 miles an hour and the high 30. The change in speeds is effected by means of an electric switch. Other details have not been made public as yet.



Allen Five-Passenger Touring Car, Having Four-Cylinder Block Motor, Rated at 40 Horsepower.

Victor Cyclecar—Victor Motor Car Company, 271 Diamond street, Philadelphia, Penn. Two passengers, side by side. Motor, four-cylinder, water-cooled, 3.25-inch bore, four-inch stroke; cone clutch, three speed selective sliding gear transmission, bevel driven rear axle, wire wheels, 30 by three-inch tires, wheelbase 90 inches, tread 52. Equipment includes top and windshield.

Downing-Detroit Cyclecar—Downing-Detroit Cycle Car Company, Detroit. Two passengers, tandem. Motor, two-cylinder, air-cooled, V, 3.5-inch bore, 3.67-inch stroke, rated at 12 horsepower; ignition, Bosch high-tension, armored type magneto; carburetor, Schebler; transmission, two speeds forward and reverse; semi-elliptic springs front and rear; tires, 28 by 2.75 inches; wheelbase, 103 inches; tread, standard, 56 inches.

HEWLETT EXTENDS TERRITORY.

E. E. Hewlett, Los Angeles, Cal., prominent in the racing world, has acquired nearly all the western territory for the sale of Fiat cars. Hewlett, who has been the Fiat representative at Los Angeles, has completed negotiations for the Chicago district, and now has those two cities, as well as Seattle, Wash.; San Francisco, Cal., and Tacoma, Wash. He has made arrangements to specify Ajax tires, made by the Ajax-Grieb Rubber Company, New York City, on all cars delivered to him in future.

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PATENT BILL OPPOSED.

Patent Law Association of Chicago Presents Statement to the Senate.

A thorough statement prepared by the Patent Law Association of Chicago has been presented to the Senate at Washington by way of comment upon the Oldfield bill for revision of existing patent laws. Naturally, the statement is somewhat lengthy, covering as it does the many features of the situation. After citing the alleged evils of the present patent system and the suggestions for their removal, the association submits what it believes to be satisfactory arguments against these features of the bill. Particular objection is made against the proposition for compulsory licenses and the elimination of retail price restrictions. Considering the former the statement is in part as follows:

The Oldfield bill provides for compulsory licenses, the avowed object being to prevent the shelving of competitive patents. The theory of the amendment seems to be that an inventor may hold more than one patent relating to the same subject matter so long as he does not contract or agree with others to suppress one or more of his patents. The report justifies this by an argument that the inventor is presumably meritorious and impecunious, and must enlist outside aid to bring his inventions before the public, but assumes that the assignee of a plurality of patents relating to the same industry is attempting to create a monopoly of monopolies and that such ownership is without justification. Of course, the bill ignores a large class of cases where the inventor himself takes out numerous patents relating to the same industry and manufactures under some, but not all, of them. It does not operate against the individual patentee unless and until it has been shown he has agreed with some one else to suppress one of his patented inventions or that he is suppressing a competitive patent acquired by assignment from another.

As to the compulsory license feature of the bill, we do not find from the evidence adduced before the House committee, nor from any other source of information, sufficient justification for a resort to this scheme, which is wholly antagonistic to the basic principles of the American patent system.

The Oldfield bill, in providing for compulsory licenses, seeks to introduce the idea of a working requirement; but does it by indirection, possibly because of the apprehension that a direct requirement would be unconstitutional.

Regarding price restrictions, the following argument is set up:

If a patentee has a monopoly in the making, using and selling of an article, and has the right to suppress the invention wholly and to exclude others wholly, it follows that he has the right to suppress it in part or to admit others on such terms and conditions as he may fix. Of course, it may be argued that under the constitutional provision it is still within the province of Congress to fix conditions and limitations affecting the exclusive right whch the constitution mentions, but the reasoning of all of the decisions up to the present time points to the conclusion that when the constitution used the word "exclusive" it meant just that, and that the constitutional provision could not be avoided by fixing conditions and limitations upon the exclusive right which impaired or lessened its scope. This, of course, does not mean that patent property like other property is not subject to other provisions of the constitution and to the laws of the land, as for example to the police power of the states and the laws relating to the conservation of the public health and the public morals. But the provisions of the Oldfield bill, at their face value, take away from the owners of patented property the right of contract which is enjoyed by owners of unpatented property. We can not see any justification for prohibiting the patentee from fixing in the terms of his contract as one of the conditions of a license the price at which the article shall be resold, if that be necessary to the preservation of his monopoly and if the restriction be imposed as a condition of the license.

GENERAL MARKET QUOTATIONS.

Material	Wed.	Thurs.	Fri.	Sat.	Mon.	Tues.	Week's Change
Antimony, lb.	.07½	.07½	.07½	.07½	.07½	.07½	.....
Beams & Channels, 100 lbs.	1.61	1.61	1.61	1.61	1.61	1.61	.....
Bessemer Steel, ton	26.50	27.00	27.00	27.00	27.00	27.00	+ .50
Copper, Elec., lb.	.15⅛	.15¼	.15⅛	.15½	.15½	.15⅝	+ .00½
Copper, Lake, lb.	.15¼	.15¼	.15½	.15½	.15½	.15¾	+ .00½
Cottonseed Oil, lb.	9.35	9.18	9.12	9.40	9.40	8.45	— .90
Cyanide Potash, lb.	.19	.19	.19	.19	.19	.19	.....
Fish Oil, Menhaden, Brown	.33	.33	.33	.33	.33	.33	.....
Gasoline, Auto, 200 gal.	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.....
Lard Oil, prime	.95	.95	.95	.95	.95	.95	.....
Lead, 100 lbs.	4.50	4.55	4.55	4.55	4.55	4.50	.....
Linseed Oil	.50	.50	.51	.51	.51	.52	+ .02
Open-Hearth Steel, ton	26.50	27.00	27.00	27.00	27.00	27.00	+ .50
Petroleum, bbl., Kansas crude	.98	.98	.98	.98	.98	.98	.....
Petroleum, bbl., Penn. crude	2.50	2.50	2.50	2.50	2.50	2.50	.....
Rapeseed Oil, refined	.68	.68	.68	.68	.68	.68	.....
Silk, raw Italy	...	5.10	....	....	5.00	5.05	— .05
Silk, raw Japan	...	3.95	....	....	3.92½	4.05	+ .15
Sulphuric Acid, 60 Baume	.90	.90	.90	.90	.90	.90	.....
Tin, 100 lbs.	41.75	41.50	41.65	41.65	41.65	41.75	.....
Tire, Scrap	.09½	.09½	.09½	.09½	.09½	.09½	.....

IMPORTANT COURT DECISION.

Garage Held Responsible for Damage, Although Employee Extended Testing Trip Longer Than Necessary.

A recent decision of the supreme court of Kansas is of deep interest to all service station proprietors, inasmuch as the court found that an employee of a garage, engaged in testing a car after it was repaired at the garage, is fully within the scope of his duty, even if he extends the testing trip longer than is absolutely necessary, and the garage company is held liable to any damage that occurs to the car on said testing trip.

It was shown that after the car had been repaired, the employee had taken it out for testing, and also to convey to his home a customer of the garage who had taken his automobile there for repairs that could not be completed at once. While on this trip the automobile was wrecked. The garage proprietor contended that the employee had taken more time on the trip than was necessary and that the latter exceeded his express authority, therefore relieving the service station of liberality. The court admitted that perhaps the trip had been longer than necessary, but did not deem the employee to have acted outside the scope of his employment, and found for the complainant on the ground that the machine had been negligently wrecked.

RECEIVER FOR R-C-H.

Judge Session of the United States circuit court in Michigan has appointed the Security Trust Company of Detroit receiver for the R-C-H Corporation of that city, which has been in the hands of a creditors' committee since last winter. It is understood that this action was taken with the consent of the entire board of directors and a majority of the creditors, for the purpose of clearing the way for reorganization. The factory will be kept in operation, as 7000 orders for machines have been filed.

MUNCIE GEAR WORKS.

Eugene Vatte has been appointed receiver of the Muncie Gear Works, Muncie, Ind., upon application of E. C. Atkins & Co., Indianapolis, Ind. The complaint alleges that the liabilities of the company are $277,061.80 and the assets $204,752.03. It is admitted, however, that there are orders now in hand amounting to $400,000, sufficient to net a profit more than equal to the difference between the liabilities and assets.

The Simms Magneto Company has completed the final movement of its plant and the offices and factory are now located at East Orange, N. J.

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FINE BUSINESS OPPORTUNITY.

Five Buildings at Providence, R. I., Suitable for Manufacturing or for Truck Service Station.

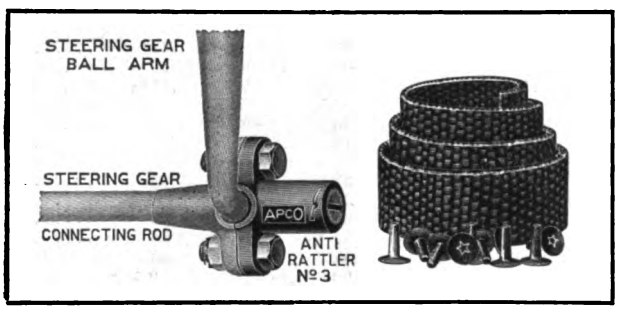
The property of the General Fire Extinguisher Company, in West Exchange, Bradford and Cedar streets, Providence, R. I., vacated by that company for a larger plant at South Auburn, R. I., is suited for manufacturing purposes, or it may be made a mammoth garage for motor trucks at comparatively trifling expense. The buildings are five in number, four of them directly connected, and the fifth connected by overhead passages, having a floor area of approximately 78,000 square feet. Buildings Nos. 1 and 3 are of brick, with three stories and high basements, and the other three structures are of brick and stone construction. They are piped for steam heat and for the Grinnell sprinkler system, the latter insuring minimum insurance rates.

The location is convenient to the business section of Providence and is ideal for a garage and service station. The property, which has a total area of 84,644.46 square feet, can be purchased as a unit, or it may be divided into nine parts for the purpose of sale, the five buildings and four parts of unoccupied land. Full information may be obtained from G. L. & H. J. Gross, manager of estates, 170 Westminster street, Providence, R. I.

NEW APCO FORD ACCESSORIES.

Auto Parts Company Announces Steering Rod Anti-Rattler and a Non-Metal Brake Lining.

The Auto Parts Company, Providence, R. I., well known maker of accessories for model T Ford cars, announces two new Apco devices which are shown in an accompanying illustration. The company has taken into consideration the demand for a high grade brake lining adapted to the service brake on Ford machines, and has had the Apcobestos material constructed especially for its patrons. It is a special lining containing no metal and is furnished in lengths to fit the brake drum. It is



Apco Non-Metal Brake Lining and Steering Rod Anti-Rattler, New Products of the Auto Parts Company.

held by the Ford engineers that the use of brake lining containing metal is largely responsible for magneto troubles, in that particles of the material affect the efficiency of the generator. Rivets are supplied with each length.

The Apco steering rod anti-rattler No. 3 is one of the most practical devices produced by the company, as by it play in the ball arm of the steering arm and connections is eliminated and it is also possible to make adjustments from time to time as needed. It replaces the usual steel cap on both ends of the steering gear connecting rod, which when adjusted by filing the halves of the ball socket, usually results in the part binding when the wheels are turned. This is due to the difference between the worn, flat and round part of the ball.

The Apco device consists of a bronze shell adjusted by means of a screw plug in the base, and with it it is possible to eliminate all play. The shell member also contains a spring which holds a steel stud in contact with the ball, resulting in a cushioning effect, and thus in easier steering, as well as eliminating lost motion. Both of these devices are moderately priced.

STUDYING CYCLECAR FIELD.

Francis R. Hoyt Has Been Engaged as Consulting Engineer by Ohio Men Who Are Interested.

Francis R. Hoyt, Cleveland, O., a consulting engineer of wide acquaintance in the motor car industry, is engaged in an investigation of cyclecar development for a group of Ohio business men, whose identity is withheld for the present. The purpose of the inquiry is to analyze fully the mechanical features of the cyclecar and small car as they have been evolved in foreign practise, with such modifications as are necessary to meet American conditions.

It is expected that the report will show the best design to incorporate in a vehicle which will be light in weight and simple in construction, but sturdy enough for high speed and poor roads, capable of going 45 miles on a gallon of gasoline and of making 40 to 50 miles an hour. It is also intended to design a monocar for light delivery service, which will be capable of carrying 400 to 500 pounds exclusive of the driver.

WALPOLE TIRE RECEIVER.

Company Is Temporarily Embarrassed Through Failure of Atlantic Bank.

Judge Dodge of the United States District Court in Boston, has appointed Robert C. Fisher and Judge Robert O. Harris receivers for the Walpole Tire & Rubber Company, Walpole, Mass., maker of Walpole tires. It is explained that the company is embarrassed through the recent failure of the Atlantic National Bank, Providence, R. I., which was carrying come of its paper. The operation of the plant will be continued, and it is understood that plans for the reorganization of the company are being discussed by the creditors and others interested.

The following schedule of assets and liabilities as of June 30, has been filed in court:

Assets.

Plant	$1,230,815
Patents, good will, etc	1,312,419
Stock other companies	20,450
Treasury preferred stock	103,000
Cash	23,860
Trade	197,805
Sub. and coup. notes	15,944
Other accounts receivable	89,954
Consumers' Rubber Company	27,030
Notes receivable	40,090
Prepaid accounts	10,678
Merchandise inventory	863,998
Contingent assets	190,595
Total assets	$4,126,638

Liabilities.

Accounts payable	$258,705	
Notes payable	847,800	
Contingent liabilities	190,595	
Accrued taxes	3,600	
Accrued payroll	9,609	
Reserves:—		
L. O. Duclos com	3,900	
Disc. and doubtful accts	30,534	
Doubtful notes received	9,514	
Total liabilities		$1,353,357
Balance of assets		$2,773,281

IMPORTS AND EXPORTS.

Report for June Indicates That More Low-Priced Cars Are Going Abroad.

The report of the United States Department of Commerce for the month of June, 1913, shows very little variance from the corresponding month in 1912, in the import and export of automobiles. The number of automobiles imported this year was 44, valued at $105,516, as against 41 in 1912, valued at $100,927. The exports for June, 1913, showed a total of 2154 machines, valued at $2,191,152, while in 1912 the number was 1941, with a valuation of $2,116,174. Following are the official figures in detail:

Imports.

	1912		1913	
Country	No.	Value	No.	Value
France	21	$50,106	20	$45,293
Germany	3	8,806	9	25,642
Italy	5	10,425	4	7,149
United Kingdom	7	17,105	1	2,300
Other countries	6	14,485	10	25,132
Totals	42	$100,927	44	$105,516

Exports.

France	67	$49,905	71	$54,746
Germany	27	35,787	157	136,171
Italy	42	35,185	55	33,098
United Kingdom	327	222,961	386	289,457
Other Europe	161	161,123	204	171,783
Canada	755	1,026,567	383	596,681
Mexico	7	8,470	5	9,505
W. Indies and Bermuda	30	31,822	23	19,315
South America	167	174,145	169	187,185
British Oceanica	146	143,376	318	332,212
Asia and other Oceania	136	158,478	206	207,105
Other countries	76	68,355	177	153,894
Totals	1941	$2,116,174	2154	$2,191,152

WILL ERECT NEW FACTORY.

The Sternberg Manufacturing Company, Milwaukee, Wis., maker of Sternberg trucks, has broken ground for an addition to the large plant erected three years ago. The new plant will cost $50,000, and was made necessary because of the cramped condition of the present factory. When the addition is finished the company will exactly double its working force and output of trucks.

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STOP

!!!!!

Imagine a plug that will last forever

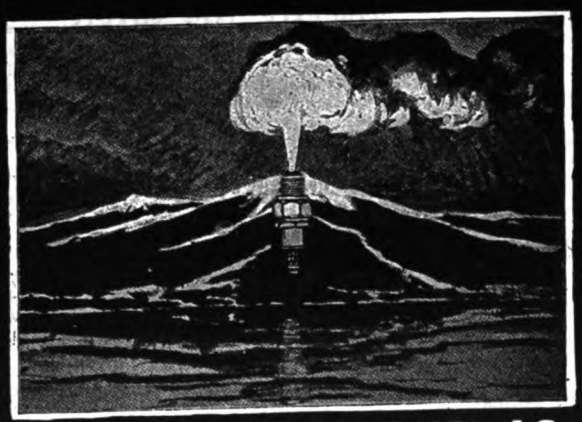
WATCH

!!!!!

Mosler

Vesuvius

Plug



AS POWERFUL AND AS INDESTRUCTIBLE AS THE FIRES OF VESUVIUS

WE CARRY IN STOCK A PLUG FOR EVERY
Internal Combustion Engine Built

492

A. R. MOSLER & CO. P.O. Box "M," MT. VERNON, N. Y.

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HECO MAGNETOS

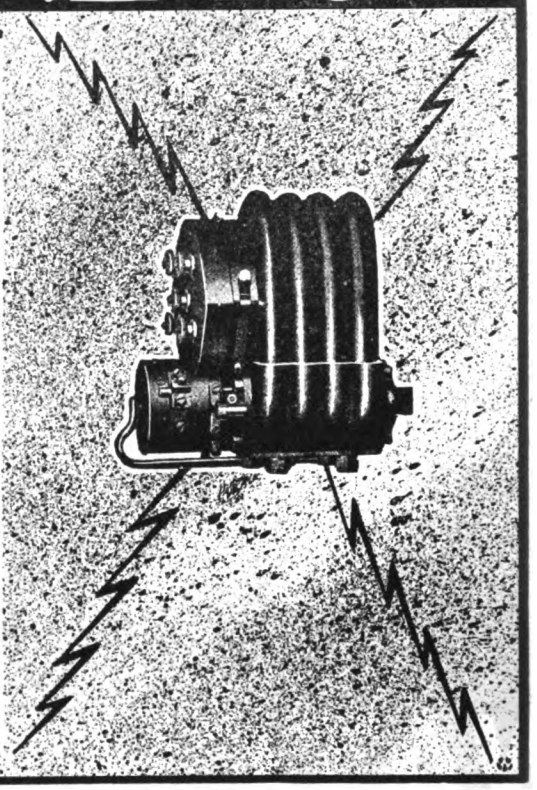
INSURE A STEADY SPARK AT ANY R. P. M.

HECO MAGNETOS are the product of experts specialized in the electrical business. They embody all that the electrical industry knows about magnetos.

By our special method of winding the secondaries we are able to positively guarantee them against burning out or breaking down.

HECO MAGNETOS supply a spark of equal intensity for any number of revolutions per minute.

We also make the well-known HECO COILS and HECO COMBINATION PRIMERS and SPARK PLUGS. Let us send you our complete catalog.



HEINZE ELECTRIC COMPANY

Factories and General Office, Lowell, Mass.
Sales Office, Detroit, Mich.

A CATALOGUE OF AUTO SUPPLIES

will pay for itself in a few weeks through the extra profits it brings the Dealer. We furnish Jobbers and Dealers with these catalogues.

CATALOGUE SYSTEMS CO., FISHER BLDG., CHICAGO, ILL.

FOR SALE—JACK SHAFTS

Attention of Truck Makers—We have on hand about 500 jack shafts for a 1000 to 1200-pound truck. These we will not be able to use owing to a change in design and to an interested party that can use these parts we will make a sacrifice price. Box 50, Accessory & Garage Journal.

AUTOMOBILE MAILING LISTS

18,191 Automobile Dealers.....$25.00
9,627 Automobile Garages..... 20.00
5,681 Automobile Repairs..... 12.50
3,541 Automobile Supplies..... 10.00
150,000 Ford owners.....$3.00 per thousand

Neatly typewritten, showing Financial Rating in Dollars of each one, alphabetically by States and Towns, 1913 compilation.

Ask for certain States if you do not want all.

877,000 Automobile Owners by States. Price on application.

Ask for our "Silent Salesman" showing 2000 other lists, etc.

Send check with order.

TRADE CIRCULAR ADDRESSING COMPANY,
166 West Adams Street,
Chicago.

Established 1880.
Phone Franklin 1188.

WANTED—SPECIALTY SALESMEN

Live wire specialty salesmen, district managers in West, Middle West and South, to sell the Schemmel Welding and Cutting Machine, which is self-generating and is the best on the market. Right men can make ten thousand dollars annually. Reference required. Must finance yourself. Full particulars first letter. Confidential. DAVIS SALES CO., HOLLIDAY BLDG., INDIANAPOLIS.

"IDEAL" Atomizing Primer

"The Primer that's Different"

Did you ever CRANK and CRANK and CRANK and then wonder why? The Ideal (Atomizing) Primer eliminates hard starting difficulties by forcing only a certain amount of the mixture (contained in the reservoir) into the intake manifold ateach stroke of the handle. The mixture (high test gasoline or gasoline and ether mixed) is forced into the different branches of the manifold in an atomized spray, causing quick evaporation and an immediate ignition. This is what you want—with our guaranteed satisfaction or money back.

If your dealer cannot supply you, order direct from Manufacturer.

Complete polished brass $5.00. Nickel plated 10c extra. Special discount to Dealers and Jobbers.

Interstate Auto Accessory Co.

2124 E. Washington Street
Indianapolis, Ind.

SOME RADIATOR SPECIALS

FORD T—$20.00. BUICK 10—$22.00

Every garage man should get our proposition. New guaranteed radiators. Real, efficient coolers. We build radiators for any car. Mention year and model when writing.

WRIGHT COOLER & HOOD CO., Dept. 9., Muskegon, Mich.

PATENT YOUR INVENTION—FREE SEARCH

and opinion. Send for Inventors' Primer; free. MILO B. STEVENS & CO., Established 1864. F street, Washington, D. C. Third Floor, Monadnock Block, Chicago.

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"The Car of No Regrets"

KING

$1095 with Equipment
Ward Leonard Starter and Generator for $100 net additional

See the KING—then buy! It's fairness to yourself. You can't afford to purchase *any* car until this highest of motor values has been investigated. The KING offers *more* service, comfort, style, and convenience than can be had in any car near its price, and has desirable, patented features which *no other* car can offer.

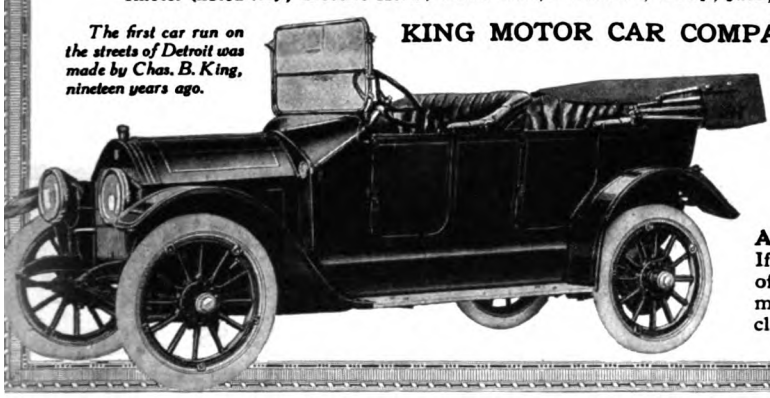
FEATURES OF MODEL B, 30-35 HORSE-POWER

Two Styles—One Chassis—Touring Car and Roadster

Cantilever Rear Springs	Three-point Suspension	Full-floating Rear Axle	Hyatt Roller Bearings	Briggs Magneto
Long-stroke Motor	Gemmer Steering Gear	Left-hand Steer	Center Control	Stromberg Carburetor
Unit Power Plant	Complete Electric Lighting	18-inch Steering-wheel	112-inch Wheel-base	20-inch Rear Doors

Rain-vision Ventilating Windshield; Silk Mohair Top; Quick-attachable Curtains; Quick-detachable Rims; Stewart-Warner Speedometer (listed $50); Electric Horn; Extra Rim; Tire-irons; Pump; Jack; Tire-repair Outfit; Tools, etc., all in regular equipment

The first car run on the streets of Detroit was made by Chas. B. King, nineteen years ago.



KING MOTOR CAR COMPANY, 1300 to 1324 Jefferson Ave., Detroit, Mich.

New York Agency and Showrooms, Broadway at 53d St.
New York Service Department, 244 to 252 West 54th St.

AGENCY FOR CANADA
King Motor Sales Co. of Canada, London, Ontario

ATTENTION, AGENTS! Every KING sold sells others. If we could show the KING to every prospective purchaser of a moderate-priced car, we could sell a year's output monthly. In service and style, it far exceeds any car of its class. Write or wire today for territory.

No. 240
Vulcanizing Cement

Is made of Pure Para Gum, milled with only those ingredients which make it vulcanize thoroughly.

This cement can be used in the manufacture and repair of all articles made of rubber.

Especially adapted to the repairing of Automobile Tires and Inner Tubes.

No Sediment **No Waste**

Supplied in all quantities. Prices quoted upon request.

TUXEDO TIRE CO., Inc.
149th Street and Grand Concourse
NEW YORK CITY

Tire Repairing

is a great and fast increasing business. Pays repair men $40,000,000.00 a year now with about a million cars in use. Think what the future will be. Pays big profit and requires little capital. Get in the repair business and get your share.

Akron-Williams Equipment

Is the best equipment made. Built by tire factory experts. Used by nearly all tire manufacturers—27 out of the 30 leaders. That fact proves Akron-Williams superiority.

Localized Heat

The 3 separate steam chamber feature gives heat just where needed—limits heat to repaired part. Repair Plants of any capacity—and all appliances for tire repairing.

Write us for catalog No. 12. It tells all. Write now.

The Williams Foundry & Machine Co.
ASH STREET, AKRON, OHIO.
THE WATERHOUSE & LESTER CO.
San Francisco Exclusive California Distributors

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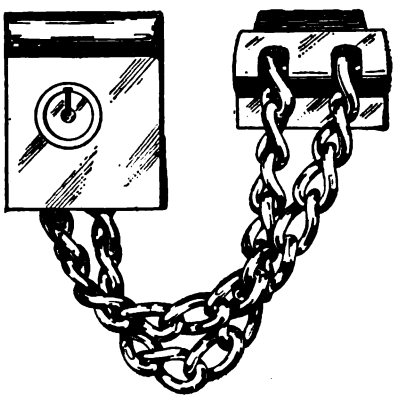
BRACELET AUTO LOCK

Retail Price $2.50

THE LOCK



THAT LOCKS

FREE Fine Metal Display Case, including Demonstrating Lock and showing your firm name, FREE with order of twelve locks or more.

LOCKS GASOLINE LEVER OR SPARKING LEVER OR BOTH—STEERING WHEEL OR ALL THREE

Dealers Sample Lock, complete, prepaid, for . . . **$1.50**

Bracelet Auto Lock Company

32 N. Clark St. Chicago, Ill.

NOTICE

We respectfully call attention to the fact that the Knox Automobile Company is the only other manufacturer licensed to build tractors under the "Martin" patents and other patents owned by Mr. C. H. Martin. These patents, we believe, cover every possible, practical combination of a self-supporting and steerable tractor, with a non-self-supporting trailer. The patents comprise the following:—

Hunter	670,405,	Mar. 19, 1901
Hunter	696,143,	Mar. 25, 1902
Hunter	625,953,	May 30, 1899
Thayer	678,063,	July 9, 1901
Martin	1,018,248,	Feb. 20, 1912
Hight	698,836,	Apr. 29, 1902
Liebau	655,724,	Aug. 14, 1900

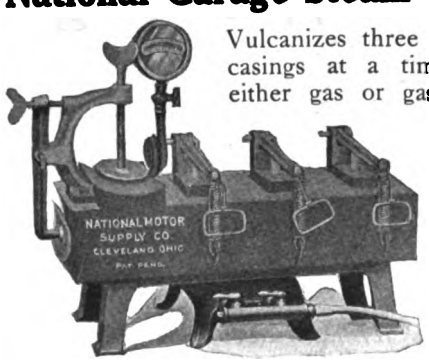
and numerous applications are now pending in the United States Patent Office.

This notice is merely in the nature of general information.

MARTIN TRACTOR COMPANY

SPRINGFIELD, MASS.

National Garage Steam Vulcanizer

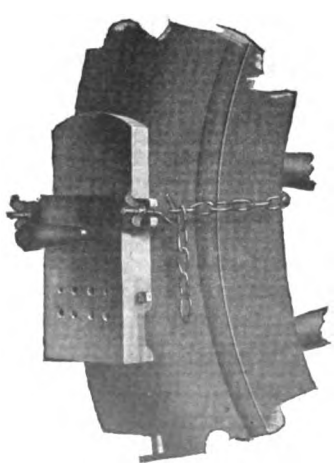


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer

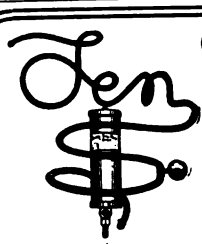


For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

MANUFACTURED BY

THE NATIONAL MOTOR SUPPLY CO.

5604 Euclid Ave., Cleveland, O.



CORRECT INFLATION IS TIRE INSURANCE

The Dewey Power Tire Pump

$10 COMPLETE

Cuts Out The Hand Pump Misery

Your Tire's Life Depends Upon Exact Inflation

With the Dewey, the motor does all the work and it shows you what your tire pressure must be to benefit by the tire maker's guarantee.

THE DEWEY IS THE ONLY PUMP THAT IS NEVER OILED. It can't rot the inner tube with greasy vapor because it pumps chemically pure air only.

Applied instantly to any car. Three methods of attachment.

The Dewey, with high grade dial and all connections, including 12 ft. of special hose, tested to 1,000 lbs., sold everywhere under a year's rigid guaranty for **$10**

Ask your dealer for the Dewey. If he is not supplied, we will send you the Dewey prepaid on receipt of price.

THE DEWEY-ANDERSON CO., 450 Woodruff Ave., Toledo, Ohio

HARRIS

TRADE MARK REG. U.S. PAT. OFF.

OILS

ARE PURE OILS

They satisfy both dealer and consumer. A trial will convince you.

"A Little Goes a Long Way And Every Drop Counts."

A. W. HARRIS OIL CO.

326 S. Water St., PROVIDENCE, R. I.
143 No. Wabash Ave., CHICAGO, ILL.

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PLANHARD CARBURETOR

Agents Wanted in

Portland, Me.	Fall River, Mass.
Augusta, Me.	Provincetown, Mass.
Calais, Me.	Salem, Mass.
Lakeport, N. H.	Lynn, Mass.
Concord, N. H.	New Bedford, Mass.
Portsmouth, N. H.	Providence, R. I.
Newburyport, Mass.	Newport, R. I.
Montpelier, Vt.	Pawtucket, R. I.
Burlington, Vt.	New London, Conn.
Springfield, Mass.	New Haven, Conn.
Pittsfield, Mass.	Bridgeport, Conn.
Worcester, Mass.	Mystic, Conn.
Marblehead, Mass.	Stamford, Conn.
Hartford, Conn.	

Dealers desiring to handle this live seller and get the profits in their own territory write at once to

Eisner-Lenk Co.

1074 Boylston St., Boston, Mass.

New England Distributors

Dixon's No. 677 Graphite Grease

Will pay for itself many times over in the reduced wear-and-tear on transmissions and differentials resulting from its use. It combines the highest lubricating value with the longest life as a lubricant—the flake graphite gives the lasting quality. You should have the book "Lubricating the Motor," No. 49.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Co.

Established 1827

"ALLEN FRICTION" WRENCH SET

"Allen Friction"

Is NOT a Ratchet

NO Teeth Springs Pawl Rolls Balls

No Lost Motion

Instant Grip

Best Pressed Steel Sockets.

Retail Price

$10, $8, $5

Ask Your Supply House for Circular and Standard Discounts.

We Also Make a Ford Special Set

M. A. BRYTE, Representative, SAN FRANCISCO, CAL.

EDWARDS FIREPROOF STEEL

GARAGES

For Automobiles and Motorcycles

$30 and Up

Easy to put up. Portable. All sizes. Postal brings latest illustrated catalog.

The Edwards Mfg. Co., 416-466 Eggleston Ave., Cincinnati, Ohio

Subscribe to

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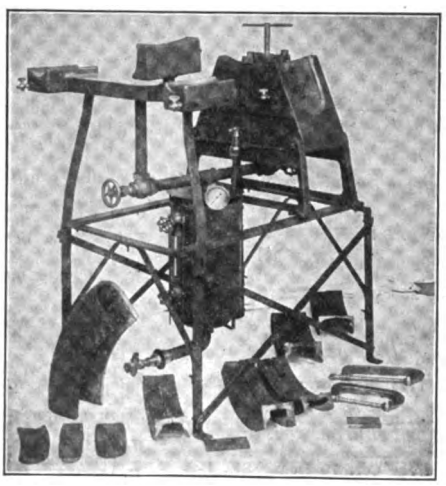
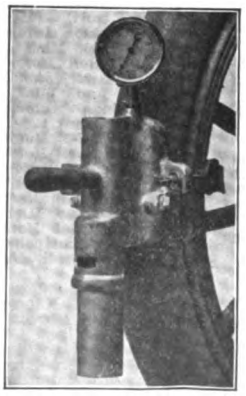
12 Issues $1.00 the Year



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit. Ask for Catalogue C. Tells how to do the work.



Van Steam Portable

$5.75 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver. Also repairs tubes.

VANDERPOOL CO.

Springfield, Ohio

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Auto Parts Co., Providence, R. I.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. B., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight streets, Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1229 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree Street, Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 185 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Shaler Co., C. A., Waupun, Wis.
Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

ADJUSTERS.

Vanzickle, John A., Indianapolis. (Ford Ideal Ball and Socket Joint.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTO LOCKS. (See Locks.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Sumner, George, Inc., 1926 Broadway, New York.

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Brots Co., J. S., 250 W. 54th St., New York. (F. & S.)
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Burn-Boston Battery Co., 19 Doane St., Boston (Burn-Boston.)
Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Waite Auto Supply Co., 81 Exchange place, Providence. (Success.)
Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA Lighting and Starting.)
Branches: 186 West 52nd St., New York; 1191 Woodward Ave., Detroit; 2241 Michigan Ave., Chicago; 248 Monadnock Bldg., San Francisco.

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BLOW-OUT PATCHES. (See Patches.)

BODIES, TRUCK.

Motor Truck Body Co., 320 Franklin St., Detroit.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Raybestos.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: 903 Boylston St., Boston; 276 Canal St., New York; 720 Main St., Buffalo; 422 River St., Troy, N. Y.; 1427 Vine St., Philadelphia; 1490 Michigan Blvd., Chicago; 1598 Woodward Ave., Detroit; St. Louis; San Francisco.

BRAKES.

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Duplex.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Planhard Mfg. Co., 1790 Broadway, New York. (Planhard.)
Sumner, George, Inc., 1926 Broadway, New York. (S. U.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Abbott Motor Co., 141 Waterloo St., Detroit. (Abbott-Detroit.)
Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Herreshoff Motor Co., 620 Harper Ave., Detroit. (Herreshoff.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Keeton Motor Car Co., Detroit. (Keeton.)
Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)
Knox Automobile Co., Springfield, Mass. (Knox.)
K-R-I-T Motor Car Co., Detroit. (K-R-I-T.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)
Michigan Motor Car Co., 147 Lay St., Kalamazoo, Mich. (Michigan.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Speedwell Motor Car Co., 80 Essex Ave., Dayton, O. (Speedwell.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 132-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Available Truck Co., 2834 Hamilton Ct., Chicago. (Available.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Brown Commercial Car Co., Peru, Ind. (Brown.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Clark, H. S., 242 Freeport St., Dorchester Dist., Boston. (Clark.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 19 Postoffice Sq., Boston. (Atlantic.)
Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
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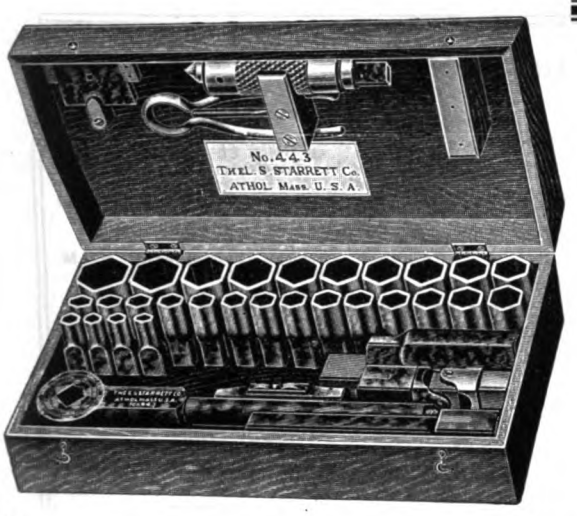

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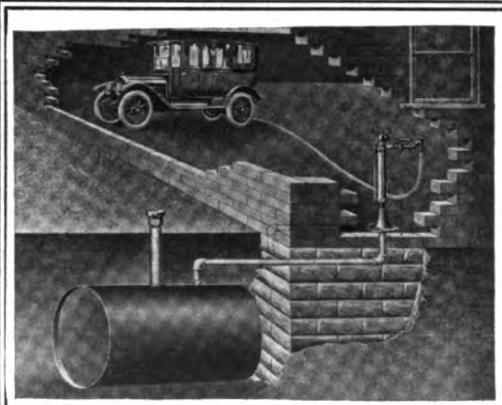

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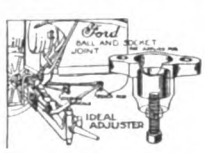

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Catalogue Systems Co., Fisher Bldg., Chicago, Ill.

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Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. H., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

CLOCKS FOR DASHBOARDS, ETC.

Boston Clock Co., 16 State St., Boston.
Chelsea Clock Co., 16 State St., Boston.

CLUTCHES—AUTOMOBILE FRICTION.

Brets Co., J. S., 250 W. 54th St., New York. (Hartford Cone.)

COILS.

Heinze Electric Co., Lowell, Mass.

CONTROLLERS AND ECONOMIZERS.

Moller Brothers Controller & Economizer Co., 700 Betz Bldg., Philadelphia. (M. & M.)

CYLINDER CLEANING COMPOUND.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Northwestern Chemical Co., The, Marietta, O. (Carbonox.)
Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GARAGES, PORTABLE. (See Houses, Portable Steel.)

GASKETS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

GAUGES.

National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Tire Pressure and Gasoline Tank.)
Branches: In all principal cities.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HEADLIGHTS.

Sumner, George, Inc., 1926 Broadway, New York City. (Diva.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)
Randall-Faichney Co., Boston. (Jericho, Jubilee.)
Branch: 918 Eighth Ave., New York.

HOUSES, PORTABLE STEEL.

Kolb Sales Co., 1790 Broadway, New York. (Ruby.)

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

LICENSE NUMBER BRACKETS.

National Motor Supply Co., 1911 Euclid Ave., Cleveland, O.
Branches: In all principal cities.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apico.)
Dean Electric Co., Elyria, O. (Dynalux.)
Remy Electric Co., Anderson, Ind. (Remy.)

LOCKS, AUTOMOBILE.

Bracelet Auto Lock Co., 32 No. Clark St., Chicago.

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)
Branches: Boston, Fall River, Philadelphia.
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)
Branch: 143 No. Wabash Ave., Chicago.
Howe, Geo. A., 142-144 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)
Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.
Refineries: Georgetown, Ky.; Lawrenceville, Ill.
Invader Oil Co., 80 Broad St., New York. (Invader.)
Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 3556 11th St., N. W., Washington, D. C.
Miller, Chas. H., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Texas Company, The, 7 West St., New York.
Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Brets Co., J. S., 250 W. 54th St., New York. (U. & H.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Marburg Bros., 1790 Broadway, New York. (Mea.)
Remy Electric Co., Anderson, Ind. (Remy.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1825 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

MIXING DEVICES, GASOLINE.

Approved Auto Specialties Co., 1781-87 Broadway, New York. (Wolf.)
Royal Equipment Co., 422 Housatonic Ave., Bridgeport, Conn. (Gyrex.)

MOTORCYCLES AND SUPPLIES.

American F. N. Co., Boston. (F. N.)
Branches: 49 Union St., Providence; 415 Trumbull St., Hartford, Conn.
Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTORS AND POWER PLANTS.

Rutenber Motor Co., Marion, Ind. (Rutenber.)

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Apico.)
Remy Electric Co., Anderson, Ind. (Remy.)

PACKING, FIRE

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Anti-Rust Paint Co., Dept. 7, Akron, O. (Thomas.)

PATCHES.

Invincible Puncture Proof Tire Co., 53 Sabin St., Providence. (Invincible.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland.

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
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Randall-Faichney Co., Boston. (B-Line.)
Branches: See Horns.

PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)
Dewey-Anderson Co., Toledo, O. (Dewey Power.)

RADIATOR CONNECTORS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
Firestone Tire & Rubber Co., Akron, O.
Branches: In all principal cities.
Standard Welding Co., Cleveland. (Stanweld.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

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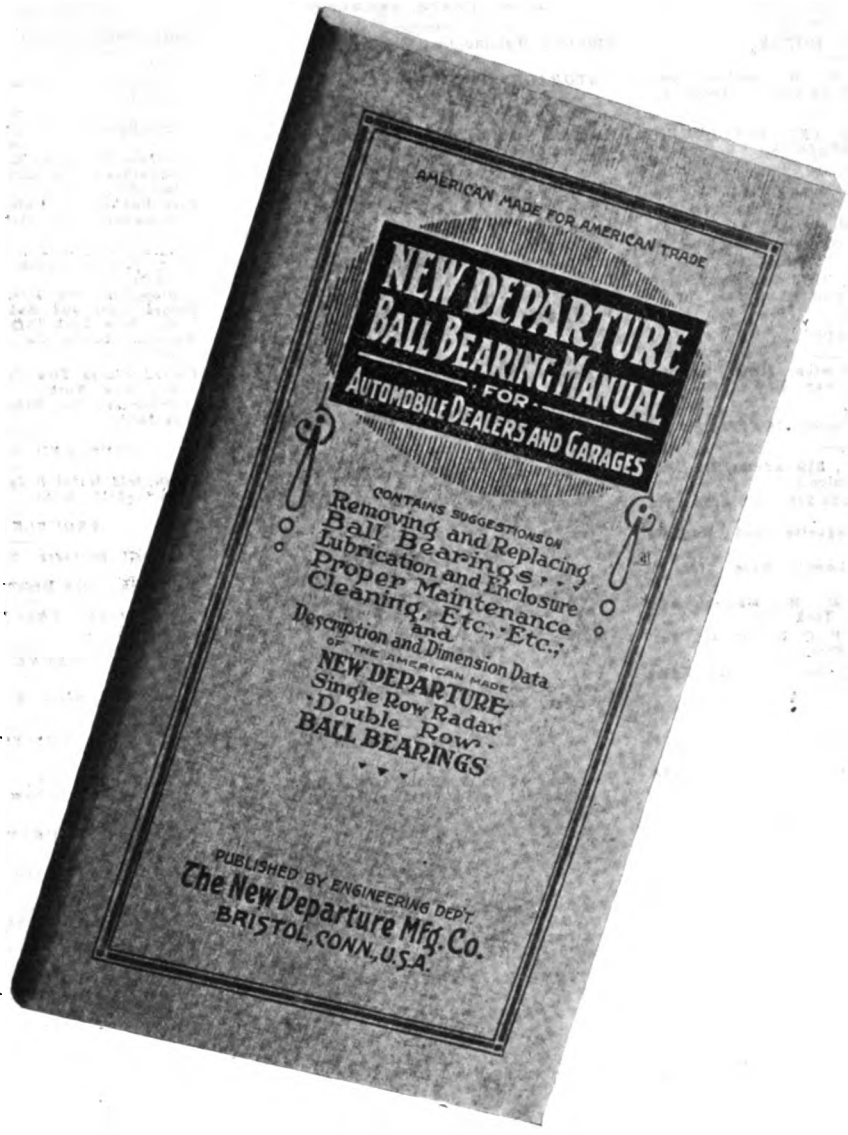

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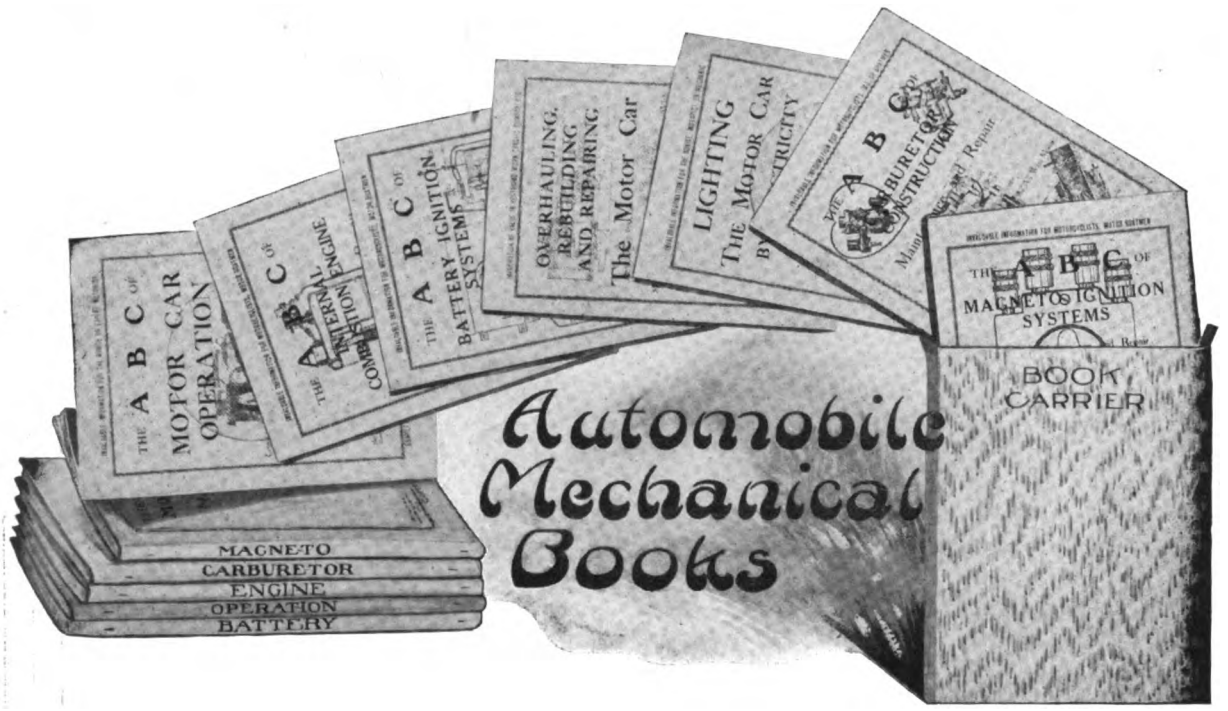

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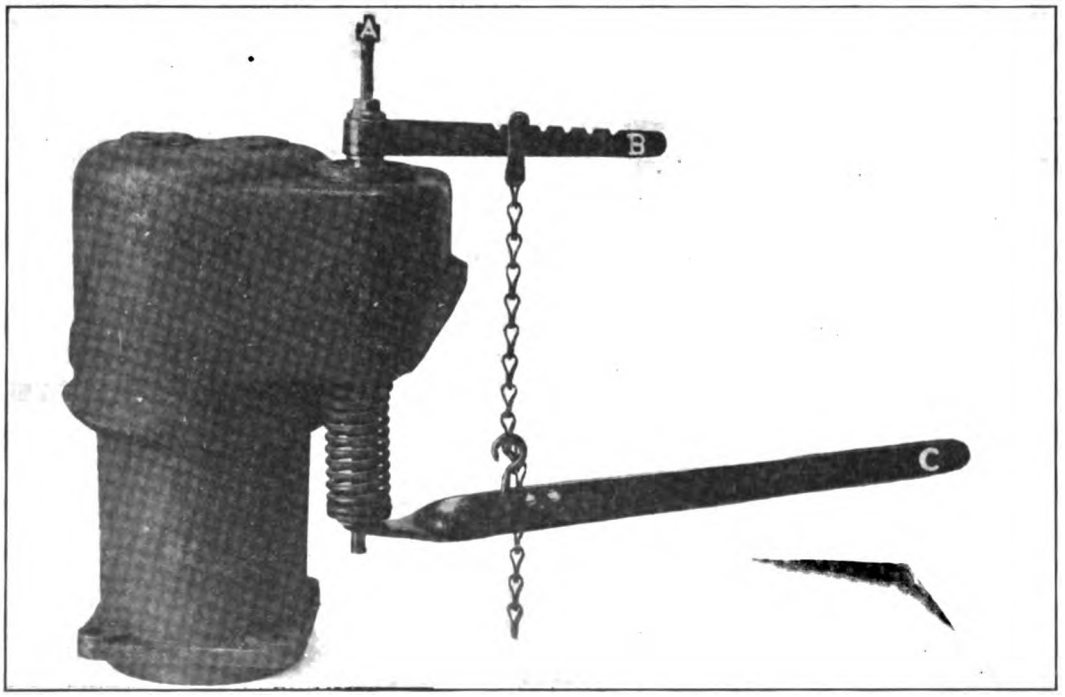

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained, will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., SEPTEMBER, 1913. No. 5.

STANDARD OIL AND CAR PRODUCTION.

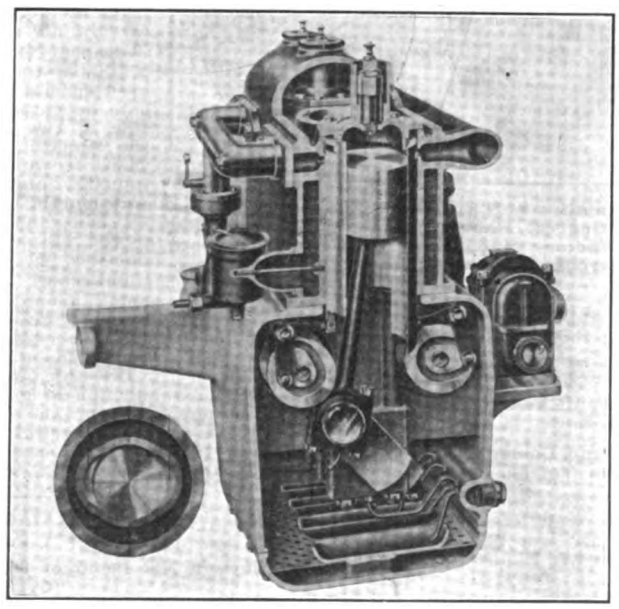
Organization of Rockefeller Motor Company Gives Occasion for Many Rumors—Standard Capital Said to Be Interested in New Palmer-Singer Motor.

WHETHER or not the Standard Oil Company is to enter the industry as a producer of automobiles has been a subject of concern among manufacturers and owners for some little time. Earlier in the month, various newspapers throughout the country chronicled the organization of the Rockefeller Motor Company in Cleveland, O. The concern was said to have been incorporated with nominal capital, the incorporators being Sterling Newell, F. S. Whitcomb, R. F. Denison, Ellis R. Diehm and Thomas F. Fay. With the exception of Fay, these were understood to be members of a law firm closely connected with Standard Oil interests. Fay was formerly editor of a large automobile trade publication.

According to the original dispatch, this concern was to take over the Goby Engine Company of Cleveland, a company recently formed to produce the Goby single sliding sleeve engines, and also to produce a kerosene burning engine. It was further intimated that cars ranging in price from $350 to $1000 would be produced, these to be capable of averaging 50 miles on a gallon of kerosene or gasoline.

Letters addressed to the Rockefeller Motor Company and the Goby Engine Company have failed to elicit information. But a subsequent dispatch from Cleveland denies certain portions of the original story. It is now maintained that the attorneys interested in the Rockefeller company are in no way connected with John D. Rockefeller or the Standard Oil Company. The name is said to have been chosen from the fact that the company will occupy offices in the Rockefeller building.

Despite the denials, the Wall Street Journal says it will not be surprising to see interests allied with the Standard Oil Company eventually become identified in a large way with the manufacture of automobiles. In a dispatch from Boston, this organ publishes the following:



Sectional View of Magic Motor, Which Has Been Adopted for 1914 Palmer-Singer Models.

Men connected with Standard Oil are understood to have made an effort several months ago to get control of the Ford Motor Company, the country's largest motor car producer, but Henry Ford, its chief owner, is said to have refused to sell at any price. Within a few weeks Standard Oil money has been picking up the common stock of one of the four largest automobile companies in the country with a production of about 35,000 cars per annum. It is too early yet to say whether a controlling interest is what the Standard capitalists are after. It is also understood that Standard Oil money has made some headway in buying into another automobile enterprise.

The reason for Standard Oil's interest in automobiles is believed to lie in the huge surplus stocks of kerosene stored at various points throughout the world. The Rockefeller Motor Company, supposedly formed by the oil people, has practically admitted that its primary purpose is to build an engine that will burn kerosene instead of gasoline. If this attempt proves successful, the automobile industry will be revolutionized and Standard Oil will receive general approval for having furnished a cheap fuel for the most popular means of transportation the world has yet discovered.

Palmer-Singer with Magic Motor.

In this connection it is of interest to note that, according to the officials of the Palmer & Singer Manufacturing Company, Long Island City, N. Y., Standard Oil capital is

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interested in the Motor & Gear Improvement Company, which concern has purchased the American rights in the Magic motor, transmission and wheel, which will be utilized in the construction of 1914 Palmer-Singer models. This motor, a cross section of which is shown herewith, as tested by several Detroit engineers about a year ago, is termed a silent slide crescent valve engine, and thus far there has been no indication that this was to be built for use with any other fuel than gasoline. It is claimed that it will give greater power and efficiency with less vibration and at less cost than other types. The transmission is of the internal gear type, while the wheel has special demountable features which are expected to make a decided appeal to the owner.

At a recent meeting of the board of directors of the Palmer & Singer Manufacturing Company, Charles A. Singer, Sr., resigned as president to become first vice president. Clyde D. Knapp, who formerly held the office of first vice president, was promoted to the presidency. The company announces that the change was made in order to permit Mr. Singer to devote his entire time and attention to the production end of the business. Naturally this will mean the development of the new models, the company having recently acquired the right to manufacture under the patent rights held by the Motor & Gear Improvement Company.

It is expected that the new Palmer-Singer models will be in the Broadway showrooms of Druet & Page, New York City agent, this fall, and that the company will be in a position to fill orders for these in the late spring, probably about June 1.

Members of Haynes Official Family: Left to Right, Top and Bottom—President Elwood Haynes, General Manager A. G. Seiberling, Chief Engineer Frank N. Nutt; Factory Manager A. N. Wilhelm, General Sales Manager George H. Strout, Advertising Manager Robert Crawford.

DEMISE OF G. W. BENNETT.

Vice President of Willys-Overland Company a Victim of Appendicitis in Toledo.

The automobile industry, as well as a large portion of the business world in America, was shocked to learn of the sudden death of George W. Bennett, vice president and general manager of the Willys-Overland Company, in Toledo, O., Sept. 19, after an operation for appendicitis. His rare executive ability was a big factor in the success of the plants known as the John N. Willys holdings, and he was prominent throughout the industry because of his insight into the business methods making for permanency.

Mr. Bennett came to this country from England when a young man. At first he was identified with the bicycle industry as sales manager for the Thomas B. Jeffery Company, and went into the automobile field with this firm. Later he became associated with the Knox Automobile Company, Springfield, Mass., and the White Company, Cleveland, O. Soon after John N. Willys purchased the business now bearing his name in Toledo he became vice president of the Willys-Overland Company, and his duties grew with the expansion of that concern, Mr. Willys being the controlling factor in several other companies, among which may be mentioned the Gramm Motor Truck Company and the Garford Company. He was particularly well known in the East and Middle West and his advice was much sought after in all matters affecting the automobile industry.

HAYNES OFFICIAL FAMILY.

Something About the Men Responsible for the Production and Sale of Haynes Cars.

Elwood Haynes, president of the Haynes Automobile Company, Kokomo, Ind., started his career of invention at 15. After completing the courses at the Worcester Polytechnic Institute and Johns Hopkins University, he was constantly engaged in scientific work until 1891, when he conceived the idea of the horseless carriage. Preparing his drawings, he employed two Kokomo machinists to assist in working out the plans. He made his first automobile trip July 4, 1894. The original Haynes car is now an exhibit at the Smithsonian Institute, Washington, D. C.

A. G. Seiberling, general manager of the company, has held the important position of purchasing agent with such concerns as the Pittsburg Plate Glass Company and the Great Western Plate Glass Company. He organized the Peoria Rubber & Manufacturing Company in 1896, and engineered a fortunate consolidation with another large concern. He came to the Haynes company after 10 successful years in the automobile field in important executive capacities.

For 10 of the 14 years that Frank N. Nutt has been with the Haynes organization he has been engineer—at first assistant and then chief. He is a born mechanic, and at the early age of eight was spending spare hours at his home made drafting board or in a neighboring machine shop. At the first opportunity he learned the machinist's trade—and learned it well—of a painstaking French machinist. He manufactured bicycles for a few years, and has been with the Haynes ever since.

A. N. Wilhelm, factory manager, was reared on a farm in Winamac, Ind. When 20 years old he apprenticed himself to the Peru Electrical Manufacturing Company, Peru, Ind., and at the end of nine years had become one of the most expert machinists in the country. In 1903 he began making tools for the Haynes company. He was absent from the force for a period, but returned in 1912 in his present position.

George H. Strout, general sales manager, is almost too well known in the industry to need special introduction. Upon leaving college he entered the bicycle business, and inside of two years was branch manager for the Monarch Bicycle Company in New York City. It was a logical step into the motor car industry, and in 1903 he formed the Western Automobile Company, St. Paul, Minn., which he sold in 1905 at a highly remunerative figure. Since then, in executive selling capacities, he has become known to a large number of automobile dealers, large and small, from coast to coast.

Robert Crawford, advertising manager, is best known for his work in the cement industry. First with the Universal Portland Cement Company, then as advertising manager for the Chicago Portland Cement Company, he won the reputation of getting more publicity for cement in general and for his own company in particular than anyone else in a similar capacity. He can be depended upon to better, if possible, his past successful record with the Haynes.

GENERAL MOTORS REPORT.

Shows a Net Profit of $8,284,139 for the Year, a Gain of Over $3,000,000.

The annual report of the General Motors Company, Detroit, shows a net profit of $8,284,139, an increase of $3,445,691 over the previous fiscal year. There was a balance of $7,459,471 after paying interest on the company's six per cent. first lien notes, and a surplus of $6,140,937 after paying the preferred dividend of seven per cent. The assets are given as $58,538,160, an increase of $3,580,-002. The gross sales for the year were $85,603,920, as compared with $64,744,496 in 1912.

The sole outstanding funded debt of the company at the end of the fiscal year consisted of $10,935,000 in six per cent. first lien notes, maturing Oct. 1, 1915, which is the unpaid balance of the original issue of $15,000,000. Oct. 1 the company will be required to pay $2,000,000 to the trustee for the account of sinking fund. The company anticipated the payment of $1,000,000 of this sum

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in July and since the close of the year has paid more than $1,000,000 additional.

TORRINGTON COMPANY'S REPORT.

Annual Statement Reveals Disposition of Splitdorf Electrical Company Holdings.

In its annual report, the Torrington Company, Torrington, Conn., which is in a sense a holding company for the Excelsior Needle Company and the Standard Company of Torrington, the National Needle Company of Springfield, Mass., and the Splitdorf Electrical Company, Newark, N. J., as well as other concerns in this country and abroad, reveals the disposition of the Splitdorf business which was acquired something like a year ago.

Previous to the purchase this concern was known as C. F. Splitdorf, Inc., and was located in New York City. It was subsequently reorganized as the Splitdorf Electrical Company and removed to Newark. The Standard company took over the spark plug business and the Excelsior Needle Company the ball bearing business of this concern. The report says that these two lines have increased in volume and profit, and while it is impossible to make report concerning the earnings of the Splitdorf company, it is believed that it will eventually prove one of the most profitable holdings of the Torrington company. The annual report shows the following figures:

Receipts.

	1913	1912	1911
Dividends	$352,847	$360,285	$237,518
Rent	110,000	110,000	110,000
Subsidiary loans	145,000	.....	.....
Accounts receivable	15,867	.....	.....
Sale new stock	.....	1,021,000	.....
Miscellaneous	32,152	24,922	4,848
Totals	$655,869	$1,516,207	$352,366

Expenditures.

Dividends and interest	$400,000	$348,000	$288,000
Salary and fees	31,855	31,397	5,947
Bonds purchased	91,985	140,000	.....
Stock Splitdorf	.....	750,000	.....
Loans subsidiary companies	100,000	101,525	.....
Miscellaneous	13,028	30,484	56,527
Totals	$636,868	$1,401,406	$350,474

INCREASES CAPITAL STOCK.

Ray Harroun Company to Erect Its Own Kerosene Carburetor Factory in Indianapolis.

The Ray Harroun Company, Indianapolis, Ind., maker of the Harroun kerosene carburetor, offered as optional equipment on Henderson cars, has filed notice of an increase in capital from $50,000 to $600,000. At least $200,000 of this money will be devoted to the erection of a factory, the company having been housed in a leased plant heretofore. It is stated that orders have been received for 200,000 carburetors, and additional manufacturing facilities are regarded as imperative.

BUYS McCUE WIRE WHEEL PLANT.

George W. Houk Takes Over Buffalo Factory for Production of Rudge-Whitworth Design.

According to a dispatch from Buffalo, N. Y., George W. Houk, president of the George W. Houk Company, Philadelphia, has purchased the plant, good will and business of the McCue Company, 1700 Elmwood avenue, Buffalo, which concern has been manufacturing the McCue wire wheel for the past two years. The Houk company has the American rights for the production of the Rudge-Whitworth wire wheel, a British design, and it is understood that the Buffalo plant will be devoted to the manufacture of a wire wheel under these patents, to which will be attached the Houk demountable rim.

HANDLES MANY LINES.

John V. Wilson Company, Manufacturers' Selling Representative in Philadelphia and Boston.

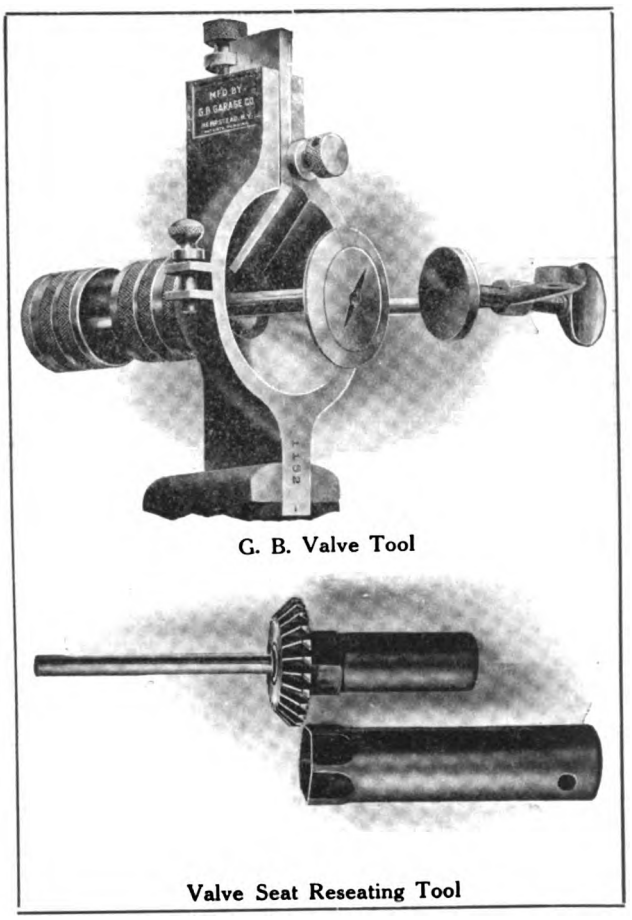
The John V. Wilson Company, with offices in Philadelphia and Boston, is acting as manufacturers' selling representative of automobile and motorcycle equipment, and the lines handled by this concern are such as to win instant favor with motorists. The Boston office is at 220 Motor Mart. The following partial list will serve to indicate the character of supplies carried:

Rhineland Machine Works Company, Rhineland ball bearings, A. V. shock absorbers, Lindhe laminated shim brass; Auto Parts Company, Apco Ford specialities; Dean Electric Company, Tuto, Rexo and Maxo electric horns and Dynalux lighting dynamos; N. Y. & N. J. Lubricant Company, Non-Fluid oils, Motorol cylinder oils; Fulton Company, Aermore exhaust horns, Rogers sidecar, Sabo motorcycle locks, convertible tools; Jeffrey-Dewitt Company, Reliance, J. D. and standard spark plugs; Fulton-McCutchan Company, K. C. inner tubes and sundries, Victor lamps and metal boxes, Lydon speedlers and Ford specialties.

G. B. VALVE TOOL.

New Valve Dressing and Reseating Device, Eliminating Grinding and a Time Saver.

The G. B. Sales Corporation, 1790 Broadway, New York City, is marketing the G. B. valve tool, which comprises a dresser and a reseating tool, both of which are shown in an accompanying illustration. The valve dresser is so constructed that it will dress valves of any size or material at a perfect angle of 45 degrees, while the reseating tool cuts the seat quickly and accurately to meet the exact angle of the valve proper. This is not always possible with the grinding-in process or by refacing with the lathe. One of the several features claimed for the G. B. device is that the valve is absolutely centred when it is being dressed, resulting in a perfect face. It is stated by the inventor that perfect seats may be obtained in 30 minutes as against many hours labor when an abrasive is uitilized. Estimating that it will take eight hours with an abrasive, the G. B. device will save the customer approximately $4.50.



G. B. Valve Tool

Valve Seat Reseating Tool

Another advantage of the tool is that all carbon deposits, ridges, pits, etc., are removed quickly. The blades and cutters are removable and may be sharpened easily by the user. The tool is of drop forged, case hardened steel, the blade and seat cutter being constructed of high speed, oil tempered tool steel, and the equipment is guaranteed against defects in material and workmanship. It is the invention of George G. Bouthinon, who perfected it while superintendent of a large automobile factory.

The tool is clamped in the vise as shown in the upper illustration and by means of two knurling nuts the valve is located properly. The cutter blade is adjustable by means of a screw and locked by a similar member. The valve is pressed against the cutting blade by a bridge member, which includes a feeding device. The valve stem is rotated by a dog, not shown in the illustration. The company issues a neat booklet on its equipment, which will be forwarded free on request.

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GENERAL NEWS OF THE MANUFACTURERS:

The Pope Manufacturing Company, Hartford, Conn., is said to be negotiating a 10-year mortgage loan for $2,000,000, the avowed purpose being to have available more ready capital to replace temporarily the large sum which has been used in building up the business. The report for the fiscal year shows that the company had gross sales of $1,400,000, of which $500,000 came from the bicycle and motorcycle end of the business and the balance from automobiles.

The Mitchell-Lewis Motor Company, Racine, Wis., announces the election of the following officials: President and general manager, H. L. McLaren; vice president and general factory manager, John W. Gates; second vice president, W. T. Lewis; treasurer, F. L. Mitchell; secretary, H. E. Rodman; general sales manager, O. G. Friend; purchasing agent, C. W. Morgan; general counsel, M. J. Gillon. It is further announced that the bankers and stockholders are not only of one accord as to this change, but are loyally supporting it for a period of five years.

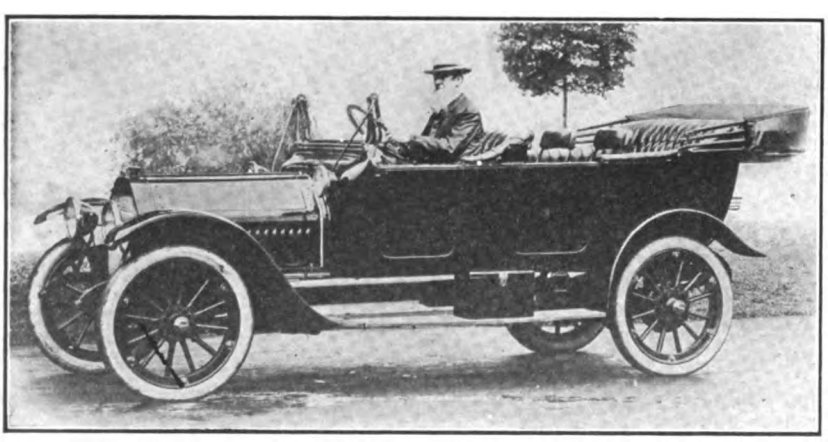
The Hazard Motor Manufacturing Company, Rochester, N. Y., is erecting a new building, 60 by 130 feet, to obviate the necessity for operating its present motor plant 20 hours a day and to provide for future expansion.

The Knight Tire & Rubber Company, Canton, O., has opened a direct factory branch in Kansas City, Mo., in charge of Earle J. Berry as manager. E. J. Hess will have direct charge of the local territory.

Ray Harroun, inventor of the Harroun kerosene carburetor, has opened a salesroom and service station at 537 North Capitol avenue, Indianapolis, Ind.

E. K. & A. K. Allen, for some time agent in Seattle, Wash., for Pennsylvania and Republic tires, has brought out a new anti-skid tread, which it proposes to manufacture in large quantities.

The Thompson Garage Company, Clarksburg. W. Va., is preparing to enlarge its business to manufacture in the near future.



J. M. Studebaker, Octogenarian Automobile Manufacturer, Enjoying a Drive in His Studebaker Six.

The Gemmer-Detroit Starter Company has been incorporated for $200,000 in Detroit to produce a new motor starter, recently brought out by George A. Gemmer, formerly head of the Gemmer Manufacturing Company. L. W. Smith is associated with him in this enterprise.

The Great Western Manufacturing Company, La Porte, Ind., maker of motorcycles, bicycles and parts, has completed the erection of a large plant.

The Chalmers Motor Company, Detroit, reports net earnings of $1,273,261 for the fiscal year, an increase of $71,510. After deducting the seven per cent. dividend on $1,500,000 preferred, the balance was equal to 23.3 per cent. on the common stock, which receives 10 per cent. annually.

The Texas Company, maker of Texaco oils, etc., has declared a quarterly dividend of 1.75 per cent. This is an increase of .25 per cent., and places the stock on a seven per cent. yearly basis.

The W. C. Hendrie Rubber Company, Torrence, Cal., has turned out its first set of Hendrie tires, which were given a test by Louis Nikrent in the recent Corona races.

The A. & C. Motor & Manufacturing Company is seeking a factory location at Long Beach, Cal.

The Martin Shock Absorber Company, Los Angeles, Cal., is erecting a factory at Central and Saluson avenues. Jesse E. Taylor is manager.

The Sterling Motor Company, Flint, Mich., which recently passed into the control of W. C. Little, formerly of the Little and Chevrolet companies, has removed to the plant vacated by the Chevrolet company in Detroit. It is understood that the concern will add a line of cyclecar motors to those already manufactured by it.

M. O. Reeves, Columbus, Ind., is heading a committee of business men in that city which seeks to secure a controlling interest in the Mais Motor Truck Company, Indianapolis, Ind., with a view to removing the plant to Columbus.

The Zenith Carburetor Company, Chicago, Ill., has moved into its new factory recently purchased from the Armstrong Woolen Company on the Belt line.

The Michigan Welding Company, Detroit, has completed an addition to its factory which practically doubles its floor space, and the additional equipment installed will enable almost double the present production.

The Benham Manufacturing Company, Detroit, heretofore engaged in the production of wood dashes, is preparing to place a taxicab in the market in the near future.

The Ford Motor Company, Detroit, announces that an 11-story building, to cost about $600,000, will be erected on Fifth street, Minneapolis, Minn., at least a portion of which will be utilized as an assembling plant for Ford cars.

The Duplex Power Car Company, Charlotte, Mich., has elected the following officers: President, Frank P. Town; vice president, Frank L. King; secretary, M. J. Lamson; treasurer, T. L. Gillet. James H. Brown retires as treasurer and director, and K. S. Ranger as director. The new board includes M. Bollstrom, George A. Williams and H. H. Bryan, besides the officers.

The La Bell Funeral Motor Car Company has been organized in Detroit to place in the market the La Bell funeral car, having compartment for casket, flowers, mourners and pall bearers. The body is subject to a patent recently issued to A. La Bell.

J. M. Studebaker, who is over 80 years of age and who is regarded as the dean of automobile manufacturers because of this fact, is an ardent motorist and drives his own car between his residence, Sunnyside, and his office in the works of the Studebaker Corporation at South Bend, Ind. The accompanying illustration shows him at the wheel of a Studebaker Six, which he regards as by far the best piece of work yet done by the designer, James Heaslet.

Henry C. Miller, Pacific Coast manager for the B. F. Goodrich Company, Akron, O., was married recently to Miss Gertrude Youngblood of Detroit.

F. B. Ludwig has resigned as sales and advertising manager of the Edwards Motor Car Company, New York City, to become southern district manager for the Velie Motor Vehicle Company, with branch headquarters at 453 Peachtree avenue, Atlanta, Ga.

W. H. Ellenbeck, formerly special representative of the United States Tire Company in Philadelphia, has been appointed manager of the branch in Worcester, Mass., succeeding L. E. Hevaner, resigned.

The Jones Speedometer Company has removed its executive offices from New York to New Rochelle, the location of the main factory. The Bush Terminal plant in Brooklyn will be maintained and operated as heretofore.

The Bremen-Wilson Manufacturing Company, recently incorporated in Benton Harbor, Mich., with a capital of $150,000, for the manufacture of starters and other accessories, has plans for two buildings, 60 by 100 and 25 by 60 feet.

The Goodrich Rubber Company, Toronto, Ont., has purchased a large tract of land from the Ontario Power Company and will erect a factory or group of factory buildings in which some 1800 men will be employed in the production of Goodrich tires for the Canadian trade.

The Uhrlandt Gas Generator Company, recently incorporated in Columbus, O., with capital of $50,000, for the production of gas generators, has established offices at 82 West Broad street, and has opened a factory at Linn and Ludlow streets.

The Empire Automobile Company, Indianapolis, Ind., has removed its executive offices from 238 Massachusetts avenue to 528 North Capitol avenue.

The Welding Company, Springfield, Mass., with branches in Boston, Holyoke, Hartford and Bridgeport, has opened another branch at 281 Bridge street, Salem, Mass.

The General Motors Company, Detroit, has again anticipated payment on its notes, making a payment of $1,000,000 to the Central Trust Company of that city in August on notes due Oct. 1.

The Motor & Manufacturing Company, Lux Light building, Buffalo, N. Y., has purchased property in that city and will erect a new factory.

The Peters Machine & Manufacturing Company, Whitney Power building, Cleveland, O., maker of automobile parts, will erect a new factory on West Madison avenue and purchase $35,000 worth of new machinery.

The Bosch Magneto Company, New York City, is

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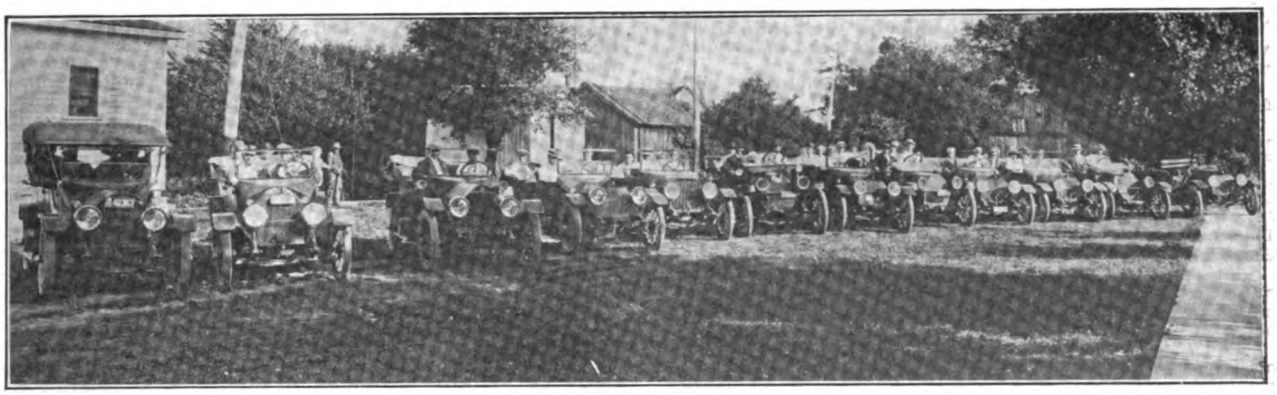


Thirty-Five Owners of King Cars, Recent Guests of King Motor Car Company, on Outing at Lake Orion, Mich.

building a casino and restaurant opposite its factory on North Main street, Springfield, Mass., at a cost of $18,000.

The Motor Casting Company, Pontiac, Mich., is enlarging its present plant.

The Packard Motor Car Company, Detroit, has declared its regular quarterly dividend of 1.75 per cent. on preferred stock, payable Sept. 15.

The Standard Automobile Company, Moose Jaw, Sask., is a new concern in the Canadian industry, and will produce cars fitted with wire wheels.

The Milwaukee Auto Specialty Company, Milwaukee, Wis., maker of accessories, has opened a garage and service station at Chestnut and Seventh streets, adjoining its factory. Walter R. Fleischer is in charge as manager.

The El Starr Manufacturing Company, Milwaukee, Wis., has leased the Wilson building, 223-229 Erie street, Chicago, and is planning to remove its factory to that city.

The Johnstown Motor Car Company, recently organized in Johnstown, Penn., is soon to erect a factory for the production of commercial motor vehicles and motor driven fire apparatus.

The American Safety Appliance Company, Milwaukee, Wis., has changed its name to the Milwaukee Die Casting Company.

Morgan & Wright Company, Detroit, is moving into its group of new buildings, which provides 400,000 square feet of floor space and an increase in production capacity of 50 per cent. Work has also been started on more buildings, which will add another 400,000 square feet of space, and which the company expects to occupy in March or April, 1914.

The Superior Accessory Company, Boston, Mass., J. J. McCarthy, president, has secured a plant in the new Lozier building, and will place a kerosene carburetor in the market in the near future.

The Falls Tire Company, recently organized by J. S. Buist and A. I. Stegrist, has decided to locate in Philadelphia, Penn.

J. E. Fisher and T. M. Andrews, Nashville, Tenn., contemplate the erection of a plant in which to produce a patented automobile wheel, and may incorporate a company with $50,000 capital.

R. C. Hupp of the Monarch Motor Company, Detroit, has secured factory space in the former factory of the Carhartt Motor Car Company on Jefferson avenue.

The Seitz Auto Transmission Company, Detroit, which purchased the machinery of the Grabowsky Power Wagon Company at the time of the dissolution of that concern, has been reorganized as the Detroit Wyandotte Motor Company, capitalized at $500,000, and will produce three and five-ton motor trucks.

The Fulton Company, Marshalltown, Ia., has purchased the patents on the Aermore exhaust horn from the Aermore Manufacturing Company, Chicago, and will open a manufacturing plant in Marshalltown. The Aermore company will continue the production of its other specialties.

The Elwell Rubber Company, Brockton, Mass., occupying the plant formerly held by the Plymouth Rubber Company, is installing new machinery to take care of increased business.

The Beaver State Motor Company, Portland, Ore., has purchased property near Grosham and will erect a factory to cost $25,000.

The Racine Manufacturing Company, Racine, Wis., maker of wood and metal bodies, has elected the following officers: President, C. A. Hamilton, now vice president of the Lavigne Gear Company; vice president, C. F. Barndt; secretary, **Harold Smith; treasurer, F. J.** Kidd. Frank K. Bull, also president of the J. I. Case Threshing Machine Company, has retired from that position with this concern.

Dyer, Dyer & Taylor, New York City, has granted a manufacturing license to the Touraine Motor Car Company, Philadelphia, maker of the Touraine Six.

Henry W. Nuckols, general manager of the Columbia Motor Car Company, Hartford, Conn., announces that the plant has been closed permanently, the Maxwell Motor Company, of which the Columbia concern virtually is a part, having no further use for the factory in the production of cars.

The Bock Bearing Company, Toledo, O., has awarded the contract for the erection of a large factory in West Toledo, for the manufacture of ball bearings, and the company expects to begin making deliveries early in 1914.

The Acklin Stamping Company, Toledo, O., is erecting a large addition to its plant to provide for its growing business in the production of metal stampings for automobiles.

The Stocker Manufacturing Company has been organized in Detroit for the purpose of producing a double-action, single-tube air pump, patented by Robert Galen. A plant has been acquired at 61 East Fort street.

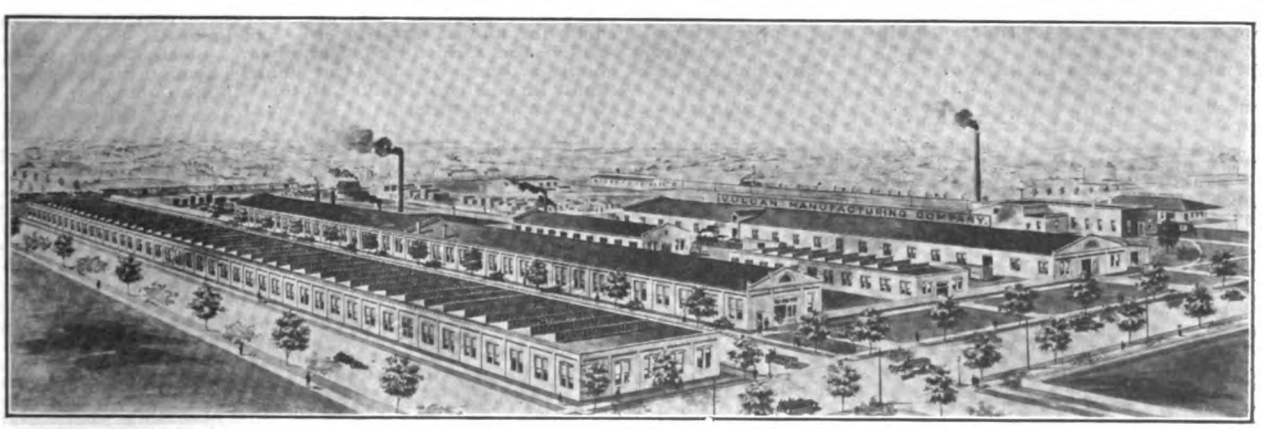
The Maxwell Motor Company has sold the old Courier plant in Dayton, O., for $50,000.

The Raymond C. Anger Company, Burlington, Wis., is preparing to market a new grease cup and an electric horn. Officers elected recently: President, Hugh Anger; vice president, Edward Brook; secretary, Dr. C. H. Meyst; treasurer, George Weiler.

The Herrick-Aiken Company, owner of the Aiken revolving automobile lamp patents, is looking for a factory location in Lawrence, Mass. The inventor is J. C. Ramsey, an electrical engineer with the American Woolen Company of that city.

The Auto Parts Company, 531 West Jackson boulevard, Chicago, has leased the entire building at 757, same street, and will remove its plant.

The Automobile Insurance Company, Hartford, Conn., has been admitted to do business in the State of Maine.



Plant of the Vulcan Manufacturing Company, Painesville, O., Where Vulcan Cars Are Produced.

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The Davis Manufacturing Company, West Allis, Wis., will erect a large plant for the manufacture of gasoline motors for traction engines and trucks.

J. G. Anderson, Rock Hill, S. C., is preparing to build light automobiles.

Frank T. Hulswit, Grand Rapids, Mich., who recently made the highest bid for the property of the Grand Rapids Motor Truck Company, is said to have announced that the concern will be reorganized in the near future and placed on a profitable basis. Mr. Hulswit's bid was $17,050, in addition to assuming a real estate mortgage. The company was engaged in the production of the Hoosier Limited truck, formerly the Decatur.

The Major Taylor Manufacturing Company is being organized in Worcester, Mass., for the production of a new motor truck steel wheel. E. O. Leonard is promoting the plans of the concern.

The Standard Steel Car Company, Butler, Penn., maker of steel railroad cars, is erecting a factory for the production of automobiles. F. C. Vanderhoff, in charge of the new work, says that the proposition is experimental at present, and will not be permitted to interfere in any way with the other business of the concern.

The F. O. Bailey Carriage Company, Portland, Me., has been incorporated for $50,000, to take over the business of the present F. O. Bailey Carriage Company, and engage in the production of all types of vehicles.

The Pittsburg Reinforced Brazing Company, Pittsburg, Penn., has taken a long lease on property 80 by 100 feet on Liberty avenue, near 25th street, and will erect a two-story addition to its plant at a cost of $50,000. This will give the company a frontage of 200 feet on Liberty avenue.

The Westinghouse Air Spring Company, Pittsburg, Penn., organized about a year ago to produce a new air spring for automobiles invented by George Westinghouse,

President W. L. Kissel, Kissel Motor Car Company, and Party in the White Mountains of New Hampshire.

has filed notice of an increase in capital from $200,000 to $2,500,000. It is understood that the company contemplates entering the field commercially on a large scale in the near future.

The Duplex Power Car Company, Charlotte, Mich., is expected to place a new car, designed by A. F. Mais, in the market in the near future. The concern will issue $60,000 in new stock, which is said to have been subscribed by Charlotte, Lansing, Jackson and Detroit investors.

The Hupp Motor Car Company, Detroit, Mich., is to announce a new six-cylinder machine in the near future. It is reported that the designer is Otto Von Bachelle, formerly with the E. R. Thomas Motor Car Company.

N. C. Miller and son, William, Dodgeville, Wis., have purchased buildings and a factory site for the manufacture of farm implements and motor car parts.

The Imperial Wheel Company, Flint, Mich., is erecting two concrete buildings, 30 by 48 feet and 50 by 70 feet.

The Crown Motor Cars & Foundries, Ltd., Montreal, Que., is a new corporation, with capital of $100,000, $50,000 paid in, for the manufacture of automobiles. The directorate is composed largely of men connected with the Sorel Iron Works, Ltd., which intends to remove its place at Sorel to Maissoneuve, where new buildings are under construction to house the new concern.

The Golden West Motor Company, Sacramento, Cal., has purchased six acres at Park Villa and will erect an automobile factory.

The Beaver State Motor Company, Gresham, Ore., a suburb of Portland, has commenced work on an automobile factory on a five-acre tract located on the Mt. Hood railroad line.

The Willys-Overland Company, Toledo, O., reports that the net earnings for the last fiscal year have been equal to 25 per cent. on the common stock. The gross earnings were $6,000,000, being the largest in the concern's history.

The Motor Car Manufacturing Company, Indianapolis, Ind., maker of Pathfinder cars, announces the appointment of F. C. Ricker, formerly of the Simms Magneto Company's selling force, as eastern district manager. The other district managers are: Pacific Coast and Rocky Mountain, B. F. Jacobs; Texas and the South, A. C. Anderson; Middle West and Northwest, Charles H. Eichinger.

The Cameron Wire Wheel Company, with capital of $37,500, $25,000 paid in, is to locate a plant in Detroit. F. F. Cameron, A. A. Leslie and W. E. Carpenter are the principal stockholders. The wheel is designed to be applied to existing hubs without alteration, the inner section of the wheel bolting to the ordinary wood wheel flange after the wood spokes have been removed.

Walter E. Flanders, president of the Maxwell Motor Company, Detroit, is said to be interested in locating a branch factory of the company in Windsor, Ont.

The W. A. Paterson Company, Flint, Mich., has added the following new salesmen: W. G. Farmer of the Pontiac Buggy Company, Frank D. Weismantle of the Michigan Buggy Company, C. F. Oatway of Rochester, N. Y., and W. P. Mallou, New York City.

The Swinehart Tire & Rubber Company, Akron, O., is contemplating an increase in capital stock from $800,000 to $1,000,000.

The Goodyear Tire & Rubber Company, Akron, O., has made public a preliminary report which indicates that the company has enjoyed a gross business during the present fiscal year of more than $33,000,000. The year does not end until Nov. 1, but all orders up to and including the month of October are in hand, so that it is possible to estimate the result very closely. This represents an increase of more than 40 per cent. over the business done the previous year.

William L. Kissel, president of the Kissel Motor Car Company, Hartford, Wis., and party, recently returned from a 3490-mile trip, the itinerary of which included Niagara Falls, the Thousand Islands, White mountains of New Hampshire, Atlantic Coast resorts, Boston, New York, Philadelphia, Pittsburg, Cleveland, Toledo, Chicago and Milwaukee.

The Pierce-Arrow Motor Car Company, Buffalo, N. Y., has brought out a two-ton worm driven truck.

Paul La Croix, New York City, has formed the Foreign Automobile Importation Company and will handle the Mercedes exclusively in the United States, Canada and Mexico.

The Moline Automobile Company, East Moline, Ill., has secured a Knight license and will manufacture a four-cylinder Knight engined car for the 1914 market, in addition to its poppet valve motor line.

The Fisher Automobile Company, Walkerville, Ont., recently formed by Frank Fisher, formerly general manager of the Studebaker plant in that city, has purchased the Tudhope car plant in Orilla.

R. W. Hutchinson, Jr., for some time past with the International Motor Company, New York City, has become publicity engineer for the commercial vehicle department

The Motor & Manufacturing Company, Dunkirk, N. Y., has awarded contracts for the erection of a new plant, comprising one two-story structure, 57 by 85 feet, and a one-story building, 30 by 84 feet.

The General Motors Company, Detroit, Mich., is expected to issue a statement in the near future showing that its earnings for the last year were more than enough to yield 20 per cent. on the common stock, as against 17.44 per cent. in 1912.

The Electric Automobile Manufacturers' Association held its annual meeting in Cleveland, O., Sept. 16, at which the following officers were elected: President, Louis E. Burr, Woods Motor Vehicle Company; vice president, R. C. Norton, Baker Motor Vehicle Company; secretary and treasurer, F. H. Dodge, Ohio Electric Car Company; executive committee, G. D. Fairgrave, Anderson Electric Car Company; H. H. Rice, Waverley Electric Company; C. F. L. Wieber, Rauch & Lang Carriage Company.

The F. W. Spacke Company, Indianapolis, Ind., maker of motorcycle motors, has added a new department for the production of motors and parts specially adapted to cyclecars. F. E. Lawrence has been appointed to represent the company in Detroit.

A. S. Robinson, formerly sales manager of the Kissel-Kar branch in Los Angeles, Cal., has succeeded the late E. Rogers Stearns as branch manager.

The Firestone Tire & Rubber Company, Akron, O., maker of Firestone tires and rims, had gross earnings of $15,000,000 during the fiscal year recently ended, as compared with $11,500,000 for the preceding year. Net profits were $1,600,000, and the surplus, $1,250,000. The balance sheet shows current assets of about $7,000,000.

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NEW CONCERNS AND BUSINESS CHANGES.

Edgar Walker has opened a showroom for Gaulois tires at 127 Bay street, Toronto, Ont.

The Metz Company, Waltham, Mass., maker of Metz cars, has established an agency at 706 East Pike street, Seattle, Wash.

G. & E. Tisch, Grand Rapids, Mich., has been appointed distributor for Federal tires in western Michigan.

The Velie-Paige Motor Car Company, Cleveland, O., has changed its name to the Velie Motor Car Company, and will handle the Velie line only in the future.

The Bunting-Stone Hardware Company, Kansas City, Mo., will open a motor car accessory department in connection with its hardware business in the near future.

Milton A. Kent has sold his interests in the Rambler Sales Room, 366 Park avenue, Kenosha, Wis., to Charles E. Turnock, who will handle the Rambler line in Kenosha county and the eastern half of Racine county.

The F. B. Stearns Company, Cleveland, O., has opened a new factory branch at 742 South Olive street, Los Angeles, Cal. J. H. McDuffee is in charge as manager.

Ray Alberts has purchased a half-interest in the garage owned by H. J. Hornung, on Fifth street, Eureka, Cal.

The Fred M. Smith Company, Hibbing, Mich., has changed its name to the Advance Auto Company. G. N. Buchart is president.

The D. C. Tiffany Company, Boston, which has operated an exclusively electric garage, has become an agency, taking on the Ohio electric line.

Curtis Dawson has purchased his partner's interest in the Tiskilwa Auto Company, Tiskilwa, Ill., and will continue the business alone.

The National Garage Company, 508 14th street, Washington, D. C., has taken over the business heretofore conducted by Collins, Gru & Meagher.

The Acme Top & Trimming Company, 1333 14th street, Washington, D. C., has been formed by R. L. Hooven and Frank Hann, to deal in and repair automobile tops and trimmings.

The Hudson Automobile Company, a new Hudson agent in Washington, D. C., has located at 1136 Connecticut avenue. Howard G. Kneessi is manager.

Henry L. Hornberger, formerly manager of the Oakland branch in San Francisco, has formed the Henry L. Hornberger Company, to handle the distribution of Palmer-Singer cars in California, Oregon, Washington and Idaho.

The Woods Electric Garage at 21st and Market Streets, Philadelphia, Penn.

The Doxameter Sales Company has been organized by L. E. Carpenter and A. W. Clark at 510 Temple court, Minneapolis, Minn., to handle the Doxameter.

The Wetmore-Quinn Company, Detroit, which recently purchased the Paige agency from the William J. Marshall Auto Company, has added the Lozier to its line. Mr. Wetmore formerly was assistant sales manager of the Lozier Motor Company.

M. M. Holbert has sold his interest in the Adams County Automobile Company, Buick agent in Hastings, Neb., to Ernest and James Sherman.

H. T. Cartmell, Phoenix, Ariz., has purchased the interest of his partner, H. E. McMillan, in the Grand avenue garage in that city.

F. E. Heple, Coyotte, Cal., has purchased the Tice garage, formerly operated by Mainero & Princeville, in Gilroy.

N. S. Nelson & Son, Forest City, Ia., has sold its garage business to Bjergo & Oswold.

William Steilwag and A. F. Hartman of Philadelphia have purchased a tract 137 by 119 feet at 34th and Jefferson streets, facing Fairmount park, where they will erect a garage and service station.

The Capitol City Auto Company and the Imperial Garage of Hartford, Conn., have been merged with the following officers: President, Bernard F. Smith; secretary, Howard D. Graves; treasurer, W. F. Dahill. The concern will conduct a taxicab business and handle the sales of Mitchell, Lozier and Henderson pleasure cars and Stewart trucks.

H. H. Roose, Fort Wayne, Ind., has opened a retail branch for Maxwell cars at 405 North Capitol avenue, Indianapolis, Ind., in charge of H. S. Bradley and H. W. Martz.

A. M. Hartford has opened a second hand automobile business at 915 Main street, Dallas, Tex.

Billings Bros., Milwaukee, Wis., has taken a long time lease on the store at 181 Fourth street, where a full line of accessories and supplies will be carried.

William J. Schuh, owner of the Iowa Auto & Garage Company, Dubuque, Ia., has disposed of his interests in the Iowa Vulcanizing Company, Des Moines, Ia.

Murray & Allender, Fairfield, Ia., has sold its garage business to R. T. & C. C. McClain, Des Moines, Ia.

C. E. Erbe, Des Moines, Ia., has sold the Independent Auto Company's business to W. Gerhart. The concern handles Locomobile and Moline cars.

J. R. Brandt has opened a garage on Vermont avenue, Los Angeles, Cal.

P. J. Weisel & Co., Placentia, Cal., has taken possession of the garage at 134 Los Angeles street, Anaheim.

E. B. Murphy, Riverside, Cal., has purchased the Walker garage and the former owner will remain in charge of the mechanical department.

James F. Pieper, Sacramento, Cal., local Detroit electric agent, has purchased the electric vehicle business heretofore conducted by Casey & Fullerton.

The Capital City Carriage Company, Des Moines, Ia., for several years distributor for the Jackson car in that city and vicinity, has taken over the entire state territory.

The Gibson Automobile Company, Indianapolis, Ind., announces E. T. Klee, formerly of the Mais Motor Truck Company, as manager of its truck department in charge of Willys Utility and Garford business wagons.

The Everett Motor Car Company, Minneapolis, Minn., has merged with the Maxwell Motor Company of that city.

The Waverley Sales Company, 1337 14th street, N. W., Washington, D. C., which has been handling the Waverley electric in that territory, has discontinued business.

Frank G. Bell, Syracuse, N. Y., has purchased the garage and equipment of the Syracuse Storage Battery Company, 118-120 South State street, and hereafter the business will be in charge of Paul H. Bell.

The Lewis Motor Truck Company, San Francisco, Cal., has increased its capital and will enlarge its business.

The Twyman Motor Car Company, Studebaker distributor, has opened a new retail establishment in Columbus, O. The company has a wholesale store in that city and maintains retail branches in Dayton and Cincinnati, supplying nearly 100 dealers. O. W. Lawson is manager of the new store.

The Abbott Motor Car Company, Detroit, factory branch of the Abbott Motor Company of that city, has

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placed its business in the hands of the Gaston-Richardson Company, a new firm, composed of George T. Gaston and Douglas C. Richardson. The present quarters at Jefferson avenue and Brush street will be retained.

The Garland Automobile Company, Pepperell square, Saco, Me., has been reorganized, the new firm comprising William A. Gilman and Ira Garland.

The Day & Night Garage has been established at 316-318 Avenue C, Miami, Fla., under the management of E. W. Palmquist and A. M. Campbell.

The S. W. Crawford Auto Company, De Soto, Mo., agent for Ford cars, has opened a garage and repair shop on Easton street.

J. D. Perry Lewis, St. Louis, Mo., has taken over the city and state agency for Marion cars and secured salesrooms at Walton and Washington avenues.

The William Knobloch Company, Chicago, Ill., electric vehicle maintenance contractor, plans to locate branches on the north and south sides of the city.

L. J. Bever, Birmingham, Ala., has purchased the interest of S. H. Mathews in the Mathews Auto Company, and the name of the concern will be changed to the Krit Motor Sales Company.

The Western Rubber Company, composed of J. J. Mahoney, E. Kadletz and Charles H. Brown, has opened a vulcanizing and retreading plant in Phoenix, Ariz.

Edward L. Bellman, Fort Atkinson, Wis., has established a garage in connection with the Hotel Lawton, and will operate a repair shop.

C. M. Parkins, Alder, Wash., has taken Frank Heiserman as a partner in the Alder garage, and plans are under way for enlarging the building and installing a repair shop.

J. E. Fisher, Luling, Tex., has purchased a half interest in the W. H. Millican garage, and the new concern is preparing to install new equipment.

The Auto Body Repair Company, conducted by E. B. Armhaus and A. Klein, has opened headquarters at 309 Smith street, Houston, Tex.

William Herr, Kenton, O., has purchased the Porter garage on West Franklin street.

The Herkimer Garages is the name of a new company organized to take over the Clark garage and the repair shop at Albany and Bellinger streets, Herkimer, N. Y.

R. R. Dragoo, Royalton, Minn., has sold his garage and repair shop to E. L. and C. I. Stodolka, who will operate under the name of the Royalton Auto Repair Company.

H. E. Gove of the New Light Company, Newton, Ia., has sold the Keystone garage to Charles Weston of Ira, Ia.

J. E. Glover, Corydon, Ia., has disposed of his interests in his garage to Sanders Kerr and L. V. Smith.

The Northwest Motor Company, Washington, D. C., has opened an automobile supply house at 1709 14th street, Northwest. Robert I. Avery is manager.

The Southern Motor Company, Texarkana, Ark., has been organized to conduct a general repair business and to produce business vehicles. Dr. K. M. Kelly is president.

The Used Motor Truck Company, 220 Third street, South, Minneapolis, Minn., will conduct a rental service as well as a sales department. It is said to be the first concern to deal in second hand commercial vehicles in this district.

The Accessory Houses in Indianapolis, Ind., are contemplating an organization to acquire a building in which the several lines may be housed nearer together than under the present scheme. Those behind the movement are: Lon Smith, representing Eisemann magnetos; L. L. Banford, Stewart-Warner speedometers; Stanley Bohannon, Truffault-Hartford shock absorbers, and Bernard E. Griffey, specialty sales promoter.

The W. G. Hirsig Company has opened a new salesroom in the Plater building, Nashville, Tenn.

Pexa & Kallauner, Tampa, Fla., has opened the garage at Lafayette street and Florida avenue, formerly operated by the Harris & Giddens Company.

Ralph Gibson, Washington, Ia., has sold his interest in his garage to Bert Smith.

Harry Ashmore of New Haven, Conn., has purchased the Blue Ribbon garage in Meriden, Conn., and will operate it in the future under that name.

Don Lee, Cadillac distributor in Oakland, Cal., has opened a branch agency in Bakersfield.

The Washington Motor Car Company, Seattle, Wash., has taken the agency for Oldsmobile cars for Washington, Oregon, Idaho and British Columbia. Sub-agencies will be established in Spokane, Portland and other cities.

The Pittsburg Automobile Dealers' Association, Pittsburg, Penn., has acquired Motor Square Garden, formerly the East Liberty market house building, and it will be utilized as an automobile exchange for the disposition of cars taken in trade by members of the organization. W. H. La Fountain will be in charge as manager.

The Pennsylvania Rubber Company, Jeannette, Penn., maker of Pennsylvania tires, has opened a factory branch at 651 North Broad street, Philadelphia, with W. H. Sharp in charge as manager.

J. H. Cardwell, Madera, Cal., has opened a garage and salesroom for Buick cars.

Maxwell & Chamberlain, Denver, Col., has opened a garage and salesroom at 1711 Sherman street.

Smith & Belville, Tehamah, Neb., has opened a new garage.

G. E. Habich, Cole agent in Boston, Mass., expects to move into larger quarters in a new building on Commonwealth avenue, but will remain at the old Massachusetts avenue location for some few months yet. His brother, H. J. Habich, has retired from the firm, to accept a very lucrative position in another line.

C. T. Silver, Brooklyn, N. Y., agent for Overland cars, has taken C. G. McGregor and C. M. Dow as partners in his business, which includes a branch in Newark, N. J.

The Knight Tire Company, St. Louis, Mo., has been organized to handle the product of the Knight Tire & Rubber Company, Canton, O., in that territory.

The Nebraska Automobile Specialty Company, 219 11th street, Omaha, Neb., has taken the agency for the Gray pneumatic gear shift and starter.

The Metz Sales Agency is a new concern located at 1587 Broadway, New York City. It will have charge of the sale of Metz cars in Greater New York and several counties adjacent thereto in New York and Connecticut.

The Century Supply Company, Philadelphia, Penn., has taken quarters at 518 North Broad street and will carry a full line of tires and accessories.

The Boss Rubber Company, Denver, Col., will represent the Standard Welding Company. Cleveland, O., in that district.

The Kissel Motor Car Company has been organized in St. Louis, Mo., by James E. and Leslie E. Newell, and has located its KisselKar agency at 5802 Delmar avenue.

Isaac R. Wilson and Walter S. Schultz, Madison, N. J., have formed a copartnership and will operate a garage under the name of the I. R. Wilson Garage Company.

The Bartlett-Smith Motor Company has been organized by G. M. Bartlett and H. D. Smith in Syracuse, N. Y., and will handle the Studebaker agency from 211 Harrison street.

Crosson, Pillion & Sanborn, Hemet, Cal., has recently purchased the garages in that city operated by Elwin Howell and Ralph Palmer.

F. W. Van Sant, for several years a motor car and accessory salesman in Minneapolis, has taken the agency for the Sandbo starter and has located at 100 Corn Exchange.

J. H. Yonkers, Toledo, O., formerly with the Cornelius-Hohly Auto Sales Company, has taken the agency for the Mayer carburetor and located at 133 Erie street.

The Safety Starter Company has been formed in Des Moines, Ia., by J. W. Hunter and Donald Hunter, to act as Iowa distributor for the Sandbo starter, designed for Ford cars.

The Torrington Welding Company, Torrington, Conn., has been formed to conduct a garage and automatic gas cutting and welding business.

Z. T. Eagleston and A. B. Shanks have formed the Smithville Auto & Machine Company at Smithville, Tex., and a building on Second street has been rented.

Glenn E. Brubaker proposes to open a garage at Litchfield, Ill. A building is being remodelled for his use.

Kowalke & Doty is a new concern organized at Benton Harbor, Mich., to do automobile repair work. Its quarters are at 350 Territorial street.

The Central Garage is a new establishment opened by Thomson & King at 227 North Centre street, Phoenix, Ariz.

The Lawrenceville Auto Company has taken over the business of the Robinson Donaldson Buggy Company of Vincennes, Ind. The company will handle Studebaker, Lozier and Chalmers cars.

The Cartercar Nebraska Company, Omaha, Neb., of which W. E. Foshier is president, has secured a location on West Broadway and is to establish an agency at Council Bluffs, Ia.

H. D. Graves, who recently took over the Imperial Garage at Hartford, Conn., to handle the Henderson and Lozier cars, has combined his interests with the Capital City Auto Company, at Allyn and High streets, distributor of Mitchell pleasure cars and Stewart trucks. All these cars will now be marketed under the style of the Capital City Auto Company, of which Mr. Graves has been elected secretary, the other officers being: President, Bernard F. Smith; treasurer, W. F. Dahill.

W. A. Wicks, Franklin dealer in Seattle, Wash., has moved into a new concrete building at 12th avenue and East Union street.

The Phoenix Garage, 321 North Center street, Phoenix, Ariz., is now ready for business.

V. D. Padola, Philadelphia distributor for Abbott-Detroit cars, will remove to larger quarters at 152 North Broad street.

The Cole Motor Car Company, West 12th street, Erie, Penn., is preparing to remove to larger quarters.

J. D. Lauppe, Sacramento, Cal., agent for Buick cars, has removed his salesroom and garage to K street. The Diamond-Goodrich Tire Company will occupy space in the same building.

The Dreadnaught Automobile Company, Oakland, Cal., has taken a two-year lease of the garage and machine shop on Oregon avenue.

Fred E. Gilbert, Tampa, Fla., has sold his two-story garage in that city to the Coates Plumbing Company. The building is 55 by 100 feet and is located on one of the principal thoroughfares.

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RECENTLY ANNOUNCED 1914 MODELS.

Reo—Reo Motor Car Company, Lansing, Mich. Reo the Fifth, fall series. Touring car and roadster, now equipped with electric starter, lights and horn, speedometer, mohair top, curtains, envelope, extra demountable rim, etc. Body is of new design. Instrument board and all instruments set flush. Electric searchlights have dimming arrangement. New design ventilating windshield. New style tire carrier holds rear light and number plate. Transmission has been changed with a view to silence and maximum efficiency. Wheels are 34 inches diameter with demountable rims; tires, 24 by four inches front and rear. Both brakes operated by pedal. Price, $1175.

American—American Motors Company, Indianapolis, Ind. Type 646, six-cylinder, six-passenger touring car. In many respects the chassis is identical with type 644, the principal changes being the lengthening of the wheelbase to 140 inches, a motor of 4.25-inch bore and 5.5-inch stroke, and a new and improved electric equipment, the last named comprising two distinct units, both mounted in one housing. Cylinders are cast en bloc, but with separate exhaust ports for each, the manifold being bolted and easily removed. Body is a streamline design, with high flush sides and deep seats. Price, $2950.

Wahl—Wahl Motor Company, Detroit. Two-passenger roadster and five-passenger touring car; one chassis. Motor, clutch and transmission in a unit. Four-cylinder, cast in pairs, 3.25-inch bore, 5.5-inch stroke. Constant level splash lubrication, pump circulation. Thermo-syphon cooling. Bosch magneto. Holley carburetor. Multiple disc clutch, Raybestos lined. Three forward speeds and reverse. Salisbury semi-floating rear axle. Semi-elliptic springs front, full elliptic rear. Tires, 32 by 3.5 inches. Right hand drive, centre control. Equipment includes Prest-O-Lite tank, gas headlights, oil side and tail lamps, speedometer, windshield, mohair top, top envelope, etc.

Chalmers—Chalmers Motor Company, Detroit. Model 24. Motor, six-cylinder, T head, en bloc, all mechanism enclosed, four-inch bore, 5.5-inch stroke. Clutch, multiple disc. Transmission, four speeds forward and reverse. Left hand drive, centre control. Six body types, streamline design, tapered bonnet, side lamps eliminated, clean running boards. Price, $2175.

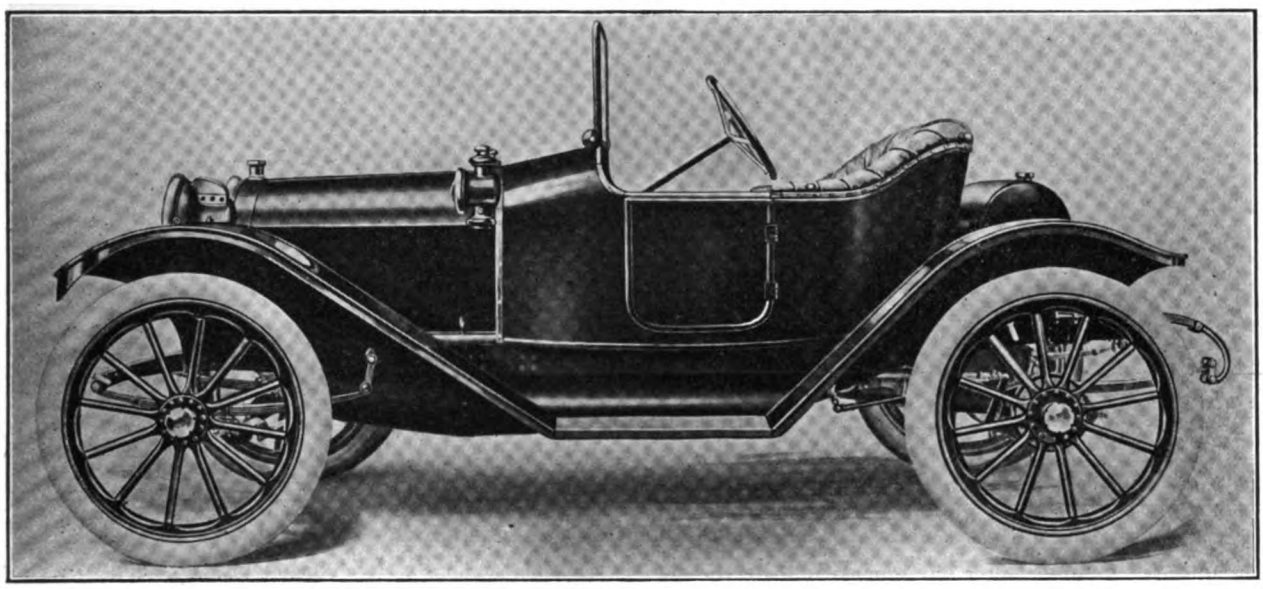
Pathfinder—Motor Manufacturing Company, Indianapolis, Ind. Five-passenger touring, two-passenger roadster, two-passenger cruiser and Martha Washington coach. Practically the same as previous models. Motor is the same except for lighter pistons and connecting rods, said to result in about 20 per cent. increase in power capacity. Some minor improvements in body design and equipment. Prices, $2160 to $2185.

Vulcan—Vulcan Manufacturing Company, Painesville, O. Model 27. Two-passenger speedster and five-passenger touring car coming. Motor, four-cylinder, L head, en bloc, 3.375-inch bore, five-inch stroke. Lubrication, combination positive feed and constant level splash. Thermo-syphon cooling. High-tension magneto. Unit power plant, three point suspension. Cone clutch. Selective transmission, three speeds and reverse. Semi-floating rear axle. Service brakes, external contracting; emergency, internal expanding. Semi-elliptic springs forward, three-quarter elliptic rear. Clincher rims with 32 by 3.5-inch tires. Left hand drive, central control. Price, $750.

National—National Motor Vehicle Company, Indianapolis, Ind. Series V-3. Five and seven-passenger touring, four-passenger toy tonneau, two-passenger speedster and two-passenger semi-racing roadster. All fitted with Gray & Davis electric lighting and starting system. Changes practically confined to minor refinements in design and construction. Prices, $2750 to $3400.

Overland—Willys-Overland Company, Toledo, O. Model 79. Touring car and roadster. But one chassis this year. Overland characteristics of model 69 continued. Larger motor, bore increased to 4.125 inches; stroke remains the same, 4.5. Valve mechanism changed, a new type of valve plungers being utilized. A yoke or dog, which bolts at the centre to the crankcase, retains two plungers for each cylinder. By displacing these drop forged yokes the pushrods may be removed without disturbing the camshaft. Intake manifold has been redesigned, having smaller diameter, and yokes replace flange method of retention. Constant level splash lubrication, a gear pump supplying connecting rod through four leads. Wheelbase has been lengthened slightly. Other minor changes. Price, $950; with Gray & Davis starter and generator, $1075.

Partin-Palmer—Partin Manufacturing Company, Chicago. Model 38. Six-passenger touring car. Motor, entirely new design, valve-in-the-head, four-cylinder, en bloc. Lubrication, constant level splash and circulation by gear pump. Thermo-syphon cooling. Stromberg carburetor. Briggs dual system of ignition, magneto and six dry cells. Clutch, leather faced cone. Transmission, amidships, selective, three speeds and reverse. Three-quarter floating rear axle. Semi-elliptic springs forward, three-quarter elliptic rear. Left hand drive, centre control. Goodyear quick detachable, quick demountable rims; 32 by 3.5-inch tires. Price, $975.



The New Vulcan "27" Speedster Model, Produced by the Vulcan Manufacturing Company, Painesville, O.

Case—J. I. Case Threshing Machine Company, Racine, Wis. Models 25, 35 and 40, all four-cylinder. Model 40 continued from last season, with improvements, including: Bosch two-point ignition, new type of Rayfield carburetor, heavier rear axle shafts and new cowl board. Model 25 has unit power plant, T head engine, 3.75-inch bore, 4.75-inch stroke. Plunger pump lubrication with auxiliary splash. Cooling by centrifugal pump. Bosch duplex ignition. Non-water jacketed Rayfield carburetor. Disc clutch. Three forward speeds and reverse. Weston-Mott three-quarter floating rear axle. Rear springs, platform type, with cross piece linked freely to semi-elliptic side members. Tires, 32 by four inches on quick detachable rims. Left hand drive, centre control. Model 35 differs principally as follows: Motor, 4.125-inch bore, 5.5-inch stroke. Gear pump lubrication. Bosch dual ignition. Water jacketed carburetor. Full floating rear axle. Three-quarter elliptic rear springs. Tires, 35 by 4.5 inches. All models equipped with Westinghouse electric lighting and starting system, Warner speedometer, eight-day clock, electric horn, extra tire on rim, two extra inner tubes, tire cover, Weed chains, top, windshield, spark plug pump and full set of lights. Prices, $1250, $1850 and $2300.

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AGENCIES APPOINTED DURING THE MONTH.

GASOLINE PLEASURE CARS.

Abbott-Detroit—Edgar F. Sanger Company, Milwaukee, Wis.; Gaston-Richardson Company, Detroit.

Allen—Allen Motor Car Company, Minneapolis, Minn.

American—Gaither Automobile Company, Columbus, O.

Apperson—Emerson & Orme, Washington, D. C.

Auburn—Grand Motor Car Company, St. Louis, Mo.

Buick—Monona Automobile Company, Onawa, Ill.; Champaign-Buick Motor Company, Champaign, Ill.; Rader & Bates Automobile Company, Waterloo, Ia.

Cadillac—W. A. Horrell, Phoenix, Ariz.

Cartercar—W. C. Brown, Beloit, Kan.

Chalmers—Broad-Oak Automobile Company, Columbus, O.; F. L. Caulkins & Co., Hartford and New London, Conn.; Theodore Johnson, Logan, O.; Champaign-Buick Motor Company, Champaign, Ill.; Mandrey Motor Car Company, Rochester, N. Y.; Stirling Bros., Erie, Penn.; Blaine Automobile Company, Waterloo, Ia.

Chandler—Clifton C. Daigle, Burlington, Vt.; Standard Motor Car Company, Canton, O.; John C. Clinton, Houston, Tex.; Clymer Motor Car Company, Indiana, Penn.; B. A. Bleck, Lima, O.; C. F. Thatcher, Logan, Utah; Ernest Whitten, Lynn, Mass.; Howard E. Johnson, Manchester, N. H.; Northwestern Automobile Company, 217 Fourth street, South, Minneapolis, Minn.; J. H. Bushong, Moline, Ill.; William Stevenson Garage Company, Morristown, N. J.; H. H. Johnson, Norfolk, Va.; O. J. Blessin Company, Postville, Ia.; Skinner Motor Car Company, Utica, N. Y.; Booth & Probert, West Union, Ia.

Cole—Thomas Motor Company, Lima, O.; Northwest Auto Company, Portland, Ore.; Cumberland Motor Company, Nashville, Tenn.; Blosser Bros., Marshall, Mo.; C. & A. J. Mathews, Oran, Mo.

Dorris—Dorris-Crawford Company, Chicago, Ill.

Empire—A. F. Chase & Co., Minneapolis, Minn.

Fiat—Ira Madden, Columbus, O.

Ford—M. F. Hjelm, West Point, Neb.; Auto Inn, Mt. Vernon, O.; William Girman, Blencoe, Ia.; W. W. Huston, Dow City, Ia.; A. D. Peters, Henderson, Neb.; Leslie O. Ross, Randolph, Ia.; Grand-St. Louis Automobile Company, St. Louis, Mo.; Fred Zimmerer, Stewart, Neb.; A. K. DeWolf, Winner, S. D.

Franklin—City garage, Springfield, Ill.; C. S. Tandy, Vevay, Ind.; T. S. Pfeiffer, York, Penn.; Juneau & Grothe, Montreal, Que.; Charles Gravens & Co., Madison, Ind.; Bourbon Garage & Supply Company, Paris, Ky.; Thomas Murphy, Sioux City, Ia.

Great Western—Interstate Motors Company, San Francisco.

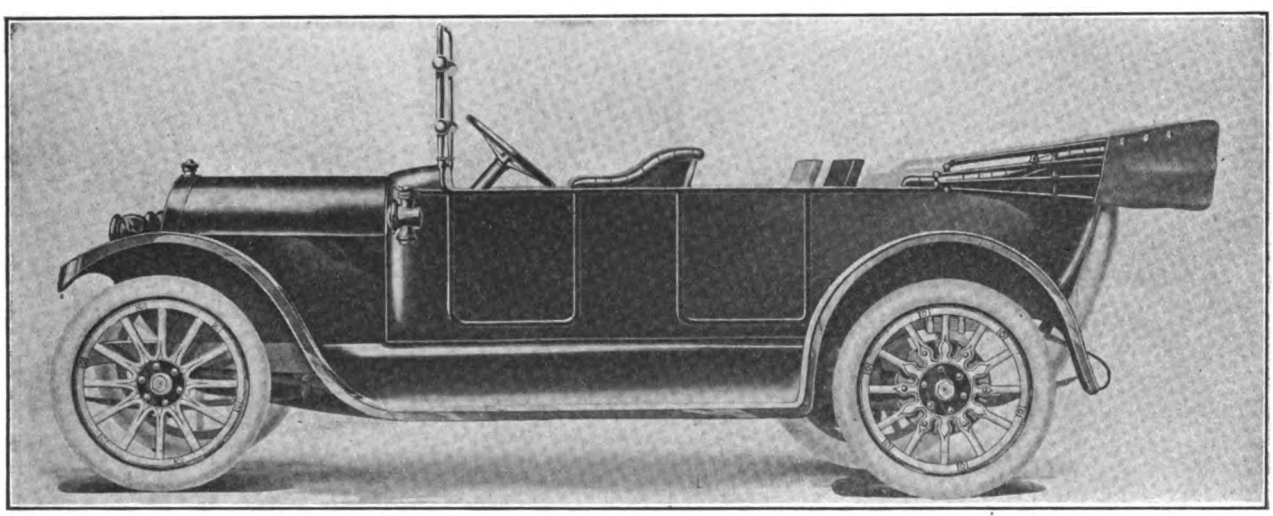
Haynes—Haynes Motor Company, Birmingham, Ala.; Probey-Haynes Motor Car Company, 1230 Wisconsin avenue, Washington, D. C.; Augusta Machine Company, Augusta, Ga.; Haynes Motor Sales Company, Baltimore, Md.; Auto Sales Company, Inc., Charlotte, N. C.; Heilman Motor Car Company, Cincinnati, O.; Queen City garage, Cumberland, Md.; James G. Parker, 530 North Main street, Decatur, Ill.; R. B. Bergeson, Decorah, Ia.; Stillman & Hoag, Englewood, N. J.; Kimbrough Automobile Company, Greenwood, Miss.; James J. Gorman, Houston, Tex.; Floyd Willis, Jackson, Miss.; Thomas-Williamson Company, Jacksonville, Fla.; Joliet Motor Car Company, Joliet, Ill.; Kenneth Automobile Company, Kenneth, Ind.; Goodnight & Connarie, Kempton, Ind.; Seaward & Son, Kokomo, Ind.; R. Heuston & Son, London, Ont.; George R. Napier, Macon, Ga.; Marietta Motor Car Company, Marietta, O.; Evander Williams & Co., Memphis, Tenn.; Edward L. Moran, Mobile, Ala.; Stilz & Graessie, Nashville, Tenn.; Newark garage, Newark, Del.; C. L. Young, Norfolk, Va.; Johnson Motor Car Company, Philadelphia; Hunter Motor Company, Roanoke, Va.; A. M. Zimbrich, Rochester, N. Y.; Joslyn Automobile Company, Rockford, Ill.; Cherokee Garage & Machine Company, Rome, Ga.; Peter Beyrent, Scranton, Penn.; Carson & Smith, South Bend, Ind.; M. L. Thompson, Vermilion, S. D.; J. C. Harvey, Worcester, Mass.; Harry Foster & Son, Table Grove, Ill.; Haynes Auto Sales Company, San Francisco, Cal.; Haynes Motor Car Company, Kansas City, Mo.; Haynes Automobile Company, New York City; Pittsburg-Haynes Automobile Company, Pittsburg, Penn.

Henderson—St. Francois Motor Car Company, Farmington, Mo.; R. W. Crouch, 1115 South Tacoma avenue, Tacoma, Wash.

Herreshoff—Johnston Sales Company, Columbus, O.; White garage, Minneapolis, Minn.

Hudson—G. D. Knox, 344 Pearl street, Hartford, Conn.; H. W. Gable, Elm street, Rockford, Ill.; Krogeal & Paisel, Crestline garage, Crestline, O.; Leroy Dobbins, Hilliards, O.; B. M. Wylie, Indianapolis, Ind.; Gage Automobile Company, Logan, O.; C. C. Stoltz, Marion, O.; Glynn & Glynn, Park garage, Chico, Cal.; Star Garage Company, Corry, Penn.; W. D. Wilson, Warren, Penn.; E. V. Stratton Company, Springfield, Mass.

Hupmobile—Willard H. Say, Oklahoma City, Okla.; Charles E. Reise, 181 Broadway, Pittsburg, Penn.; Henry County Automobile Company, Paris, Tenn.; Theodore Johnson, Logan, O.; Hotchkiss Motor Car Company, Hartford, Conn.; L. W. Fraser, Windsor, Ont.



New Six-Passenger Partin-Palmer Touring Car—For Descriptive Matter, See Page 11.

Imperial—M. Zilberman, New Orleans, La.; La Crosse Automobile Company, Minneapolis, Minn.

Inter-State—Interstate Motors Company, San Francisco.

Jackson—S. F. Slansky, 2027 Euclid avenue, Cleveland, O.; Litner Garage & Machine Company, Columbus, O.; Capital City Carriage Company, Des Moines, Ia.

King—E. Stewart Auto Company, San Francisco; O. H. Hornberg Auto Company, Spokane, Wash.; Holsman Sales Company, 1117 Locust street, Des Moines, Ia.

KisselKar—Rube Oglesby, Warrensburg, Mo.; L. E. Newell, St. Louis, Mo.

K-R-I-T—Joseph Nusbaum & Co., Mexia, Tex.; S. J. Covey, Morgan, Tex.; J. O. Tucker, Overton, Tex.; C. T. Hutchinson, Putnam, Tex.; Oden-Ellington & Co., Atlanta, Tex.; Clarence Hopkins, Weatherford, Tex.

Little—Floyd Johnson, Brattleboro, Vt.

Lozier—Wetmore-Quinn Company, Detroit; Bigelow-Willey Company, Philadelphia; Avermann-Lynn, Inc., Pittsburg, Penn.; Payne Motor Company, Des Moines, Ia.; George Greene, 113 Deer Hill avenue, Danbury, Conn.; Macdonald Motor Car Company, Milwaukee, Wis.; Gwinn Sales Company, Columbus, O.

Marion—American Automobile Company, Philadelphia; Jesse A. Smith Auto Company, Milwaukee, Wis.; A. F. Chase & Co., Minneapolis, Minn.

Maxwell—Boone-Skinner & Co., Inc., Portland, Ore.; O. H. Hornberg Auto Company, Spokane, Wash.; Lord Motor Car Company, Los Angeles, Cal.; Salt Lake City Automobile Company, Salt Lake City, Utah; G. E. Thomas Company, 166 North Fourth street, Columbus, O.; Bradley & Martz, Indianapolis, Ind.; Mutshcellar Bros., Saginaw, Mich.; Maxwell Motor Sales Corporation, St. Louis, Mo.; R. W. Glick, Tiffin, O.

Meteor—Cornelius-Hohly Automobile Company, Toledo, O.

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Metz—D. W. Geary, Brunswick, Neb.; Fawkes Auto Company, Minneapolis, Minn.; C. D. Yonker, Bowling Green, O.

Mitchell—G. E. Thomas Company, 116 North Fourth street, Columbus, O.; Robertson & Homan, Remsen, Ia.

Monarch—Stimson Automobile Company, Minneapolis, Minn.

Moon—T. C. Hill, Winchester, Ill.; C. H. Cheeseboro, Springfield, Mass.; Henry County Automobile Company, Paris, Tenn.

National—Tennant Motor, Ltd., 2447 Michigan avenue, Chicago.

Norwalk—Wheeler & Wood, Peoria, Ill.; Taylor Garage Company, Des Moines, Ia.

Oakland—Neumastic Tire Company, Montreal, Can.; R. W. Abbott Motor Car Company, Seattle, Wash.; Sidney B. Bowman, New York City; Wheelock Automobile Company, Fargo, N. D.

Oldsmobile—Washington Motor Car Company, Seattle, Wash.; Palace Auto Service Company, Hartford, Conn.

Overland—C. J. Rasmussen, Brunswick, Neb.; B. E. & T. E. Backer, Louisiana, Mo.; Krogeal & Paisel, Crestline garage, Crestline, O.; E. R. Swinger, 313 Broadway, Greenville, O.; Fred W. Simpson, Newark, O.; H. J. Cochrel, Tiffin, O.; F. M. Rugg, Outville, O.; Thomas Mason and Charles Sloan, Jacksonville, Fla.; R. V. Manning, Motor Shop, Trenton, N. J.; E. E. Wentworth, 628 Congress street, Portland, Me.; Huntsman-Hotchkiss Overland Company, Tucson, Ariz.; Bowling Green garage, Bowling Green, O.; Charles W. Loos & Sons, Coshocton, O.; Walter E. Priester, Davenport, Ia.

Paige—Wetmore-Quinn Company, Detroit; Bigelow-Willey Company, Philadelphia; Central Auto Vehicle Company, Columbus, O.; Payne Motor Company, 1012 Locust street, Des Moines, Ia.; Robertson & Homan, Remsen, Ia.; Theodore Johnson, Logan, O.

Partin-Palmer—Partin-Palmer Iowa Company, Des Moines, Ia.; H. Victor, New Orleans, La.; Regal Sales Company, Minneapolis, Minn.

Peerless—H. O. Harrison, Los Angeles, Cal.; George D. Knox, 344 Pearl street, Hartford, Conn.

Pierce-Arrow—Broad-Oak Automobile Company, Columbus, O.

Pope-Hartford—Satterlee-Fosness Company, Minneapolis, Minn.

Premier—E. W. Clark Motor Company, Fond du Lac, Wis.; Means Automobile Company, Davenport, Ia.; Oklahoma Motor Car Company, 413 North Broadway, Oklahoma City, Okla.

Pullman—Peter Wilbur, Worcester, Mass.

Rambler—Mangles-Kirby Company, 915 Main street, Jacksonville, Fla.

Reo—Broad-Oak Automobile Company, Columbus, O.; Northwest Automobile Company, Portland, Ore.; James G. Parker, 530 North Main street, Decatur, Ill.

Richmond—Jacob Renner, Columbus, O.

Speedwell—Kratz & Kratz, 730 Woodward avenue, Detroit; G. L. Stephenson, Milwaukee, Wis.

Stearns—Henry White, Meridian, Miss.

Studebaker—East Side Implement Company, Fremont, O.; A. R. Davis Motor Car Company, Cleveland, O.; Allen Motor Car Company, Independence, Mo.; Cad Bishop, Palmyra, Mo.; Ellis & Wessgarber, Hutchinson, Kan.

Velie—Providence Motor Car Company, Providence, R. I.; Woodward Motor Car Company, Springfield, Mass.; J. N. Macdonald Company, Wethersfield, Conn.; Eaton-Brewster Motor Car Company, Worcester, Mass.; R. D. Britton, Hartford, Conn.; F. B. Clements, Mankato, Minn.

Wahl—Minneapolis Motor Car Company, Minneapolis, Minn.

Westcott—D. G. Gale, Coshocton, O.; Fred A. Loud, 233 Massachusetts avenue, Cambridge, Mass.; Paine Automobile Company, St. Louis, Mo.

White—Behrens & Bushnell, New Haven, Conn.

Winton—E. J. Thornton, Columbus, O.; Charles J. Clapp, Toledo, O.

ELECTRIC PLEASURE CARS.

Argo—Bolton Auto Company, Saginaw, Mich.

Broc—George D. Knox, 344 Pearl street, Hartford, Conn.

Detroit—Emerson & Orme, Washington, D. C.

Ohio—D. C. Tiffany Company, Boston, Mass.

Rauch & Lang—Death & Watson, Ltd., Toronto, Ont.

GASOLINE COMMERCIAL CARS.

Adams—E. Stewart Automobile Company, San Francisco and Oakland, Cal.; Case Garage Company, Los Angeles, Cal.; J. M. Bonner, Dayton, O.

Avery—Eugene Goldman, Chicago.

Brockway—George M. Barnes & Sons, Meriden, Conn.

Cleveland—A. J. Reynolds, 100 Lafayette street, Tampa, Fla.

Commerce—Alco Truck Company, Atlanta, Ga.; Square Deal Auto Company, Baltimore, Md.; Commerce Truck Company, Chicago; Texas Wagon & Auto Company, Dallas, Tex.; Electric Supply & Auto Company, Fort Wayne, Ind.; R. B. Rhoades, Joliet, Ill.; Paige-Detroit Automobile Company, Little Rock, Ark.; Frederick E. Murphy Automobile Company, Minneapolis, Minn.; Hersig & Black, Nashville, Tenn.; Johnson-Danford Automobile Company, Omaha, Neb.; Hupmobile & Paige Automobile Company, Oshkosh, Wis.; Klingar Automobile Company, Pittsburg, Penn.; W. R. Taylor Motor Company, Racine, Wis.; Cartercar Sales Company, Waco, Tex.

Federal—Bigelow-Willey Company, Philadelphia; Wilmington Auto Company, 221-223 West 10th street, Wilmington, Del.

Garford—National Motor Car Company, Chicago, Ill.

Koehler—Hamal & Noble, Pittsburg, Penn.; A. E. Miller, Pocono Pines, Penn.; W. L. Kreps, Youngstown, O.

Krebs—Motor Car Distributors Company, Los Angeles, Cal.

Lincoln—Hirsch Auto Company, Sacramento, Cal.

Menomonee—Armstrong Transfer Company, Minneapolis, Minn.

Selden—Keeney garage, Hartford, Conn.; Dorris-Crawford Company, Chicago.

Standard—Bigelow-Willey Company, Philadelphia.

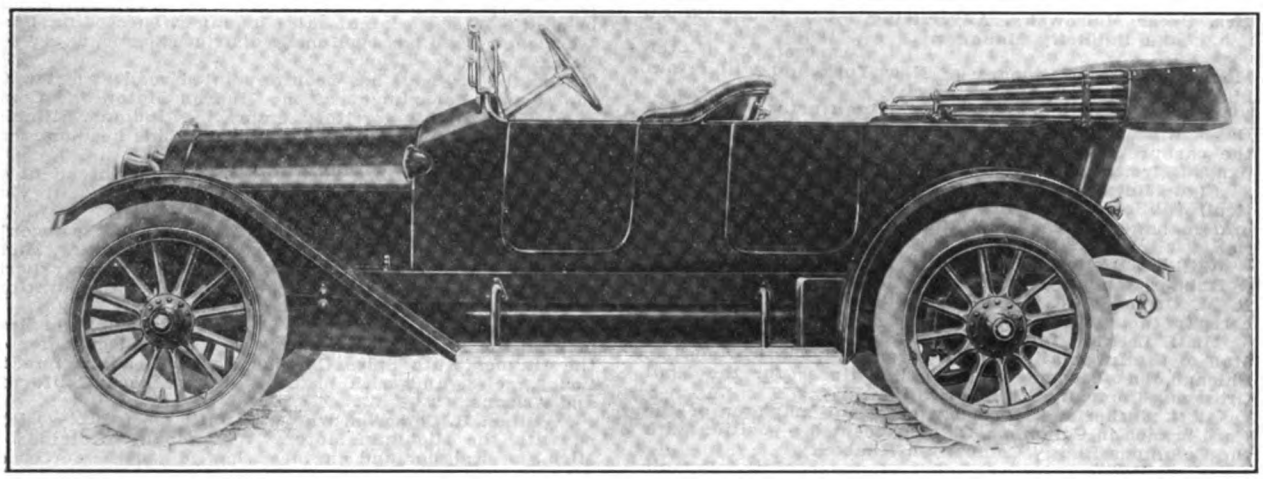
Star—Austin Doyle's Sons, Chicago.

Stegeman—Ensign & Bates, Albany, N. Y.; A. J. Sanderson, Buffalo, N. Y.

Stewart—E. V. Stratton Company, Springfield, Mass.

Wagenhals—M. B. M. Motor Company, 118 Boylston street, Boston, Mass.

Willys Utility—R. & L. Company, Boston, Mass.; Krogeal & Paisel, Crestline garage, Crestline, O.



Overland Model 79, Five-Passenger Touring Car—For Descriptive Matter, See Page 11.

ELECTRIC COMMERCIAL CARS.

Atlantic—A. Jennings & Co., Montreal, Que.

Commercial—Osen-McFarland Company, San Francisco.

CYCLECARS.

Imp—MacArthur, Thompson, Kollars Company, Minneapolis, Minn.

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PERSONAL NEWS OF THE INDUSTRY.

Mrs. Oscar Meirowsky, who as Miss Dorothy Kane was well known in the industry through her connection with the advertising department of the Abbott Motor Company, Detroit, is enjoying a vacation trip abroad, on which she will combine business and pleasure. Mrs. Meirowsky is now advertising and publicity manager for the Abbott-Detroit Motor Company, New York City distributor for Abbott-Detroit cars.

Mrs. Oscar Meirowsky, Advertising and Publicity Manager.

Harry Miller, Los Angeles, Cal., inventor of the Miller carburetor, and later connected with the New Miller Carburetor Company, has brought out another carburetor, which he terms the Master.

Raymond G. Coghlan has been appointed advertising manager of the Moon Motor Car Company, St. Louis, Mo. He is secretary of the Moon Motor Car Company of New York and will retain his headquarters in the latter city.

Otis Funderbunk, formerly Michigan manager for the Rayfield carburetor, has been appointed sales manager of the carburetor division of the Detroit Lubricator Company, Detroit, maker of the Stewart.

Clyde Barnard, president of the Nebraska State Horticultural Society, has succeeded Frank O. Moberg as general manager of the Rex Automobile Company, Omaha, Neb.

William B. Moseley, formerly with the Goodyear Tire & Rubber Company, is now travelling representative for R. M. Owen & Co., New York City distributor for Reo cars, in the eastern district.

H. H. Leckler, formerly a member of the engineering staff of the International Harvester Company of America, Chicago, has become mechanical engineer for the Emil Grossman Company, New York City.

A. G. Sutherland, formerly assistant manager of the Ford branch in Columbus, O., has accepted a position with the Columbus Buggy Company of that city.

W. C. Boone, who was office manager of the Detroit branch of the Jones Speedometer Company, has returned to the factory in New Rochelle, N. Y., where he will maintain headquarters for the present.

Frederick C. Harrington has succeeded L. C. Harmon as sales manager of the Myer Abrams Company of Boston, New England distributor for the Lauth-Juergens truck.

William J. Pearmain, formerly of the Packard experimental staff and later general inspector for the Olds Motor Works, has taken charge of the experimental work for the Mitchell-Lewis Motor Company, Racine, Wis.

O. W. Dansie has succeeded Arthur H. Mertz, resigned, as manager of the Gerlinger Motor Car Company, Seattle, Wash.

John B. Richards, for the last nine years superintendent of the Springfield Metal Body Company, Springfield, Mass., has been appointed manufacturing superintendent of the Stevens-Duryea Company, Chicopee Falls, Mass., thus enabling George W. Kerr to devote his entire time to the designing and engineering departments.

H. T. Helfer has resigned as sales manager of the Racine Manufacturing Company, Racine, Wis.

Alfred Golde, inventor of the Golde patent automobile top, and owner of three large factories in Europe, has been visiting his branch factory in New York City.

Fred W. Dart, Hartford, Conn., has secured the Oldsmobile agency for the Palace Auto Station.

C. A. Forster has resigned as commercial manager of the Maxwell Motor Company, Detroit, and it is understood that he will return to the Burroughs Adding Machine Company.

Charles LaPorte, formerly with the United States Motor Company, has been appointed chief engineer of the Aristos Company, New York City, where he will have charge of the design and production of the Mondex shock absorber and other devices bearing that name.

E. H. Hand, for several years a prominent figure in the automobile industry as district manager and assistant sales manager of the E. R. Thomas Motor Car Company, and later as district manager in Ohio and Pennsylvania for the Abbott Motor Company, has joined the staff of the J. I. Handley Company, Indianapolis, selling agent for Marion and American cars. He will supervise the sale of the Marion machine in the district which includes Cleveland, Pittsburg, Buffalo, Philadelphia, Baltimore and Washington.

John C. Stiles, who has been connected with the Indianapolis branch of the Stewart-Warner Speedometer Company, has been appointed western representative with headquarters in St. Louis.

Harold Van Baalen has resigned from the sales force of the Grinnell Electric Company, Detroit, to become general manager of the Electric Automobile Company of that city, distributor of the Standard electric line.

Robert R. Ramey has been appointed southern district manager for the Lozier Motor Company, Detroit, maker of Lozier cars, with headquarters at New Orleans, La. Mr. Ramey began his connection with the automobile industry in 1906, with the Eastern Automobile Company, Philadelphia, representative of the Lozier company.

W. E. Wardlaw, for some time New York branch manager for the Schoen-Jackson Company, maker of the Feps carburetor, has resigned to enter the service of another carburetor manufacturer.

Fred A. Crooks, formerly New York City sales manager for the Alco, has joined the sales staff of the Harry S. Houpt Company, New York distributor for Lozier cars.

William G. Houck, formerly sales director of the Keeton Motor Company, Detroit, has retired from that concern to devote his entire time to the sale of Carnation cyclecars, made by the American Voiterette Company of that city.

L. E. Blocker, who has been connected with the Chalmers Motor Company, Detroit, since its organization, has been appointed assistant sales manager, succeeding Fred W. Nichols, who has been made district sales manager for New England.

Donald G. Small has been appointed road expert with the service department of the Hudson Motor Car Company, Detroit, his territory embracing Indiana, Illinois, Kentucky and Tennessee. He will make his headquarters in Indianapolis.

James Chisholm has been appointed superintendent of the B. & R. Rubber Company, Worcester, Mass., vice James A. Wade, resigned.

L. R. Acton has been appointed manager of the recently organized Tiffany Electric Car Company, Pontiac, Mich.

E. F. Warren, an automobile engineer of wide experience, has joined the staff of the Studebaker Corporation, Detroit, being connected with plant No. 10.

J. S. Conwell, one of the best known automobile salesmen on the Pacific Coast, has been appointed manager of the Haynes Auto Sales Company, with headquarters in Los Angeles, and with branches in southern California and Arizona.

William H. Cameron, who was until recently associated with the Michigan Motor Car Company, Kalamazoo, Mich., as designer and engineer, has joined the forces of the Lewis Spring & Axle Company, Jackson, Mich., where he will have an interest in the development of the Clark motor plant.

W. H. Cameron, with Lewis Spring & Axle Company.

E. S. Maddock, who has been with the company since 1908, has resigned as assistant secretary of the Thomas B. Jeffery Company, Kenosha, Wis.

C. H. Martin, formerly local branch manager for the Premier Motor Car Company, Pittsburg, Penn., has become sales manager for the H. J. Lange Motor Car Company of that city, maker of Lange trucks, etc.

Edward Breed, for some years with the Anchor Buggy Company, and more recently with the Continental Car-

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riage Company, Cincinnati, O., is now sales manager for the O. Armleder Company of that city, maker of motor delivery wagons.

J. W. Sheler, Dallas, Tex., has resigned as manager of the United Motors Company to go into business for himself.

Frank Shaw, who has been connected with Frank J. Enger in the manufacture of Enger automobiles, has become general superintendent of the Rock Hill Buggy Company, Rock Hill, S. C.

H. B. Lewis, for some time past assistant manager of the J-M Shock Absorber Company in Los Angeles, Cal., has been promoted to become manager.

Harry Wolever, who was identified with the Whitten-Gilmore Company in Boston, Mass., for a long time, is now with J. H. MacAlman, Boston agent for Stearns cars.

Lewis A. Austin has been appointed general manager of the truck department of the O. Armleder Company, Cincinnati, O.

Frank W. Mailing has severed his connection with the Mais Motor Truck Company, Indianapolis, Ind., and joined the sales forces of the Stewart Iron Works Company, Cincinnati, O.

L. E. Rood has been appointed manager of the Rambler branch in Chicago, succeeding Z. C. Elkin, who has entered business for himself.

George A. Urquhart, manager of the White company's branch in Dallas, Tex., has been transferred to San Francisco, succeeding C. A. Hawkins, who has resigned to devote his time to other personal interests on the Pacific Coast.

J. G. Tennant, treasurer of the Tennant Motor, Ltd., Chicago, is a prominent figure in the sales end of the industry in the Middle West, having been local representative for the Simplex car for a number of years. The Tennant Motor, Ltd., has recently been selected by the National Motor Vehicle Company, Indianapolis, Ind., as the Chicago sales agent for the National car, largely because of Mr. Tennant's wide acquaintance and business ability.

J. G. Tennant, Treasurer, Tennant Motor, Ltd.

A. C. Platt, formerly connected with Wyckoff, Church & Partridge, Inc., New York City, has been appointed manager of the American branch of Commer Cars, Ltd., Luton, England, which has decided to place its Commer trucks in the American market direct.

E. T. Georges, formerly consulting engineer of the General Motors Company, has been appointed superintendent of the Chase Motor Truck Company's plant in Syracuse, N. Y. J. W. McDonald also is in the Chase employ as master mechanic.

George Uehlein, president of the Universal Motor Truck Company, has established his office at the factory in Detroit, removing from Milwaukee.

H. T. Curtis has been appointed manager of the Boston branch of the Invader Oil Company. He has been in the oil line all of his business life, having been identified with the old Havoline Oil Company and later with the Wolverine Oil Company.

L. M. Bradley, for some time past associated with the Willys-Overland Company, and before that with the United States Motor Company, has been appointed advertising manager for the Moline Automobile Company, East Moline, Ill.

Harry M. Newman, sales manager for Chicago, has been appointed manager of the Moon Motor Car Company of Illinois, succeeding E. N. Sanders, who becomes western sales manager, in charge of the states lying west of the Rocky mountains. Mr. Newman went to the Moon company in March, having previously been sales manager of the Washington Automobile Company, Washington, D. C.

Edwin R. Thomas, formerly identified with the E. R. Thomas Motor Car Company, Buffalo, N. Y., has purchased the old plant of that concern and is having it fitted for light manufacturing purposes.

Henry Frank, formerly with the Motz Tire Company in Boston, Mass., has resigned to accept a position with the Swinehart Tire Company in that city.

James A. Wright, one of the leading automobile body designers in New York City, has joined the staff of A. J. Monday, Milwaukee, Wis., one of the best known automobile body manufacturers in the State of Wisconsin.

F. H. Freeman, for some time identified with the Henley-Kimball Company in Boston, has resigned to become sales manager of the Stutz Motor Car Company in that city.

W. McK. White, one of the best known salesmen in the industry, has resigned from the Marion Motor Car Company, Indianapolis, Ind., to become sales manager of the Esterline Company of that city. He will have charge of the distribution of Golden Glow lamps, as well as electric lighting and starting systems, while the electrical instrument business of the company will remain in charge of Mr. Hansell, as formerly.

W. McK. White, Sales Manager, Esterline Company.

E. A. Scheu, manager of the Boston branch of the Invader Oil Company, has been appointed general manager of the company. Mr. Scheu is well known in New England, having been with the Packard agency in Boston from 1903 to 1908, and since that time with Invader oil, formerly in charge of the Boston branch of Chas. F. Kellom & Co., and since the organization of the Invader Oil Company with that concern.

L. R. Connolly, Chicago, for a number of years traffic manager for the International Harvester Company of America, has accepted the same position with the J. D. Maxwell Motor Corporation, Indianapolis, Ind.

Frederick J. Haynes, formerly factory manager of the H. H. Franklin Manufacturing Company, Syracuse, N. Y., has become factory manager for Dodge Bros., Detroit.

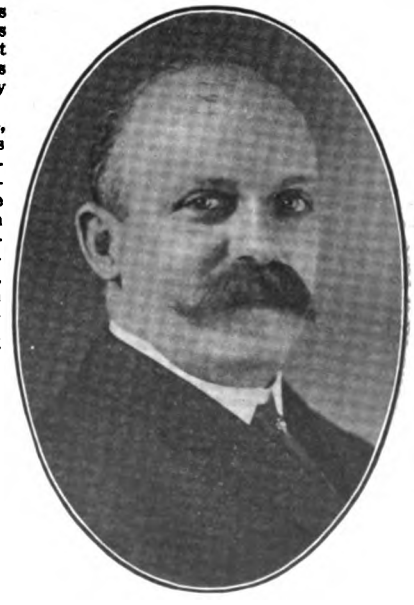
Edward Fleming of the United States Tire Company's branch in Los Angeles, Cal., succeeds R. E. Dougherty as office manager in Seattle, Wash.

Theodore F. Millington, formerly with the General Motors Company, Detroit, until he became interested in the Edward J. Budd Manufacturing Company, has closed a contract to handle the entire factory output of the Detroit Body Company.

Frank E. Smith, for several years production manager for the Maxwell-Briscoe Motor Company at Newcastle, Ind., has accepted a similar position with the American Motors Company, Indianapolis, Ind.

Webb Jay, vice president and manager of the Haynes Motor Car Company, Chicago, has disposed of his holdings in that company and has been succeeded by H. E. Doty.

William G. Bee, one of the pioneers in the electric vehicle end of the industry, and for the past 11 years with the Edison Storage Battery Company, East Orange, N. J., has been elected vice president and general sales manager of that concern. Mr. Bee entered the industry with the Pope interests just before the organization of the Electric Vehicle Company, Hartford, Conn., in 1897. He was the first man to give Thomas A. Edison a ride in an automobile—an electric, of course.



William G. Bee, Vice President, Edison Storage Battery Company.

Charles Pembroke, with the Key Lox Manufacturing Company, Rochester, N. Y., has developed a new gasoline carburetor and proposes to place it in the market in the near fu-

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ture. It is understood to present features making for increased mileage a gallon of fuel.

H. C. Grannis, formerly chief tester for the National Motor Vehicle Company, Indianapolis, Ind., has become manager of the Cadillac branch in that city.

Charles K. Thomas, formerly a representative of the Chase Motor Truck Company in the West, has been appointed manager of the Federal Motor Truck Company's New York branch.

J. S. O'Rourke, for some time purchasing agent of the Jackson-Church-Wilcox Company, Saginaw, Mich., has accepted a similar position with the Cartercar Company. Pontiac, Mich.

F. N. Schwab, formerly with the Speedwell Motor Car Company, Dayton, O., is interested in the Near-Side Motor Car Company, with factory in that city, and headquarters in New York City.

R. H. Johnston, New York City, has just celebrated his 10th anniversary with the White Company, Cleveland, O. From 1903 to 1910 he handled advertising and publicity affairs at the factory and for the past three years has been in charge of the sales end in the Metropolis.

R. H. Johnston, with White Company, New York City.

W. A. Olen, president of the Four Wheel Drive Automobile Company, Clintonville, Wis., has assumed the duties of general manager as well.

W. R. Willett, formerly general manager of the Welch Motor Car Company, Pontiac, Mich., is now factory manager of the Gemmer Manufacturing Company, Detroit.

Charles B. Shanks, general sales manager of the Kelly-Springfield Motor Truck Company, Springfield, O., has resigned his position. He is a veteran in the industry and has not announced his plans for the immediate future.

Charles R. Culver, sales manager for the Knox Automobile Company almost since the first Knox cars were produced, has resigned to become sales manager of the Stoddard Motor Car Company, Springfield, Mass., distributor for Pierce-Arrow cars and trucks, and Selden trucks.

R. W. Knowles, formerly service engineer and designer located in Belleville, N. J., is now assistant to the research engineer with the Anderson Electric Car Company, Detroit.

Charles S. Pope, formerly demonstrator of kerosene carburetors with the National Oil Gas Generator Company, Chicago, has become identified with the motor car department of the Spaulding Manufacturing Company, Grinnell, Ia.

S. Christensen, formerly with the Emil Grossman Company, New York City, has been appointed field manager and advertising adviser of the Vanguard Manufacturing Company, Detroit.

L. E. Rood, field sales manager for the Thomas B. Jeffery Company, Kenosha, Wis., has been appointed branch manager in Chicago, succeeding Z. C. Elkin, who has entered business for himself.

R. W. Lytle, formerly factory manager of the Lycoming Foundry & Machine Company, Williamsport, Penn., has taken the same position with the Hazard Motor Manufacturing Company, Rochester, N. Y.

E. A. Williams, until recently manager of the Castle Lamp Company, Battle Creek, Mich., has been made assistant manager of the Gramm Motor Truck Company, Lima, O.

H. C. Gentry has been appointed sales representative of the McGraw Tire & Rubber Company, with headquarters in New York City.

James G. Heaslet, chief engineer of the Studebaker Corporation, Detroit, has added the duties of general superintendent of the company's automobile plants. In this position he will receive direct reports from Production Manager Max Wollering, to whom the superintendents of the individual plants will make report.

G. Earle Porter has been appointed factory manager of the Admiral Motor Truck Company, St. Louis, Mo.

W. F. Baker, formerly with D. A. Prentiss, Richmond, Va., has becomes sales manager of the Shenandoah Motor Company of that city.

R. A. Clark, Richmond, Va., has opened a business at 803 West Cary street, which will be known as the Presto Welding Plant.

Robert Perkins, formerly factory manager of the Gemmer Manufacturing Company, has purchased the Massnick-Phipps Manufacturing Company, Detroit, and will produce parts for cyclecars.

William H. Noblit has been appointed sales manager of the Minerva Motors Company of Pennsylvania, with headquarters in Philadelphia.

Walter Stokes, Jr., has purchased an interest in the E. O. Elliott Company, Nashville, Tenn., maker of parts.

W. G. Rodgers, formerly manager of the Texas Motor Car & Supply Company, Corpus Christi, Tex., has become associated with the Hawkins-Halff Company, Houston, agent for Pierce-Arrow, Chalmers and Paige cars.

Arthur A. O'Neill has been appointed eastern sales manager of the Empire Automobile Company, Indianapolis, Ind., in charge of sales in the New England states.

W. M. Hogle, sales manager for the Alma Motor Truck Company, Detroit, maker of Republic trucks, has established his headquarters at 870 Woodward avenue.

Ellis Y. Eldredge, assistant cashier of the Second National Bank, Bangor, Me., has been elected manager of the Bangor Motor Company, succeeding Byron W. Austin, who has gone to Detroit to accept a position.

Carl S. Walker has been appointed manager of the Ford branch in Newburyport, Mass., succeeding Sidney Ashe, who has resigned to go into mercantile work.

H. H. Robinson of the sales department of the Keeton Motor Company, Detroit, will make his home in Atlanta, Ga., having been appointed southern representative of the company.

C. H. Mooers, who has been associated with W. P. Brawley in handling the Stutz agency in Seattle, Wash., has retired to visit the Shushanna gold fields in Alaska.

NEW LOCATIONS AND REMOVALS.

The Dixie Auto Tire Repair Station, Richmond, Va., has removed to 322 West Broad street.

The Overland Automobile Company, Houston, Tex., has secured a new salesroom at 1407 Main street, and a service station at 1813-19 San Jacinto street.

The Green Taxi & Auto Company, formerly the Crow Green Auto Livery Company, Houston, Tex., is to occupy a three-story building at Main and Dallas streets, where it will handle the agency for Mercer, Hupmobile and White pleasure cars, and a line of trucks.

The Heady-Ogier Automobile Company, North Platte, Neb., has located in the McCabe building, which affords storage and repair shop facilities.

The Somerset Garage Company, Roxbury, Mass., has acquired the brick garage and 17,000 square feet of ground on Maitland street, running through to Munson street.

A. J. Reynolds, Tampa, Fla., has opened a salesroom at 100 Lafayette street and will handle Cleveland trucks and accessories.

Felt & Newton, Atlanta, Ga., engaged in the repair business at the Soper garage, has purchased the repair department and supplies at the White Pole garage, and has rented the latter building with the exception of a section of the first floor, which will be used for the display of cars.

The Miller Bros. Automobile & Supply Company, Ford agent in Washington, D. C., has taken possession of a large building at First street and Pierce place, Northeast, formerly occupied by the Studebaker Automobile Corporation.

The Tyman Motor Car Company, Studebaker distributor in Cincinnati, O., has removed to 808 Sycamore street.

The Yoegg Tire & Rubber Company, Holyoke, Mass., has removed to 285 Maple street.

George Lewis and John Murphy, Herkimer, N. Y., operating as the L. & M. Company, have sold the garage at the corner of West Albany and Bellinger streets, and have leased the Conley garage in the rear of the Waverly House, which will be enlarged for their use.

The Mutual Auto Accessories Company of America has leased the store at 58-60 West 65th street, New York City.

Lister, Smith & Walsh, Paige and Jackson agent in Providence, R. I., has removed from 13 Dorrance street to new quarters at 37 Chestnut street. The service station will be located at 374 Benefit street.

The Anselm-Ganahl Motor Car Company, St. Louis, Mo., recently organized to handle Regal cars in Missouri, southern Illinois and northern Kentucky, has secured salesrooms at 1512 Locust street.

The Sparks-Miller Company, Los Angeles, Cal., agent for Chandler cars, is occupying its new home at 1026 South Olive street.

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R. D. Anderson, Warren, O., dealer in American underslung cars, made by the American Motor Car Company, Indianapolis, Ind., adopted a unique method of advertising in the construction of the new garage and salesroom opened recently. Mr. Anderson so designed his new building that the front is almost an exact reproduction of the front elevation of the American machine, being built to resemble the radiator. The design has been carried out in detail, showing even the eagle which surmounts the radiator filler cap on the car, as will be noted by the accompanying illustration.

R. D. Anderson's American Car Agency in Warren, O.—Note Shape of Building Front.

The Hall Rubber Company, 1402 Ridge avenue, Philadelphia, has taken the agency for Motz tires, made by the Motz Tire & Rubber Company, Akron, O., and will handle this product in eastern Pennsylvania, Maryland and Delaware. L. S. Hall, head of the company, is a veteran in the tire trade, which he knows from every angle.

The Studebaker Corporation of America, San Francisco branch, has changed location and is now at the corner of Van Ness avenue and Hemlock street, in much larger quarters.

The Spiker Supply Company, Scio, Hamilton county, O., has added an automobile supply department to its business.

Horst & Streiter, Rock Island, Ill., has rented the Rogers granary building at Byron, Ill., which will be remodelled preparatory to establishing a garage.

The Piqua Auto Supply Company, 133 North Main street, Piqua, O., has opened for business with a complete stock of supplies, accessories and machine shop equipment.

The Auto Tire Repair Company, Oyster Bay, N. Y., has reopened for business following a recent fire. It is now in the Sagamore garage building on West Main street.

Sharp & Robbins has opened a garage on South Broad street, Trenton, N. J. The firm also operates a repair shop on South Clinton avenue.

Clarence Campbell, Strawberry Point, Ia., has opened a garage and is negotiating for the agency for a medium priced car.

Otto Haug & Son, which recently removed from Great Bend, Kan., to Manchester, Ia., is enlarging its repair shop and garage.

The Moon Motor Car Company of Illinois, 2728 Michigan avenue, Chicago, has removed its headquarters to 2612 Michigan avenue, in the building recently vacated by the Lozier Motor Company's branch. The concern has jurisdiction over the sale of Moon cars in Indiana, Michigan and Wisconsin, as well as northern Illinois.

A. J. Jackson, Federal truck agent in Syracuse, N. Y., has taken possession of the Cronin garage, 571-577 South Clinton street.

The Adirondack Motor Car Company, Albany, N. Y., has removed from 143 Central avenue to 278 on the same street.

J. W. Paddon, Boston, Mass., has removed his garage from 293 Northampton street, to Eggleston square, on Columbus avenue, Jamaica Plain.

The Auburn Sales Company, San Francisco, Cal., has removed from Golden Gate avenue to Van Ness avenue.

E. S. Hessels, White Plains, N. Y., who recently leased his garage on Brookfield street, has opened a salesroom for Ford cars at 34 Martime avenue.

The Collins Auto Company, San Antonio, Tex., has removed to a new location on Commerce street, and will be known in the future as the E. A. Staacke Automobile Company, handling Studebaker, Premier and Waverley electric lines.

The Hearsey-Willis Company, Indianapolis, Ind., distributor for Hupmobile cars, has removed to 339 North Capitol avenue.

The Hunter Automobile Company, Watertown, S. D., will remove from the Harper building to a new location where it will handle the Ford and Cadillac lines.

The Baline Auto Company, Watertown, S. D., will occupy the garage in the Walker building vacated by the Hunter Automobile Company, where it will handle Chalmers and Overland cars. The company also maintains a garage in Redfield, S. D.

Horace Farish has opened a garage in Morrilton, Ark., and expects to handle a full line of supplies and accessories.

The Dillon-Goodwin Company, Oakland, Cal., expects to be located in its new salesroom and service station at Bush street and Van Ness avenue about Nov. 1.

E. H. Peterson and V. H. Anderson, San Diego, Cal., have established an electric repair station in Dupree's garage, First avenue, between C and B streets.

Fred J. Emvrard has purchased an interest in the Butler garage, Bethel, Conn., and a 50-foot addition has been constructed.

The Empire Auto Top Company, 623 G street, Washington, D. C., has removed to 1608 14th street.

L. C. Oliver, Jacksonville, Fla., agent for Ford cars, has renewed a long term lease of the premises at 16 Ashley street. Extensive alterations will be made to accommodate the growing business.

C. W. Henzler, Bismarck, N. D., has moved into his new garage, 52 by 100 feet.

The Vulcorine Company, Cincinnati, O., has taken a lease of the premises at 1012 Prospect avenue, Cleveland, O., where a large line of automobile supplies will be handled.

A. B. Larmour, Plainfield, N. J., has removed his repair business from 180 East Front street to 119 Madison avenue, where the business will be conducted as the Central garage.

Arthur Woodcock will have charge of the modern repair shop which will be located in the two-story garage building, now in process of erection in the rear of the Smith building, Port Chester, N. Y.

Bennett & Foremen, Westfield, Ill., has opened a garage on Center street, Hume, Ill.

Rader & Bates, has opened a new garage on Ninth street, Waterloo, Ia., and will handle the Buick line.

The Inter-State Company, Boston, Mass., V. A. Charles, manager, will take possession of its new salesrooms and service station at 618 Commonwealth avenue, about Oct. 1.

The Kruse Motor Car Company, Cincinnati, O., is located temporarily at 228 East Sixth street, while its new building is in process of erection.

The Knox Automobile Company, New York branch, is now located at 1872 Broadway, New York City.

The Up-to-Date Tire Repair Shop, Trenton, N. J., has opened a branch at 211 South Warren street, for vulcanizing and retreading.

Walter Williamson, New Brunswick, N. J., agent for the Cadillac, has removed to 127 Church street.

The Horn Auto Supply Company, Omaha, Neb., has moved into its new building at 22nd and Farnum streets.

The Schall-Crouch Auto Company, Baltimore, Md., agent for Lozier and Paige lines, has removed its garage from North avenue to 1921 North Charles street.

The White Company, Boston branch, has removed from Newbury and Hereford streets, to its new salesroom at 930 Commonwealth avenue. The service station will be retained at 341 Newbury street.

F. E. Wentworth, Portland, Me., agent for Overland cars, has located salesrooms at 628 Congress street.

The Roy E. Warner Company, Louisville, Ky., agent for Firestone tires, has purchased the Rogers property at Third avenue and Breckinridge streets, where a three-story supply house will be erected at a cost of $40,000.

New Home of the Moon Motor Car Company of Illinois on Michigan Avenue, Chicago.

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PROPOSED NEW GARAGE BUILDINGS.

I. R. Taylor & Co., Asbury Park, N. J., and others are estimating on a 2.5-story garage and residence for A. M. Fox, Jr., Spring Lake, N. J. It is to be built of hollow tile.

H. C. Harrison has awarded the contract for alterations and additions to his garage at Chestnut Hill, Penn.

August Schwenlein, 2218 East Baltimore street, Baltimore, Md., has awarded the contract for a one-story garage to cost about $5000.

Ernest A. Byron, 20 Winthrop street, Springfield, Mass., has given the contract for the erection of a one-story garage.

The Woodsmall Construction Company, 9 La Salle street, Chicago, has secured the contract for the building of a two-story garage for Dr. Hale.

Harper Bros., 6104 Ingleside avenue, Chicago, has been given the contract by R. G. Ackley, 1326 East 53d street, Chicago, for a one-story garage to cost $6000.

The Ford Motor Company, Minneapolis, Minn., is planning to build an eight-story garage, office, repair shop and assembling plant at the concern's headquarters in the northwest.

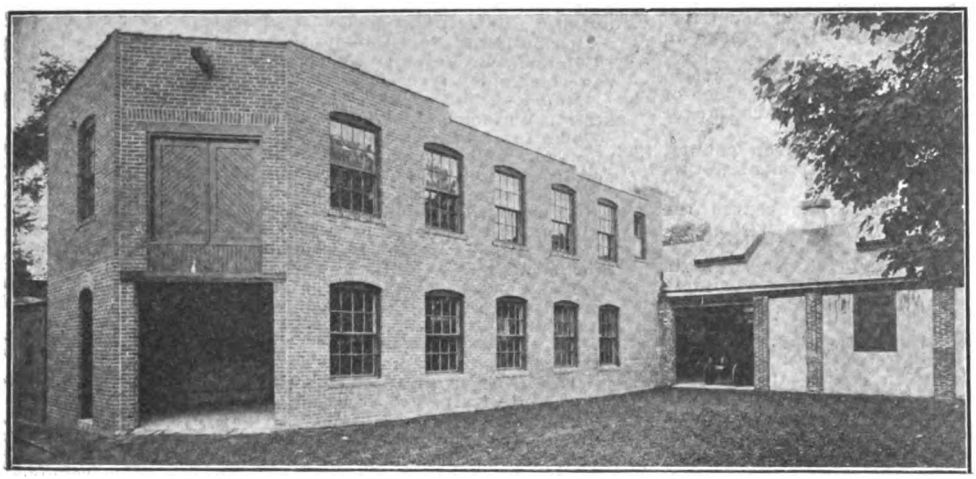
John McKenna, Philadelphia, Penn., is estimating on plans and specifications for a two-story brick and concrete garage, to be erected at Ardmore, Penn., for E. Levene.

James B. Ladd, Ardmore, Penn., is to build a two-story garage, for which plans and specifications have been drawn.

Walter Reimann, 1911 Central avenue, Cincinnati, O., is to build a one-story garage.

The Queen City Motor Delivery Company, Cincinnati, O., is to erect a one-story garage to cost $20,000.

The Badger Auto Company has been formed at Mayville, Wis., by Richard A. Ruedebusch, Fred J. Lang and Antoinette Lang, with $20,000 capital. The company will conduct a first class garage.



Public Service Station of the Hartford Electric Light Company, Hartford, Conn.

Kreglius & Robinson, 556 Leader-News building, Cleveland, O., has prepared plans for a two-story garage and chauffeur's apartment to cost $2500.

The Lambert Auto Company, Mt. Royal and Maryland avenues, Baltimore, Md., is planning to build an addition to its garage to cost $20,000.

G. H. Mundorff, Dubois, Penn., contemplates building a one-story garage to cost $2000.

W. W. Anspach, Milton, Penn., is planning to build a one-story garage to cost $2000.

A. F. Munso, 217 Brighton avenue, Perth Amboy, N. J., is to build a one-story garage to be 24 by 22 feet.

Norman McGlashan, 1123 Broadway, New York City, has prepared plans for a two-story garage to be erected at Norwalk, Conn.

C. S. Streinkland, 474 Quincy street, Brooklyn, N. Y., is to build a one-story garage to cost $8000.

F. Luthy, 201 Main street, Peoria, Ill., is planning to build a two-story garage and hall to cost $3500.

Thomas Evans, 401 North Main street, Bloomington, Ill., has plans for a one-story garage.

E. C. Warner, 221 Clifton avenue, Minneapolis, Minn., has awarded the contract to Richard Billingstey, 514 Central avenue, that city, for a two-story garage to accommodate seven cars.

Claude Kilpatrick, 3646 Delmar avenue, St. Louis, Mo., has given the contract for a one-story garage to cost $3000 to the I. F. Remmers Construction & Building Company.

M. D. Elgin, 224 Charles avenue, Grand Rapids, Mich., has let the contract for the erection of a one-story garage.

The New York Telephone Company, 15 Dey street, New York City, has let the contract for an addition to its garage, to cost $8000.

Rufus & Sibley, 930 East avenue, Rochester, N. Y., has let the contract for the building of a new garage.

F. L. Gilmore, Oak Park, Ill., has let the contract for a two-story garage.

Ghent Garage Company, Chamberlain building, Norfolk, Va., is planning to build a one-story garage to cost $3500.

James Hastings, Woodward, Okla., is to build a one-story garage to cost $10,000.

Dr. W. E. Minor, Tenth and Oak streets, Kansas City, Mo., will build a three-story garage, 48 by 126 feet, to cost $50,000. The lessee is the Automobile Club of Kansas City, with present headquarters in the Midland building.

Dr. William E. Tyson, 499 Seminole avenue, Detroit, is having plans revised for a one-story garage.

James D. Standish, 74 Alfred street, Detroit, is planning a 1.5-story garage to cost $3000.

T. P. Carroll, 64 East Auburn avenue, Cincinnati, O., is to build an addition to his garage to cost $6000.

S. K. Miller, Martinsburg, W. Va., is planning a one-story garage which will cost $20,000.

A. C. Slagle, 15 East Fayette street, Baltimore, Md., will build a two-story garage to cost $3000.

Rufus K. Lenning, Andalusia, Penn., will erect a 1.5-story garage and stable, to cost $10,000.

George T. Pawling & Co., Philadelphia, Penn., has taken out a permit for the erection of a three-story automobile sales building and garage at 250-254 North Broad street. The cost will be $65,000.

Walter May, Murray and Salway avenues, Pittsburg, Penn., is to build a one-story garage to cost $2000.

L. F. Hersh, 207 Broadway, Elizabeth, N. J., contemplates building a two-story garage.

The Hawthorne Development Company, 113 Ellison street, Paterson, N. J., is planning to build a three-story automobile loft building to cost $30,000.

George C. Brighton, Rochester, N. Y., is planning a one-story garage to cost $15,000.

Thomas Brown, 67 North street, Whitestone, L. I., has completed plans for a two-story garage to cost $3500.

Mrs. Charles O. Gates, 540 Park avenue, Brooklyn, N. Y., is to build a garage, stable and gardener's cottage to cost $20,000, at Locust Valley, Long Island, N. Y.

The Long Island Automobile Club, Brooklyn, N. Y., is having plans prepared for a garage and club house to cost $85,000. John F. James is chairman of the building committee.

Thornburg & Haines, Portland, Ore., is erecting a large modern garage building.

Frank A. Snover, Stroudsburg, Penn., has plans for a garage on Washington street, East Stroudsburg.

The Chester Motor Car Company is making extensive alterations to its garage on Broadway, Nashville, Tenn.

Harry Grossman, who has operated the Freeport Tire Company, Freeport, N. Y., for some time, has purchased property on the East Merrick road, where he will erect a garage and salesroom to cost $25,000.

Dvorak Bros., Montgomery, Minn., will erect a garage on South Main street, adjoining its blacksmith shop.

The Western Maryland Company, Cumberland, Md., will make several improvements to its plant.

H. M. Hillegass, Allentown, Penn., will convert his stables into a modern garage.

Elma S. Godfrey will erect a garage at 119 Millwood avenue, Brooklyn, N. Y.

George S. Smith is erecting a garage in Salem, N. J.

Victor J. Eckberg, Worcester, Mass., has permission to build a concrete block garage at 18 Wellington street, to cost $6000.

John Gaida, Ennis, Tex., is having a brick garage building 50 by 130 feet erected for him at a cost of $12,000.

Fred Hendrick, Reading, Penn., has awarded a contract to John H. Fasnacht for a garage, 40 by 50 feet, on Schuykill avenue.

L. R. Colbert, Spottsylvania, Va., has purchased property on Princess Ann street, Fredericksburg, on which a garage will be erected to be occupied by the Frederick Motor Company.

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The Yoakum Automobile Company, Yoakum, Tex., is erecting a garage on Nelson street.

R. F. Campbell, 420 East 247th street, Chicago, Ill., is erecting a $15,000 garage on Cottage Grove avenue.

Files & Riley, De Kalb, Ill., has awarded the contract for a large garage on First street to Roy Peterson.

George Fulmer, Utica, N. Y., has permission to erect a garage on Genesee street, near Grant, at a cost of $6500.

Thomas McCurnin, Des Moines, Ia., will erect a two-story brick and steel garage on Locust street to cost $14,000.

Sobel Bros., Nashville, Tenn., has plans for a brick garage to cost $3000.

The Consolidated Gas, Electric Light & Power Company, Lexington and Liberty streets, Baltimore, Md., has plans for a one-story brick garage, 35 by 101 feet.

Kientop & Husbell, Alliance, Neb., will erect a garage 40 by 150 feet.

Hugo Grundman, St. Cloud, Minn., has plans to erect an addition to his garage building.

The Modern Electric Garage, San Francisco, Cal., will erect a new garage on Van Ness avenue.

C. A. Reed and T. J. Bonney, Bath, Me., have started work on a new building at North and Lincoln streets, which will be occupied by them as the Reed-Bonney garage.

W. A. Stein & Bros., Allentown, Penn., has a permit to erect a one-story garage at the Penn hotel for the Reading Brewery Company.

The R. & L. Company, New York City, eastern distributor for Garford pleasure cars and trucks, is erecting a new salesroom and service station at 150th street, Gerard and River avenues. The building will be 200 by 189 feet, fireproof throughout and ready for occupancy about Dec. 1.

William Stellwag and A. F. Hartman, Philadelphia, are planning the erection of a garage on 33rd street, north of Jefferson street.

The Curtis Publishing Company, Philadelphia, has plans for a $14,000 garage on the south side of Kimball street, east of 11th street.

Charles M. Hammond, Middleport, N. Y., is erecting a two-story concrete garage on Vernon street.

J. S. Coleman, 326 West 70th street, New York City, has plans for a six-story garage building at 118-122 West 56th street.

The Freeport Tire Company, Rockville, N. Y., will erect a garage and machine shop, 80 by 100 feet, on East Merrick road, near Gold street.

The Hyman Supply Company, New Bern, N. C., is erecting a large brick garage.

Walker & Curley, Pittsburg, Penn., has begun work on the old foundry building on Duquesne way, remodelling it into a garage for the Joseph Horne Company, one of the city's largest department stores, which maintains a substantial fleet of automobiles.

The Sunlight Manufacturing & Garage Company, Tampa, Fla., is installing a new machine shop.

The El Camino Motor Car Company, Santa Barbara, Cal., is erecting a large building on State street.

Albert F. Storry and Ida M. Storry, Norwich, Conn., have purchased property at 127 West Main street, and will erect a building to be occupied as the West End garage.

The Fetzer-Winger Company, Pittsburg, Penn., has taken the contract for constructing a two-story brick, steel and frame motor truck garage on Atherton avenue for the Atlantic Land Company, at a cost of $60,000.

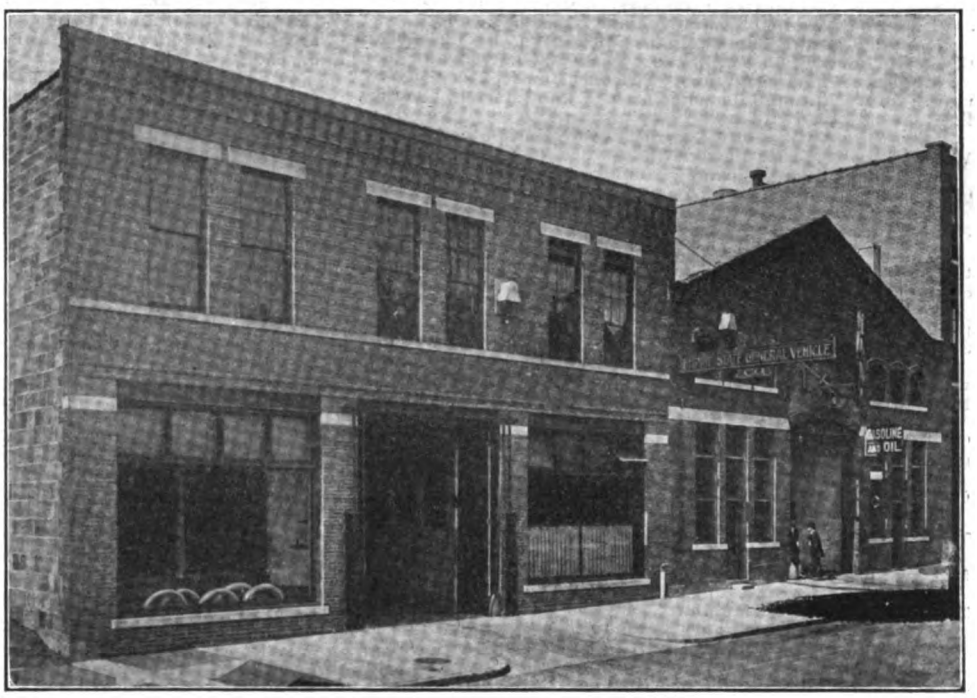
E. H. Vose, Toledo, O., has taken the contract for the erection of a garage at Perrysburg for J. B. Bell.

Elmer Uhl, Logansport, Ind., is erecting a fireproof garage on the north side in that city at a cost of $5000.

The Ford Motor Car Company, Philadelphia, has plans for a 10-story building, 312 by 376 feet, of brick, concrete and terra cotta, fronting on Broad street at Lehigh avenue.

Bentel & Mackey, Los Angeles, Cal., is preparing to open its new $50,000 home on Grand avenue.

H. E. Pence, president of the Pence Automobile Company, Minneapolis, Minn., is erecting a large automobile warehouse, under the name of the Equitable Automobile Warehouse Company, at Washington and Eighth avenues. It will be 150 by 222 feet and it is expected that it will house 2000 cars.



Garage of Empire State General Vehicle Company, 15 Circle Street, Rochester, N. Y.

Hugo Grundman is erecting an addition to his garage in St. Cloud, Minn.

The Fosdick-Wentworth Company, Boston, Mass., New England Hupmobile distributor, is remodelling its salesroom on Commonwealth avenue, in order to secure additional display space.

The Chester Motor Car Company, Nashville, Tenn., has plans for a new garage.

F. W. Moore, Floresville, Tex., will erect a corrugated iron garage, 40 by 70 feet.

The Elm Grove Motor Sales Company, Elm Grove, W. Va., will incorporate with $10,000 capital and enlarge its repair shop.

The Hubble Automobile Company, Montgomery, Ala., is enlarging its garage.

The Packard Automobile Agency, Oakland, Cal., is to erect a four-story concrete building at Broadway and 24th street, to cost approximately $100,000.

N. B. Herrick, Cole agent in Jacksonville, Fla., is erecting a new garage, to provide about 2000 square feet of floor space, on Bay street.

Charles Ebbinshausen, Crookston, Minn., is erecting a garage 60 by 130 feet.

Meister & Marcles, Hartford, Conn., will erect a new brick garage at 258 Main street.

A. Wilmarth, 360 Cumberland street, Brooklyn, N. Y., is erecting a garage at a cost of $14,000.

The Palace Garage Company, Worcester, Mass., Charles E. Burnham, manager, has awarded a contract to the Edward J. Cross Company for the erection of a $12,000 garage building on Murray avenue.

M. R. Isaacs, Philadelphia, is making alterations to his garage at 822 North Broad street.

J. Clark Miller, Philadelphia, is having plans drawn for a one-story brick and stone garage at 2006 Ontario street, to cost $6000.

George R. Cain, Pittsburg, Penn., is erecting a brick garage at Moody and Burd streets, to cost $10,000.

The Gilman-Garland Garage Company, Saco, Me., has begun work on its new garage at Pepperell square.

H. E. Piper, Elgin, Ill., has his new garage on East Main street nearly completed.

The Edwardsville Garage & Auto Supply Company, Thomas J. Fahnstock, president, is erecting a garage building at Vandalia and St. Louis streets, Edwardsville, Ill.

W. C. Clark and Bert Smith, Davenport, Ia., have purchased property in Washington, Ia., and will erect and operate a modern garage there.

Charles Springer, Benwood, W. Va., is erecting a modern garage on Seventh street.

James L. Bried, Englewood, N. J., has the contract for a two-story garage for G. E. Gregory & Son, to cost $13,000.

F. E. Davidson, 53 West Jackson boulevard, Chicago, is preparing plans for a one-story garage 76 by 160 feet, to cost $25,000.

Holmes & Olson, Firestone tire distributor in Oakland, Cal., has completed plans for a branch at 2543 Broadway.

(Continued on Page 28.)

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NEW CONCERNS RECENTLY INCORPORATED.

Bradley Moore Auto Company, San Marcos, Tex.; $6000; J. M. Moore, F. Bradley, I. W. Wood.

Sharon Springs & Canajoharie Auto-Bus & Car-Line Company, Sharon Springs, N. Y.; $1000; W. H. Craig, O. E. Elgen, C. R. Winnie.

Toledo Co-Operative Garage Company, Toledo, O.; $10,000; H. L. Stebbins, E. A. Schramm.

Auto Clearing House, Vancouver, B. C.; $10,000.

Feld Omnibus Company, Wilmington, Del.; $500,000; to manufacture motor cars.

J. N. Macdonald Company, Wethersfield, Conn.; $10,000; to sell and repair motor cars; J. N. Macdonald, R. D. Britton, S. M. Lunehan.

Williamsville Auto Repair & Garage Company, Williamsville, N. Y.; $500; S. A. Hirsch, C. Hirsch, G. W. Walters.

Gemmer-Detroit Starter Company, Detroit; $200,000; to manufacture motor starters; George A. Gemmer, L. W. Smith.

Motor Cars Distributors Company, Los Angeles, Cal.; $250,000; Fred W. Beau de Zart, A. C. Labrie, J. T. Bunn, Dr. C. W. Fish.

Tire Buyers, Inc., Guilford, Me.; $60,000; Henry Hudson, James H. Hudson.

Cole-Roscoe Manufacturing Company, Norwalk, Conn.; $10,000; to manufacture parts and specialties.

Todd Rubber Company, Norwalk, Conn.; $2000; president, Eyler J. Todd.

Superior Accessories Company, Boston, Mass.; $1000; J. J. McCarthy, Albert W. Woodruff, C. S. Gillespie.

Rambler Motor Car Company, Brooklyn, N. Y.; $5000; G. R. Ruckert, B. F. Donnocker, J. B. Smith.

Moebus Wheel Company, Boston, Mass.; $100,000; to manufacture automobile wheels; A. F. McGettrick, George B. Ryan, H. W. Brown.

Marathon Automobile Company, Boston, Mass.; $25,000; William Sanford. Bernard Killars, A. L. Schoolcraft.

Eastern Avenue Garage Company, Lynn, Mass.; $10,000; president, Warren H. Beede.

Mount Vernon Auto Station, Mount Vernon, N. Y.; $3000; William Bunn, LeRoy A. Preston, Lucy Preston.

Automatic Muffler Company, Plymouth, Mich.; $15,000; to manufacture automobile parts; W. D. Griffith, T. P. Sherman.

Seaton Metal Products Company, Akron, O.; $30,000; to produce automobile accessories; L. J. Rothenbecker, C. A. Seaton, W. O. Lee, Charles F. Miller, Charles Scimeca.

Citizens' Auto Company, East Morgan street, Martinsville, Ind.; $25,000; garage; W. E. Hendricks, Edwin I. Poston. T. A. Hendricks, Garfield Cramer, W. A. Kennedy.

Automatic Tire Rest Company, Kansas City, Mo.; $200,000; Peter Lattner, M. Elmer Stewart, George R. Westgate.

American Cyclecar Company, Wilmington, Del.; $50,000; M. E. Dorsey, E. J. May, F. Giles.

Jefferson Auto Company, Jefferson, Wis.; $6000; Henry W. Ruel, Jacob N. Heid, Clarence J. Puerner.

Internal Gear Drive Company, Detroit; $6000; to manufacture motor vehicles; A. F. Mals, Ben Marks.

Montaville Garage, Portland, Ore.; $2500; C. H. Lacey, Theodore Roy, C. M. Hurlburt.

Atlas Welding & Supply Company, Sharpsburg, Penn.; $25,000; Delaware corporation; J. Gehring, F. C. Rugy, J. B. Apperson.

Blumenthal-Prager Tire & Rubber Company, Detroit; $1000; Louis Prager, David Blumenthal.

Havana Motor Omnibus Company, Brooklyn, N. Y.; $1,000,000; Delaware corporation; to manufacture motor omnibuses and all kinds of motor cars; Ralph S. Hull, Brooklyn; Alexander S. Andrews, Flushing; Ralph A. Gamble, Larchmont.

Littand Manufacturing Company, Kenosha, Wis.; increase from $25,000 to $40,000.

Westinghouse Air Spring Company, Pittsburg, Penn.; increase from $200,000 to $2,500,000.

Taxi Service Company, Waterbury, Conn.; increase from $10,000 to $20,000.

Hudson Motor Car Company, Detroit; increase from $1,000,000 to $2,500,000.

Blacklock Tire & Rubber Company, Birmingham, Ala.; increase from $3000 to $5000.

Blue Ribbon Auto Garage & Carriage Company, Bridgeport, Conn.; decrease from $100,000 to $6000.

Palmer-Meyer Motor Car Company, St. Louis, Mo.; $100,000; C. W. Palmer, F. C. Meyer, F. A. Meier.

The Muler Company, Wilmington, Del.; $100,000; automobiles; S. E. Roberson, C. J. Jackobs, H. W. Davis.

Bobta Spark Plug Company, New York City; $12,000; William Bohleber, C. H. Brasselton, C. L. Bundy.

Caledonian Oil Company, New York City; $10,000; J. E. Hernandez, A. B. Brushaber, Harry Hess.

Metropolitan Public Motor Corporation, New York City; $1000; 'bus line; J. O. Tryon, E. A. Matthews, C. R. Olena.

Chester Rubber Tire & Tube Company, Pittsburg, Penn.; $250,000; Morgan Howells, Ephraim Lyons, C. E. Jarvis.

Keppel Manufacturing Company, St. Louis, Mo.; $50,000; to manufacture check valves, motor starters, etc.

Union Auto Company, Pass Christian, Miss.; $5000; J. L. Jones, J. B. Williams and others.

Scott Garage Company, Chicago, Ill.; $2500; automobile and livery business; Henry S. Blum, Isadore Wolfshon, D. J. Conchester.

Wilson Engineering Company, Buffalo, N. Y.; $20,000; to manufacture automobile radiators, etc.; C. G. Hurlburt, W. F. Gagnon, W. H. Pfeiffer.

Edward F. Geber Company, Wilmington, Del.; $500,000; to manufacture and deal in automobiles, etc.

Silas Electric Company, Detroit; $25,000; to operate garage; H. T. Silas, E. Mackay.

Harris Bros. Company, Detroit; $25,000; to deal in automobiles; Abraham Harris, J. S. McDowell.

Sam Dressler, Inc., 5 Erie avenue, Rutherford, N. J.; $50,000; Henry G. Bell, Arthur G. Hillhouse.

Auto Supplies Export Company of America, New York City; $5000; F. W. Keegan, A. Aprahamian, L. M. Fay.

R. J. Murray Manufacturing Company, Kenosha, Wis.; $10,000; general metal manufacturing and repairing; R. J. Murray, J. B. Butcher.

W. W. Taylor Manufacturing Company, Mansfield, Penn.; $50,000; to manufacture tools; F. E. Harding, L. A. Chandler.

Milwaukee Grinding Wheel Company, Milwaukee, Wis.; $65,000; to manufacture disc grinders, emery wheels, abrasives, etc., for garage, farm and machine shops.

Henry B. Coats, Crawfordsville, Ind.; $550,000; to manufacture automobile wheels; William M. White, Frank M. Hurley, Henry B. Coats, B. A. Stubbins, E. A. Thomas, J. H. Swan.

United Supply & Accessories Company, Indianapolis, Ind.; $10,000; E. B. Dill, E. J. Ilg, C. E. Rochat, G. L. Kempf, E. L. McClay.

H. W. Skinner Motor Car Company, Utica, N. Y.; $5000; Harry W. Skinner, Edmund C. Richards, David C. Comstock.

Henderson Motor Company, Chicago; $1000; to sell cars and accessories; Frank L. Childs, H. C. Peterson, D. V. Murkin.

Reid Auto Company, Louisville, Ky.; $5000; A. E. Reid, Alta Reid, W. G. Clapp.

C. F. Briggs Company, Newark, N. J.; $35,000; garage and accessories; A. H. Townsend, East Orange, N. J., and others.

Grant Motor Company, Detroit; increase from $165,000 to $200,000..

Gren Motor Car Company, 3220 Warren avenue, Chicago; $25,000; George H. Wilkins, Richard C. Steele, Theodore S. McCoy.

American Auto Sales Company, Baltimore, Md.; president, E. M. Newton; secretary and treasurer, Hyland P. Stewart, Jr.

Wilson-Schroeter Agency, Detroit; $1000; to deal in automobiles; W. L. Wilson, R. F. Schroeter.

Ohlsson Spring Tire Company, Brooklyn, N. Y.; $20,000; Charles J. Ohlsson, 170 Park place; Joseph Maddocks, 156 St. Marks avenue; Peter J. Butterly, 46 Berkeley place.

H. C. Well Perfect Motor Company, New York City; $25,000; H. C. Well and M. N. Well, 367 Bronx Park avenue; F. B. Knowlton, 154 Nassau street.

Electric Auto Sales Company, 30 North La Salle street, Chicago; $13,000; Harold B. Conne, Willie E. Kimble, John E. Sanker.

Selma Motor Car Company, Selma, N. C.; $25,000; W. G. Ward and N. E. Ward, Selma; James J. Dillard, Spring Hope, N. C.

Anti-Rust Company, Akron, O.; $20,000; automobile accessories; C. T. Grant, Frank Rice, Lena Dewey, Bessie Rice, Alexander Sicherman.

Mecca Automobile Society, Wilmington, Del., $50,000; C. M. Miller. W. F. Vashell, L. T. Layton.

Axwell Equipment Company, Pittsburg, Penn.; $5000; F. Patterson, W. J. Mulvihill, J. R. D. Huston.

Walzer Corporation, New York City; $10,000; Charles Pechner, Samuel Sperling, Solomon Strauss.

Tyre Service, Inc., New York City; $10,000; J. C. Travis, C. L. Clune, M. M. Hovey.

Barnesboro Auto & Machine Company, Barnesboro, Penn.; $25,000; J. L. Berkebile, N. K. Harris, J. R. Musser, W. S. Wheeling, J. M. Crennan.

Lanpher Rubber Tire Machine Company, Carthage, Mo.; $20,000: W. E. Brinkerhorf, Joseph Herrin, Earl Lanpher, John Dermott.

Chicago Tire Goods Company, Chicago; $10,000; Louis Dulsky, Samuel Dulsky, J. E. C. Blake.

Frederick Smith Auto Sales Company, New York City; $10,000; Alanson P. White, East Orange, N. J.; A. H. White, Passaic, N. J.; Harry Wolkof, 583 Bedford avenue, Brooklyn, N. Y.

South Brooklyn Garage, Brooklyn, N. Y.; $5000; Hal C. Washburn, 256 16th street, Brooklyn; Charles Bestelmann, 1720 Webster avenue, New York City; August W. Rath, 405 Fairmount avenue, Jersey City, N. J.

Wilcox & Herr, Indianapolis, Ind.; $300; taxicab and transfer business; H. S. Wilcox, D. H. Herr, B. W. Rout.

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Claremont Garage, Chicago; $2500; J. F. Hutchinson, Jacob Diamond, A. S. Winslow.

Packard Transportation & Repairing Company, New York City; $3000; John Santora, Anna T. Vacarelli, F. P. A. Vacarelli.

Jenny Gasoline Extracting Company, Chicago; $25,000; J. N. Lucas, T. R. Barron, B. M. Osbun.

Peerless Non-Puncture Company, New York City; $600; Maurice Uran, Harry Citret, Frank Eber.

Turbine Muffler Company, Chicago; $2400; Joseph Libal, G. W. Gardner, J. J. Karcheiser.

Electric Auto Sales & Rental Company, Chicago; $12,000; Nathaniel Rubinkam, H. F. Tucker, G. C. McLaren.

Michigan Motor Car Company, Chicago; $25,000; W. J. Pierce, E. D. Shuntluff, M. E. Shuntluff.

National Association of Automobile Engineers, Chicago; $2500; commission and brokerage business and automobile, motor boats and accessories pertaining thereto; Leon P. Hutchins, A. L. Pettet, William Roles.

T. S. Wheel & Manufacturing Company, Chicago; $2000; Fred Schulz, T. J. Smulski, Stanley Zukowski.

Woods Mobilette Sales Company, Chicago; $15,000; F. A. Woods, E. F. Blettner, J. C. Long.

Cincinnati Automobile Clearing House, Cincinnati, O.; $5000; Robert Uriche, C. F. Hornberger, A. R. Spangenburg, C. R. Chadwick, S. D. Bromley.

Warner Detroit Motor Works, Detroit; $100,000; H. L. Warner, W. A. Gleesen.

Motor Transportation Company, Cincinnati, O.; $250,000; George Schorr, E. H. Hoelscher, W. G. Hoelscher, H. A. Hoelscher, W. S. Vossler.

Army Tire Company of New York City, New York City; $1,000,000; G. W. Griffin, F. H. Kessell, L. J. Roll, M. M. Algere, Jr.

Chawk-Smith Automobile Company, Louisville, Ky.; $4500; J. T. Chawk, William J. Chawk, H. R. Smith.

Howe Engine Company, Indianapolis, Ind.; $50,000; to manufacture motor fire apparatus; B. J. C. Howe, L. M. Howe, H. R. Howe, P. G. Howe, W. M. Hopkins.

Monarch Auto Company, Louisville, Ky.; $10,000; C. H. Pierson, J. Gosnell, G. W. Aydelott, W. L. Kennett, T. G. Summers, A. T. Wingate, C. A. Colley, J. L. Morris, E. Coffman.

United Traction Improvement Company, Philadelphia, Penn.; $100,000; W. J. Spangler, V. H. Conkle, H. S. Trego.

Gramont Traction Plow Company, Springfield, O.; $600,000; A. W. Grant, P. A. Montanus, Oscar Kaser, Walter McKinney.

Wright Auto Company, St. Louis, Mo.; $4000; C. A. Wright, W. B. Wood, A. A. Hopkins.

Ætna Motor Truck Company, Detroit; $400,000; to produce 1.5-ton worm driven wagons; J. George Wagner and others.

Oshkosh Pneumatic Hub Company, Oshkosh, Wis.; $20,000; to produce pneumatic hubs for motor vehicle wheels; Fred E. Zeuhlke, Frank Doemel, Joseph Laus, Jr.

Boston Prest-O-Ceal Company, Boston, Mass.; $26,000; W. G. Tood, M. T. Hubbard.

Parish-Ferrell Manufacturing Company, Harrisburg, Penn.; $50,000.

Bridgeport Body Company, Bridgeport, Conn.; $50,000; to manufacture motor car bodies; A. W. Terry, A. W. Seward, J. W. Horton.

Manufacturers' Sales Agency, Bridgeport, Conn.; $25,000; M. V. Doud, F. K. Doud, William L. Scott.

Falcon Company, Cleveland, O.; $15,000; J. H. Cassidy, D. C. Meek, M. A. Copland, C. Verbsky, W. S. Mitchell.

Isham Garage Company, Coffeyville, Kan.; $5000; E. H. Hess, George N. Upham, S. H. Hess, G. Bayless, Margaret Hess.

McGraw Tire & Rubber Company, East Palestine, O.; $1,000,000.

Henrico Car Company, Williamsburg Road, Henrico county, Va.; $10,000; president, Arthur C. Nelson; vice president, J. A. Reams; secretary, George Preston; William L. Woods, W. J. Parrish, John W. Crandall, Otto E. Markham, all of Richmond, Va.

McClintock Engine Company, Detroit; $200,000; Delaware corporation; to manufacture combustion engines; Francis C. Osborn, G. Edgar Allen, Charles D. McClintock.

Capital City Taxicab Company, Edmonton, Alta.; $100,000.

Falconer Iron Works, Falconer, N. Y.; $15,000; repair shop and garage; G. L. Gilbert, J. C. Wright, J. S. Wright.

Chandler Motor Car Company, Fort Worth, Tex.; $5000; B. K. Smith, M. H. Smith, R. E. Southern.

Rapid Heater Company, Grand Rapids, Mich.; $8000; to deal in motor cars; A. Harris, J. S. McDowell.

Town Herman Auto Transit Company, Herman, Wis.; $8000; W. Grosshuesch, A. Frome, Jr., W. F. Buscher.

Kentucky Kissel Car Sales Company, Lexington, Ky.; S. H. Halley, O. R. Hukle, P. M. Justice.

Auto Distributors Company, Logansport, Ind.; $10,000; F. C. King, O. H. Binns, A. E. Binns.

Canadian Drednot Motor Trucks, Ltd., Montreal, Que.; $125,000; W. L. Haskel, J. S. Bigby.

Crown Motor Car & Foundries, Ltd., Montreal, Que.; $100,000.

Velvet Company, New York City; $5000; to manufacture motors; W. D. Ramsburgh, H. C. Proctor, A. H. Miller.

New Era Tire Treatment Company, Regina, Sask.; $20,000.

Bavier Lubricating System, New York City; $10,000; to manufacture lubricating systems; E. Well, G. H. Duck, C. S. Bavier.

Auto Pedal Pad Company, New York City; $10,000; to manufacture pedal pads; H. Reich, E. M. Lichter, G. T. Young.

Dewey-Anderson Manufacturing Company, Toledo, O.; to manufacture cars; Rodney C. Dewey, Herbert A. Anderson, Richard D. Logan, Stanley Roberts, G. D. Heitzler.

Sunshine Oil Company, Appleton, Wis.; $5000; B. J. Zuehlke, W. W. DeLong, W. Fisch.

Rowe Truck Sales Service Company, Camden, N. J.; $100,000; Charles P. Steelman, Harry W. Severns, J. Carlos Hoffman.

S. S. Shepard Dry Battery Company, Boston, Mass.; $10,000; F. D. Harper, Sarah L. Shepard, C. S. Ward.

Euclid-Superior Auto & Supply Company, Cleveland, O.; $10,000; C. R. Williamson, E. M. Bell, W. R. Winn, P. A. Knoedler, D. J. Lombard.

J. P. Gordon Company, Columbus, O.; $500,000; John P. Gordon, Alois F. Hegelheimer, Irvin E. Pirsig, Frederick C. Brock, Arthur F. Reinhard.

Vanguard Manufacturing Company, Detroit; $10,000; Charles F. Jensen and others.

Williams-Hasley Motor Car Company, Pittsburg, Penn.; Samuel Hasley, E. A. Williams, W. G. Hasley.

Bartley Auto Nut & Bolt Fastener Company, Pittsburg, Penn.; $5000; Milton Bartley, H. D. Johnson, A. T. Park.

Champion Wagon Company, Oswego, N. Y.; $25,000; to manufacture automobiles and wagons; F. C. Hill, J. S. Truman, F. S. Truman.

Detroit Ball Bearing Company, Detroit; $2000; repair shop; Joseph Pauer, James Corney.

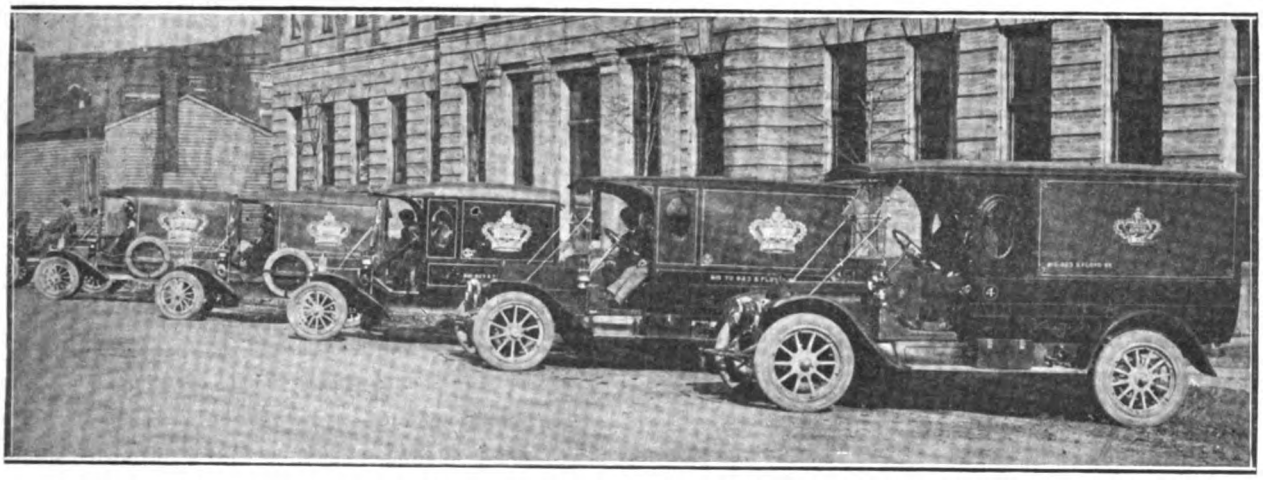
Water Jacket Heater Company, Washington, D. C.; $300,000; Delaware corporation, to manufacture accessories; G. J. Comstock, M. F. Shepard, M. E. Brown.

Clifford Company, Buffalo, N. Y.; $15,000; to make equipment for cars and boats; William M. Sellec, Rochester; Clarence Clifford, Weltord Golden, Buffalo.

Blissland Leather Company, Thompsonville, Conn.; $25,000; to make automobile tops.

National Tire & Rubber Company, East Palestine, O.; $150,000; C. J. Davis, R. F. Taggart, William Smith.

Machinery & Motor Exchange, Los Angeles, Cal.; $10,000; C. E. Shaul, T. E. Smith, M. Wantoch, A. Schaffer, R. J. Gardner.



Crown Laundry Company, Louisville, Ky., Is Only Concern of Its Kind with Completely Motorized Equipment.

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Jesco Equipment Company, New York City; $12,000; Frank D. Boulanger, 323 Canal street; Alfred Ware, 200 Hudson street; George W. Wacker.

Francis Motor Renting Company, New York City; $10,000; garage and livery; Helen B. Inch, Francis B. Inch, Robert H. Elder, 115 Broadway.

East Side Garage, Inc., Waterbury, Conn.; $5000; Lois S. Phippeney, Robert Cooper, Jennie Cooper, William R. Price.

Muskogee Vehicle & Machinery Company, Muskogee, Okla.; $10,000; R. A. Lester, Al Lester, Walter Van Allen.

Syracuse Auto Radiator Company, Syracuse, N. Y.; $50,000; M. Kaman, T. Vickers and others.

Pacific Motor Coach Company, Los Angeles, Cal.; $500,000; R. G. Munn, T. Y. Drake and others.

Griffin Taxicab Company, Toledo, O.; $10,000; Sherman B. Goss, C. C. Sampson, Charles B. Thompson and others.

Coaloil Carburetor Company, Augusta, Me.; $500,000; C. P. Anderson, Kansas City, Mo.; L. J. Coleman and B. S. Buzzell, Augusta, Me.

Arrowsmith Manufacturing Company, New York City; $10,000; automobile supplies and machinery; Frederick Kalmbach, Albert Kalmbach, John M. Flick; 391 Freeman street.

Mogul Starter Company, Chicago, Ill.; $75,000; S. G. Harrison, M. Beringer, P. T. Morris, C. W. Paltzer.

Rochester Motors Company, Rochester, N. Y.; $300,000; Edw. F. Davison, 226 Lyeel avenue; E. A. Grenelle, 407 Meigs street; Albert H. Stearns, 229 Meigs street.

Thorp-Allen Motor Company, Kansas City, Mo.; $10,000.

Vic-Mac Garage Company, Los Angeles, Cal.; $80,000.

Thompson & Bishop, Waterbury, Conn.; $50,000; J. Franklin Thompson, Waterbury; Herbert M. Bishop, New Haven; Clayton L. Klein, Naugatuck.

Metropol Motors Corporation of Lynbrook, New York City; $50,000; Samuel H. Mills, J. Frank Wiggin, Robert D. McKay, 407 West 18th street.

Charleston Auto Rental Company, Charleston, S. C.; $500; president, Edmund Jahnz; secretary and treasurer, Hugo Jahnz.

E. Z. Ryde Shock Absorber Company, Philadelphia, Penn.; $10,000; Frank R. Kessell and others.

Rockefeller Motor Car Company, Cleveland, O.; $10,000; Sterling Newell and others.

Cash Automobile Company, Darlington, S. C.; $1000; C. C. Vaughan, G. B. Brasington, J. B. Blackwell.

Mark W. Heath Company, Chicago, Ill.; $2500; to manufacture and sell automobile specialties and accessories; Mark W. Heath, John Schott, Katherine E. Heath.

Liverani-Lombardi Motor Company, New York City; $20,000; Joseph Liverani and Francesco Lombardi, 321 West 47th street; Arthur P. Marr, 108 Fulton street.

Purcell Carburetor Company, Los Angeles, Cal.; $100,000; A. E. Gerety, H. W. Brown, W. B. Hlett, C. Y. Burns, W. F. Seemann.

Rauch & Lang Electric Car Company, Columbus, O.; $10,000; William H. Marlatt, C. F. L. Wieber, Jr., E. J. Stahl, all stockholders in the Rauch & Lang Carriage Company; for the purpose of opening a branch distributing point in Kansas City, Mo.

Auto Cover & Supply Company, Richmond, Va.; $15,000; president, A. Blackburn; secretary, A. W. Evans; general manager, H. B. Williamson.

FIRES OF THE MONTH.

C. B. Stanley, West Main street, New Britain, Conn.; garage, $5000.

Wasson Company, Lincoln, Ill.; garage, $5000.

Richard E. Saks, Newtown road, Richmond Hill, N. Y.; garage, $30,000.

Farrell Automobile Company, Sharon, Penn.; garage.

Edwards Motor Car Company, Borden avenue, Long Island City, N. Y.; warehouse, $15,000.

Frank Baorioli, Newtown road, Jamaica, N. Y.; garage, $23,000.

Coyne Automobile Company, 902 Cass avenue, St. Louis, Mo.; garage, $40,000.

Lock City Automobile Company, Sault Ste. Marie, Mich.; garage, $10,000.

Barr Bros., Urichsville, O.; garage, $20,000.

Ninth Avenue Garage, McKeesport, Penn.; garage and other buildings, $50,000.

Loewenthal Rubber Company, Akron, O.; factory, $100,000.

Shackleford Garage, Quincy, Ill.; garage.

G. E. Michael, White garage, and M. J. Osborne, dealer, Third street and College avenue, St. Paul, Minn.; $23,000.

Barton Motor Car Company, Cedar Rapids, Ia.; garage, $25,000.

Columbia Motor & Implement Company, Columbia, Tenn.; garage, $6000.

J. R. Thompson Garage, Highland Mills, Newburgh, N. Y.; garage.

Natchez Auto & Supply Company, Natchez, Miss.; garage, $12,000.

C. W. Scott Company, Bryn Mawr, Penn.; repair shop.

Kindeg & Engle, Sheldon, Ia.; garage.

Andrew C. Hein, 820 Cedar avenue, Pittsburg, Penn.; garage.

H. C. Hansons, Albert Lea, Minn.; garage, $25,000.

Showalter Manufacturing Company, Indianapolis, Ind.; body shop, $12,000; cars, $18,000.

Green Street Garage, Newburyport, Mass.; garage.

Motor Service Company, Springfield, O.; garage, $15,000.

Prospect Garage, 295 Prospect street, Cambridge, Mass.; garage, $1000.

James N. Leitch Company, Amesbury, Mass.; automobile body factory, $5000.

Prather Bros., Georgetown, Ky.; garage, $1500.

Charles Garrett, Fort Wayne, Ind.; garage.

W. H. Bradley, 1011 11th street, Sacramento, Cal.; garage and carriage repository, $30,000.

R. McAllister, 6813 Greenway avenue, Philadelphia; garage, $3500.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

11,589, Motorcycles—An American consul reports that an automobile dealer in his district has decided to investigate the desirability of importing motorcycles from the United States and desires to be placed in communication with an American manufacturer. Another dealer, an important and enterprising importer of motor vehicles, is disposed to try the sale of American motorcycles if satisfactory arrangements can be made with American manufacturers. Catalogues and full information are desired as to prices of motorcycles that can be sold f. o. b. New York at from $60 to $100. Owing to the fact that American automobiles are sold in the country in question, it will be easier to introduce American motorcycles than would otherwise be the case.

11,590, Gasoline Engines, Waste, Oils, Etc.—An American consular officer in Canada transmits the name and address of a local merchant who desires to enter into communication with American manufacturers of gasoline engines, waste, oils of all kinds, etc.

11,591, Machinery for the Manufacture of Ball Bearings—The owners of a foreign foundry and machine shop have decided to go into the manufacture of ball bearings, and the capital stock will be increased to $268,000. It is reported that all of the new stock will be taken by those already holding old shares. An American consul writes that the company has purchased a number of patents, and the erection of new shops and the purchase and installation of the necessary machinery will be undertaken as soon as possible. Much of the machinery now in use is said to be of American manufacture, and it is possible that this new departure will offer an opportunity for further sales of American machinery of this class. Correspondence should be addressed to the managing director of the company.

11,599, Automobile—Inquiry has been made at an American consulate for the description and price of a six-passenger automobile. The would-be purchaser wants a low priced car of light or medium weight, but with sufficient power to climb steep hills with a full load. Manufacturers who are interested should send descriptions and prices to the consulate in question for transmission to the inquirer.

11,603, Road Oils and Paving Materials—A commission merchant in the Levant informs an American consulate that he desires quotations from American manufacturers of road oils and similar dust laying preparations, asphalt for road and pavement construction, pavement tiles, etc. Prices are desired c. i. f. the Levant port in question, and correspondence should be in French.

11,606, Automobiles—An American consular officer reports that a business firm in France desires to take up the French agency of an American factory turning out low priced automobiles.

11,608, Graphite Machinery—A mining engineer and prospector in Madagascar has written an American consulate that he desires to be put in communication with American manufacturers of machinery suitable for crushing, cleaning and classifying graphite. Great progress is being made in graphite mining in Madagascar and suitable machinery for working this mineral should find a good demand.

11,612, Automobiles—A resident of a foreign country informs an American consulate that he desires to receive catalogues and price lists of automobiles. Prices and discounts also should be given. It would greatly facilitate the placing of orders for cars if c. i. f. quotations could be made. Catalogues should also be sent to another person named in the report.

11,623, Automobile and Motorcycle Accessories—Two European commission firms have written an American consular officer that they are anxious to enter into relations with American manufacturers of accessories for the automobile, cycle and motorcycle trades.

11,634, Fire Engine—Tenders are invited for supplying a new steam or petrol motor fire engine, capacity 350 to 450 gallons a minute, for the Gainsborough Urban District Council, England. Further particulars may be obtained upon application to Mr. S. W. Parker, engineer and surveyor.

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RECENT PATENTS.

Anti-Skidding Device, Charles W. Cramer, Scranton, Penn. No. 1,071,031. Filed Sept. 7, 1911.

Vehicle Wheel, Charles W. Cramer, Scranton, Penn. No. 1,071,032. Filed Sept. 21, 1911.

Primer for Gas Engines, George F. Fischer, Newark, N. J. No. 1,071,038. Filed Jan. 10, 1913.

Gas Engine Starter, Stephen S. Krayer, St. Louis, Mo. No. 1,071,059. Filed June 28, 1912.

Tire Tube Tester, Horace E. Whitney, Cambridge, Mass., assignor to the Dover Stamping & Manufacturing Co. No. 1,071,124. Filed May 17, 1911.

Internal Combustion Engine, John Haug, Berkeley, Cal. No. 1,071,156. Filed Dec. 21, 1911.

Safety Appliance Lock, Jacob H. Mertz and Elmer Schatz, said Mertz assignor to said Schatz. No. 1,071,169. Filed March 11, 1912.

Gas Engine Governor, Charles White, Baltimore, Md. No. 1,071,193. Filed Nov. 27, 1912.

Demountable Tire Rim, Martin H. Collom, Denver, Col., assignor to the Collom Demountable Rim Manufacturing Co. of the same city. No. 1,071,206. Filed April 29, 1912.

Motorcycle Seat and Support, John L. Miller, Paulsboro, N. J. No. 1,071,255. Filed Dec. 4, 1912.

Internal Combustion Engine Starter, Thomas E. Plater and Edward B. Rees, Monett, Mo. No. 1,071,260. Filed Nov. 11, 1909.

Tilting Auto Truck, Gustav Schlatter, Arbon, Switzerland. No. 1,071,265. Filed Sept. 19, 1912.

Strainer, William H. Finigan, Sharon Hill, Penn., assignor to the Gilbert & Barker Manufacturing Co., New York City. No. 1,071,306. Filed Oct. 15, 1910.

Match Starter for Internal Combustion Engine, Marvin Marsden, Edgerton, Wis., assignor of one-half to E. M. Ladd of the same place. No. 1,071,327. Filed April 28, 1911.

Vehicle Frame, Charles J. Pembroke, Rochester, N. Y. No. 1,071,335. Filed April 5, 1905.

Tire Saver, Le Roy Wilbour, Ashland, O., assignor to the Ashland Manufacturing Co. of the same place. No. 1,071,378. Filed Jan. 6, 1913.

Non-Skidding Device, Harry J. Hernshiem, Pleasant Prairie, Wis. No. 1,071,418. Filed Oct. 8, 1912.

Engine Starter, Alvan O. Levick and William H. Hussey. No. 1,071,444. Filed Jan. 20, 1911.

Vehicle Chassis, Sheridan Babcock, Iowa Falls, Ia. No. 1,071,498. Filed March 13, 1812.

Shock Absorber, Towson Hand, Orlando, Fla. No. 1,071,518. Filed June 3, 1913.

Automobile Signal, Harold M. MacCausland, Worcester, Mass. No. 1,071,525. Filed March 8, 1912.

Muffler, Nathaniel Rapp, assignor to the Commercial Trust Company of the same city. No. 1,071,528. Filed Oct. 28, 1912.

Identifying Means Device, Oscar A. Weissenborn, Jersey City, N. J. No. 1,071,540. Filed Dec. 27, 1912.

Support for Spare Wheels, Charles Grant Hilton and George Tom Hilton, Loughborough, England, assignors to the Rotax Motor & Cycle Co., London, England. No. 1,071,553. Filed Nov. 11, 1909.

Searchlight Reflector, Charles Algernon Parsons and George Gerald Stoney, New-Castle-upon-Tyne, England, said Stoney assignor to said Parsons. No. 1,071,569. Filed June 13, 1910.

Puncture Repair Plug, Clyde R. Tyrrell, Montesano, Wash., assignor to the Terrell Manufacturing Company of the same place. No. 1,071,595. Filed May 17, 1912.

Lubricating System, Harvey F. Maranville, Akron, O., assignor to the Perfection Spring Company, Cleveland, O. No. 1,071,623. Filed Feb. 24, 1910.

Packing Ring, Louis E. McQuay, Webster Groves, Mo., and William K. Norris, East St. Louis, Ill. No. 1,071,647. Filed May 1, 1913.

Tire Protector, Julius Brotschneider, San Francisco, Cal. No. 1,071,695. Filed June 5, 1913.

Tire Armor, George Edward Hanson, Atlanta, Ga. No. 1,071,741. Filed Nov. 6, 1912.

Automobile Lock, Philip Kovsky and John F. Hicks, Philadelphia, Penn. No. 1,071,756. Filed May 3, 1913.

Motor Starting Mechanism, Hubert Meredith-Jones, New York City, assignor to the Columbia Nut & Bolt Co. of the same city. No. 1,071,775. Filed June 24, 1912.

Automobile Lamp, Oscar O'Neal, Fremont, Mich. No. 1,071,783. Filed Nov. 8, 1912.

Number Display Device, Elgin Stoddard, San Francisco, Cal. No. 1,071,821. Filed June 5, 1912.

Explosive Engine, Elmer E. E. Sutphin, Davenport, Ia. No. 1,071,823. Filed July 26, 1912.

Carburetor, Frank H. and Frederick O. Ball, Plainfield, N. J. No. 1,071,858. Filed Jan. 11, 1912.

Tire Pressure Indicator & Signal, Charles C. Cleveland, Boulder, Col. No. 1,071,880. Filed April 6, 1912.

Lamp Structure, Charles E. Godley, Detroit, assignor to the Edmund & Jones Manufacturing Co. of the same city. No. 1,071,907. Filed Sept. 1, 1911.

Top Raising and Lowering Device, Chester K. Hahn, Columbus, O. No. 1,071,914. Filed Dec. 24, 1910.

Tire Pump, Joseph E. LaForce, North Grafton, Mass., assignor to the Alsten & Goulding Company, Worcester, Mass. No. 1,071,929. Filed June 24, 1912.

Piston Ring Remover, William C. MacKinnon, Newark, N. J. No. 1,071,934. Filed Jan. 7, 1912.

Internal Combustion Engine, Paul Spranger, Gera-Reuss, Germany. No. 1,071,967. Filed April 25, 1911.

Motor Starter, Albert A. Stillman, Syracuse, N. Y. No. 1,071,969. Filed May 23, 1910.

Cranking Device, James B. Eastes, Konawa, Okla. No. 1,071,990. Filed June 26, 1911.

Clutch, Frederick S. Ellett, Elmira, N. Y. No. 1,071,992. Filed April 15, 1912.

Wrench, Walter Herbert Cook, London, England. No. 1,072,090. Filed March 30, 1912.

Fender, Samuel Fleischmann, Indianapolis, Ind., assignor of one-half to Joseph Braun of the same city. No. 1,072,108. Filed May 22, 1911.

Automatic Headlight, Cicero T. Hammack, Knoxville, Tenn. No. 1,072,114. Filed March 22, 1912.

Wheel, Arthur F. Hawksley, Fairhaven, England. No. 1,072,226. Filed April 14, 1911.

Resilient Tire, Frank Reed, Omaha, Neb. No. 1,072,260. Filed Aug. 28, 1912.

Engine Starter, Gregory John Spohrer, Franklin, Penn., assignor to the Wilson Motor Starter Company of the same place. No. 1,072,267. Filed June 29, 1911.

Gas Engine Primer, Claude A. Brooks and Evan G. Kinley, Topeka, Kan. No. 1,072,304. Filed April 5, 1912.

Gas Engine, Charles E. Sargent, Chicago. No. 1,072,366. Filed Feb. 8, 1911.

Carburetor, Herbert W. Alden, Hartford, Conn., assignor to the Columbia Motor Car Company of the same city. No. 1 072,376. Filed April 15, 1905.

Motor Starter, John F. Kelly, Chicago. No. 1,072,385. Filed Jan. 26, 1912.

Convertible Body, George C. Plummer, Washington, D. C., assignor of one-half to Frank E. Plummer of the same city. No. 1,072,394. Filed Oct. 21, 1912.

COMING EVENTS.

September.

Sept. 26-27—Track races, Peoria, Ill.
Sept. 26-29—Convention, State Firemen's Association, New Bedford, Mass.
Sept. 27—Track races, White Plains, N. Y.
Sept. 27—Track races, San Marcos, Tex.
Sept. 27-28—Track races, Bakersfield, Cal.
Sept. 28—Hill climb, Mont Verdun, France.
Sept. 29-Oct. 4—American Road Congress, Detroit, Mich.

October.

Oct. 3—Track races, Trenton, N. J.
Oct. 3-4—Track races, Oklahoma City, Okla.
Oct. 4-11—Around Lake Michigan tour, Chicago, Ill.
Oct. 6-18—Show, St. Louis, Mo.
Oct. 11—Track races, Springfield, Ill.
Oct. 12-17—Convention, American Institute of Metals, Chicago, Ill.
Oct. 12-17—Convention, Carriage Builders' National Association, St. Louis, Mo.
Oct. 13-18—National fire prevention conference, Philadelphia, Penn.
Oct. 15-25—Electrical Show, Grand Central Palace, New York.
Oct. 17-27—Automobile Salon, Grand Palais, France.
Oct. 18-19—Track races, St. Louis, Mo.
Oct. 24—Convention, American Iron & Steel Institute, Chicago, Ill.
Oct. 27-28—Convention, Electric Vehicle Association of America, Chicago, Ill.

November.

Nov. 2-3—Road race, El Paso, Tex.-Phoenix, Ariz.
Nov. 4-5—Road race, Los Angeles, Cal.-Phoenix, Ariz.
Nov. 4-5—Road race, San Diego, Cal.-Phoenix, Ariz.
Nov. 6—Track races, Phoenix, Ariz.
Nov. 8-12—Track races, Shreveport, La.
Nov. 7-15—Olympia Show, London, England.
Nov. 8-15—Show, Atlanta, Ga.
Nov. 24—Vanderbilt Cup race, Savannah, Ga.
Nov. 27—Grand Prize race, Savannah, Ga.

December.

Dec. 9-12—Convention, American Road Builders' Association, Philadelphia, Penn.
Dec. 10-12—Convention, Retail Implement & Vehicle Dealers' Association, Milwaukee, Wis.
Dec. 11-20—International exposition of safety and sanitation, American Museum of Safety, New York City.

January.

Jan. 3-10—Pleasure car show, Grand Central Palace, New York City.
Jan. 24-31—Pleasure car show, Coliseum, Chicago, Ill.
Jan. 26-31—Show, Scranton, Penn.
Jan. 31-Feb. 7—Show, Minneapolis, Minn.

February.

Feb. 2-7—Pleasure car show, Buffalo, N. Y.
Feb. 9-14—Truck show, Buffalo, N. Y.
Feb. 22-March 5—Show, Cincinnati, O.
Feb. 24-28—Show, First Regiment Armory, Newark, N. J.

March.

March 7-14—Pleasure car show, Mechanics' Building, Boston, Mass.
March 17-21—Truck show, Mechanics' Building, Boston, Mass.

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DESIRABLE ACCESSORIES FOR THE DEALER.

(When Writing, Please Mention The Accessory and Garage Journal.)

Talking Horn.

A signalling device which presents interesting features, in that it may be utilized as a signalling horn or to produce sounds closely resembling the human voice, is the Talking Horn, manufactured by the Talking Horn Company, Middletown, N. Y. It resembles in appearance the conventional types of signalling members, but is manually operated, a small handle being fitted. When this is moved to certain positions, then rotated to the left, it is stated that it will talk, producing one of three phrases, "Hello Mama," "O Mama" and "Mama." The maker of the device claims that the resulting effect is pleasing to the pedestrians and that sound can be heard for a considerable distance. By rotating the handle anticlockwise a plain sound is produced. The positions for the different phrases are lettered on a dial under the handle and it is stated that with a little practise one can manipulate the handle without reference to the marks. The device comes finished in brass or nickel to match the car. The company also produces the O. B. horn, similarly operated, but without the talking feature, and one adapted to the motorcycle.

Cutler-Hammer Switch.

The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., is producing a neat, compact single switch for lighting purposes, designed primarily for use with low voltage systems. It has a current carrying capacity of 10 amperes at 80 volts; operates with a quick make and break, and is a simple three-piece mechanism. The insulating material is both fire and water proof, and the mechanism cannot jar loose. The position of the push bar indicates whether the switch is open or closed, and a feature of the design is that it may be operated in concealed places, it being possible to tell by touch whether the switch is on or off. Pushing the button opens the circuit, thereby avoiding opportunity of accidentally closing the circuit in the day time and running down the battery when the lighted lamps would not be noticed. The face plates are supplied separately, have bevelled edges and are applied after the switch is installed and without cutting.

Se-Ment-Ol.

Se-ment-ol is manufactured by the Northwestern Chemical Company, Marietta, O., and is a colored powder like material which is soluble in water. When poured into a radiator it will dissolve easily and will remain in a fluid state until it comes in contact with a leak in the cooling system, when it will congeal, cementing the cavity. It takes but a short time for the cement to set, after which the radiator is flushed out with clean water. It is a chemical preparation and is held not to injure the cooler or impair its efficiency. Much of the deposits caused by the use of hard water is removed by its use. It comes in a small package and is inexpensive.

Noera Oil Gun.

The Noera Manufacturing Company, Waterbury, Conn., is marketing an improved oil gun which is provided with a crooked handle, facilitating its operation. The gun is 1.25 inches in diameter, eight long, and is constructed of a high grade brass, nicely polished. It will handle equally well, light or heavy oils, and is provided with a double plunger, one set drawing in the lubricant and the other forcing it out to the part to be lubricated. The Noera oil gun is also made with a round handle.

Old Sol Universal Lamp Bracket.

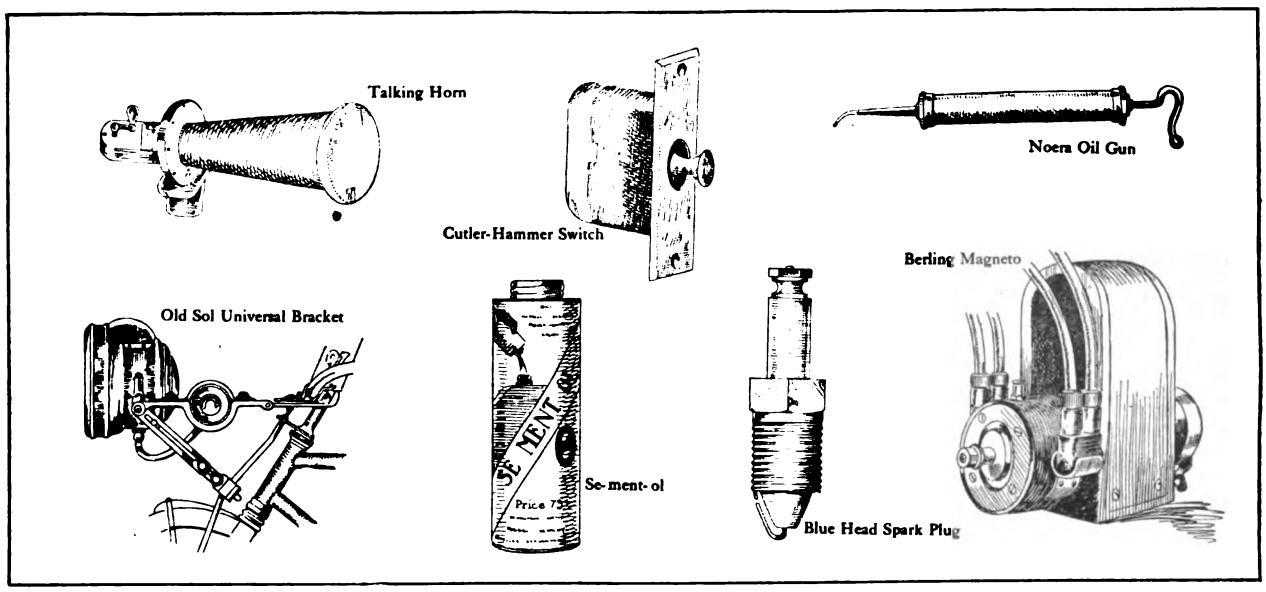
The Old Sol universal adjustable lamp bracket is the product of the Hawthorne Manufacturing Company, Bridgeport, Conn., and is designed especially for motorcycles. The maker states it will fit any standard make of machine. The bracket with the rigid truss type of clamps permits of mounting a gas tank, generator or storage battery and all makes of lamps. When the tank bracket is installed the company supplies bands for holding the tank in position. A flat plate punched with a hole and equipped with a locking device and bolts is furnished with the generator type.

Greenfield BX Cable.

The Sprague Electric Works of the General Electric Company, New York City, manufactures the Greenfield flexible steel armored cable, also known as the BX cable. It is a weather proof construction, possessing great mechanical strength, maximum flexibility and ability to withstand chafing. It is constructed with single or twin conductors.

Blue Head Spark Plug.

The Blue Head spark plug, manufactured by the Perpetual Spark Plug Company, 330 East Drinker street, Dunmore, Penn., is a popular priced plug and differs from ordinary design in that it is practically of one-piece construction. The central electrode is baked in the porcelain and the latter is placed in the shell by a similar process. This eliminates joints, gaskets, etc., making for a gas tight design. One of the features of the plug is the shape and location of the spark gap. The wire is bent upward to within a short distance of the shell, the maker stating that the construction prevents short circuiting by oil, also makes for easy cleaning.



Berling Magneto.

A large spark, compactness of design and simplicity are emphasized with the Berling magneto, produced by the Ericson Manufacturing Company, 1119 Military road, Buffalo, N. Y. It is constructed for motor car and stationary engines, motorcycles, etc., and is held to be water, oil and dust proof. It is of the true high-tension type, and it is claimed that it will start a motor with the spark retarded and that throughout the best of material and workmanship are incorporated. The frame is a solid unit and all parts are easily accessible. The high-tension cables are so mounted that opportunity for short circuits by water is eliminated. The type N is supplied in one, two and four-cylinder models.

Gallagher Carburetor.

Among the features claimed for the Gallagher carburetor, made by the Gallagher Carburetor Company, Inc., 1876 Broadway, New York City, are: That it is mechanically operated without springs, cams or balls, and that there are no automatic movements to be affected by fuel and atmospheric changes. The supply of air and fuel is regulated mechanically and all parts are adjustable to meet requirements of service. Two jets are utilized, one being a fixed member, the other a mechanical, the latter coming into service when the throttle is opened. The fuel supply to this jet is operated independently from the fixed member by a mechanical needle which comes in contact with the nozzle when the throttle is closed, but rises when the throttle is opened, admitting

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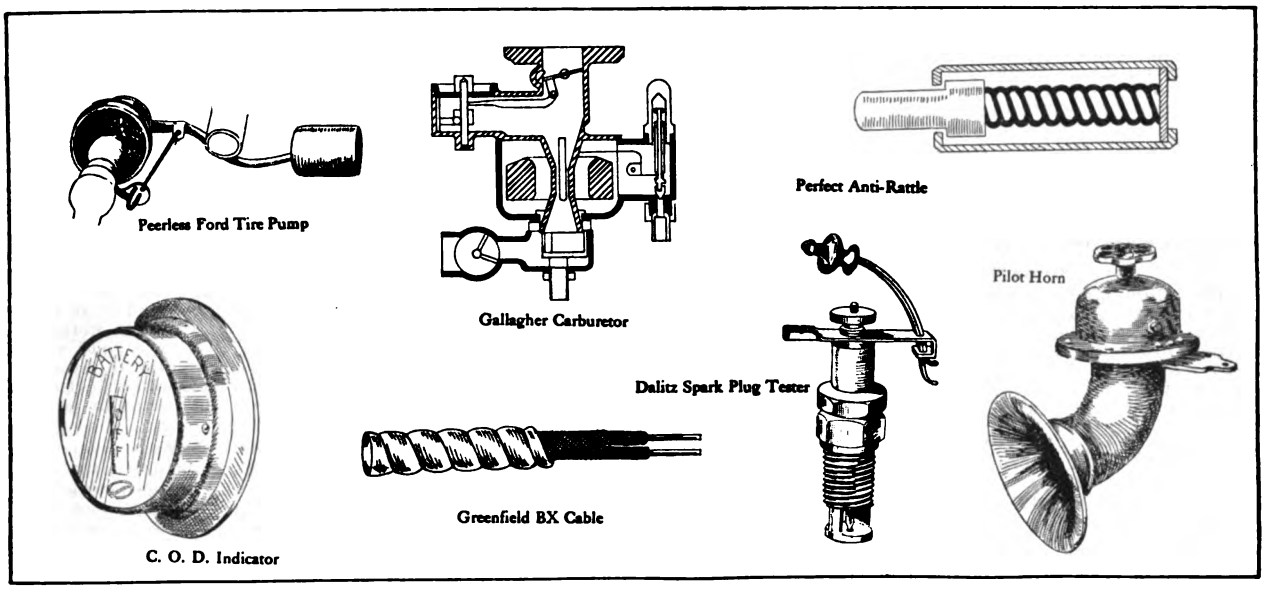


gasoline in proportion to the air. The fixed nozzle is supplied with fuel by a set needle valve and it has its own air intake. It is utilized for starting purposes and for low motor speeds. The needle valve controlling the flow of gasoline to the float chamber is adjustable by simply removing a screw cap. Provision is made for hot air or hot water heating, or both. It is stated that the carburetor is easily adjusted and provides maximum efficiency with a minimum consumption of fuel.

Peerless Ford Power Tire Pump.

Power tire pumps on the motor car are a valuable addition to the equipment, saving as they do the work of pumping by hand. The Peerless Accessories Manufacturers, 1926 Wabash avenue, Chicago, is marketing a design for model T Ford cars which is driven from the extension of the crankshaft of the motor and is attached by drilling a single hole. A special fan pulley is furnished to replace the old member, and it is claimed that the power pump may be installed easily. The pump cylinder is cast iron and the piston rings are carefully fitted. All bearings are brass. The pump is operated by a rod extending to the front of the radiator. The company claims it is the first pump to be driven from the engine shaft. It is moderately priced.

C. O. D. Indicator.

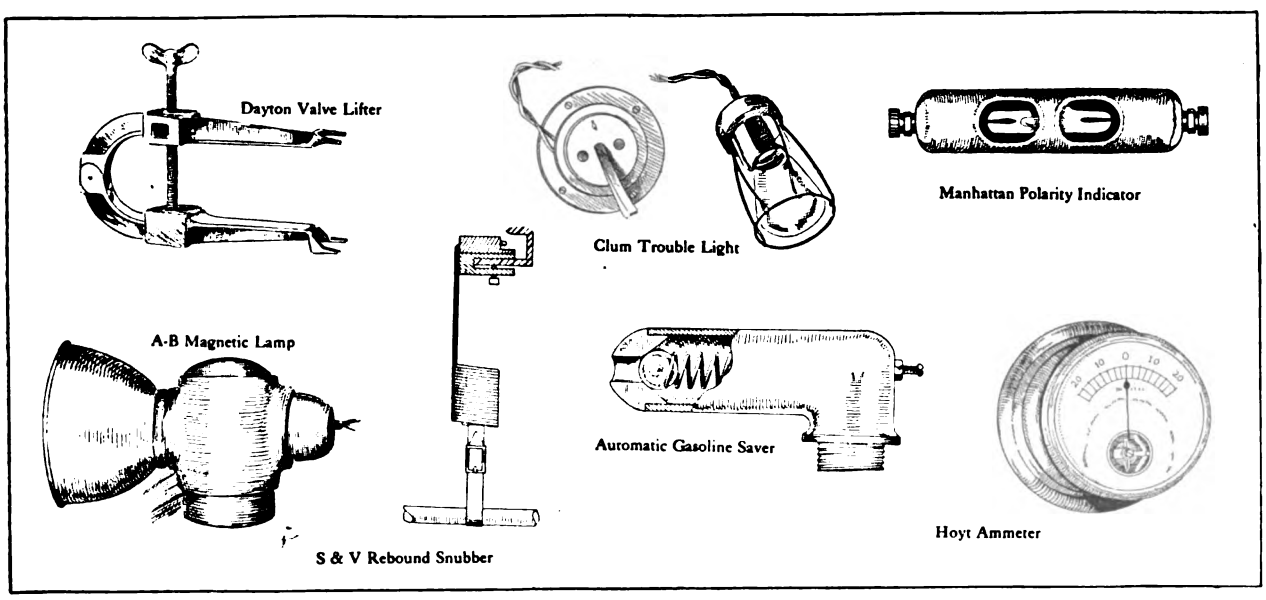
The Roller-Smith Company, 203 Broadway, New York City, maker of electrical equipment, has brought out a new current indicating device which is termed the C. O. D., from its three indications, "Charge," "Off" and "Discharge." It is designed for service with electric lighting and motor starting systems and to indicate whether the battery is being charged, discharged or the generator is inoperative. The device is located on the dashboard and has a rectangular dial opening through which in the condition shown appears the word "Off." When current flows from the generator through the indicator to the cells of the battery the word "Charge" immediately appears, no matter how slight the rate of current. When the battery is called upon to supply electricity to the lamps, for example, the word "Discharge" appears. It is claimed that no springs, cams, levers or mechanical multiplying means are employed, there being but one moving part. The circuit through the instrument is of heavy copper strap of a cross section greater than that utilized for the ordinary wiring circuit, so that losses are negligible, and there is no possibility of a burn out.

Perfect Anti-Rattle.

The Adams Manufacturing Company, Kansas City, Mo., is marketing the Perfect Anti-Rattle, which is designed to be placed between the door and jamb of a motor car body and to eliminate existing rattles due to warping or faulty fitting of the door. The device comprises a barrel member in which is a spiral spring. The design also includes a bumper or plunger as shown in the accompanying illustration. The barrel is constructed of brass and fits tightly into the hole bored in the door jamb. When the door is closed the spring pushes the bumper against the door, holding it firmly and eliminating, it is said, all rattling.

Dalitz Spark Plug Tester.

The usual method of locating a missing cylinder is to short circuit the second wire at the spark plug with magneto ignition or to hold down a vibrator with the coil and battery system. When using a screw driver for testing, one is likely to receive a shock unless care be exercised. The Dalitz Manufacturing & Sales Company, 803 Union street, Seattle, Wash., is marketing the Dalitz spark plug tester and terminal, which is a simple device for attachment to the plug. It comprises a flat strip of metal, having at one end a terminal for the reception of the secondary wire, and an opening at the other in which is inserted a movable arm of metal. This arm is equipped with a non-conducting handle, preventing any possibility



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of shocks when using the device. To cut out the ignition to a cylinder the movable arm is slid downward until its end comes in contact with the base or shell of the plug. This effectually grounds or short circuits the current, preventing it from reaching the air gap. The device may be utilized for a number of other purposes, including that of testing the strength of the secondary current. This is performed by moving the arm in proximity to the base of the plug and noting the intensity of the spark. The tester may also be employed to note the compression of each cylinder when in operation, by the strength of the explosion. Another use for the device is locking the ignition. This is obtained by grounding each arm when the car is left unattended.

Clum Trouble Light.

The Clum Manufacturing Company, Milwaukee, Wis., has brought out a trouble light attachment which is designed for service with its standard model lighting switch, providing a means for attaching an inspection light without any additional wiring. The lamp is operated by a simple socket and plug connection, as shown in the accompanying illustration.

Pilot Horn.

The Pilot horn is the product of the Nonpareil Horn Manufacturing Company, 75 Wooster street, New York City. It is mechanically operated, dispensing with batteries, wires, etc., and there is no other expense involved than its first cost. It is operated by a small, conveniently located hand wheel, a slight turn of which produces a low and pleasing tone. The sound may be increased to a loud blast by increasing the speed of rotation, and the maker states that this construction permits a wide range of sound as desired. It is furnished with brackets for attaching to either the right or left hand side of the car, and is also made with a straight projector and a fore door bracket. The finishes are: All black, black and brass, black and nickel. A design for the steering column is constructed, a special bracket being made.

Dayton Valve Lifter.

The Dayton Malleable Iron Company, Dayton, O., is marketing a new valve lifter which is a U shaped member with integral tapered points. It may be utilized in the conventional manner or to compress the spring by placing the points between the coils. It is operated by a wing headed screw bolt having sufficient leverage to compress the spring with a minimum of effort, and one of the features of the device is that both hands may be used in displacing the locking mechanism of the valve, the tool remaining in a locked position. The maker states that it will fit all types of motors. It is moderately priced.

Manhattan Polarity Indicator.

In charging storage batteries, and in wiring some circuits, it is essential that polarity be observed, and this is not always easily determined as the identification marks may be obliterated. The Manhattan Electrical Supply Company, 17 Park Place, New York City, is manufacturing the Manhattan polarity indicator which, when connected in the circuit, will instantly detect the negative and positive poles. It is very compact, being 3.5 by .75 inch, and a nickel plated shell encloses and protects the glass tube from injury when carried in the pocket or in the tool box. It is made for battery service, also for service with current ranging from 50 to 600 volts.

A-B Magnetic Trouble Lamp.

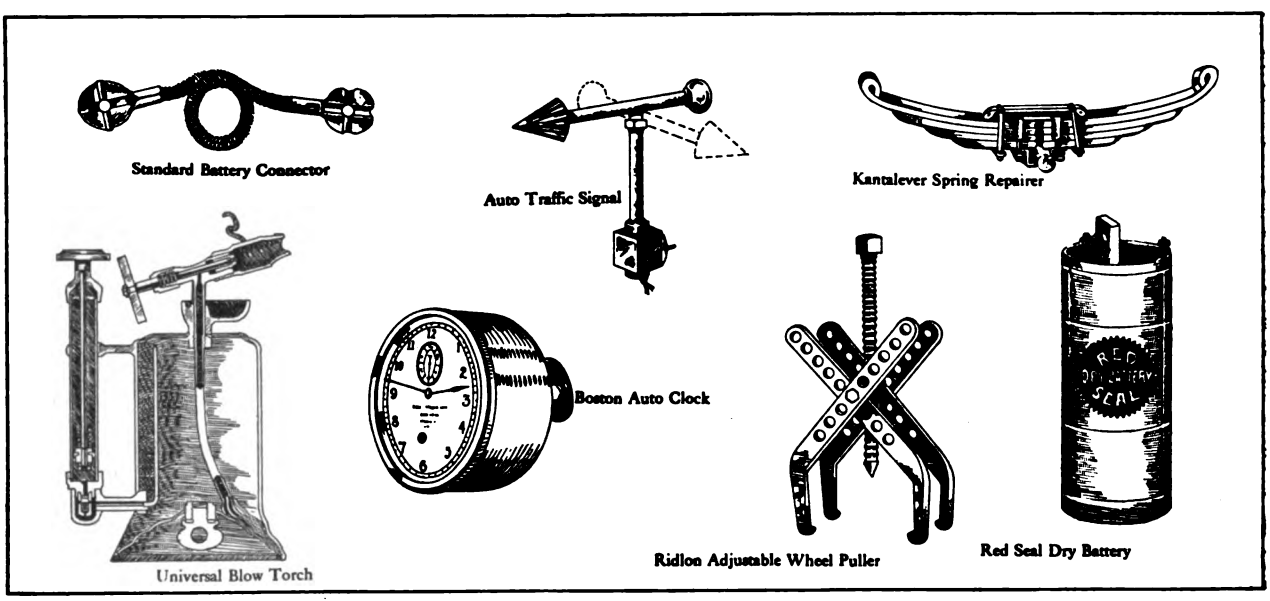
The Adams-Bagnall Electric Company, Cleveland, O., is marketing a handy trouble electric lamp that differs from the conventional designs in that it is of the magnetic type. It is equipped with a flexible lamp cord and terminals for attachment to the storage battery, and when the base of the lamp is placed in contact with iron or steel, it will stick. This is due to magnetism and it is claimed that the magnet has a pull of 13 pounds. The device makes for convenience in that it may be placed as desired, to project the rays onto the work and to permit the use of both hands when making adjustments or repairs. The magnet is covered with aluminum and the silver plated reflector is 2.5 inches in diameter. The light weighs but 13 ounces.

S & V Ford Rebound Snubber.

Sunvold & Larson, Sacred Heart, Minn., is manufacturing a rebound snubber designed especially for model T Ford automobiles. It comprises a strap, coil spring and a device for attaching to the frame and it is stated that it may be fitted without the drilling of holes, etc. The function of the snubber is to eliminate road shocks and to prevent undue recoil, which results in breakage of the springs. The S & V design is applicable to both the front and rear of the Ford car and comes in pairs or a set of four. It is moderately priced.

Automatic Gasoline Saver.

A device which is stated will save 25 per cent. of the fuel and increase the efficiency of the motor is the Automatic gasoline saver, the product of the Automatic Gasoline Saver Company, 1777 Broadway, New York City. It is utilized with the carburetion system and comprises a hollow circular metal member having an air inlet at the bottom. A metal ball seats in this opening and normally closes the aperture by the pressure of a spiral spring. The movement of the ball from its seat is regulated by the spring and by the suction of the piston of the motor. Means are provided for suitably tensioning the spring to regulate the amount of air admitted. The principle involved is that of atomizing any particles of fuel not properly vaporized by the carburetor, thus permitting less fuel to be used.



Hoyt Ammeter.

Owing to the demand for a miniature switchboard type of ammeters and voltmeters, for service with lighting and motor starting systems, motor boats, etc., the Hoyt Electrical Instrument Works, Penacook, N. H., has brought out what is known as the type 22, which is very compact, being but 2.25 inches in diameter. They are designed for service with direct current and operate on the D'Arsonval principle. Jewel bearings are incorporated and they combine all the qualities of the larger instruments for which this company is noted. The voltmeters and ammeters are constructed in four sizes, for 10, 15, 30 and 50-volt systems. The indicating hand registers both charge and discharge with the ammeter types.

Standard Battery Connector.

In wiring dry cells, either in series or multiple series, it is important that the connections be tight if maximum efficiency is to be secured from the batteries. The Fitzgerald Manufacturing Company, Torrington, Conn., is producing a new design termed the Standard battery connector, which is constructed to grip the locking nut or terminal of the cell, and it is stated that the nuts will not jar or work loose. The company also manufactures another design with which locking nuts are not necessary. It is attached by simply springing apart the terminal loops, which when released grip the post.

Red Seal Dry Battery.

In these days of magneto ignition the motorist is prone to neglect the dry cells utilized for starting or as

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an auxiliary. As these members are only occasionally employed it imperative that they be of serviceable quality and not subject to deterioration. The Manhattan Electrical Supply Company, 17 Park Place, New York City, is the maker of the well-known Red Seal dry cells, which are especially designed for ignition systems in motor car, motor boat, etc. The maker states that the Red Seal cell will show a greater amperage after service than any other form and that it does not deteriorate by standing idle. It is made both in round and square cartons and each of these is produced in three sizes to meet the requirements of service. The square type is placed in a box of non-conductive material to prevent the possibility of short circuits where the cell is subject to considerable vibration.

Auto Traffic Signal.

The Fawkes Auto Company, Minneapolis, Minn., is manufacturing the Auto Traffic signal, which is designed for attachment to the front or rear of the car, or both. It comprises a form of rotating arrow, the head of which is electrically illuminated. It is operated by a small lever on the steering column connected up with a steel rod which passes under the hood and which is furnished with drop-forged universal joint connections. By it the operator of the machine is enabled to signal an approaching vehicle, also to warn those in the rear of the direction to be taken by the car upon which it is fitted. The signals are furnished in black and nickel and are supplied for any make of car.

Kantalever Emergency Spring Repairer.

It is decidedly inconvenient to be caught on the road some distance from home with a broken spring. While temporary repairs may be effected with blocks, etc., considerable care must be exercised in the operation of the car. The Motor Car Equipment Company, 55 Warren street, New York City, is marketing a practical device called the Kantalever emergency spring repairer, which, when applied properly, is stated to be able to sustain a broken spring for an indefinite period. The Kantalever may be utilized for any type of break, including that of the main leaf near the spring horn, as the device is provided with an opening through which a bolt may be inserted, practically providing a new horn. The repairer can be applied to any broken section as suitable clamping bolts, etc., accompany the device. The Kantalever is made of 50 point carbon steel and is guaranteed not to break under the strain of any car load.

Universal Blow Torch.

The Westinghouse Electric & Manufacturing Company, East Pittsburg, Penn., is marketing a new gasoline blow torch, presenting a number of interesting features which, it is claimed, adapts it to all conditions of service. The burner is constructed particularly heavy so that it will retain its heat and keep the torch burning in cold or windy weather. The drip cup is made especially deep, making it possible to start the torch easily. Another feature is the provision made for automatic cleaning, the needle at the end of the valve stem removing any deposits when the valve handle is turned. The handle of the valve is provided with fibre which does not get hot or require a long stem for cooling, as does an iron handle.

Boston Auto Clocks.

The Boston Clock Company, 16 State street, Boston, is marketing a line of high-grade automobile clocks, one of which, the model C, is shown in an accompanying illustration. One of the features of the timepiece is that it is adjustable to various angles by a ratchet and nut arrangement located at the back. The design of the clock approaches makes of speedometers, being very neat in appearance. It is an eight-day timepiece, having seven jewelled escapements, Breguet hairsprings, cut steel pinions, compensation balances, dust and water proof cases, etc. It is made in three sizes, having three, 3.5 and four-inch dials. An outside patented stem-winding and stem-setting device is listed as slightly extra.

Ridlon Adjustable Wheel Puller.

J. R. Ridlon, 550 Surf street, Chicago, is manufacturing the Ridlon adjustable gear and wheel puller. It comprises a 12-inch screw with a .75-inch standard thread upon which travels a 1.5-inch conical block. On each of the opposite sides of this block are a pair of pulling arms, retained in position by a shoulder screw. Each arm member has nine openings, through which the shoulder screw may be placed, providing nine different adjustments. The pulling arms have a hook end placed at an angle of 135 degrees to the long section of the arms, so that when the long part is at 45 degrees to the screw, the hook end will be parallel with it. This position allows the hook to bear against the gear with its entire face, insuring a firm grip.

OTHER NEW ACCESSORIES.

(Not Illustrated.)

Basline Autowline.

The Edwards Manufacturing Company, Cincinnati, O., is marketing the Basline Autowline, which differs from the conventional devices of this nature in that instead of a rope a yellow strand wire member is utilized. This steel wire is but .25 inch in diameter, and it is stated that it can pull a 4000-pound car up a 20 per cent. grade. The complete equipment weighs but five pounds and it may be coiled up compactly and placed under a seat. The Autowline may also be employed to extricate a car from deep mud or a rut by attaching it to the wheel and hub, using the latter as a capstan, the other end being secured to any stationary object at the roadside.

Boston Combination Grease Gun.

One of the advantages of the Boston combination grease gun made by the Randall-Faichney Company, Boston, is that it is adaptable for handling gasoline as well as light or heavy oils and greases. When oils and light greases are being employed, the Boston is used as an ordinary grease gun. For heavy greases, a lock nut is screwed down firmly and the T handle rotated, which movement forces the piston forward on a heavy square screw thread. The grease is forced out in ribbon form, which, it is stated, packs the gearcase, transmission, differential, etc., much better and more quickly than with ordinary guns. The Boston comes in various sizes ranging from three to 18 ounces capacities, and the equipment includes oil and grease tip and plug for closing. The finish is brass, lacquered.

B. R. Shock Absorber.

The B. R. shock absorber is marketed by the Lattig & Townsend Sales Company, 1431 Spring Garden street, Philadelphia, and it is claimed that both the compression and recoil of the car spring is compensated for. It is also stated that the absorbers require no attention or adjustment after installation. The B. R. device is of the clock spring type, the same width as the car spring, has six turns spaced .25-inch apart between convolutions, and is six inches in diameter. The absorber is placed under the top mainspring, and the top and bottom bolts are inserted through the shackle. A centre bolt is then placed between the slotted portion of the shackle and suitable clamps secured, as outlined in the illustration, to prevent shifting of the spring and to care for the rebound.

Endura Sheet Packing.

The Endura Manufacturing Company, Philadelphia, has brought out a new form of sheet packing which is made especially for service with hot or cold water connections, oil, gasoline, coal tar, etc. Endura packing is a vegetable fibre chemically treated, and having exceptional tensile strength will withstand a very heavy pressure without giving. It cuts very easily, is light in weight and is held to be as tough as rawhide. It is further claimed by the maker that the wetter it is the tougher it gets. One of the features of Endura is its light weight, making for economy, as it is sold by weight.

Essex Spring Bumpers.

The Essex Rubber Company, Inc., Trenton, N. J., is manufacturing the Essex rubber spring bumpers, which are made in two forms, round and oblong. They are designed to be attached to the top leaf of the lower half of the car spring, and to prevent undue compression of the spring when the wheels encounter obstacles. The bumpers are secured by special straps, and it is held that they are very durable, being made of a high-grade rubber. They are made in three sizes, small, medium and large, the width being 1.5, 1.75 and two inches, respectively. They are moderately priced.

Noark Enclosed Fuse.

The H. W. Johns-Manville Company, Madison avenue and 41st street, New York City, is marketing a special fuse for service with electric lighting outfits. It is termed the Noark, because there is no arc or flash in the event the fuse blows out, as the fuses are designed to do when a predetermined voltage is exceeded. This protects the lamps, etc. The Noark fuse is of the enclosed type, and in the event of its blowing, danger of fire igniting gasoline vapor is eliminated. The fuses are very compact and all working parts are gauged to a 10,000th of an inch to insure reliability of operation. They are constructed in various forms.

R. C. W. Master Vibrator.

The R. C. Wells Manufacturing Company, Fond-du-Lac, Wis., is marketing a master vibrator termed the R. C. W. It is designed for synchronizing the spark of multi-cylinder motors, and may be employed with batteries and a low-tension magneto, or both. By its use separate vibrator adjustments are eliminated and the operation of the engine is improved considerably through accurate timing of the spark. The vibrator comes in a neat mahogany case with a neat, substantial kick switch and a removable plug for locking the ignition.

Desmond Back Pressure Tire Gauge.

The Chicago-Racine Aluminum, Brass & Iron Works, 230 West Huron street, Chicago, is manufacturing the Desmond back pressure tire gauge, which is adapted for service with power and hand tire pumps. It is incorporated in the hose line between the source of supply and the tire, and the pressure in the tube may be taken instantly by pressing a small button. This indicates the amount of air by a hand on a calibrated dial.

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ISSUES BALL BEARING MANUAL.

Free Booklet on Care, Repair and Maintenance of Ball Bearings by New Departure Concern.

Unlike the owner, the repairman, dealer or garage man is obliged to have an intimate knowledge of the components of the motor car, in order to advise his customer in the matter of new parts, repairs, care and maintenance. Many times some of the more inconspicuous parts are overlooked and among these are the bearings supporting rotating shafts. As is known by the mechanic, there are a number of different types of bearings utilized in the modern automobile, but all repairmen are not thoroughly familiar with the principles involved, methods of removing and replacing, cleaning and adjusting.

The New Departure Manufacturing Company, Bristol, Conn., has compiled a ball bearing manual which is distributed to the trade, and which explains the construction of the various types of ball bearings, these including the regular annular single row forms, cup and cone, double row, etc. These forms are illustrated and the components are shown separately and assembled.

A section of the book is devoted to suggestions on removing and replacing the different types of bearings, and sketches illustrate the construction of proper tools for the work. The importance of proper lubrication, a formula for making a grease, etc., and simple cleansing fluids are also described.

The adjustment of bearings is explained in detail and many valuable suggestions are given, as well as illustrated. Description and dimension data and price lists are included. The manual is well printed, substantially covered and may be obtained free of charge by writing Department C of the New Departure Manufacturing Company, Bristol, Conn.

STARRETT RATCHET WRENCH.

L. S. Starrett Company Brings Out New Wrench Set, Including a Drilling Attachment.

The L. S. Starrett Company, Athol, Mass., well known to the trade as maker of high grade tools, is introducing a wrench set which includes, in addition to the usual sockets, a ratchet wrench permitting rapid action with only a short arc swing, a valuable tool in replacing and removing nuts, bolts, etc., and where ordinary tools cannot be utilized. A feature of the set is the drilling attachment, which will take any twist drill from .125 to .5 inch. A reversible screw driver, extension, etc., are also included. The company is issuing a new catalogue of its tools, No. 20 G. T., which will be mailed free on request. It contains many valuable suggestions to the repairman and mechanic.

NEW FORD MASTER VIBRATOR.

New York Coil Company Brings Out 1914 Model Unaffected by Electric Lights.

The New York Coil Company, 338 Pearl street, New York City, with western branch at 1429 Michigan avenue, Chicago, has brought out a new master vibrator for model T Ford automobiles. The 1914 model differs from the previous design offered by this concern in that it is claimed that at low motor speeds a hot spark will be delivered to the plugs and that the use of electric lights does not affect its efficiency. It is also stated that the design of the vibrator is such that it cannot stick and that the motor will start on the first quarter-turn. The case is highly polished and the removable cover is locked by easily operated yet positive clasps. The switch provides for the use of dry cells or battery if desired. The coil retails for $10 and the company has an interesting proposition and a liberal discount for dealers.

FOGG HORN FOR FORD CARS.

Motor Specialties Company Brings Out New Signalling Device Operated by the Exhaust.

The Motor Specialties Company, Waltham, Mass., is manufacturing a special exhaust horn operated by the exhaust and designed especially for model T Ford automobiles, although it may be fitted to small cars. It is a compact, well designed signalling device, simple in construction, and being fitted between the engine and the muffler its efficiency is not affected by a leaky muffler. The signal proper is so arranged that the sound is thrown forward, not backward, insuring a volume of tone even when the motor is running at slow speeds. There are few moving parts, no opportunity for back pressure or for clogging. It can be installed without interfering with the use of the cut-out. It is guaranteed for the life of the car and the maker has an attractive proposition for the trade.

FEATURES FORD ACCESSORIES.

American Auto Supply Company Issues New Catalogue Devoted to Ford Specialties.

The American Auto Supply Company, 1741 Broadway, New York City, has completed what is said to be the largest illustrated catalogue dealing exclusively with model T Ford accessories ever published. It includes many new specialties designed especially for the car mentioned and comprises a large number of pages. Low prices and standard quality of merchandise are emphasized by the company, which offers special inducements to the trade. A postal addressed to the American Auto Supply Company, 1741 Broadway, New York City, will insure any dealer, repairman and garage a free copy of the book.

ADDITIONAL PROPOSED NEW GARAGES.

(Continued from Page 19.)

George E. King, Atchison, Kan., has awarded the contract for a one-story garage 78 by 150 feet to cost $12,000.

James Taylor, Philadelphia, has plans for a garage 68 by 105 feet, at 62nd and Osage streets, to cost about $10,000.

E. J. Kreitsburg, Philadelphia, is estimating on plans for a two-story stone residence and garage for Fred Necker at Drexel Hill, Penn.

John C. Norton, Bryn Mawr, Penn., is preparing plans for a two-story garage for George Chichester at Ardmore, Penn., to cost about $5000.

J. Richard Jackson, Philadelphia, is estimating on plans for a two-story brick addition, 55 by 100 feet, for the Sweeten Automobile Company.

The St. Paul Building Company, 460 Rice street, St. Paul, Minn., has the contract for a $15,000 garage at Seventh and Cedar streets, for Joseph Levi.

Peter Reinberg, 7 South Dearborn street, Chicago, will erect a private garage in the near future.

Aller Bros., 1414 South Halsted street, Chicago, is planning to erect a one-story garage.

The Jacob Hoffman Brewing Company, 211 East 55th street, New York City, has plans for alterations to its garage and brewery to cost $22,000.

M. Morster & Co., Philadelphia, will erect a garage in the rear of 2011 North Fifth street for H. H. Christ, to cost $250.

George F. Pelham, 30 East 42nd street, New York City, has about completed plans for a four-story garage.

Fred Putnam Platt, 1123 Broadway, New York City, is preparing plans for a one-story garage.

William H. Eddleman & Sons, Philadelphia, is estimating on plans for a garage to be erected at Balo, Penn., for Charles Lawser.

Richard Martin, 2458 Bedford avenue, Brooklyn, N. Y., has plans for a one-story garage, 20 by 85 feet, to cost $2000.

John Schrodt, of Schrodt & Merges, Hudson avenue, below Green street, Albany, N. Y., will erect a one-story garage, 69 by 90 feet, to cost $6000.

Nathan Harris, 79 North avenue, Rochester, N. Y., is to build a one-story garage, 24 by 80 feet, which will cost $5000.

Charles Cline, the Winstead, Rochester, N. Y., will erect a one-story garage, 20 by 24 feet.

Howard Chadwick, 141 Parkwood boulevard, Schenectady, N. Y., will soon start work on a one-story garage, 42 by 60 feet, to cost $4000.

Boyd & Berry, 11 Grampian way, Dorchester, Mass., has started plans for a one-story garage, 65 by 150 feet, to cost $10,000, to be built at Ashmont, Mass.

J. A. Miller, Wilkinsburg, Penn., is planning to build a one-story garage to cost $4000.

W. E. Cronenweth, 923 Wood street, Wilkinsburg, Penn., will erect four one-story garages to cost $400 each.

The Roland Park Company, 408 Roland avenue, Baltimore, Md., is planning to build a garage.

George A. Boyd, Philadelphia, is estimating on plans for a two-story brick garage to be erected at Broad and Kerbaugh streets for George Laskey.

The George H. Martin Company, 1421 Second avenue, Baltimore, Md., is contemplating the erection of a two-story garage to cost about $25,000.

Patrick Murnan, 9 South High street, Columbus, O., will remodel a factory into a two-story garage at a cost of $5000.

C. A. Thompson, Springfield, Ky., is erecting a garage on East Main street.

H. N. Longfellow, Trenton, Mo., has completed plans for a garage and apartment building to cost $20,000.

J. J. Jones, 118 North Topeka avenue, Wichita, Kan., has preliminary plans for an eight-story automobile exchange, 100 by 100 feet.

Klentop & Huffel, Alliance, Neb., is planning to build a one-story garage, 50 by 140 feet, to cost $9000.

Gascoigne & Goddard, 201 Devonshire street, Boston, Mass., has the contract for a one-story garage, 47 by 120 feet, for Charles B. Lewis, Wellesley Hills, Mass.

August A. Winckhofer, 263 South Eighth street, Newark, N. J., has awarded the contract for a one-story garage, 50 by 100 feet, to cost $9000, at East Orange, N. J.

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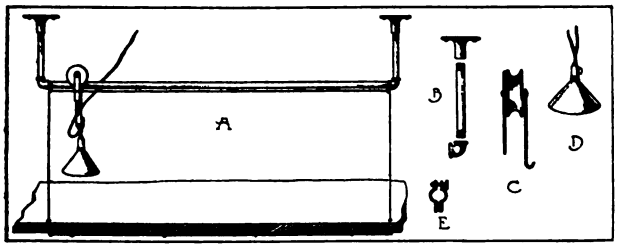
MECHANICAL NOTES FOR GARAGEMEN.

ONE of the chief requisites of the repair shop is a well-lighted work bench. The majority of installations provide a drop light, and if the bench is very long, two or more of the lamps may be fitted. The disadvantage of a fixed light is that the workman is often obliged to move the work under the lamp, and when he wishes a tool at the other end of the bench must swing the light in the direction of the object sought.

In an accompanying illustration is shown a method of constructing a light rack over the bench, the sketch at A depicting the operation of the light, and it will readily be seen that it is possible for the workman to be at the extreme right of the bench and roll the lamp to him by means of the cable located under the bench, as shown in the drawing. Some benches would not be adaptable to its use.

The rack is easily constructed and the material required is not expensive. It consists of small gas piping, two standards and a like number of elbows. This material could be replaced by round iron, drilling and threading the parts to fit plates which are secured to the ceiling or to



Working Plan of Adjustable Light for Work Bench: A, Showing How Light May Be Moved as Desired; B, Supporting Arm; C, Pulley; D, Lamp; E, Cable Carrier.

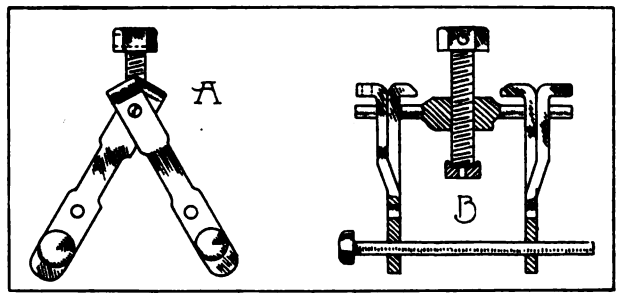
the wall, according to the location of the work bench.

A supporting arm is shown at B, while the pulley member is illustrated at C. The latter is provided with a hook for attaching the lamp cord and has an extension on the opposite side to retain the pulley on the rod. It is not necessary to fit the cable carrier shown at E, as the light could be moved by hand as desired. The cable was fitted in the installation noted by the writer, and the inventor of the plan states that it was extremely handy when he wished the use of the lamp at the other end of the bench. In addition to making for convenience, the device makes for economy, as one light may be utilized in place of two or more.

INGENIOUS GEAR PULLER.

Many times it is difficult to draw timing gears, etc., from their shafts owing to the lack of a suitable tool. Sometimes the wheel is lightly constructed with delicate spokes and to attempt to draw the gear with the ordinary tool usually results in buckling or throwing it out of alignment.

In an accompanying illustration is shown a gear puller, the maker of which was awarded first prize in the mechanics' competition conducted by



An Ingenious Gear Puller: A, Showing Construction of Device; B, How Four Points of Contact Are Obtained.

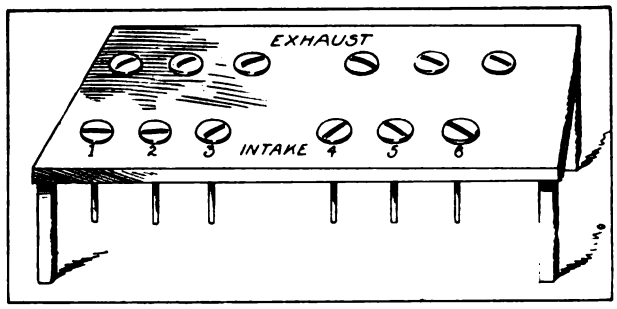
Commercial Motor, an English motoring print. It is stated by the maker that it will remove a gear without injuring it, as an even pull is obtained at four separate points of the rim when required. This is accomplished by inserting two three-quarter pins through the arms of the top, on which the wheel can be placed.

When the gears are solid and will withstand more strain, the other end of the dog, with the bent-over legs is utilized in the usual manner. When the gear has openings the reversible dog may be used as well. One of the features of the device is that it may be taken apart and stored easily.

VALVE RACK.

The complete, and sometimes the partial, overhaul of the power plant includes the removal of the valves, and when these members must be laid aside for any length of time, they are apt to become mixed if the work is intrusted to a green helper. The usual practise is to leave them in the cylinders, but this has its disadvantages in that care must be exercised in handling the units.

In an accompanying illustration is presented a suggestion for a valve rack which can be constructed of wood and may be made a permanent fixture on the work bench or a portable unit as desired. All that is required is to drill 12 holes to take the valve stems and the openings are



Suggestion for a Valve Rack to Simplify the Work of Replacement in the Overhaul of the Motor.

marked from 1 to 6. For T head motors the upper row of holes could be utilized for the exhaust valves and the lower for the intakes.

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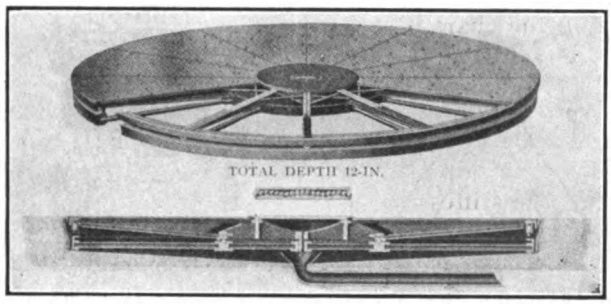
GARAGE AND REPAIR SHOP EQUIPMENT.

THE advantages of turntables in the garage are numerous. Not only do they permit of utilizing all the floor space, but they make for



Universal Turntable, Having Ball Bearings and Means for Draining, Is Constructed in Varying Capacities.

safety, in that accidents due to placing the machine in its proper space on a crowded floor are avoided. This is particularly true where the garage is a converted building and of such dimensions as to compel the driver to make many changes of gears in positioning his car. Considerable time is saved through the installation of a turntable not only in entering and leaving the building, but the washer is able to handle the machine without starting up the motor.

The Canton Foundry & Machine Company, Canton, O., manufactures a wide variety of turntables adapted to both public and private service and in various sizes and capacities. One of the features of the Universal design, shown in an accompanying illustration, is the inexpensive foundation required and the means employed to take care of the accumulation of mud, etc., removed from the vehicle in the washing process. The pit is but 12 inches deep, a concrete base, slightly larger than the turntable, and grooved so as to carry all water and debris from the centre to the periphery of the table and into a concrete gutter or drain, which is covered with removable plates.

It is held that the Universal operates so easily that it may be turned by a child. This is due to the Serpentine, patented, ball bearing race course, so constructed that foreign elements are prevented from interfering with the movement of the balls. By referring to the lower view in the illustration it will be noted that the top of the table rests on seven balls at the summits, the remaining balls revolving in pockets filled with lubricant. As the table moves the balls at the "high spots" roll and are replaced by others coming up, eliminating friction.

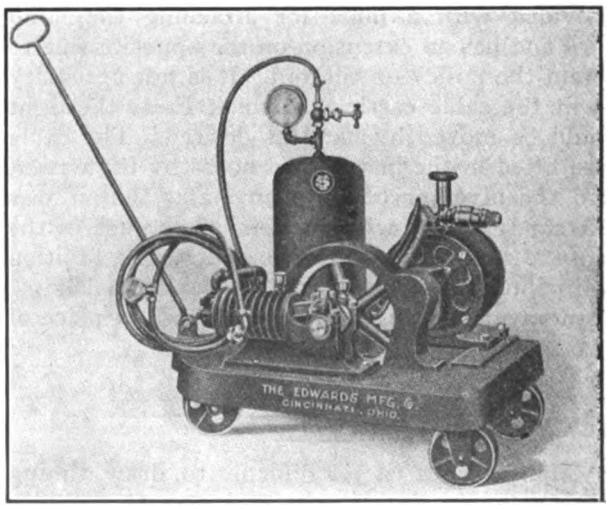
The superstructure is of structural steel built in truss form and reinforced. The top plates are No. 7 gauge steel, securely braced. The table has a checkered iron removable centre with No. 7 gauge steel plates extending to the outer rim, neatly fitted and sloping slightly to provide for proper drainage. The 12 top steel plates are removable and are reinforced by angle irons at proper intervals, firmly riveted crosswise underneath and resting on structural trusses. The table canot tilt, as the slightest depression throws caster wheels on the outer rim to the rim track.

The Universal is made in 12, 14, 15 and 16-feet table diameters, each having a supporting capacity of 8000 pounds, and 16 and 18-foot diameter tables with capacities ranging from eight to 10 tons for truck service. The company makes a specialty of installations and will submit data and specifications on request. The product of the concern is described and illustrated in a catalogue which is mailed free.

EDWARDS PORTABLE TIRE PUMP.

The Edwards Manufacturing Company, Cincinnati, O., is producing the Edwards portable electric tire pump shown herewith. It is designed both for public and private garages, is simple in design, and throughout the best of material and workmanship are employed. The motor, compressor and tank are mounted on a neat base having three wheels and a convenient handle. The air tank is 12 inches long and six in diameter, and is equipped with a petcock at the bottom, permitting of blowing out any condensation that may exist, also for pumping into the tank direct.

The motor is a .5 horsepower unit, constructed for either alternating or direct current, 110 or 220 volts, 60-cycle, single-phase. The compressor is of the air-cooled type, geared to the electrical unit, with pinions fully enclosed. Eight feet of high grade .5-inch hose with gauge, tank pressure gauge and 20 feet of electric cord and socket are included in the equipment. The switch is located on the motor. Lubrication is provided by means of grease cups on the cylinder and crankshaft bearings. It is stated that the outfit will pump a 34 by four-inch tire from flat to 70 pounds in 90 seconds. The weight of the equipment is



Edwards Portable Electric Tire Pump, a Simple and Compact Outfit.

130 pounds. The company issues a catalogue on portable tire power pumps, grinders, drills, etc., which will be forwarded on request.

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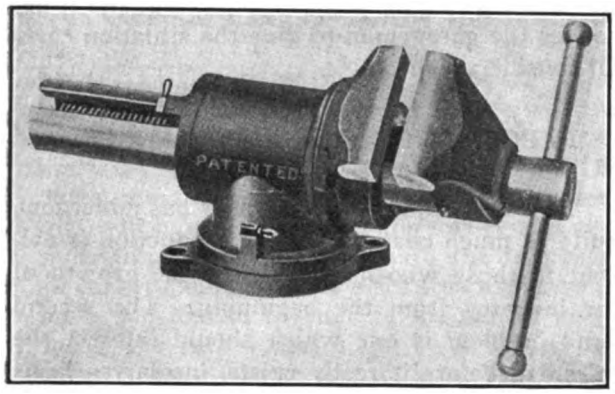
F. & R. PATENT VISE.

The Fulton Machine & Vise Company, Lowville, N. Y., is manufacturing the F. & R. patent vise in the machinist's pattern. It has the advantage of two complete swivels, a combination of the two giving the most desirable positions for the use of a mechanic. The vise, which is presented in an accompanying illustration, is locked at any angle by two separate methods. One is by clamping the work within the jaws, which tightens the frictions, the other by the use of the position pins. With both in use it is stated that the vise is positively locked in any position. The jaws are always held in place, when the work is removed, by the position pins, if the operator requires, by the use of which the vise is made stationary at any angle. Cast steel faced tempered jaws are utilized. The vise is made with openings varying from two to nine inches and in six sizes, the weights varying from 6.5 to 155 pounds.



F. & R. Patent Vise Especially Adapted for Motor Car Repair Work.

WINSOR VALVE REMOVER.

A New Design Adaptable to Any Motor, Moderately Priced and Well Constructed.

The varying design of motors compels the repairman and dealer to carry in stock a number of valve lifters to meet the requirements of different valve construction. A new tool of this nature, which presents interesting as well as practical features, is the Winsor, shown in an accompanying illustration, and made by the Winsor Manufacturing Company, 55 Eddy street, Providence, R. I.

It differs considerably from the conventional valve lifter in that the operator can swing the lever after the valve spring has been compressed, enabling him to change his position as well as to reach the pin or key locking the spring. This is accomplished without any slipping as the tool is positive in its action.

As will be seen by the illustration the tool consists of a barrel A, levers B and C, and a chain. The barrel is one of its interesting features. It is threaded to fit the spark plug opening of the valve cap into which it can be fitted with the fingers. Through the barrel extends a spindle, which is also threaded, and which is employed to hold the valve on its seat, it being screwed down easily by the fingers. Both the levers B and C have adjustable positions; that is, the chain may be attached to provide for different thickness of the cylinders, exhaust and intake manifolds, etc., and varying lengths of valve springs are compressed by lengthening or shortening the chain as required.

The barrel member B rotates freely on the part inserted into the valve cap and being threaded into the last named member prevents slipping. It will be noted that the lever C is sufficiently long to provide the necessary leverage to compress the stiffest valve spring and with but little exertion.

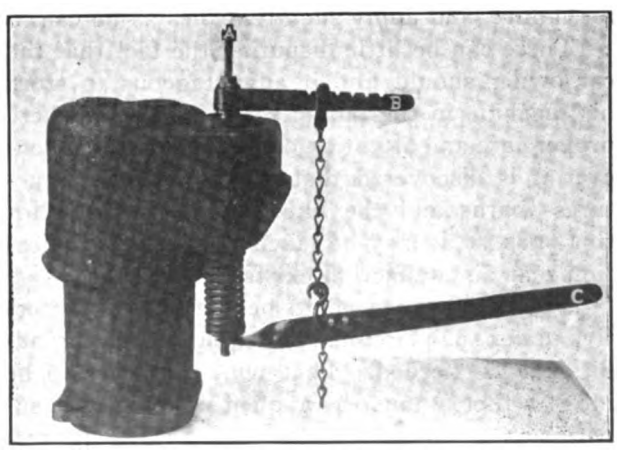
The Winsor valve lifter is constructed of the best of material and its dimensions are such as to insure long life. Extra barrels are constructed to fit different sized spark plug openings, and the tool comes finished in black enamel and nickel plate. Liberal discounts are offered to the trade.

NEVER LOOSEN LOCK NUT.

L. L. Swenson, Ottuma, Ia., has invented a lock nut device, termed the Never Loosen, which comprises a split nut having threads for engagement with the bolt threads and adapted for binding engagement on the face of the nut proper, preventing turning of the nut. The locking action is secured by the twisting of the locking nut before the threads are cut. The nut proper is constructed of hardened tempered steel so that when applied to the bolt it will have a tendency to resume its normal shape, thereby locking both the nut and the bolt.

VULCAN CHAIN PIPE VISE.

J. H. Williams & Co., 150 Hamilton avenue, Brooklyn, N. Y., is manufacturing the Vulcan chain pipe vise, which is constructed of bright steel throughout and is claimed to be unbreakable. It is also compact in design and may be set up readily for service. It has drop forged steel jaws, tempered for file sharpening. The vise is made in three sizes with pipe capacities of from .125 to eight inches.



Winsor Adjustable Valve Lifter Which Has Positive Action and Which Can Be Rotated with Valve Spring Compressed.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. SEPTEMBER, 1913. NO. 5.

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Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

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Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

SYSTEM AND ITS APPLICATION.

Conditions often arise over which the garage or service station proprietor has no control, but which result in dissatisfaction on the part of the car owner. However, it should be the aim of any business man to discover, if possible, the reason for failure, and apply such remedies as he can.

There can be little disputing the fact that the car owner should find it advantageous to store his machine in the public service station, where proper care and attention can be assured. Whenever it is discovered that several outside structures—barns and the like—are being hired for this purpose, it may be taken as sufficient indication that dissatisfaction exists.

System is conceded to be the proper corrective under such circumstances, but something additional is needed. That which appears to be ideal in theory must be applied under proper supervision in order to produce the results desired. Therefore, the first step is to adopt a system which best meets the needs of the business, and the next is to know absolutely that its every provision is rigidly supervised and enforced.

It is only logical to assume that the concern which makes it a business to look after many cars can give the required care and attention much more reasonably than this can be accomplished by the individual. If the car owner is not convinced of this, it must be due to the character of treatment which he has been receiving, and it behooves the garageman to give the situation careful consideration.

IMPORTANCE OF SALESMANSHIP.

That the selling of automobiles has undergone quite as much change as their production is evident to those who have watched the growth of the industry from the beginning. The second hand problem is one which should interest the salesman before it really exists, insofar as he is concerned. That it is possible of solution in this manner cannot be denied.

Manufacturers have been concerned with the advisability of announcing new models and have reached no definite agreement upon the subject, largely because there has been a noticeable decrease in the number of owners who seek to "trade in" their cars at the end of the season. Perhaps this can be held to apply more largely to the owners of the higher priced machines, since it is noted that many of these no longer keep such cars in constant service, relying upon machines of lower price for ordinary, every day work.

It follows that the man who is engaged in the disposal of automobiles must study his market more closely than ever before. There is still plenty of opportunity to secure new business, and while it may take rather more energy to make a sale, there is something to be gained in the realization that when the sale is made there is no necessity for doing the work all over again in order to dispose of the second hand machine taken in trade. It is a situation in which salesmanship is of the utmost importance.

WATCH THE LEGISLATURE.

Garagemen and dealers would do well to give greater consideration to those who seek for their support as candidates for the state legislature. It would appear that there was a concerted movement among legislators to consider anyone connected with the automobile industry as legitimate prey from whom they may expect new revenue whenever additional funds are required.

Garagemen and dealers cannot help but have an interest in those restrictions which apply directly to their business, and they should have concern for any proposition which means an additional tax upon the resources of those with whom they seek to do business. The time to begin activity is during the season in which men run for office.

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SERVICE STATION SYSTEM OF MERIT.

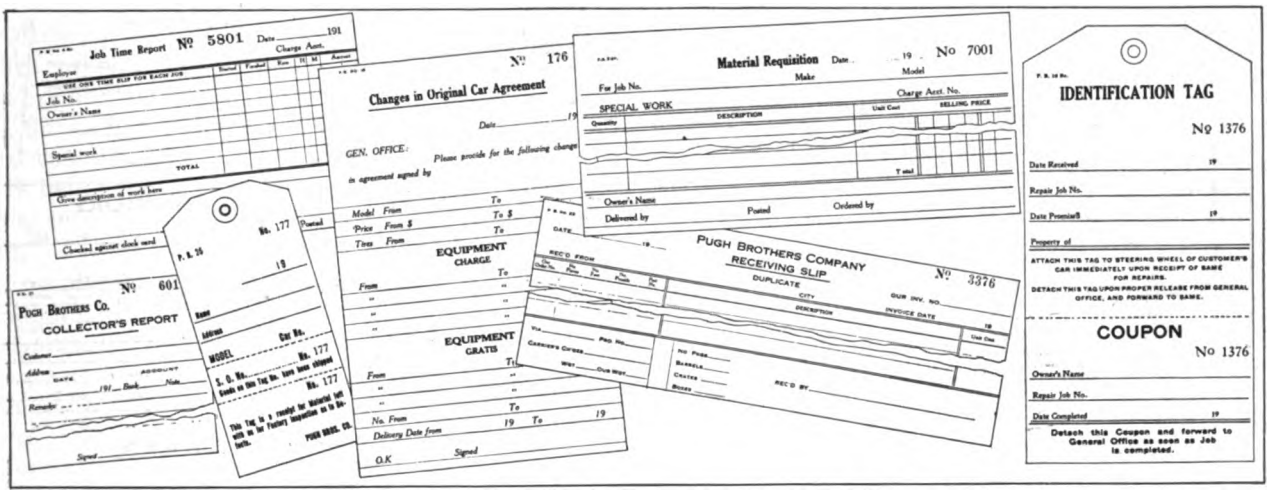
A Plan Devised to Absolutely Control Every Detail of the Business Through the General Ledger---How the Various Forms Act as a Cross Checking Scheme.

IN THESE days of service to the automobile owner, as best understood by the word, the progressive concern seeks new features that will increase the efficiency of that department. The object must be to render the character of service that will be satisfactory to the owner and at the same time absolutely safeguard the interests of all concerned, preventing slackness with resultant leaks and loss of revenue to the garage and assuring the patron that he pays for exactly what he receives—no more and no less.

There is, of course, such a thing as having too much system. That selected should be so simple of comprehension that it will run itself. It should never be a load for a concern to carry, but it should carry the concern. Three things to overcome are carelessness, temptation and laziness. Two results for which all are striving are more trade and larger profits. To secure these one must have a suitable system, providing for information, protection, accuracy, courtesy and confidence, as five of the cardinal principles necessary for success in conducting an automobile business.

A system designed to provide these results is that utilized by the Pugh Bros. Company, 53 Mathewson street, Providence, R. I., one of the largest distributors in the East. This concern handles such standard makes of cars as the Overland, Marion, American and Palmer-Singer, and Willys Utility and Federal trucks. When it is considered that a full service is given the owners of these vehicles, it can readily be seen that an organization of some magnitude must be maintained. The company began on a small scale in 1904 and so satisfactory has been its growth that its plant was recently enlarged by an additional 30,000 square feet and probably will again be increased in the near future. The most modern automatic machinery and a corps of expert mechanics insure that patrons shall receive service of the highest standard in every respect.

The present high grade system, which has been commended as one of the most complete that has been inspected by experts in this line, was devised by I. D. Billings, accountant, of Providence, who placed it in operation several months ago. The main idea is to absolutely control every detail of the business through a general ledger, from which the balance sheet is taken. The cost of sales is based upon the invoice price of cars and equipment therewith; that of parts and repair sales on the percentage of material and labor, such percentage to be adjusted at the end of each fiscal year, a physical inventory forming the basis of this adjustment for material and the total payroll, for labor.



Some of the Blanks Utilized in the System Devised by I. D. Billings, Accountant, Providence, R. I., for Pugh Bros. Company of That City.

In an article of this nature it would, of course, be impossible to explain in minute detail the complete workings of this system, the endeavor being to bring out in a general way the principal methods of procedure in its operation. A complete control of the stores is maintained through distribution of purchases and the withdrawing of all materials for all purposes on material requisition.

No material or supplies are delivered by the stock keeper except on a numbered requisition blank (No. 7001 illustrated herewith) properly signed by the foreman of the department in which the work is to be performed, and the stock clerk will not honor such blank from which the job number or class is omitted. To do so might cause confusion, inasmuch as the blank could not be used to check against other blanks received in the office during the course of business. Each morning the stock keeper forwards all stock requisitions of the day previous to the main office, together with statements of credit given to such departments as returned material obtained

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on requisition and found not needed. For the return of such stock a credit blank (No. 54), similar to the requisition sheet, is issued to the department returning such stock, and this is likewise returned to the main office by the various departments, thus serving to keep correct all records, inasmuch as they form a cross reference at the office.

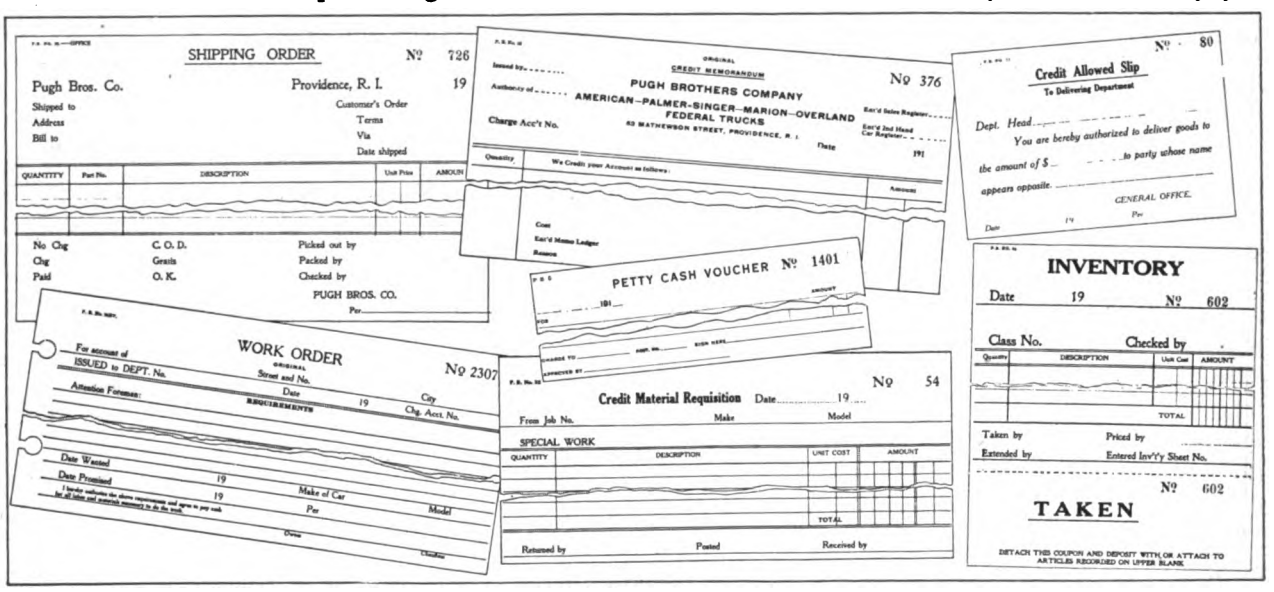
A time report blank (No. 5801) is furnished for all employees, one slip being used for each job worked upon. This slip is adapted to all departments and contains spaces for the job number, owner's name, special work and a description of same. The time work was started and finished is recorded and can easily be totalled when the job is completed.

These time reports are kept for a day and each employee turns them in at the general office on the following morning. The office force extends the time elapsed, supplies the rates, inserts the relative values chargeable to each job, checks the total time reported against the employee's time card and then posts the items with proper equity to the cost summaries. Thus it will be seen that a continuous accumulative record of all costs is maintained at the general office and is ever ready to be summed up at the required time with very little labor, since the record is at all times up-to-date. In addition to this advantage, each job record is kept separately in a numbered job envelope so that it can be referred to instantly in case of question. With the other records of cost, etc., there is constantly a cross reference, which prevents the possibility of mistake.

When a car is brought in for any repair, a work order is made out and forwarded to the department in which the work is to be done. The foreman of the department attaches to the automobile or part to be repaired an identification tag (No. 1376), which is made up in two parts, the lower to be separated at the conclusion of the job and forwarded to the general office. Each part is numbered identically, so that as soon as the detached coupon is received at the office, together with the time reports, material requisition, etc., the bill to the customer is made up and is ready for presentation without delay upon his call for the job.

No repair work of any nature is performed without the necessary work order (No. 2307) from the general office concerning such work. This order gives the necessary instructions for the job, with the date wanted, date promised and other necessary data, and at the bottom is a space to be signed by the owner of the car or his chauffeur, authorizing the work and agreeing to pay for same. This order is filled out in triplicate, the original being yellow, the second copy, white, and the third, blue. The original is forwarded to the foreman of the department and retained by him. The duplicate is filed in the office in numerical order, while the triplicate is filed in the office in alphabetical order, thus providing for an effective cross reference in case any item should be questioned by a patron.

These blanks are always used for every job.



Additional Blanks Forming a Portion of the Pugh Bros. Company's System for Conducting a Service Station.

Whenever work is performed in an emergency before or after regular hours, Sundays and holidays, it is done as usual, but on the opening of the office the latter is notified and supplies the necessary order, which is treated in the regular manner. When the coupon from the corresponding identification tag has reached the general office the final material requisitions and time slips relative to the job are secured from the workroom and posted to the duplicate copy of the corresponding work order, in the space provided on the reverse side. The coupon being the signal that the job is finished, allows the immediate billing of the job, ready for the customer.

For the reason the work order number becomes the job number for the proper indexing of the material and labor reports incident thereto, it is insisted that a work order be secured before any job is started. The arrangement provides the advantages of an alphabetical and numerical control by the office of all repair work in process; an automatic supplying of job numbers to all repair jobs; the relieving of the foreman of much cleri-

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cal detail ordinarily carried in his mind, and the automatic signal to the office of all completed repair jobs.

When the customer has paid his bill a coupon representing such settlement is presented to the patron, who must deliver the same to the foreman, such coupon being the authority to the department to release the car or part upon which work has been done. The foreman then detaches the identification tag from the work before it leaves the shop and both tag and coupon are forwarded to the office. All these various records are carefully preserved and filed in a job envelope as a complete record of that job.

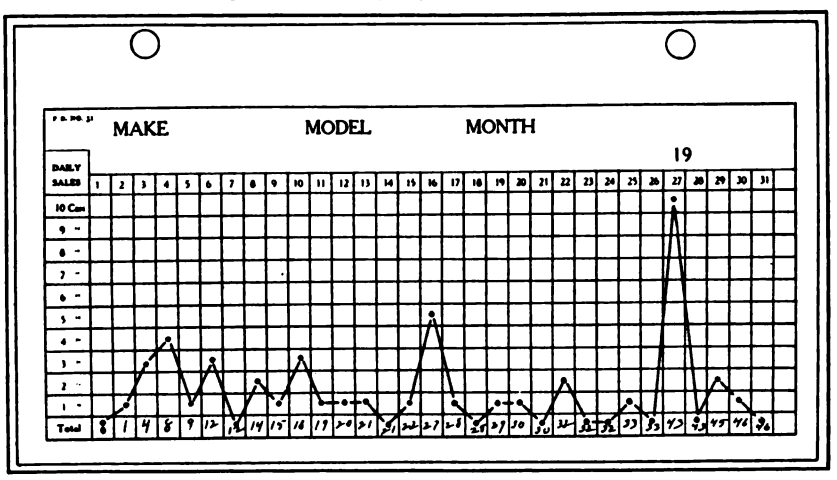
It will be seen that absolute control of all work is maintained by the office, which is always in a position to give information upon request without the necessity of wasting time in visiting the numerous departments to ascertain the status of a particular job about which an inquiry may be made. The time of employees is kept, the dispensation of material is known, and the several forms and tags supply cross references that make it impossible for a mistake to occur or that dishonesty shall creep in.

Oftentimes a regular customer wishes supplies in haste and desires credit. In this event a form (No. 80) is used which is intended to establish the control of all goods being sold to customers on credit, entirely within the general office. These forms are printed and numbered in numerical sequence in padded blocks of 25, which are distributed at convenient points in the building for availability. When a customer desires material on credit he is supplied from the nearest point of location with a credit slip, which he presents at the general office for authority to so purchase.

The general office passes upon the customer's rating and fills in the form authorizing the head of the proper department to deliver goods to the customer. The latter presents it to the foreman and receives the goods. A charge sales slip is made out and when it is forwarded to the office the credit allowed slip accompanies it. There are two mains points to this procedure, namely, authorizing of credit based upon the condition of the customer's book account, and insuring the proper initials and the name of the customer being set forth upon the charge sales slip.

Collectors' reports (No. 601) are turned in at the office every day and records made of the returns. In the matter of a salesman signing a contract with a patron for the purchase of a car, it often happens that the purchaser changes his mind relative to some features of his car. To save the annoyance of making out an entirely new contract, a numbered blank (No. 176) provides for the necessary changes in the agreement, as to model, price, or tires and equipment. Space is provided for equipment the company may see fit to furnish gratis and this sheet is attached to the original agreement, thus giving a complete history of the sale.

For the matter of control of shipments, both outgoing and incoming, the system provides completely. When a customer brings in a broken part, which requires its shipment to the factory either for repair or replacement, a small yellow tag (No. 177) is filled out with the name, address, model and car number thereon, this being attached to the part. This tag is numbered at the top. When the part is turned in a coupon at the bottom of the tag is detached and presented to the customer as a receipt for the material left with the firm for factory inspection. This coupon bears the same number as the tag attached to the part. A feature of this tag is a third reference, provided by another small coupon which is detached at the office when the part is shipped. This is filled in with the shipping order number, and since the coupon is numbered identically with the customer's receipt and tag shipped with the part, an inquiry shows that the part has been



Pugh Bros. Company's Sales Report Form, Showing Fluctuation in Daily Sales for the Month.

shipped, the small coupon being filed in the office numerically.

All shipments made by the company, whether to customers or of parts, etc., to the makers, are accounted for by a shipping order (No. 726), which contains a description of the goods, quantity, value, date and other necessary information. This and the receiving slip (No. 3376), which provides for similar notation in case of shipments received, are made in duplicate and filed in their proper places. It will be noted that the shipping order provides for three signatures, thus insuring a triple check upon each lot of goods which leaves the concern.

The credit memorandum (No. 376) provides for a record of all items for which patrons of the company should receive credit for goods returned, overcharges, etc. This is made out in duplicate, one copy going to the party to whom credit is due, while the other remains on file in the office. Sometimes it is found convenient to utilize this blank in what is termed inside work, when, instead of making a regular journal credit entry, the original is filed with the account in question

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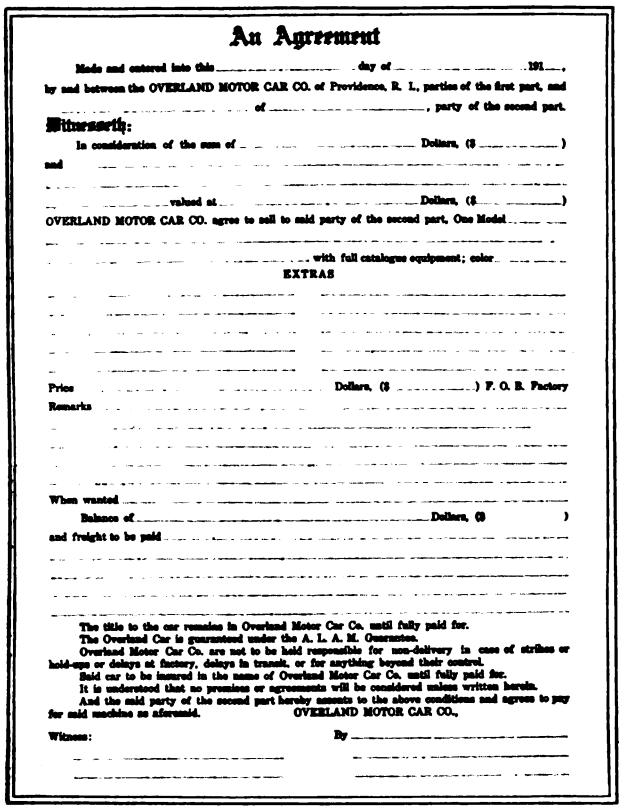
to explain any overcharge or other necessity for crediting that account which may exist.

The sales department is governed by a system of forms which are made out by the salesmen, setting forth prospects visited, sales made, commissions due and all data relative to their work. A special form is kept at the office for the recording of daily sales of the month. This form is numbered vertically with the number of days in the month, while horizontally, beginning at the bottom and extending to the top, are numbers up to 10, which ordinarily serves to care for the number of sales made in any one day. As the form is ruled, each number has a row of squares running up and down the sheet. The number of sales on a given date is recorded by a dot in the corresponding square and at the end of the month a continuous line is drawn from one dot to



An Agreement

Made and entered into this ..... day of ..... 191..., by and between the OVERLAND MOTOR CAR CO. of Providence, R. I., parties of the first part, and ..... of ....., party of the second part.

Witnesseth:

In consideration of the sum of ..... Dollars, ($ .....)

and .....

.....

.....valued at ..... Dollars, ($ .....)

OVERLAND MOTOR CAR CO. agree to sell to said party of the second part, One Model .....

.....with full catalogue equipment; color .....

EXTRAS

.....

.....

.....

.....

Price ..... Dollars, ($ .....) F. O. B. Factory

Remarks .....

.....

.....

When wanted .....

Balance of ..... Dollars, ($ .....)

and freight to be paid .....

.....

.....

.....

The title to the car remains in Overland Motor Car Co. until fully paid for.

The Overland Car is guaranteed under the A. L. A. M. Guarantee.

Overland Motor Car Co. are not to be held responsible for non-delivery in case of strikes or hold-ups or delays at factory, delays in transit, or for anything beyond their control.

Said car to be insured in the name of Overland Motor Car Co. until fully paid for.

It is understood that no promises or agreements will be considered unless written herein.

And the said party of the second part hereby assents to the above conditions and agrees to pay for said machine as aforesaid.

OVERLAND MOTOR CAR CO.,

Witness: By .....

.....

.....

Form of Contract Utilized by Pugh Bros. Company.

the next in order, until the whole sheet has been traversed. This line will show the fluctuating sales of the entire month at a glance.

In the ordinary course of business express charges, expenses for supplies used, etc., are paid as they occur. To account for these disbursements, a petty cash voucher (No. 1401) is used which is numbered and filed. These vouchers serve to account for all moneys expended and are the amounts apportioned to the proper accounts.

A system of inventory has been devised which is very effective and the possibility of mistake is slight. Previous to the taking of inventory tags (No. 602) are attached to every piece of stock and property in the entire building. When those designated for this task fill in the spaces on the part marked "Inventory," with the required information, that section is detached from a similarly numbered coupon at the bottom, upon which is printed the word "Taken". This indicates that the other portion of the card has been filled in and detached. At the conclusion of the inventory a responsible party inspects the whole building to see that no articles have been overlooked. This is quickly revealed by any tags which may not have been detached. It is impossible to take an item twice, because should an individual neglect to detach and deposit the tag, it would be discovered in the general office and adjusted. The tags are numbered in sequence and a record of those distributed is kept. Failure to return one would at once be detected.

In fact, there is no weak spot in the system that is discernible and several features of it have been adopted by other interested concerns. Every possible contingency appears to be provided for and the several departments are thoroughly safeguarded, both against error and imposition, since all responsibility is assumed at the general office. The various records maintained, singly and in duplicate and triplicate, serve as effective cross references, so that the likelihood of dishonesty or other adverse factor entering into the business is decidedly remote.

The sizes of the various forms illustrated are as follows, the width and height being given in that order and in inches:

Material requisition	6 x 3
Credit material requisition	8 x 5
Job time report	6 x 4½
Identification tag	4 x 8
Work order	8½ x 5
Credit slip	5 x 3¼
Collector's report	4 x 6
Changes in agreement	5 x 8
Yellow shipping tag	2⅜ x 4¾
Shipping order	8½ x 9
Receiving slip	9 x 5½
Credit memorandum	8½ x 7
Petty cash voucher	6 x 3
Inventory tag	5 x 8
Agreement	8½ x 11
Sales report	9½ x 5½

PARTS FOR GROUT CARS.

Having purchased the entire automobile stock of the Grout Automobile Company, Orange, Mass., at the recent receiver's sale, A. F. Kirkpatrick, formerly sales manager of that concern, announces that he is prepared to furnish parts for Grout cars. All goods will be shipped C. O. D. In addition Mr. Kirkpatrick will conduct a general repair business in one of the buildings formerly occupied by the company. The main buildings of the company were sold to the Orange National Bank for $19,010 plus mortgage and interest of $3000. It is understood that they are to be occupied by a new concern—not a motor car company.

CUTTING SALE UNCONFIRMED.

The Security Trust Company, receiver for the Cutting Motor Car Company, Jackson, Mich., announces that the court has declined to confirm the sale of the assets of the company, held Aug. 19. In addition, it states that an involuntary petition in bankruptcy recently was filed against the company, and that the company has demanded a jury trial, although no date has as yet been set for the hearing. In the meantime, the receiver is continuing the operation of the service department.

INTERESTING TRADE CATALOGUE.

The Motor Car Supply Company of Chicago has compiled a new catalogue which is sent free to the trade only, the company conducting a wholesale business. The book contains descriptions, illustrations and prices of automobiles, motorcycle and bicycle supplies, and one section is devoted to machinist's tools and supplies. The company guarantees prompt service and makes special inducements to the trade with which it deals direct. A postal addressed to the Motor Car Supply Company, 1451-1455 Michigan avenue, will receive prompt attention.

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TRADE INFORMATION EXCHANGE BUSINESS PROPOSITIONS.

Opportunities Are Offered Below for Agents to Secure New Lines, for Manufacturers to Extend Their Representation, and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. All Are Opportunities for Live Men and Firms Seeking Profitable Relations.

The Following Details of Trade Opportunities Presented by Members of the Trade Information Exchange Are Published Without Names, These Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

CAR AGENCIES WANTED.

8250—Iowa Concern is interested in securing the agency for some small light six-cylinder pleasure car, a very light four, and a cyclecar, the price range to be from $350 to $1700.

9204—Nebraska Dealer would accept agency for pleasure cars selling from $450 to $750.

8542—Ohio Company is interested in securing the agency for pleasure cars selling at $950 to $2250 and commercial vehicles from $1250 to $1500.

8636—Tennessee Firm, now handling the agency for two lines of pleasure cars, expects to be in the market shortly for still another line.

9275—Indiana House, engaged in the distribution of pleasure cars and accessories, desires the agency for commercial vehicles selling from $950 up.

8523—Kentucky Concern would accept the agency for pleasure cars selling at between $750 and $1000.

8627—Rhode Island Company, with well established accessory business, is interested in securing the agency for motor trucks rated at from 1500 pounds to 2.5 tons.

8729—Tennessee Concern, engaged in the manufacture of carriages and wagons, and motor truck bodies, would take the agency for pleasure cars selling at $1000 to $2500, and commercial vehicles ranging in price from $900 to $3500.

9253—House in District of Columbia, recently incorporated to operate a general garage, is interested in the agency for pleasure cars selling from $400 to $1000, and trucks from $1000 to $2000.

8531—Rhode Island Garage desires agency for pleasure cars selling between $900 to $2500, and for motor business wagons rated at from one to 1.5 tons.

8621—Ohio Concern, handling three lines of pleasure cars, desires agency for power wagons selling at $500 to $1250.

8672—Massachusetts Firm, well established, but not heretofore dealing in cars, would accept the agency for pleasure cars selling from $500 to $6000 and business wagons from $500 to $5000.

ACCESSORY AGENCIES WANTED.

3843—Chicago House, recently incorporated, desires exclusive selling agency for automobile specialties in all the Central States.

3867—Massachusetts House, engaged in the painting business, is interested in securing the agency for automobile equipment, and pleasure and commercial car accessories and supplies.

3862—Ohio Garage is in the market to represent makers of automobile equipment, and pleasure and commercial car accessories and supplies.

3825—Iowa House, handling two lines of cars, desires the agency for pleasure and commercial car accessories and supplies.

3872—Tennessee Company, a recent entrant to the automobile field, desires the agency for pleasure car accessories and supplies.

3552—Kentucky Concern, recently incorporated, desires the agency for tires.

3792—Indiana House, recently incorporated, would take the agency for pleasure car accessories and supplies.

3892—Kansas Garage, established but a short time, desires the agency for pleasure car accessories, supplies and equipment.

3863—Ohio Company, maintaining a garage, is interested in the agency for automobile equipment, and pleasure car and motor truck accessories and supplies.

3854—Tennessee Company, recently established, will handle a full line of automobile supplies and accessories.

3856—Indiana House, occupying a new modern garage, will accept the agency for automobile equipment, and pleasure car and business wagon accessories and supplies.

3826—Canadian Dealer, well located in a large city, is interested in the agency for automobile supplies.

EQUIPMENT NEEDED.

6735—Kentucky Concern is in the market for a motor generator set and rectifier, and air compressor.

6738—Tennessee House is interested in garage and repair shop supplies of all kinds.

6737—Indiana Company is in the market for repair shop equipment.

6786—Ohio Garage is interested in information concerning garage and repair shop equipment and supplies, including machine tools, etc.

6789—Kansas House, recently incorporated, is in the market for garage and repair shop supplies and equipment, and machine tools.

6792—Garage in Washington, D. C., is interested in information concerning machinery for garage use, as well as repair shop supplies and equipment.

6756—Indiana Supply House desires information concerning garage and repair shop equipment and supplies, including machine tools, etc.

6782—Iowa Concern, in a large city, is in the market for garage and repair shop equipment, including machine tools.

6781—Ohio Company is in the market for a line of garage equipment and supplies.

6783—Massachusetts Company is interested in information concerning garage and repair shop equipment and supplies, including machine tools, etc.

MISCELLANEOUS OPPORTUNITIES.

7444—Virginia Hardware Concern is in the market for a business wagon rated at from 1500 to 2000 pounds.

7449—New Jersey House desires addresses and information concerning makers of tops for differing kinds of bodies.

7461—New York Dealer requests information concerning various makes of oils, and quotations on barrel or half-barrel lots.

7474—Massachusetts Man has perfected a new carburetor and is desirous of communicating with manufacturers of carburetors or others who might be interested in its production.

7476—North Carolina Board of Commerce is seeking to interest some one in locating an automobile repair shop in its city.

7480—Georgia Concern, interested in the manufacture of cyclecars, seeks information from makers of wheels, axles, steering gears, frames, bodies, etc.

7484—New Jersey Man is seeking information relative to the details and prices on mohair tops and fore doors for touring cars.

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MARKET QUOTATIONS ENDING SEPT. 15.

GENERAL MATERIAL PRICES.

The quotations below present the high points reached by the several commodities listed during the month ending with the week beginning Sept. 15:

Material	First week	Second week	Third week	Fourth week
Antimony, lb.	.07½	.07½	.07½	.07½
Beams and chan., lbs.	1.61	1.61	1.61	1.61
Bessemer steel, ton.	27.00	25.00	25.00	25.00
Copper, elec., lb.	.15⅝	.16	.16⅝	.16¾
Copper, lake, lb.	.15⅞	.16⅛	.16⅝	.16⅞
Cottonseed oil, lb.	8.25	8.50	8.46	8.00
Cyanide potash, lb.	.19	.19	.19	.19
Fish oil, Menhaden, br.	.33	.33	.33	.33
Gasoline, auto, 200 gals.	.22¼	.22¼	.22¼	.22¼
Lard oil, prime	.95	.95	.95	.95
Lead, 100 lbs.	4.80	4.85	4.75	4.75
Open-hearth steel, ton.	27.00	25.00	24.00	24.00
Petroleum, Kan. cr., bbl.	1.03	1.03	1.03	1.03
Petroleum, Penn. cr., bbl.	2.50	2.50	2.50	2.50
Rapeseed oil, refined	.68	.68	.68	.68
Sulphuric acid, 60	.90	.90	.90	.90
Tin, 100 lbs.	42.00	43.60	44.00	42.80
Tire, scrap	.09½	.09½	.09½	.09½

AUTOMOBILE SECURITIES.

Changes in stock prices in automobile securities were not many and very slight. The following quotations indicate the state of the market in the middle of the month:

	1912		1913	
	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber Co., com.	150	165	150	170
Ajax-Grieb Rubber Co., pfd.	95	100	95	100
Aluminum Castings, pfd.	99	102	98	100
Chalmers Motor Co., com.	..	..	100	108
Chalmers Motor Co., pfd.	..	..	97	102
Consolidated Rubber Tire Co., com	13	16	31	33
Consolidated Rubber Tire Co., pfd.	50	60	92	93
Firestone Tire & Rubber Co., com.	279	283	265	270
Firestone Tire & Rubber Co., pfd.	106	108	102	104
Fisk Rubber Co., com.	..	..	..	..
Fisk Rubber Co., pfd.	..	..	..	..
Garford Co., pfd.	99	101	92	95
General Motors Co., com.	39	40	35¼	36
General Motors Co., pfd.	80	82	79	81
B. F. Goodrich Co., com.	80	81	28½	29⅝
B. F. Goodrich Co., pfd.	108	109	89⅛	90
Goodyear Tire & Rubber Co., com.	332	336	275	285
Goodyear Tire & Rubber Co., pfd.	105½	106½	98	99½
Hayes Manufacturing Co.	..	93	..	..
International Motor Co., com.	27	28½	..	5
International Motor Co., pfd.	84	85	10	18
Lozier Motor Co., com.	..	..	16	..
Lozier Motor Co., pfd.	..	..	..	90
Maxwell Motor Co., com.	..	..	3¾	4½
Maxwell Motor Co., 1st pfd.	..	..	28	32
Maxwell Motor Co., 2d pfd.	..	..	7	9
Miller Rubber Co.	..	145	132	137
Packard Motor Co., pfd.	105½	107	..	99
Peerless Motor Co., com.	..	..	33	40
Peerless Motor Co., pfd.	..	..	87	90
Pope Manufacturing Co., com.	39	40	9	11
Pope Manufacturing Co., pfd.	73	74	29	33
Portage Rubber Co., com.	..	..	35	40
Portage Rubber Co., pfd.	..	..	85	90
Reo Motor Truck Co.	9	10½	10	10¾
Reo Motor Car Co.	22	24	16	17½
Rubber Goods Mfg. Co., pfd.	..	..	102	106
Studebaker Co., com.	44	45	22	24
Studebaker Co., pfd.	94½	95¼	80	86
Swinehart Tire Co.	98	100	84	86
U. S. Rubber Co., com.	..	..	63	64
U. S. Rubber Co., 1st pfd.	..	..	107	107⅞
White Co., pfd.	107	109	104	107
Willys-Overland Co., com.	..	..	62	64
Willys-Overland Co., pfd.	..	..	83	92

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of September, were as follows:

Pennsylvania dark	$2.50	Ragland	.70
Second sand	2.50	Illinois above 30°	1.30
Tiona	2.50	Illinois below 30°	1.30
Mercer black	2.00	Kan. & Okla.	1.03
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.80
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.39	Caddo, La., 38°	1.05
South Lima	$1.34	Caddo, La., heavy	$ .75
Indiana	1.34	Spindletop	1.06
Prince	1.39	Canadian oil	1.79
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¾	25¼	15¾
Stove	28½	28	18½
Auto, 68-72°	32	31½	22
Naphtha, 73-76°	35	34½	25
Gasoline, 86°	..	..	..

*Drums, extra, $8.50.

	In cans and cases Under 100.	100-199	200-299
Benzine, 59-62°	20¾	20½	20¼
73 a 76°	30	29¾	29½
Stove	23½	23¼	23
Auto, 68-72°	27	26¾	26½
Gasoline, 86°	..	..	..

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	13	a	13½
Tank wagon delivery	..	a	9
Fuel, 31°	9¼	a	..
Fuel, 34°	10¼	a	..

Naphtha.

Auto in wood	..	a	21
Auto in garages, steel bbls.	..	a	17
V. M. & P. deod., in steel	17	a	18
V. M. & P. deod., in wood	..	a	21

Gasoline.

86°	..	a	29½
74-76°	..	a	25¾
67-70°	..	a	22¾
Stove	..	a	21

BUSINESS DIFFICULTIES.

The Union Savings Bank & Trust Company, Cincinnati, O., as trustee for the holders of $150,000 of bonds, has taken possession of the plant and property of the Sandusky Auto Parts & Motor Truck Company, Sandusky, O. It is understood that the latter concern finds itself in financial difficulties because of the recent failure of the Michigan Buggy Company, Kalamazoo, Mich.; property and cash reaching a total of some $150,000 being tied up thereby. The plant will be kept in operation.

The K-R-I-T Motor Car Company, Detroit, Mich., has been granted an extension of time until Feb. 1, 1914, and in the meantime the affairs of the concern are to be administered by a committee representing four of the creditors, the Union Trust Company and two members of the company. One hundred creditors were represented at the meeting, their claims totalling some $800,000, but all were satisfied that the company could proceed and make money.

The Great Western Automobile Company, Peru, Ind., has called a meeting of its creditors for the purpose of discussing plans whereby additional capital and an extension of time may be secured. The company is said to be in need of funds to meet current liabilities, although it is anticipated that production will be continued.

The Searchlight Protective Association, composed of representatives of the creditors and officials of the Searchlight Gas Company, with plants in Warren and Canton, O.; Chicago, Minneapolis, Bexar county, Tex., and Harrison, N. J., has purchased this property at receiver's sale for $175,000.

The Security Trust Company, receiver for the R-C-H Corporation, Detroit, has issued a statement showing liabilities of $1,998,114.16 and assets of $866,552.89.

The Pilgrim Garage Company, 107 West Brookline street, Boston, assigned for the benefit of creditors, to Bernard J. Killion.

Taxi Motor Cab Company, Boston, Mass.; petitioned into bankruptcy last March; schedule of liabilities, $211,-592; assets, none.

Tobin Whichway Signal Company, 48 Walker street, New York City; liabilities said to be $13,000; assets, $2000.

Edward Bean, New Haven, Conn.; garage; claims of $3000.

Jeremiah Surrette, 50 Gould street, Stoneham, Mass.; dealer; liabilities, $3300; assets, none.

La Buire Import Company, 1947 Broadway, New York City; liabilities, $4131; assets, $3246.

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Imagine a plug that will last forever

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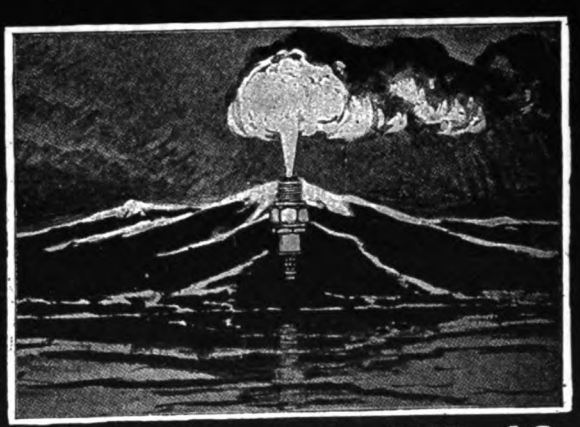
Mosler

Vesuvius

Plug



AS POWERFUL AND AS INDESTRUCTIBLE AS THE FIRES OF VESUVIUS

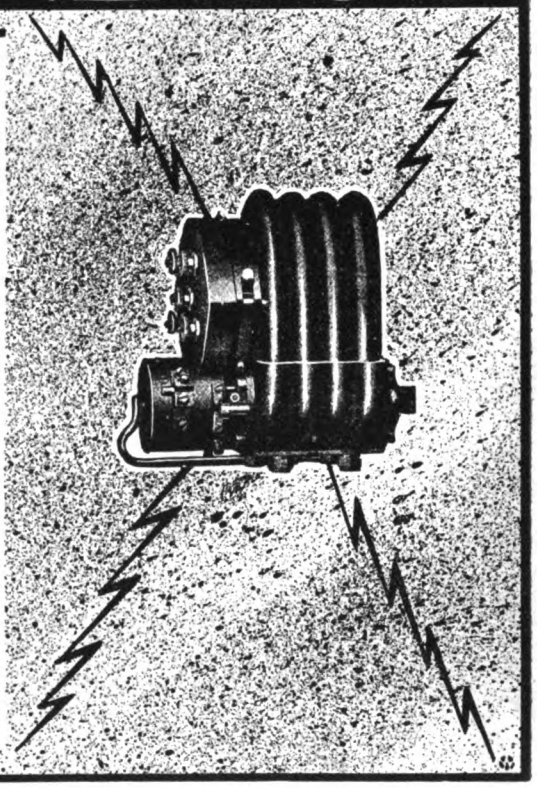
WE CARRY IN STOCK A PLUG FOR EVERY Internal Combustion Engine Built

492

A. R. MOSLER & CO. P.O. Box "M," MT. VERNON, N. Y.

HECO MAGNETOS

INSURE A STEADY SPARK AT ANY R. P. M.



HECO MAGNETOS are the product of experts specialized in the electrical business. They embody all that the electrical industry knows about magnetos.

By our special method of winding the secondaries we are able to positively guarantee them against burning out or breaking down.

HECO MAGNETOS supply a spark of equal intensity for any number of revolutions per minute.

We also make the well-known HECO COILS and HECO COMBINATION PRIMERS and SPARK PLUGS. Let us send you our complete catalog.

HEINZE ELECTRIC COMPANY

Factories and General Office, Lowell, Mass.
Sales Office, Detroit, Mich.

The New 1914 Model T Ford Master Vibrator

s superior to any existing ype. It POSITIVELY CANNOT STICK and will tart on magneto first turn. Works perfectly with electric lights.

List Price $10.00

DEALERS: this is the vibrator that will STAY sold.

Our terms are most interesting.

New York Coil Company

338 Pearl Street, New York, N. Y.

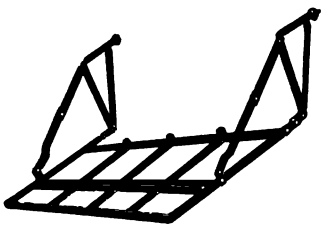
Western Branch,
1429 Michigan Avenue, Chicago, Ill.

"SPECIAL" 1913 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



1913 Ford Rack

This Rack Will Fit Any 1913 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

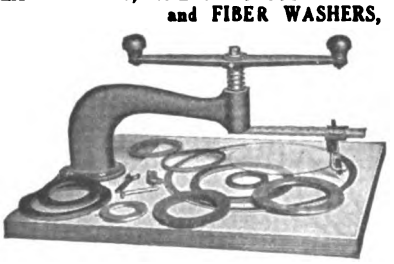
Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

The Springfield Circle Cutter

FOR CUTTING

LAMP GLASS, SHEET COPPER and RUBBER GASKETS, FELT and FIBER WASHERS, ETC.



Capacity—any size circles from 0 to 14".

Positive measuring scale to determine sizes.

The equipment includes one steel-point glass cutting tool; one knife for square edge; one knife for bevel edge, and one wrench. Weight 12 lbs.

MANUFACTURED BY

THE SHAWVER MFG. CO., Springfield, Ohio

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THE GREATEST CAR VALUE FOR 1914

See all others—but examine the KING before you buy

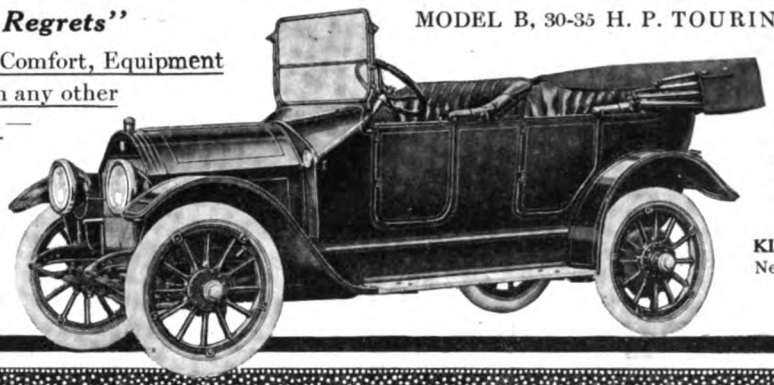
"The Car of No Regrets"

MORE Service, Economy, Comfort, Equipment and Style than can be had in any other car near the KING'S price—

$1095

WITH EQUIPMENT

Ward Leonard Starter and Generator, $100 net additional.



MODEL B, 30-35 H. P. TOURING CAR AND ROADSTER

"None So Easy Riding"

The KING'S patent cantilever rear springs make all auxiliary shock-absorbers unnecessary; prevent "side swing" and assure long life to car and tires.

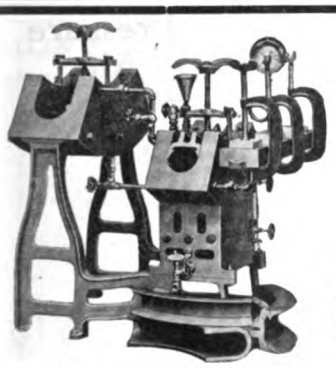
Write for catalog

KING MOTOR CAR CO., Detroit, Mich.

New York Agency, Broadway at 52d St.

AGENTS—Some choice territory still open. Wire today.

KING



Complete gas or gasoline heated outfit—one of many styles.

Repair Tires

BIG PROFIT—SMALL CAPITAL

MEN, tire repairing is a mighty profitable business. And it requires very little capital to buy complete equipment. You can get an Akron-Williams—the **BEST** made at $125.00 and up.

You have an unlimited field. 40 million dollars was spent this year for tire repairs.

With the big profits, you can pay for equipment the first year and make money besides.

Quality Means Success

Your success depends upon the quality of your work. Quality work depends on quality equipment. So you should equip with Akron-Williams. Then your success is assured.

Akron-Williams Best Made

The fact that these leading **Tire Makers** use Akron-Williams equipment, proves it is the **best.**

Akron-Williams equipment is used by Firestone, Goodyear, Diamond, Hartford, Republic, Pennsylvania, Revere, Consolidated, Empire, U. S., Hood, and many others—27 out of the 30 leaders.

Localized Heat

That's a big feature of Akron-Williams repair outfits. The three separate steam chambers give heat just where wanted—an exclusive, patented feature.

We Make Everything

used in tire repairing. And we make tire repair plants of any capacity.

Get Our Book

Write today for our Catalog No. 12. It tells all. Get started in this profitable business. The demand is increasing every day.

The Williams Foundry & Machine Co., Ash Street AKRON, OHIO

The Waterhouse & Lester Co., San Francisco, Exclusive California Distributors.

Look!! See!!

THE G. B. VALVE TOOL

WILL DRESS THE VALVES AND RE-SEAT THE VALVE SEATS OF A FOUR-CYLINDER MOTOR IN HALF AN HOUR

Use It and Save Money

Stop Grinding Valves It's Expensive

A POST CARD NOW WILL BRING FULLY ILLUSTRATED BOOKLET

G. B. Sales Corporation

1790 Broadway, New York

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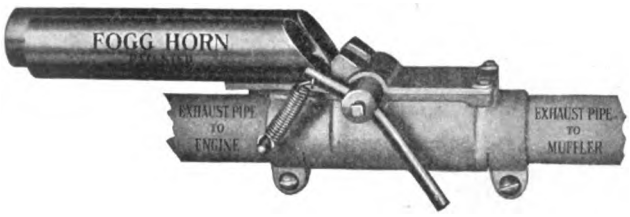
THE FOGG HORN
FOR FORD CARS



Made for people with SMALL CARS who want to make a BIG NOISE.

ATTACHED between MUFFLER and ENGINE by any repair man, in thirty minutes' time. Is not affected by LEAKY MUFFLERS and throws the sound ahead instead of leaving it behind.

Note the simplicity of Construction, the few moving parts. Blows at low speed without racing motor. Will not clog or cause Back pressure.

The ONLY EXHAUST HORN made that will blow satisfactorily on all FORD CARS.

Can be placed ahead of cut-out and can be used when cut-out is open.

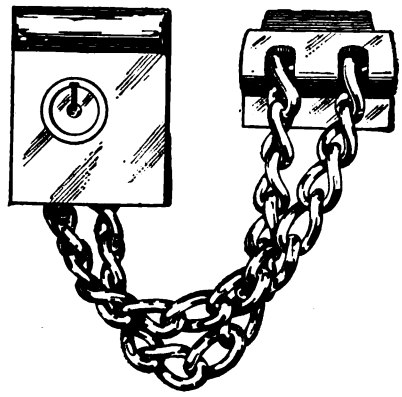
Guaranteed for life of car. Attractive proposition to the trade. Write for descriptive matter.

MOTOR SPECIALTIES COMPANY

2 Cooper Lane **Waltham, Mass**

BRACELET AUTO LOCK
Retail Price $2.50

THE LOCK THAT LOCKS



FREE Fine Metal Display Case, including Demonstrating Lock and showing your firm name, FREE with order of twelve locks or more.

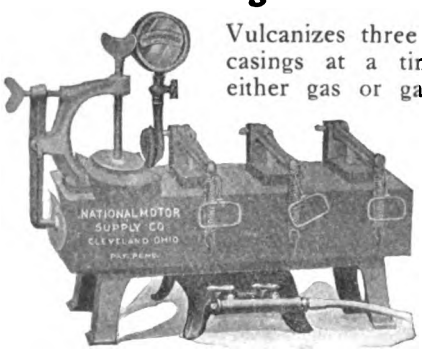
LOCKS GASOLINE LEVER OR SPARKING LEVER OR BOTH—STEERING WHEEL OR ALL THREE

Dealers Sample Lock, complete, prepaid, for . . . **$1.50**

Bracelet Auto Lock Company

32 N. Clark St. Chicago, Ill.

National Garage Steam Vulcanizer

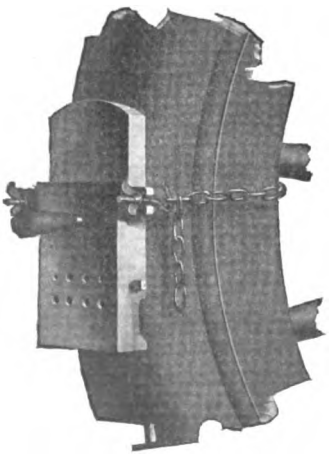


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer

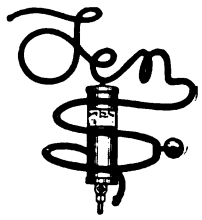


For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

MANUFACTURED BY

THE NATIONAL MOTOR SUPPLY CO.

5604 Euclid Ave., Cleveland, O.



The Right Pressure and Pure Air

That's the Secret of TIRE ECONOMY

THE DEWEY POWER TIRE PUMP

gives you both for

$10 COMPLETE

High mileage and low tire bills depend upon exact inflation. Your tires' guaranty requires you to keep them at the proper pressure.

The Dewey is the only tire pump that is never oiled. You run no risk from grease rot. It saves tires and saves labor.

The Dewey, with high grade dial and all connections, including 12 ft. of special hose, tested to 1,000 lbs., sold everywhere under a year's rigid guaranty for $10

At all Dealers. Write us if yours is not yet supplied.

THE DEWEY-ANDERSON CO.

450 Woodruff Avenue, TOLEDO, OHIO

HARRIS

TRADE MARK REG. U.S. PAT. OFF.

OILS
ARE DIFFERENT

"A Little Goes a Long Way and Every Drop Counts."

They are made from Premium Crude oil to begin with. This costs more, but gives you an oil that cannot be excelled.

Mr. Dealer—Can you satisfy your customers? Do you carry HARRIS lubricants?

A. W. HARRIS OIL CO.

326 S. Water St., PROVIDENCE, R. I.
143 No. Wabash Ave., CHICAGO, ILL.

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PLANHARD CARBURETOR

Agents Wanted in

Portland, Me.	Fall River, Mass.
Augusta, Me.	Provincetown, Mass.
Calais, Me.	Salem, Mass.
Lakeport, N. H.	Lynn, Mass.
Concord, N. H.	New Bedford, Mass.
Portsmouth, N. H.	Providence, R. I.
Newburyport, Mass.	Newport, R. I.
Montpelier, Vt.	Pawtucket, R. I.
Burlington, Vt.	New London, Conn.
Springfield, Mass.	New Haven, Conn.
Pittsfield, Mass.	Bridgeport, Conn.
Worcester, Mass.	Mystic, Conn.
Marblehead, Mass.	Stamford, Conn.

Hartford, Conn.

Dealers desiring to handle this live seller and get the profits in their own territory write at once to

Eisner-Lenk Co.

1074 Boylston St., Boston, Mass.

New England Distributors

"ALLEN FRICTION" WRENCH SET

"Allen Friction"

Is NOT a Ratchet

NO Teeth Springs Pawl Rolls Balls

No Lost Motion

Instant Grip

Best Pressed Steel Sockets.

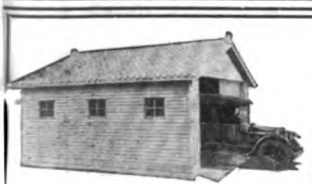
Retail Price

$10, $8, $5

Ask Your Supply House for Circular and Standard Discounts.

We Also Make a Ford Special Set

M. A. BRYTE, Representative, SAN FRANCISCO, CAL.



EDWARDS FIREPROOF STEEL

GARAGES

For Automobiles and Motorcycles

$30 and Up

Easy to put up. Portable. All sizes. Postal brings latest illustrated catalog

The Edwards Mfg. Co., 416-466 Eggleston Ave., Cincinnati, Ohio

Subscribe to

THE MOTOR TRUCK

12 Issues $1.00 the Year

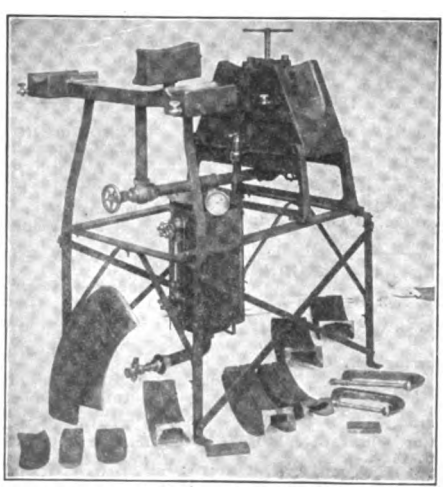
Dixon's Graphite Transmission Grease No. 677

Coats the surfaces of gears and bearings in transmissions and differentials with a wear-diminishing, friction-reducing veneer of pure flake graphite which is effective as a lubricant even in the absence of any oil or grease. How Dixon's Graphite works is explained in "Lubricating the Motor," No. 49, sent on request.

Made in Jersey City, N. J., by

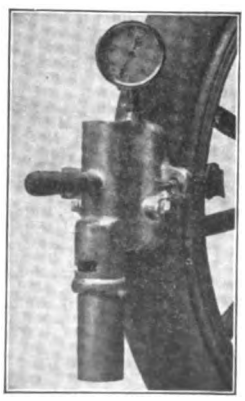
JOSEPH DIXON CRUCIBLE CO.

Established 1827



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit. Ask for Catalogue C. Tells how to do the work.



Van Steam Portable

$5.75 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver. Also repairs tubes.

VANDERPOOL CO.

Springfield, Ohio

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Auto Parts Co., Providence, R. I.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. B., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight streets, Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree Street, Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 185 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Northwestern Chemical Co., Marietta, O.
Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

ADJUSTERS.

Vansickle, John A., Indianapolis. (Ford Ideal Ball and Socket Joint.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTO LOCKS. (See Locks.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)
Motor Specialties Co., 2 Cooper Lane, Waltham, Mass.

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Bretz Co., J. S., 250 W. 54th St., New York. (F & S.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
Rhineland Machine Works Co., 140 W. 42d St., New York City.
Branches: 1254 Michigan Ave., Chicago; 650 Woodward Ave., Detroit; 1424 Vine St., Philadelphia; 220 Motor Mart, Boston.
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Burn-Boston Battery Co., 19 Doane St., Boston (Burn-Boston.)
Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Waite Auto Supply Co., 81 Exchange place, Providence. (Success.)
Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA Lighting and Starting.)
Branches: 186 West 52nd St., New York; 1191 Woodward Ave., Detroit; 2241 Michigan Ave., Chicago; 248 Monadnock Bldg., San Francisco.

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BLOW-OUT PATCHES. (See Patches.)

BODIES, TRUCK.

Motor Truck Body Co., 320 Franklin St., Detroit.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Raybestos.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: 903 Boylston St., Boston; 276 Canal St., New York; 720 Main St., Buffalo; 422 River St., Troy, N. Y.; 1421 Vine St., Philadelphia; 1430 Michigan Blvd., Chicago; 1508 Woodward Ave., Detroit; St. Louis; San Francisco.

BRAKES.

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Duplex.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Planhard Mfg. Co., 1790 Broadway, New York. (Planhard.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Abbott Motor Co., 141 Waterloo St., Detroit. (Abbott-Detroit.)
Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Herreshoff Motor Co., 620 Harper Ave., Detroit. (Herreshoff.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Keeton Motor Car Co., Detroit. (Keeton.)
Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)
Knox Automobile Co., Springfield, Mass. (Knox.)
K-R-I-T Motor Car Co., Detroit. (K-R-I-T.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)
Michigan Motor Car Co., 147 Lay St., Kalamazoo, Mich. (Michigan.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Speedwell Motor Car Co., 80 Essex Ave., Dayton, O. (Speedwell.)
Stuts Motor Car Co., Indianapolis. (Stuts.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Brown Commercial Car Co., Peru, Ind. (Brown.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 10 Postoffice Sq., Boston. (Atlantic.)
Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
Willys-Overland Co., Toledo, O. (Overland.)

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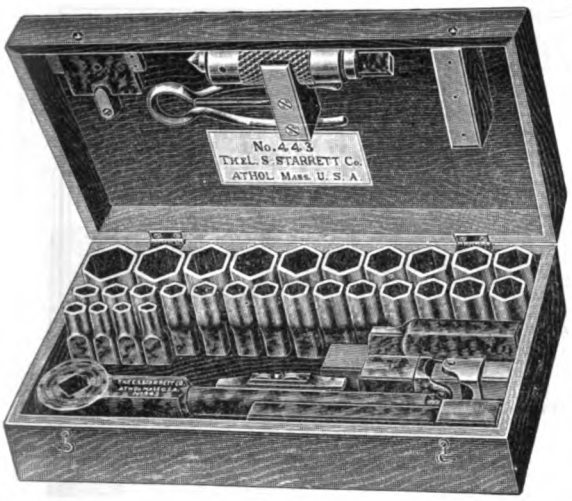


You're Never Cornered with a Starrett Ratchet Wrench

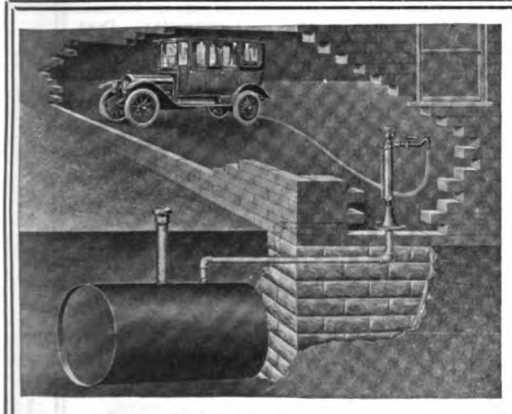
It will turn any standard nut or bolt in all sorts of difficult places—places where the ordinary monkey wrench is useless. For working about an auto, there's no tool like it. The ratchet permits rapid action with only a short arc swing. The extension reaches into otherwise inaccessible places. With this wrench you need never be stalled because of a breakdown that requires a drill, for the drilling attachment furnished with the wrench takes any twist drill from 1/8" to 1/2" and makes repairs of this kind easy. A reversible screw driver makes it handy for turning screws of various sizes, too.

Send for catalog No. 20 G.T. and see the whole Starrett line of fine tools. It's worth while.

Why don't you carry a line of Starrett Tools?

THE L. S. STARRETT COMPANY
ATHOL, MASS.

42-59



Cheapest Thoroughly Safe and Practical Outfit Made

Every part of this apparatus is listed by the Underwriters' Laboratories.

Send for Catalogue

Wm. B. Scaife & Sons Co., Pittsburgh, Pa.
(New York Office: 26 Cortlandt Street)

Equip Your FORD with IDEAL ADJUSTERS
BALL AND SOCKET JOINT

Easy to Install
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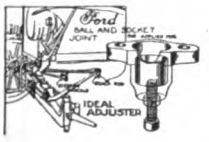

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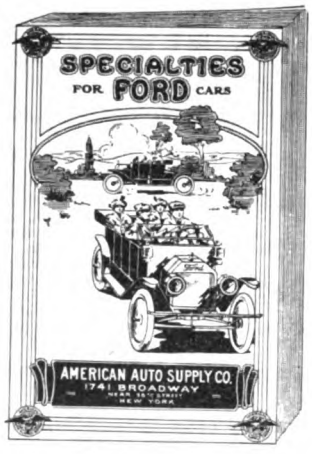

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Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. H., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

CLOCKS FOR DASHBOARDS, ETC.

Boston Clock Co., 16 State St., Boston.
Chelsea Clock Co., 16 State St., Boston.

CLUTCHES—AUTOMOBILE FRICTION.

Brets Co., J. S., 250 W. 54th St., New York. (Hartford Cone.)

COILS.

Heinze Electric Co., Lowell, Mass.

CONTROLLERS AND ECONOMIZERS.

M&M Sales Co., Lewistown, Penn. (M&M.)

CYLINDER CLEANING COMPOUND.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Northwestern Chemical Co., The, Marietta, O. (Carbonox.)
Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)
Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GARAGES, PORTABLE. (See Houses, Portable Steel.)

GASKETS AND GASKET CUTTERS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)
Shawver Co., Springfield, O.

GAUGES.

National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Tire Pressure and Gasoline Tank.)
Branches: In all principal cities.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HORNS.

Dean Electric Co., Elyria, O. (Tute.)
Motor Specialties Co., 2 Cooper Lane, Waltham, Mass. (Fogg.)
Randall-Faichney Co., Boston. (Jericho, Jubilee.)
Branch: 918 Eighth Ave., New York.

HOUSES, PORTABLE STEEL.

Kolb Sales Co., 1790 Broadway, New York. (Ruby.)

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

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Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

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National Motor Supply Co., 1911 Euclid Ave., Cleveland, O.
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LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apleo.)
Dean Electric Co., Elyria, O. (Dynalux.)
Remy Electric Co., Anderson, Ind. (Remy.)

LOCKS, AUTOMOBILE.

Bracelet Auto Lock Co., 32 No. Clark St., Chicago.

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)
Branches: Boston, Fall River, Philadelphia.
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)
Branch: 143 No. Wabash Ave., Chicago.
Hewes, Geo. A., 142-144 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)
Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.
Refineries: Georgetown, Ky.; Lawrenceville, Ill.
Invader Oil Co., 80 Broad St., New York. (Invader.)
Branches: 284 Columbus Ave., Boston; 118 Arch St., Philadelphia; 3556 11th St., N. W., Washington, D. C.
Miller, Chas. H., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)
Northwestern Chemical Co., Marietta, O. (Gear-Silence.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Texas Company, The, 7 West St., New York.
Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Brets Co., J. S., 250 W. 54th St., New York. (U. & H.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Marburg Bros., 1790 Broadway, New York. (Mea.)
Remy Electric Co., Anderson, Ind. (Remy.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

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New York Coil Co., 338 Pearl St., New York City.

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Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

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Royal Equipment Co., 422 Housatonic Ave., Bridgeport, Conn. (Gyrex.)

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American F. M. Co., Boston. (F. N.)
Branches: 49 Union St., Providence; 415 Trumbull St., Hartford, Conn.
Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Apleo.)
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Remy Electric Co., Anderson, Ind. (Remy.)

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Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

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Northwestern Chemical Co., Marietta, O. (Never-Rust.)

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Invincible Puncture Proof Tire Co., 58 Sabin St., Providence. (Invincible.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland.

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International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
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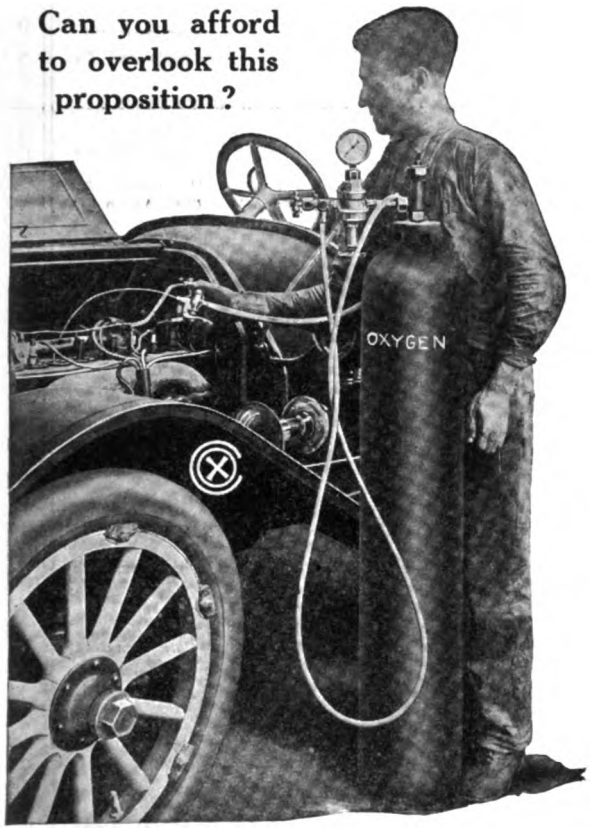

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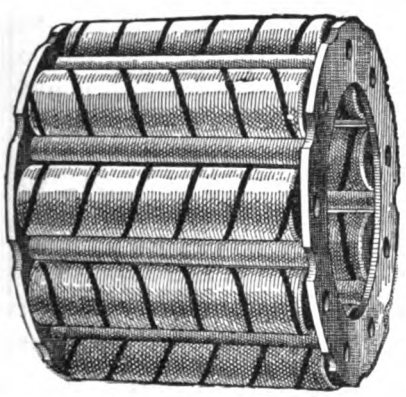

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Boyd, F. Shirley, 903 Boylston St., Boston.
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J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Hopewell Brothers, Newton, Mass. (Paos.)
Branch: 1974 Broadway, New York.
Northwestern Chemical Co., Marietta, O. (Dermalene.)

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Branches: See Magnetos and Magneto Supplies.
Heinze Electric Co., Lowell, Mass. (H. B. Co. Priming.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
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Randall-Faichney Co., Boston. (Mac-Kae.)
Branches: See Horns.
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Branches: See Balls and Ball Bearings.
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Branches: See Magnetos and Magneto Supplies.
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Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)
Firestone Tire & Rubber Co., Akron, O.
Branches: See Rims—Removable and Detachable.
Shawver Co., Springfield, O. (Tools.)

TIRE CASES.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

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TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)
Firestone Tire & Rubber Co., Akron, O. (Firestone.)
Branches: See Rims—Removable and Detachable.
Gaulois Tire Co., 1926 Broadway, New York. (Gaulois.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

TIRES—CUSHION.

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Firestone Tire & Rubber Co., Akron, O. (Firestone.)
Branches: See Rims—Removable and Detachable.
Mots Tire & Rubber Co., The, Akron, O. (Electric Special Mots Cushion.)
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TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright. G & J.)
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TIRES—SOLID AND COMMERCIAL.

Firestone Tire & Rubber Co., Akron, O.
Branches: See Rims—Removable and Detachable.
Goodrich Co., B. F., Akron, O. (Goodrich.)
Mots Tire & Rubber Co., The, Akron, O. (Mots.)
Branches: See Tires—Cushion.
Polack Tyre and Rubber Co., 246 W. 59th St., New York City. (Polack.)
United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TROUBLE FINDERS.

Hopewell Brothers, Newton, Mass. (Vibrator.)
Branch: 1974 Broadway, New York.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

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Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

TURNTABLES.

Beach Co., T. C., 108 Ottawa St., St. Johns, Mich. (Beach.)

UNIVERSAL JOINTS.

Bretz Co., J. S., 520 W. 54th St., New York. (Hartford.)

VALVE GRINDERS.

Wall, J. H., 290 Hope St., Bristol, R. I. (Ford.)

VALVE LIFTERS.

Winsor Mfg. Co., Providence, R. I.

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National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Garage and Individual.)
Branches: In all principal cities.
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Williams Foundry & Machine Co., Akron, O.

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Autogenous Welding Equipment Co., Springfield, Mass.

WELDING OUTFITS.

Prest-O-Lite Co., 309 W. South St., Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WELDING STEEL.

Standard Welding Co., Cleveland.

WHEELS.

McCue Co., The, Buffalo, N. Y. (Wire.)

WIRE MECHANISM.

Bretz Co., J. S., 250 W. 54th St., New York. (Bowden.)

WRENCHES AND COMBINATION OUTFITS.

Allen Wrench and Tool Co., Providence, R. I. (Allen Friction Socket Sets.)
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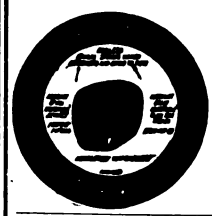

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AUTOMOBILE BODIES WANTED.

Ford and other small fore-door touring bodies.

Write us if you want to buy or sell any kind of automobile body. Paul Murray, Automobile Body Broker, 524 Indiana Trust Building, Indianapolis, Ind.

GARAGE FOR SALE.

50x116 feet, in town of 2000; only garage in town; 2 car agencies; sold 45 cars so far this season; good machine shop and large accessory line; takes about $12,000 to handle business. Owners have other business that requires their time. Address Lemmon Auto Co., Lemmon, S. D.

WE SELL VULCANIZERS.

In the trade there is nothing better than the Tire Repairing business. Get in it big and use the right kind of equipment. We have the best and sell right. Tell us of your present equipment and plans, we do the rest. Our practical advice will mean success to you. Do not delay. Act today. Write for particulars to Accessory & Garage Journal, Box 863.

FORD DELIVERY BODIES, in stock and ready to attach. "LEW" FALES, Providence, R. I.

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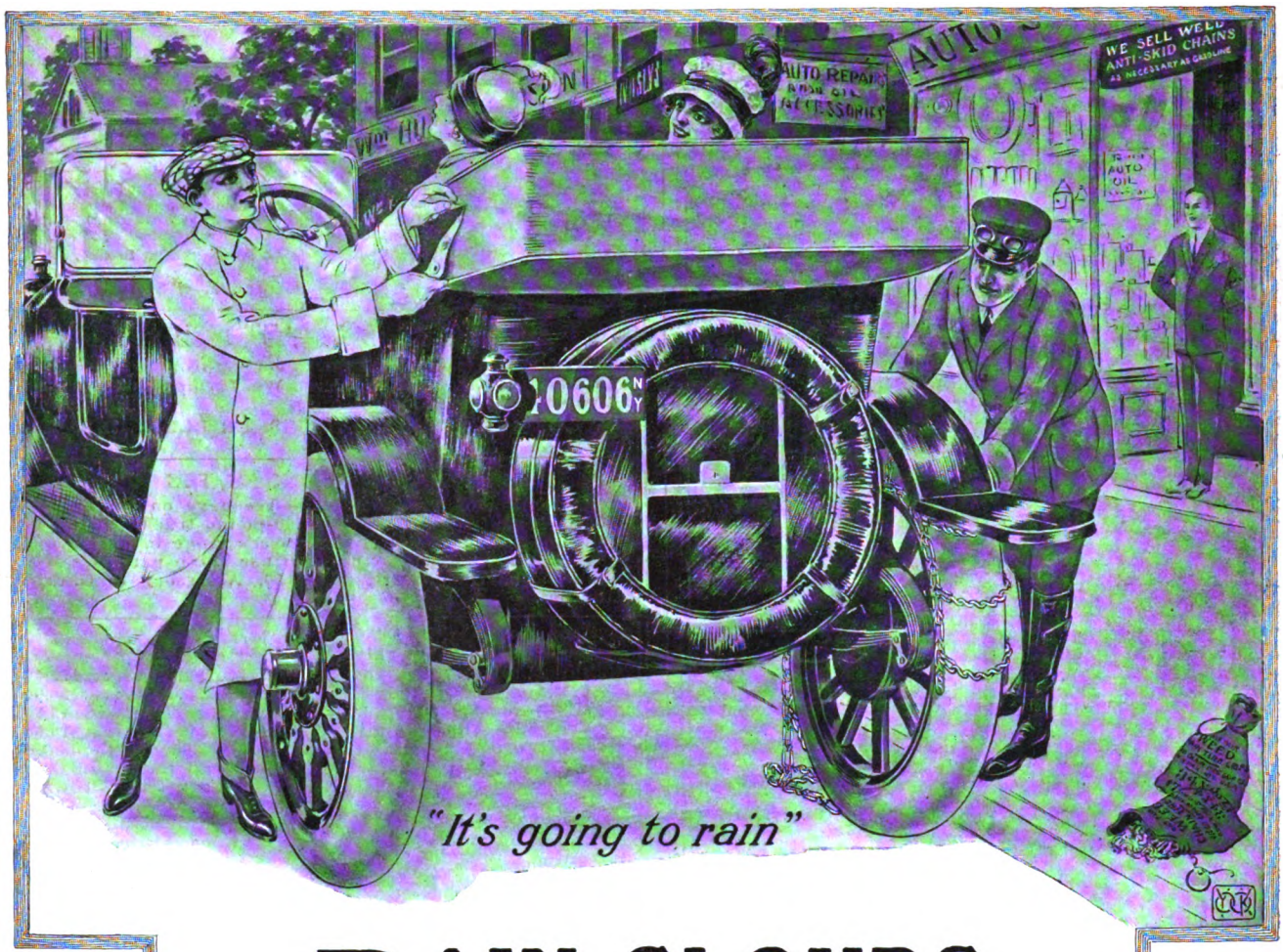

"It's going to rain"

RAIN CLOUDS

have silver linings for dealers selling

Weed Anti-Skid Chains

The Greatest Seller in the Automobile Accessory Line

You should always be ready for a rainy day, Mr. Dealer—a stock of WEED CHAINS on your shelves to supply the demand that ***"reigns when it pours."***

Write for particulars regarding a 30x3 1-2 Tire that we will express to you free of charge if you agree to equip it with WEED CHAINS for display in your window.

Weed Chain Tire Grip Company

28 MOORE STREET — NEW YORK, N. Y.

Manufactured for Canada by

Dominion Chain Company, Limited; Main Office, Suite 801 Shaughnessy Bldg., Montreal, Canada

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NEXT ISSUE, NOVEMBER 15—GUARANTEED TRADE DISTRIBUTION—12,000.
20 CENTS the COPY
Industrial News Page 3, Manufacturers 6, Trade Information Exchange 9, New Concerns 10, Personals 12, Removals 14, New Buildings 15, New Car Agencies 18, New Models 20, New Addresses 23, New Incorporations 24, Patents 26, New Accessories 28, Market Quotations 37, Buyers' Guide 44.
$2.0 the YEA

THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., OCTOBER, 1913. NO

TRADE APCO MARK

FORD SPECIALTIES

Radiator Compound—This is especially prepared for us and it will absolutely stop and prevent further leaks in Automobile Radiators and it will not interfere with the circulation of the water or clog the pipes in any way. This solution does not harden until it strikes the atmosphere and when it leaks, the outside of the hole is permanently sealed.

Price per can, large enough to treat two Fords **$1.00**

Steering Gear Bushing Set—Consisting of four large and two small bushings as shown in cut. Ford No. 2713-2714. These bushings are turned from high grade bearing bronze and a set will outlast three of the kind you are familiar with.

Price for complete set of six **$1.00**

Ford Piston Rings—These rings are made from the very best close grained gray iron and each ring is cast individually instead of being cut from a pipe shaped casting. They are carefully machined and accurately ground to size. They are superior in every way to the ring you are familiar with and they cost no more.

Price **17c**

Emergency Brake Shoes—These shoes are made of the best material and the machine work is better than on the regular shoes.

Price, gray iron....$1.00 pair
Manganese bronze..$2.50 pair

Ford T Hub Caps—There are very few Ford owners that run a season without mashing a hub cap and it is a good policy to carry an extra one in your tool box. Our caps are guaranteed to fit and are made from heavy gauge brass.

Price ..... **35c each**

Valve Grinder—The cut shows our new steel grinder for Ford cars. This is by far the best device on the market for this purpose and is made throughout of high grade steel, nickel plated, mahogany handle. This is the only grinder on the market that will fit on the last valve of the Model T Ford and it will last a lifetime.

Price **75c**

Ford Hood Cover—This is one of the most necessary accessories we have ever marketed for the Model T Ford. The cover is made from high grade dull finished rubber cloth and is padded with three thicknesses of very heavy felt. The front curtain rolls up and is fastened by curtain catches, same as used on the Ford tops. The hood is held in place by means of catches which snap to hood hooks. Do not confuse this cover with the cheap oil cloth kinds that are worn out and shabby after a month's use. These covers keep out the cold and keep in the heat and this will make your car start 100 per cent. better in cold weather, and as a matter of fact the APCO Hood Cover acts the same as a vacuum bottle or a fireless cooker, and in the coldest weather, a car will not chill through over night. It will also prevent water from going between the hood hinges and on to the plugs.

Price **$5.00**

Priming Plug

This plug is exactly the same as our APCO Ford Special as shown in cut except that a pet cock is threaded into the side for the quick admission of gasoline into the cylinders. This plug is equal to any $1.50 plug on the market and is guaranteed satisfactory or money refunded.

Price . . . $1.00

DEALERS AND JOBBERS, GET OUR NEW PRICES

Auto Parts Co. Providence, R. I.

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Have We Sent You Our NEW SINGLE ANNULAR LIST—

if not, a request will bring it FREE !!

NOTE.—The illustration is a reduced photographic reproduction in color of the cover of 1913 F. & S. Annular Ball Bearing list of the Single Annular Type. The original, issued September 1st, is of 8-page magazine size, printed on 100 lb. India tinted coated paper, with wood cut illustrations.

The valuable and handy tables in the pamphlet give the trade number of the bearings, their bore, outer diameter, width, number and size of balls, increased load capacity in pounds at various R. P. M., together with the new list prices on the conventional type and self-aligning type.

F & S Ball Bearings

J. S. BRETZ COMPANY
Sole Importers.
250 West Fifty-fourth, New York

Please send list to

Name

Address

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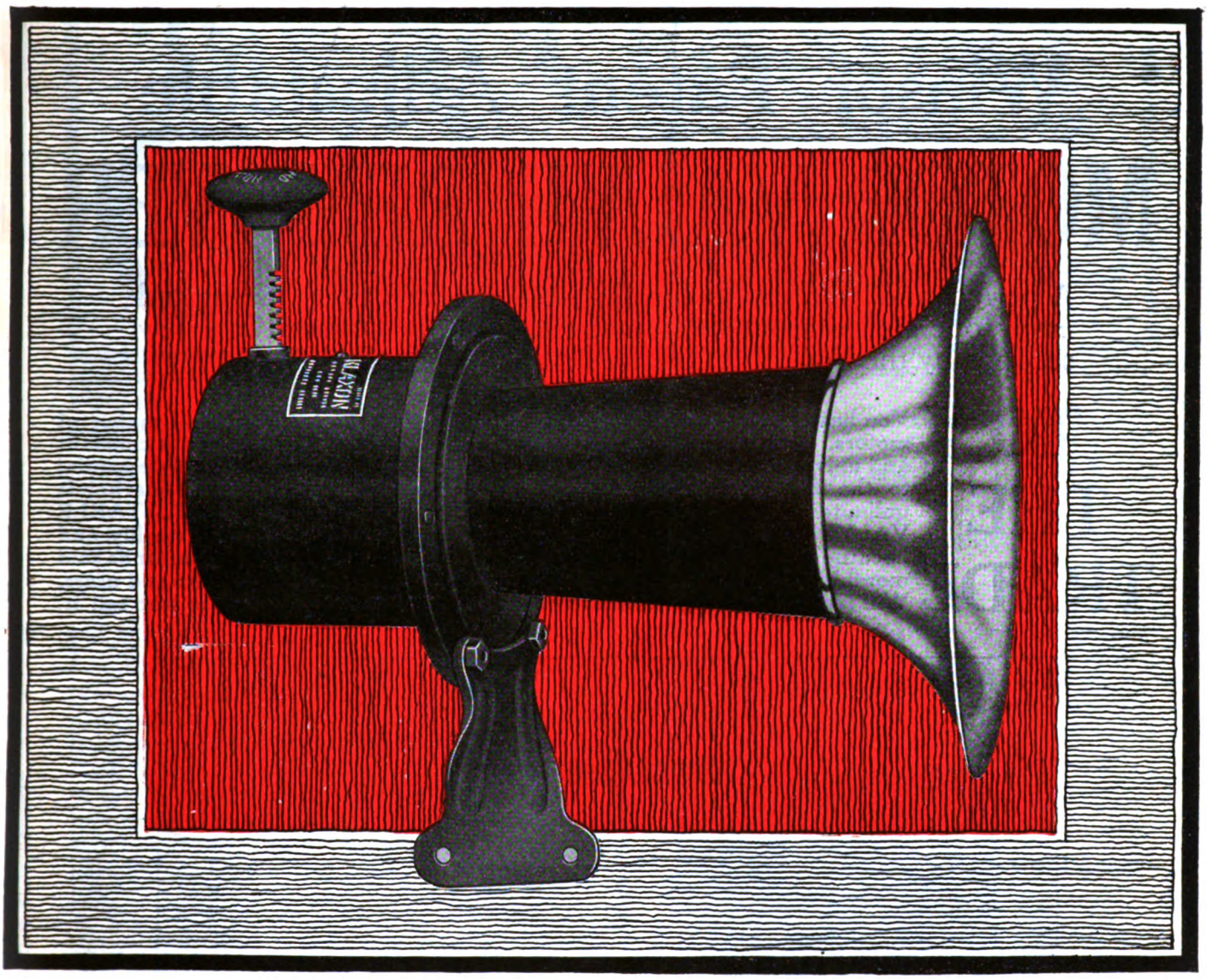


The Hand Klaxon, $10

THE HAND KLAXON is not entirely new. It is a development of the original Hand Klaxon manufactured in 1909 and since then gradually discontinued owing to the large demand for motor driven Klaxons.

The Hand Klaxon operates on the Klaxon principle of a steel diaphragm set in violent vibration by a toothed wheel. In the electric Klaxon this wheel is rotated by means of an electric motor; in the Hand Klaxon by a train of gears that attain high speed under pressure on the push-rod.

The Hand Klaxon has the true Klaxon note and is sold under the regular Klaxon Guarantee of permanent satisfaction.

Klaxon quality is built into the Hand Klaxon. With the Klaxon reputation to sustain it is obvious that we cannot afford to put the Hand Klaxon on the market unless it is vastly superior to any other mechanical signal at present in use.

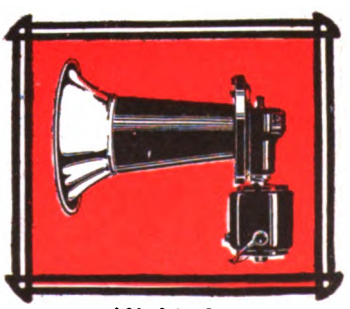
The price of the Hand Klaxon is $10. Orders accepted November 1st; deliveries will begin December 1st.

KLAXONET

Lovell-McConnell Mfg Company Newark, N.J., U.S.A.

KLAXON

"The Public Safety Signal"



KLAXON

This advertisement planned, written and set up entirely in the Klaxon Factory Type composition by the Klaxon Press with "Klaxon" type especially designed by Goudy

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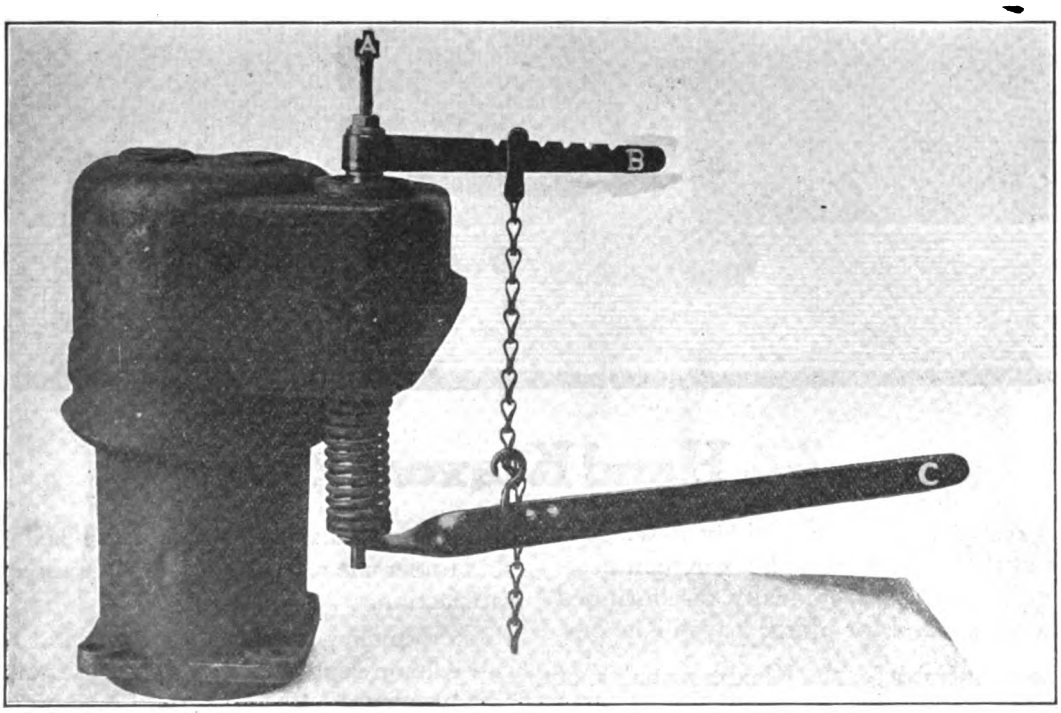
Winsor Patent Adjustable
MOTOR VALVE REMOVER

A perfect and practical tool, adjustable to nearly every motor and easily operated without wrenches, etc. Can be adjusted in a few seconds by the fingers. Positive in action. **No Slipping.**

TO THE TRADE

You have been looking for a valve remover that can be used on all makes of motors. One that is practical, simple and efficient. The demand is constant and universal among pleasure car owners. Such a tool is absolutely essential to the maintenance and operation of commercial vehicles. The market is unlimited and you want the best. The WINSOR PATENT ADJUSTABLE VALVE REMOVER as shown is the one accessory you can sell readily and because it is the best it will keep your customers satisfied. Thousands sold monthly to repairmen, garages, pleasure and commercial car owners and users. Will last a lifetime, is guaranteed and a money maker for those who sell it.



TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained, will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.

LIST PRICE

Enameled black, each $2.50 Nickel plated, each $5.00 Extra barrels, each $1.50

DEALERS, WRITE TODAY FOR DISCOUNTS

MANUFACTURED BY

WINSOR MANUFACTURING CO.,

55 Eddy Street - - PROVIDENCE, R. I.

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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., OCTOBER, 1913. No. 6.

ANNUAL MEETING OF ALCO STOCKHOLDERS.

Adverse Action on Proposition to Appoint Investigating Committee—Financial Statements Reveal Industry's Healthful Growth.

IT WOULD appear that the decision of the American Locomotive Company to abandon the manufacture of Alco cars and trucks was definitely determined by the action of the stockholders at the annual meeting of the company in New York City, Oct. 21. Since announcement of this decision was made by the board of directors in August, a number of circumstances have arisen, as a result of which there has been some question as to the possibility of a reversal in policy.

Several stockholders, headed by Isaac M. Cate, were present or were represented at the annual meeting to urge the appointment of an investigating committee composed of men outside the company, which should take up the whole question of management, etc. This proposition was defeated by a substantial majority. President Marshall delivered a statement answering many of the criticisms, and promised to explain, in the near future, other points raised during the meeting.

The Packard Motor Car Company's Truck Plant in Detroit.

Some of these were brought up by President Seelye of Smith College, Northampton, Mass., who represented the holdings of that institution in the company. Mr. Seelye desired particularly to learn why it had become necessary to devote a large sum from the profits of the company toward a deficit in the automobile department. Mr. Marshall promised to take up this matter in his forthcoming statement.

PAYS STOCK DIVIDEND.

Packard Motor Car Company Increases Capital to $16,000,000.

At the annual meeting of the Packard Motor Car Company, Detroit, the stockholders approved the recommendation of the directors for the distribution of a stock dividend of 40 per cent. in common stock among owners of such stock in the company. In addition, the capital of the company was increased from $10,000,000 to $16,000,000, by adding $3,000,000 to the common and a like amount to the preferred, thus raising the total of each from $5,000,000 to $8,000,000, Practically all of the stockholders acquiesced in the plan of waiving their right to subscribe to the

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$1,000,000 of new common which will remain after the stock dividend, and similar action was taken with respect to the $3,000,000 of the new preferred stock.

President H. B. Joy explains that this action is merely the execution of a plan which has been in evolution for about two years. The stock dividend will be the first payment made to owners of common stock in about four years, during which earnings have been applied to increasing capital investment by making additions to the plant and other improvements. Mr. Joy adds that about $1,000,000 of Packard stock is owned by Packard employees, who have availed themselves of the opportunity to acquire it at par.

The annual report of the company shows the following:

Cash Account.

Cash on hand Sept. 1, 1912		$1,030,513.95
Receipts during fiscal year—		
From accounts receivable	$15,687,738.96	
From all other sources	2,919,013.38	
		18,606,752.34
Total		$19,637,266.29
Disbursements during fiscal year—		
For accounts payable	$15,888,362.16	
For all other accounts	2,373,953.01	
		18,262,315.17
Cash on hand Aug. 31, 1913		$1,374,951.12

Assets.

Plant, at cost, less depreciation—		
Real estate, at cost	$285,460.21	
Buildings	2,063,784.48	
Machinery	1,137,276.24	
Equipment, boilers, engines, etc.	1,039,491.08	
Fixtures, including office furniture	290,041.89	
Tools	250,000.00	
Construction work in progress	14,025.38	
Development, drawings, etc.	180,870.00	
Rights, privileges, etc.	1.00	
		$5,260,950.28
Investments in branch selling companies		1,481,893.61
Bonds		38,232.50
Stock option contracts with employees		42,500.00
Inventories		8,136,024.99
Current assets—		
Cash	$1,374,951.12	
Vehicles in transit to dealers	191,724.05	
Due by branch selling companies	411,761.32	
Accounts receivable	187,708.20	
Bills receivable	60,261.16	
		2,226,405.85
Expenses paid in advance		153,840.87
Total		$17,339,848.10

Liabilities.

Capital stock, common		$5,000,000.00
Capital stock, preferred		5,000,000.00
Five per cent. gold debenture notes, due Dec. 1, 1916		3,000,000.00
Accounts payable		1,154,874.94
Reserves for general purposes		178,716.94
Surplus—		
As of Aug. 31, 1912	$1,198,783.82	
Net income for year, after deducting depreciation on plant assets and interest on debenture notes	$2,157,472.40	
Less dividend on preferred stock	350,000.00	
	1,807,472.40	
Surplus as at Aug. 31, 1913		3,006,256.22
Total		$17,339,848.10

REO HAS GOOD YEAR.

Business Is Largest in Its History and Surplus Reaches $2,000,000.

According to the report presented at the annual meeting of the Reo Motor Car Company, Lansing, Mich., during the present month, the concern enjoyed the best business in its history, and ends the fiscal year with a surplus of over $2,000,000. Considerable money was expended in increasing facilities, by the erection of a warehouse and various other additions, and the acquisition of machinery equipment. The management will remain the same during the coming year. The report shows the following:

Assets.

Capital assets—	
Real estate, buildings, etc.	$2,019,356.17
Current assets—	
Inventories, accounts receivable, etc.	1,312,734.42
Cash on hand and in banks	885,383.61
Total	$4,217,474.20

Liabilities.

Capital stock	$2,000,000.00
Current liabilities	155,586.80
Surplus account	2,061,887.40
Total	$4,217,474.20

WILLYS-OVERLAND EARNINGS.

Preliminary Statement Shows Net Business of Over $5,000,000.

The Willys-Overland Company, Toledo, O., has released certain figures concerning the year's business previous to the publication of the annual report, in which it is noted that the net earnings of the company were over $5,000,000. The preliminary statement follows:

Net earnings, from operation of all companies, after deducting all expenses, including an adequate allowance for accruing renewals and depreciation	$5,705,537
Interest on notes and accounts receivable, etc.	176,329
Total income	$5,882,367
Interest on floating debt	228,468
Surplus	$5,653,898
Preferred dividend	350,000
Surplus	$5,303,898

MAXWELL MOTOR'S BALANCE SHEET.

Company Makes Public Assets and Liabilities at Close of Seven Months' Business.

The Maxwell Motor Company, Detroit, which succeeded the old United States Motor Company, has made public a statement of its financial condition at the close of business, July 31, 1913. As the company was organized Dec. 31, 1912, it will be seen that it has been in existence but seven months. The balance sheet shows the following:

Assets.

Real estate, buildings, etc.	$7,032,554.17
Investments	667,572.35
Good will, models, patents, trade marks and trade names	26,500,000.00
Inventories	4,837,905.89
Branch house assets (in course of liquidation)	151,066.31
Notes and accounts receivable	739,390.67
Prepayments	32,749.35
Cash	1,041,324.89
Total assets	$41,002,563.63

Liabilities.

First preferred stock, less in treasury	$12,329,136.34
Second preferred stock, less in treasury	10,177,136.34
Common stock, less in treasury	12,807,681.82
Real estate mortgages	134,705.85
Accounts payable	306,757.34
Accounts payable, unvouchered invoices	183,416.67
Wages, accrued	88,463.26
Taxes, insurance, etc., accrued	29,177.47
Customer's deposits	102,885.45
Reserve on buildings, machinery, etc.	1,960,040.30
Reserve for depreciation, inventories	2,371,109.69
Reserve on depreciation, notes and accounts receivable	205,851.78
Reserve for establishment of business, expenses applicable to prior period, and other items	306,201.32
Total liabilities	$41,002,563.63

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ANNOUNCES MONDEX-MAGIC CAR.

Aristos Company to Produce Two Models Utilising New Sleeve Valve Motor.

Announcement has been made by the Aristos Company, New York City, that it will produce the Mondex-Magic cars in two models, a four-cylinder and a six. The chassis, which will be built by the Palmer & Singer Manufacturing Company, Long Island City, N. Y., and will be fitted with Magic sleeve valve motors, under license from the Motor & Gear Improvement Company, New York City, which has the American rights.

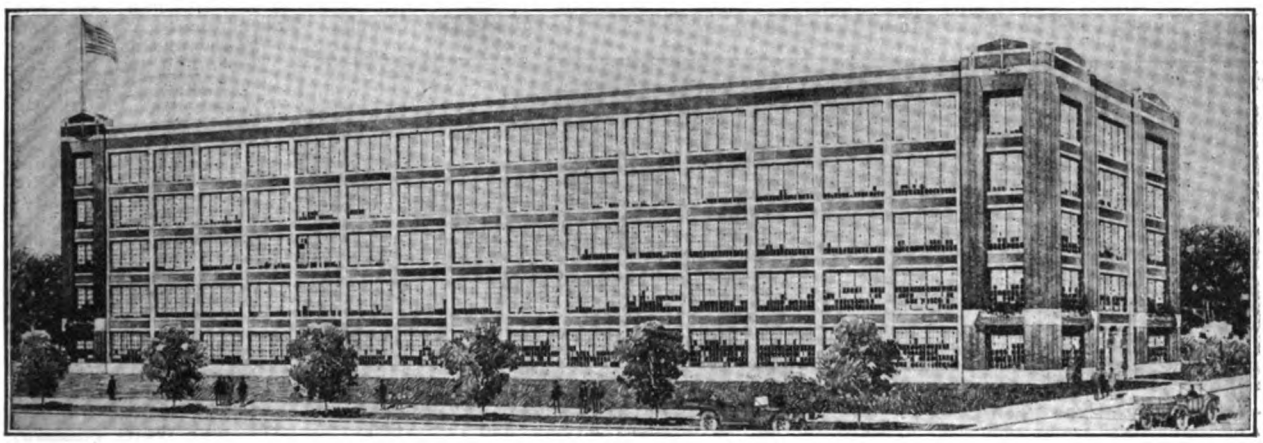
NEW BUILDING IS COMPLETED.

Gray & Davis Has What Is Claimed to Be Largest Plant of Its Kind in the World.

The new building of Gray & Davis, just completed on the Cambridge, Mass., side of the Charles river is claimed to be the largest factory in the world devoted exclusively to the production of electric lighting and motor starting systems. The new plant, built of reinforced concrete with tapestry brick exterior, has a total floor space of 180,000 square feet, and will afford employment for nearly 1000 men.

The main structure is five stories high, 380 feet long and 60 feet wide, with a 10-story extension on the rear, each story of which is half the height of those in the main building. The extension will include the lockers, wash rooms, pattern vaults, etc.

Heavy duty machines, presses, stamp mills, etc., buffing and hardening rooms will be on the ground floor of the main building, and the raw material comes in on this floor and will be distributed on a miniature railroad. General offices, private offices of the heads of departments, stockroom, wiring room and battery department will be located on the second floor. The third floor will contain the assembling and light machine work departments, and half the space will be devoted to testing and inspection rooms. The small parts and detailed electrical work will be done on the fourth floor, with space afforded for the experimental department. The top floor will include the electrical engineers' department, draughting rooms, chief engineer's office and a restaurant and rest rooms for the employees.



Recently Completed Factory of Gray & Davis, Inc., on the Bank of the Charles River in Cambridge, Mass.

ERECTING BIG ADDITION.

C. A. Shaler Company to Provide Increased Production Facilities for Garage Steam Vulcanizer.

Work has been started on the erection of a three-story addition to the present plant of the C. A. Shaler Company, Waupun, Wis., which it is anticipated will give ample floor space and facilities for practically doubling the output of the company. The new structure will be devoted to the manufacture of the garage steam vulcanizer, which was placed on the market about a year ago.

TO CONTINUE WARREN PRODUCTION.

Understood That New Concern Has Been Organized with A. D. Dunk at Its Head.

The Warren Motor Car Company, a close corporation, a report from Detroit states, will be organized to continue the manufacture of Warren cars. It is understood that A. D. Dunk, president of the Auto Parts Company, will be head of the new concern, which has purchased the stock of the old Warren company, and that the policy will be to continue the models along the same lines as before, with a smaller production.

BIG COMBINATION IN MINNEAPOLIS.

Standard Motor Company Organized to Take Over Two Concerns in the Middle West.

The Standard Motor Company has been organized in Minneapolis with a capital of $6,000,000 and has plans under way for the erection of an automobile manufacturing plant to cost $3,000,000. According to the statement the company will take over the Minneapolis Motor Company of Minneapolis and the Colby Motor Company of Mason City, Ia. F. E. Kenaston, president of the Minneapolis Threshing Machine Company; M. J. Scanlon of the Brooks-Scanlon Lumber Company and the Scanlon-Gibson Lumber Company, and P. M. Starns, vice president of the American Timber Holding Company, are mentioned as among those interested in the new concern.

ELEVEN NEW MEMBERS.

Motor & Accessory Manufacturers Announces Several Additions to Its Ranks.

Announcement has been made by the Motor & Accessory Manufacturers, New York City, of the election of new members as follows: Cleveland Tanning Company, manufacturer of leather, Cleveland, O.; Racine Manufacturing Company, automobile bodies, Racine, Wis.; Benford Manufacturing Company, spark plugs, timers, oil gauges, lighters, screw machine work, etc., Mt. Vernon, N. Y.; Gemmer-Detroit Starter Company, air pumps, garage plumbing outfits and air starters, Detroit; McGraw Tire & Rubber Company, tires and inner tubes, East Palestine, O.; J. M. Shock Absorber Company, J. M. Shock absorbers, Philadelphia, Penn.; F. S. Carr Company, rubberized top and seat covering material, Boston, Mass.; Torbensen Gear & Axle Company, axles, Newark, N. J.; Taylor Instrument Company, thermometers, barometers, hydrometers, etc., Rochester, N. Y.; Reynolds-Browne Company, automobile lamps, Chicago, Ill.; Knight Tire & Rubber Company, tires and inner tubes, Canton, O.

TO PRODUCE McFARLAN LINE.

New Concern Organized to Take Over Business Formerly Conducted by McFarlan Carriage Company.

The McFarlan Motor Company has been organized in Connersville, Ind., to take over the manufacture of the McFarlan cars, formerly produced by the McFarlan Carriage Company. Heretofore the product has been distributed through a selling concern known as the McFarlan Motor Car Company. The capital of the new corporation is $100,000 and the incorporators are Alfred H. McFarlan, Edward W. Cotton and Burton M. Burrows. A petition in bankruptcy was filed recently against the McFarlan Carriage Company.

The American Motors Company, Indianapolis, Ind., has elected the following officers for the ensuing year: President and general manager, J. I. Handley; vice president, F. E. Smith; chairman and treasurer, V. A. Longaker; assistant treasurer, J. D. Bright; secretary, J. E. Kepperley.

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GENERAL NEWS OF THE MANUFACTURERS.

The Gaulois Tire Corporation, New York City, importer of the product of one of the largest tire manufacturers in France, announces that it will give its customers full benefit of the tariff reduction from 35 per cent. to 10 per cent.

The H. W. Johns-Manville Company, New York City, announces that it has taken over the manufacture and distribution of the Mezger Soot-Proof spark plug, and in the future this product will be known as the J-M (Mezger) Soot Proof. By the terms of sale R. M. Owen & Co., will retain its interest in the spark plug. C. A. Mezger, Inc., New York City, was the former maker.

The Moon Motor Car Company, St. Louis, Mo., on account of the large increase in business and consequent demand for calls on prospective dealers and owners, has found it necessary to add four new salesmen to its travelling staff. The new men are J. A. O'Brien, assigned to northern Iowa and Minnesota; W. K. Ellis, the rest of Iowa, Nebraska and the Dakotas; L. R. Collins, Illinois and Kentucky; G. E. Bonney, Missouri and Kansas.

The B. F. Goodrich Company, Akron, O., reports that the branch factory established in France some three years ago is making a fair profit on European goods.

The Crow Motor Car Company, Elkhart, Ind., is issuing a neat wall folder calling the attention of automobile salesmen to the selling points in the Crow Elk-Hart line.

The International Motor Company, New York City, maker of the Mack, Saurer and Hewitt trucks, has inaugurated a new selling policy in which the customer pays 25 per cent. of the purchase price upon delivery, and the remainder in 12 monthly payments.

The Stromberg Motor Devices Company of Chicago, Ill., is to open a new branch at 146 West 56th street, New York City.

The Blaisdell Machinery Company, Bradford, Penn., it is reported, will soon take up the manufacture of gas engines. C. A. Roberts, for some time connected with the National Transit Company, Oil City, Penn., and later president of the Bellefonte Engineering Company, is now connected with the Blaisdell concern.

"Noon Hour" at the Factory of the Electric Storage Battery Company, Philadelphia, Showing About 1000 Employees Gathered at Allegheny Avenue and 19th Street.

The Cadillac Motor Car Company, Detroit, at the close of business on Sept. 30 had manufactured and shipped 2778 of its 1914 models. This is four times as many cars as were manufactured and shipped during the similar period of the 1913 season.

The Firestone Tire & Rubber Company branch managers and salesmen's convention was held in Akron, O., Oct. 7-10. Representatives of the company from all over the country attended the conference.

William C. Riley, president of the Valley Iron Works of Williamsport, Penn., has taken over the Hatfield Motor Truck Company of Elmira, N. Y., and will operate the business in the future.

Fred I. Johnson, Fitchburg, Mass., is president and general manager of a new company that has been formed to manufacture automobile tires without rubber.

The Goodyear Tire & Rubber Company, Akron, O., through President Sieberling, denies reports of any intention of merging its interests with those of the United States Tire Company.

W. F. Perez, Chicago, inventor of an automobile fender, has organized a company with a capital of $250,000 to manufacture his invention. Interested in the company with him are Carl C. Jensen and others.

The Thomas B. Jeffery Company, Kenosha, Wis., has installed a new double toggle drawing press, with capacity of 1500 tons, for the production of the cowls over the dash of Rambler Cross Country models.

A. R. Welch, well known in the automobile world through his connection with the former Welch Motor Car Company, is connected with a new company that has been formed in Detroit for the purpose of manufacturing cyclecars.

The General Service Engineers, Detroit, has entered the cyclecar manufacturing industry.

The Ford Motor Company, Detroit, has opened a South American selling and service branch in Buenos Aires. E. H. Hampton will be in charge as manager.

The Hampton Kerosene Carburetor Company, New York City, has secured property for a factory site at the foot of Gordon street, Perth Amboy, N. J.

The Lozier Motor Company, Detroit, reports that the directors have subscribed for $500,000 of the company's stock in order to finance the increased operations planned for 1914.

The Mercer Automobile Company, Trenton, N. J., maker of Mercer cars, is issuing a house organ under the title of Mercer Magic. W. A. Smith, advertising manager, is director of the new publication.

The John W. Blackledge Manufacturing Company, Chicago, Ill., calls attention to the fact that the name of its Velvet auxiliary springs has been changed to Velvet shock absorber. The general offices of the company are located at 2110 Michigan avenue, Chicago, while the New York branch, which looks after the trade in the East, is at 74th street and Broadway.

Charles H. Besley & Co., Beloit, Wis., has broken ground for new buildings which will triple the size of its shops. The concern produces grinding and polishing machines.

The Board of Trade, Waterloo, Ia., is negotiating with the Denver Motor Truck Company, Denver, Col., to locate its gasoline-electric truck plant in that city.

The Firestone Tire & Rubber Company, Akron, O., has established a separate sales and shipping department to take care of its increasing foreign business, with C. O. Brandes in charge as manager.

The Electric Storage Battery Company, Philadelphia, is well known to motorists because of its production of Exide, Hycap-Exide, Thin-Exide and Ironclad-Exide batteries for electric vehicles. The company has been engaged in this field since 1888, and that its factory force is sufficiently large to justify its claim as one of the leading battery makers in the country is indicated by the accompanying illustration. The company maintains branches in New York, Boston, Chicago, St. Louis, Cleveland, Atlanta, Detroit, Denver, San Francisco, Los Angeles, Seattle, Portland, Ore., and Toronto, Can. All told there are some 886 Exide battery distributors.

The White Company, Cleveland, O., is building an addition to its plant at East 79th street. The main building will be enlarged by the erection of a new building to be 30 by 240 feet, at a cost of $10,000.

The Sheffield Motor Works, Sheffield, Eng., has closed a contract with the United States Light & Heating Company, Niagara Falls, N. Y., and hereafter will equip all its cars with the U-S-L starting and lighting system.

The Walker Tire Chain Company has been organized in Bridgeport, Conn., to produce a new anti-skidding device invented by Charles Smith and John Anderson. H. F. Rhorman, Zanesville, O., is vice president.

The Grant-Lees Machine Company, Cleveland, O., has just completed a new addition to its factory and now has production facilities almost doubling what they were a year ago.

The Champion Spark Plug Company has been awarded a permit for the erection of a new factory building at Avondale and Upton avenues, Toledo, O.

The Stromberg Motor Devices Company, Chicago, is to open a factory branch at 146 West 56th street, New York City.

The Perfection Spring Company, Cleveland, O., has leased a building on East 65th street and will utilize this as an addition to its plant.

Henry J. Arnold and associates have started a plant in Denver, Col., for the manufacture of a substitute motor fuel for gasoline.

The Abbott Ball Company, Elmwood, Hartford, Conn., has awarded the contracts for a one-story addition to its plant.

G. L. Berg, Seattle, Wash., has invented a new headlight, termed the Pathfinder, and a company has been organized with capital stock of $35,000. William Piggott and G. D. Colwin are associated with him in the enterprise.

The F. L. Moore Truck Company has moved from Los Angeles, Cal., to a new factory at Torrance. The new building is of concrete and steel, 100 feet by 500 feet, with glass sides and top.

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The John W. Brown Manufacturing Company, Columbus, O., has started work on additions to its plant for the manufacture of lamps for Ford cars.

George M. Dickson, General Manager, National Motor Vehicle Company.

The National Motor Vehicle Company, Indianapolis, Ind., reports the fiscal year ending Sept. 1, 1913, was the best in the 14 years' history of the company. So well pleased were the stockholders that a resolution of thanks and congratulations was passed, which gave a large measure of the credit for this good showing to George M. Dickson, general manager of the company.

The Bundy-Goebel Manufacturing Company, has been formed in Detroit for the production of the Tell Tale, a gasoline gauge.

The Chicago Pneumatic Tool Company, Chicago, has declared a quarterly dividend of one per cent., which was payable Oct. 25.

The Cincinnati Car Company, Cincinnati, O., is to erect an assembling depot near its main plant on Spring Grove avenue at a cost of $30,000.

REMOVALS AND NEW BUILDINGS.

Max Rosen, Newburg, N. Y., is interested in the establishment of an automobile factory in that city.

The Gadabout Motor Corporation is said to be negotiating with the chamber of commerce in Poughkeepsie, N. Y., for a factory site in that city.

The Siebers & Raisch Pattern Works, 686-690 National avenue, Milwaukee, Wis., has established a branch factory in Waukesha, where motor and aluminum castings will be the chief product.

The Ruby Manufacturing Company, Jackson, Mich., has opened offices at 604 Press building, where estimates and full particulars concerning the Ruby steel constructions can be secured for the asking.

The Galena Signal Oil Company, Kansas City, Mo., has established a general distributing branch at Superior, Wis., where a $15,000 warehouse and office building will be erected.

The Ford Motor Company, Detroit, has awarded the contract for a new building at Highland park to the Selfen Brock Construction Company at an estimated cost of $500,000.

The Edward G. Budd Manufacturing Company, Detroit, has sold its plant to the Peter Smith Heater Company. The machinery, stock and apparatus of the Budd company is being moved back to Philadelphia.

H. R. Schoch, Philadelphia, Penn., is preparing to erect an automobile construction plant at Hunting Park avenue and Stokley street, at an approximate cost of $100,000. Mr. Schoch will manufacture automobile bodies and parts and assemble motor vehicles.

The H. R. Johnson Economizer Company, 1436 Spring street, Philadelphia, Penn., is said to be contemplating the erection of a factory in Toronto, Ont.

The Lord Baltimore Motor Truck Company, it is reported, is having plans prepared for the erection of a large truck plant at Canton, near Baltimore, Md., to be two stories high, 600 by 125 feet.

The William C. Robinson & Son Company, Philadelphia, has established an agency in San Francisco, Cal., for the distribution of Autoline, a lubricating oil produced by it.

The Service Recorder Company, Cleveland, O., manufacturer of travel recorders for motor trucks, has established new branch agencies in Ponce and San Juan, Porto Rico. H. E. Gates is in charge.

The Ford Motor Company is to erect an assembly building at a cost of $400,000, at the corner of Brookline street and Charles River road, in Cambridge, Mass. The building will be five stories high, 455 feet long, built of concrete with steel reinforcements throughout.

The Meeley Rubber Company, Philadelphia, has erected a new rubber goods plant at 680 North Broad street.

The Cameron Manufacturing Company has completed the moving of its plant to West Haven, Conn., and expects soon to have the new plant in operation.

The Pharis Tire & Rubber Company, Columbus, O., is adding two buildings to its plant, one 73 by 100 feet and the other 22 by 40.

The Grant Motor Car Company, Detroit, is reported to have plans for the removal of its plant to Dayton, O.

The National Tire & Rubber Company, East Palestine, O., has had plans and specifications completed for a new factory building. The new structure will be two stories high, of reinforced concrete, 44 by 252 feet, and will include the main building and power plant. Equipment, in the way of engines, boilers, heaters, pumps and the like, will be required.

The Fisher Motor Company, Walkerville, Ont., has purchased and taken possession of the entire plant and machinery of the Tudhope Motor Company at Orilla, Ont.

The Ford Motor Car Company is to erect an assembling plant at Houston, Tex., at an approximate cost of $200,000. The Central Contracting Company, Detroit, has been given the contract, and the building is to be completed by April 1, 1914.

The Chalmers Motor Company, Detroit, has taken a five-year lease on the property at 250-254 North Broad street, Philadelphia, Penn.

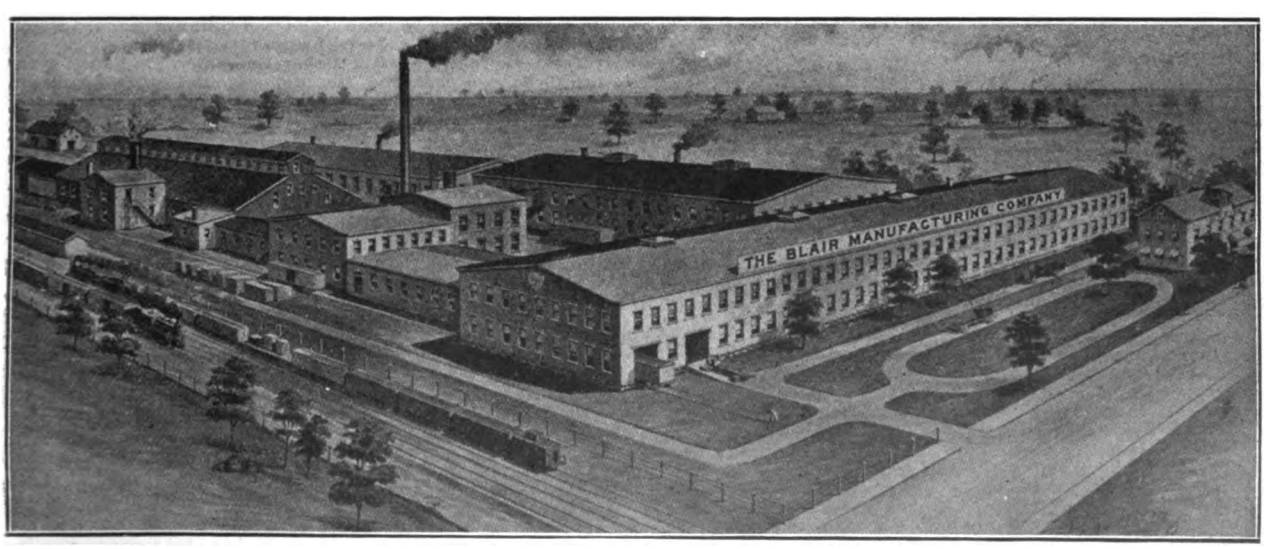
The Joseph N. Smith Company, Detroit, has purchased a site and will erect a new plant at a cost of $75,000.

The Woods Motor Vehicle Company, Chicago, Ill., has established a direct factory branch in Peoria, Ill., under the supervision of W. E. Johnston.

FINANCIAL NOTES.

The Westinghouse Electric & Manufacturing Company, Pittsburg, Penn., has declared a quarterly dividend of one per cent. on common stock, payable Oct. 30, and a similar dividend of 1.75 per cent. on preferred stock, payable Oct. 15.

The Knox Automobile Company, Springfield, Mass., has issued a statement setting forth that the business during



Factory of the Blair Manufacturing Company, Newark, O., Maker of Blair Trucks.

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the month of August, 1913, showed an increase of 100 per cent. over that of the corresponding month in 1912. The factory of the company has been run continuously on a day and night schedule for the past year.

The Invader Oil Company, New York City, shows a business increase this year of 114 per cent. for February, 188 per cent. for March, 200 per cent. for April, 246 per cent for May, 231 per cent. for June, 210 per cent. for July, 218 per cent. for August, 292 per cent. for September, over corresponding months of last year. This larger business gives an average monthly increase of 212 per cent. for 1913 over 1912.

The J. I. Case Threshing Machine Company reports that gross sales for the first nine months of 1913 were $8,197,554, as compared with $7,333,655 for the first nine months of 1912.

The Hudson Motor Car Company, Detroit, has declared a stock dividend of 100 per cent., thus increasing its capital stock to $2,000,000. The annual report shows no bonded indebtedness, and that the total business done during the fiscal year amounted to $10,500,000, an increase of 50 per cent., or $3,500,000, over that for 1912.

The Hendee Manufacturing Company, Springfield, Mass., at a meeting recently, transferred its assets to a new company to be known as the Hendee Manufacturing Company. The old concern passes out of existence and the new concern is capitalized at $12,500,000, an increase of $10,000,000. The same interests that controlled the old company will control the new.

The Lozier Motor Company directors in session at Detroit voted to take up all outstanding stock to increase the manufacturing facilities of the company for 1914.

The Wagenhals Motor Car Company, Detroit, was dissolved at a meeting of the stockholders the latter part of September, and the Wagenhals Motor Company organized. The capital stock was increased from $100,000 to $500,000, and a new plant is to be built. William Pelum, W. G. Wagenhals and C. F. Ayer were elected directors. Mr. Pelum is president, Mr. Wagenhals vice president and treasurer, and Hughes E. Turner secretary.

BUSINESS DIFFICULTIES.

Arthur Crowell, automobile broker, 44 Ferry street, Malden Mass., has filed a petition in bankruptcy. Liabilities, $2205; assets, none.

Norwood Bros., dealer in Baltimore, Md., creditors, exhibiting claims of $737.75, have asked for the appointment of a receiver.

Jeremiah Surrette, Stoneham, Mass., dealer, has been petitioned into bankruptcy. Liabilities given as $3300; assets, nothing.

Hilltop Garage (Robert M. Rook and Max Sieblets), Trenton, N. J.; voluntary petition in bankruptcy; liabilities, $999; assets, $730.

The Nyberg Automobile Works, Anderson, Ind., has been petitioned into bankruptcy, the total claims presented being $643.20. Carl Morrow has been appointed receiver.

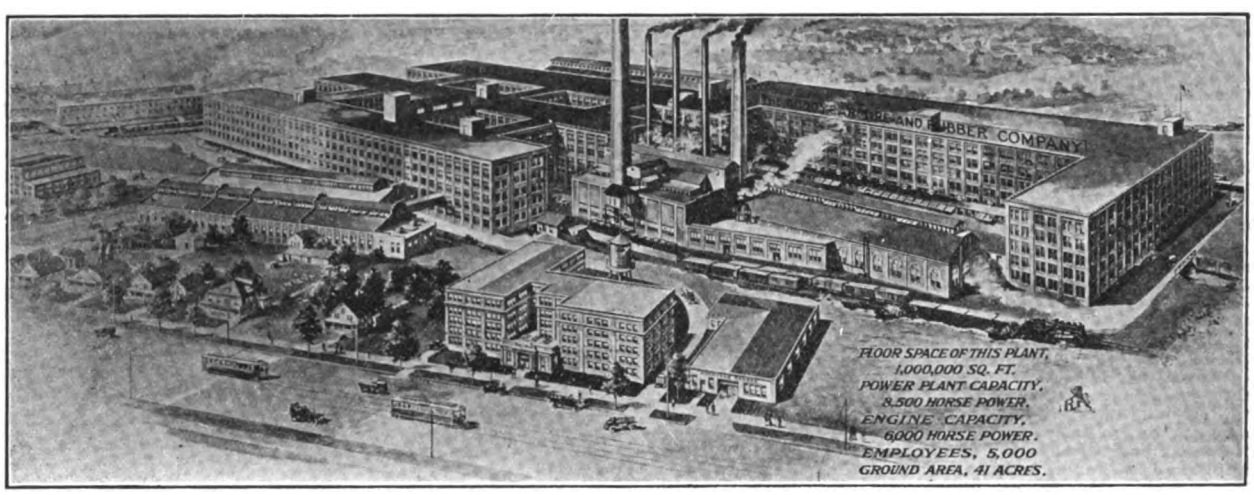
The Tobin Whichway Signal Company, 48 Walker street, New York, has filed its schedule, showing liabilities of $26,711, and assets of $2433.

Henry H. Bond, Waltham, Mass., has been appointed receiver for the Reliance Speedometer Company, a Maine corporation, on petition of Leon E. Blanchard of Boston. Liabilities are $25,589.94 and assets $43,700.

The Morse-Readio Company, Springfield, Mass., garage proprietor and dealer in automobiles and automobiles supplies, has assigned to Frederick J. Hillman of the New England Auditing Company. Liabilities are given as $34,450 and asets $47,295.

The Warren Motor Car Company, Detroit, has recently distributed $50,000 to creditors. This amounts to 10 per cent.

Dr. D. B. Bundy of Middletown, O., has been appointed receiver of the Crescent Motor Truck Company of that city on application of M. W. Rennyick, W. H. Johnson and Dr. Bundy, who ask that the corporation be dissolved, pay its debts and distribute the balance among the stockholders pro rata.



General View of the Goodyear Tire & Rubber Company's Plant in Akron, O.

DIVIDENDS DECLARED.

Batavia Rubber Company, Batavia, N. Y., regular quarterly one per cent. and extra one-half per cent. on common; regular quarterly 1.5 per cent. on preferred, both payable Oct. 1 to stock of Sept. 15.

United States Rubber Company, New York City, regular quarterly 1.5 per cent. on common, two per cent. on first preferred, 1.5 per cent. on second preferred; all payable Oct. 31 to stock of record Oct. 15.

National Carbon Company, Cleveland, O., regular quarterly 1.75 per cent. on preferred, payable Nov. 15 to stock of record Nov. 5.

General Electric Company, Schenectady, N. Y., quarterly two per cent., payable Oct. 15.

B. F. Goodrich Company, Akron, O., quarterly 1.75 per cent. on preferred, payable Oct. 1.

General Motors Company, Detroit, three per cent., semi-annual, payable Nov. 1.

Goodyear Tire & Rubber Company, Akron, O., quarterly 1.75 per cent. on preferred, payable Oct. 1.

Perfection Spring Company, Cleveland, O., quarterly 1.75 per cent., payable Oct. 1.

Texas Company, New York City, quarterly 1.75 per cent., payable Sept. 30.

Vacuum Oil Company, Rochester, N. Y., $3, payable Oct. 31.

Lee Tire & Rubber Company, Conshohocken, Penn.; quarterly 1.75 per cent.; payable Oct. 10.

Chicago Pneumatic Tool Company, Chicago, quarterly one per cent., payable Oct. 25.

The Dominant Motor Company, Albany, N. Y., has been involuntarily petitioned into bankruptcy. The creditors who petitioned are: Albany Hardware & Iron Company, Kingsbury-Leahy Company and the Skinner Arnold Company. George M. Davis was appointed receiver.

Western Implement & Motor Company, Davenport, Ia. Creditors have secured the appointment of a receiver. Company is reported to owe $100,000, with assets of $50,000.

Orville E. Short, New York City, dealer in carriages and automobiles, has filed a petition in bankruptcy with liabilities of $65,280 and assets of $25,039.

The Dayton Airless Tire Sales Company, Hamburg, Penn., incorporated in 1912 with capital of $10,000, has filed papers asking for dissolution.

The Stephenson Motor Truck Company, Milwaukee, Wis., was petitioned into bankruptcy by three outside creditors.

The Inter-State Automobile Company, Muncie, Ind., on complaint of President Thomas F. Hart, has been placed in the hands of Michael J. Broderick, president of the Broderick Boiler Company, as receiver. The company has an indebtedness of $500,000, which it is unable to pay, according to the statement of President Hart.

The Mason Motor Company, Waterloo, Ia., has been placed in the hands of Ira J. Hoover, as receiver, on the petition of Fred W. Powers, trustee.

The Dayton Auto Truck Company, Dayton, O., has filed a voluntary petition in bankruptcy. The liabilities are placed at $216,165.77, of which all but $9000 is unsecured and the assets are $67,720.28.

The Schacht Motor Car Company, Cincinnati, O. At the auction sale of automobile chattels Oct. 24, these brought between $35,000 and $40.000.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

CAR AGENCIES WANTED.

9135—West Virginia concern would like agency in one Ohio county and two West Virginia counties for pleasure cars selling at $400 to $1000 and power wagons from $600 to $1000.

9137—Indiana company is interested in agency proposition for pleasure cars selling at $1000 to $1800.

9145—California concern wants to secure agency for pleasure cars selling from $3900 to $6500 and power wagons from $2970 to $5500.

9146—Massachusetts man is interested in securing exclusive agency for a line of pleasure cars and trucks in Egypt.

9154—Ohio house is willing to take agency for pleasure cars selling from $800 to $2250.

9155—Mississippi company wants agency for pleasure cars selling from $500 to $2600.

9160—Ohio firm will take agency for pleasure cars selling from $500 to $1000.

9161—Iowa concern is looking for agency for pleasure cars selling from $1000 to $2500.

9162—Illinois company is desirous of securing an agency for pleasure cars selling from $1000 to $2000.

9165—Texas house will take agency for pleasure cars selling from $800 to $1200.

9167—Wisconsin company is interested in agency proposition for pleasure cars selling from $350 to $900.

9236—Iowa concern, now handling one car, is interested in securing agency for pleasure cars selling from $900 to $2000.

9364—Massachusetts house wants agency for pleasure cars selling around $500.

9365—Texas concern is interested in establishing agency for power wagons selling from $500 to $3000.

9366—Indiana firm is interested in securing agency for motor trucks of all makes and prices.

9376—Pennsylvania company would like to secure agency for pleasure cars selling from $300 to $500.

9263—House in District of Columbia, recently incorporated to operate a general garage, is interested in the agency for pleasure cars selling from $400 to $1000, and trucks from $1000 to $2000.

9275—Indiana House, engaged in the distribution of pleasure cars and accessories, desires the agency for commercial vehicles selling from $950 up.

8531—Rhode Island Garage desires agency for pleasure cars selling between $900 to $2500, and for motor business wagons rated at from one to 1.5 tons.

ACCESSORY AGENCIES WANTED.

6239—Iowa concern will take agency for supplies, equipment and accessories for automobiles and motor trucks.

6349—Massachusetts company, recently incorporated, would like to represent makers of automobile and power wagon accessories, supplies and equipment.

6369—Indiana house, recently established, wants to get in touch with manufacturers of carburetors.

7398—Massachusetts concern, now handling agency of automobiles, is interested in power wagon accessories.

6397—Pennsylvania company will take agency for automobile accessories and supplies.

6783—Kansas concern is interested in securing agency for automobile accessories and supplies.

3591—West Virginia house, recently incorporated, wishes to secure district representation for automobile and motor truck accessories, supplies and equipment.

3594—Oklahoma house wants agency for automobile equipment and supplies.

3595—Kansas concern is in the market to represent manufacturers of automobile accessories and supplies.

3596—Michigan house, recently incorporated, will take agency for automobile supplies.

3597—New York House, handling car agencies, will take on lines of automobile accessories and supplies.

3719—Indiana dealer will take agency for automobile equipment, accessories and supplies.

4519—California house will take agency for automobile and power wagon accessories, equipment and supplies.

5419—Ohio concern will take agency for automobile supplies, accessories and equipment.

5159—Mississippi house, now an automobile agency, is interested in supplies, equipment and accessories for automobiles.

6291—Illinois concern would like to represent makers of tires, oils, etc.

6254—California company wants agency for accessories for electric pleasure cars and equipment for electric trucks.

6179—Wisconsin house will take agency for supplies for automobiles.

3843—Chicago House, recently incorporated, desires exclusive selling agency for automobile specialties in all the Central States.

3856—Indiana House, occupying a new modern garage, will accept the agency for automobile equipment, and pleasure car and business wagon accessories and supplies.

EQUIPMENT NEEDED.

4396—Massachusetts company, newly incorporated, is interested in garage and repair shop equipment and supplies, including machine tools, etc.

7389—Massachusetts house is in need of garage supplies, etc.

7369—Pennsylvania concern is in the market for garage and repair shop equipment and supplies, including machine tools, etc.

7524—Kansas company is interested in garage and repair shop equipment.

5931—West Virginia concern, recently incorporated, is in need of garage and repair shop supplies and equipment, including machine tools, etc.

5943—Oklahoma concern, now handling automobile agency, is willing to take agency for repair shop supplies, such as ring castings and cast sleeves.

5953—Kansas concern wants garage equipment and supplies, and repair shop equipment.

5963—Michigan company, recently incorporated, is interested in machine tools and repair shop supplies.

5973—New York company, now handling agency for three cars, seeks information relative to garage and repair shop supplies and equipment, including machine tools.

7391—Indiana house is in the market for garage supplies, etc.

5194—California company, with newly enlarged quarters, is open for business in garage and repair shop supplies and equipment, including machine tools, etc.

4159—Ohio automobile agency seeks information concerning machine tools.

7196—Wisconsin concern, recently established, is interested in air compressors, vulcanizers and nickel plating outfits.

3269—Iowa concern, now located in new quarters, is interested in garage equipment and repair shop supplies and equipment, including machine tools. Company also is looking for representatives.

MISCELLANEOUS OPPORTUNITIES.

3754—Vancouver, B. C., concern, wants exclusive agency for good electric lighting and starting system.

6848—New York Company, about to retire from business, has all kinds of motor tools, etc., to sell at right prices.

7536—Indiana manufacturer would like to secure a light, four-cylinder, water-cooled, block motor of about 2.5 or 3.5 horsepower.

7474—Massachusetts Man has perfected a new carburetor and is desirous of communicating with manufacturers of carburetors or others who might be interested in its production.

7480—Georgia Concern, interested in the manufacture of cyclecars, seeks information from makers of wheels, axles, steering gears, frames, bodies, etc.

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NEW CONCERNS AND BUSINESS CHANGES.

The Oakmont & Boat Company, Oakmont, Penn., has opened a branch agency in the East End, Pittsburg, in charge of H. F. Budd.

Olin, Gilberson & Lowy, 30 Church street, New York City, has secured the American agency for Riebe ball bearings, made in Germany.

The Palace Auto Service Company, Hartford, Conn., has taken the agency for Empire tires.

Thomas Savage is to open a new garage in Parkersburg, W. Va.

E. L. Smith has taken over the interest of Henry Klunder in the Cutler & Klunder garage in Clarksville, Ia., and the new firm will be known as Cutler & Smith.

The Southern Motor Car Company, St. Louis, Mo., recently organized, will handle its Haynes and Metz agencies in quarters at 12th and Locust streets.

J. G. Stratton has purchased the garage business heretofore conducted by F. J. Dyett in Ilion, N. Y.

The F. B. Stearns Company, Cleveland, O., has established a new branch in Philadelphia, under the charge of S. N. Bourne as manager.

Harry W. Stone has purchased the interest of his partner, Ralph E. Stone, in the Easthampton Auto Company, at 185 Main street, Easthampton, Mass.

Stone Bros., Winchendon, Mass., has opened a new garage on East Grove street, and will operate a taxicab business in connection therewith.

The Stutz Motor Car Company, New York City, has been admitted to membership in the Automobile Dealers' Association, Inc., of that city, its representative being William Parkinson.

The Warner Rubber Company, 68 Huntington avenue, Boston, Mass., has been organized by William Warner and James McSwain to handle the agency for Quaker tires.

The Tibbals-Gavin Company, San Diego, Cal., has changed its name to the Gavin-Williams Company.

The Western Rubber Works, 308 North Central avenue, Phoenix, Ariz., has installed a complete vulcanizing equipment.

R. R. Whetstone, Riverside, Cal., has purchased the City garage.

William Laing, Cedar Falls, Ia., has sold his interest in the Cedar Falls garage, located in the Packard block.

H. J. Wilson, Algona, Ia., has sold his interest in the Algona Auto & Machine Company to his partners, L. J. and C. E. Dickson. He retains the agency for Cadillac and Studebaker cars and will locate in the premises occupied by the Fargo harness shop.

The Woods Motor Vehicle Company, Chicago, has opened a factory branch in Peoria, Ill., in charge of W. E. Johnston as manager.

Black & Kirkpatrick, Rockville Centre, Ia., has sold its garage to E. L. Smith and Ben Obye.

The Nevada Auto Company, Nevada, Ia., building, stock and general garage business, has been taken over by Harry Crouch, who will conduct the business hereafter.

R. H. Sanborn, Alhambra, Cal., has purchased an interest in the Alhambra Original Garage and will operate same in partnership with C. W. Hagar.

The J. R. Stubbs Company, Providence, R. I., has taken the building at 75 Mathewson street. The company handles the Henderson car.

J. J. Roche, Hartford, Conn., formerly with the Columbia Motor Car Company, has leased part of the factory of the company and will start in business for himself.

Charles M. Lanahan and L. B. Pratt, both well known young men in the automobile circles of Baltimore, Md., have taken the Maryland agency for the Boyce Motometer. They have opened showrooms at 1924 North Charles street.

D. E. Gregg, Potsdam, N. Y., has disposed of his interest in the garage business to B. F. Howard.

J. R. Spencer, Winsted, Conn., has opened a repair garage on Gay street.

D. Gladding & Co., Cortland, N. Y., has sold its garage business to LeRoy Rodway & Schenck.

J. M. Puckett, Elgin, Tex., has opened a garage and auto supply house in the new building recently erected on North Main street.

B. W. Crump, Newport News, Va., has purchased the business of the Peninsula Auto & Garage Company, formerly owned by E. T. Crall.

The De Cou Auto Company, Woodbine, Ia., has been purchased by Tague Bros., formerly of Moorhead, who have taken immediate possession.

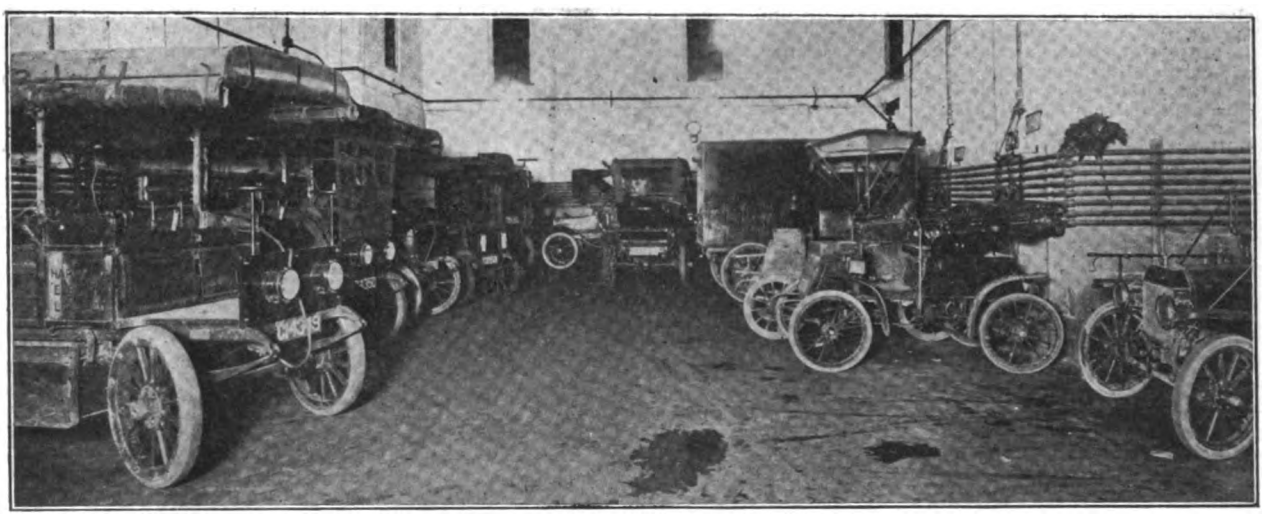
Jerome Tadini, New York City, has leased the three-story building at 265 West 87th street for automobile purposes.

L. B. Shaw of Riddelsburg, Penn., has opened a garage on Fourth street, Huntington, Penn.

The Colorado Motor Car Company has been started in Denver, Col., by E. H. Bull, who has been district sales manager of the Denver territory for the H. H. Franklin Manufacturing Company.

The Mercer Automobile Company, Sharon, Penn., has purchased the large garage of D. W. Christie & Son.

The Bishop-Watermann Motor Company, composed of G. T. Bishop, formerly with the J. I. Case Threshing Machine Company, and N. Florney du Closne of New York City, has located at 842 Baronne street, New Orleans, La.



Interior of Pearl Street Station of the Hartford Electric Light Company, Hartford, Conn.

William B. F. Fay, Springfield, Mass., has opened a garage at 93 Washington street, Chicopee Falls, under the name of the Washington garage.

E. H. Carpenter, Sacramento, Cal., has opened a new automobile supply store. He is making a specialty of tires and oils.

The Angleton Auto Repair Company, Angleton, Tex., has opened a store to do all repair work on automobiles and gasoline engines.

Feist & Feist, Newark, N. J., has leased its garage on Central avenue to A. G. Spalding.

The Crescent Auto & Repair Company, Cincinnati, O., has opened offices and is carrying special equipment for adjustments to Ford machines.

A. B. Cravath, formerly of Santa Ana, Cal., is to establish a garage and machine shop in Holtville, Cal.

The Lenox Garage Company, New York City, has leased quarters at 112 East 75th street for garage purposes.

The Arthur Garage & Machine Company, Kingston, N. C., has opened a garage and repair shop at Heritage street and Peyton avenue.

The Franklin Automobile Company, Syracuse, N. Y., has sold its San Francisco branch to John F. McLain, who has been manager since it was opened in 1909. He will do business under the name of the John F. McLain Company and will handle the Franklin cars.

Herbert A. Thayer, Providence, R. I., has started business at 400-404 Weybosset street as distributor for the Goodyear and Fisk tires and will repair tires and speedometers.

The Bloomington Garage, Supply & Storage Company, Bloomington, Ill., has opened a new garage and automobile repair shop in the White building.

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The Donegan Auto Body & Specialty Company, Hartford, Conn., has opened a new automobile repair shop at 339 Trumbull street.

The M. W. Bond Automobile Company, St. Louis, Mo., has taken a three-year contract for the distribution of the Wahl car in eastern Missouri, southern Illinois, western Kentucky and Tennessee, and all of Arkansas. George A. Root, formerly with the Studebaker branch in that city, will look after the wholesale end, and his brother, A. W. Root, will be city sales manager. Salesrooms have been opened at 4146 Olive street.

J. D. Cummings and M. L. McDermott, machinists, have formed a partnership and entered the automobile repair business in Paragould, Ark.

Ben Ottostad and Harry Beardsley, Phoenix, Ariz., have formed a company and will operate an automobile clearing house to deal in second hand cars.

The King Motor Car Company, Detroit, has opened a Boston branch at 1008 Boylston street. H. H. Sternberg and J. R. Hawks are in charge.

B. C. Bell of Palestine, Tex., has opened a new garage in that city.

F. M. Huggins has opened a garage and automobile repair shop on Oakland avenue, Sumter, S. C.

J. H. Knapp is interested in a project to establish a new garage in Parkersburg, W. Va.

Joseph Hamberger, St. Cloud, Minn., has taken over the interest of F. E. Nomec in the Nomec & Bisenius Auto Agency.

Kennedy & Frank has opened a new automobile salesroom at 101 Concord avenue, Cambridge, Mass. Thomas E. Kennedy and Otto M. Frank are the owners.

E. H. Carpenter has opened a new automobile supply store at 1123 J street, Sacramento, Cal. He will carry a complete stock of automobile accessories.

Charles A. Bixby and Albert Eaton have opened a new automobile repair shop in Vernon square, Worcester, Mass.

Leon Pride, Ft. Meade, Fla., has purchased the Jones & Peoples Garage at Barton, Fla. The name will be changed to the Flora Automobile & Supply Company and improvements and additions will be made to the building.

H. C. Teegardon of Greenville, O., has taken over the interest of E. C. Jobes in the Fouts & Jobes garage and automobile business on West Fourth street.

K. Conrad Hartman, Indianapolis, Ind., has taken charge of the Riverside garage, controlled by Dinkelaker & Schroeder, and will enlarge the business.

The Nichols Tire & Rubber Company is a new concern and is located at 222 West 52nd street, New York City. The company will be eastern distributors of Knight tires.

Harry S. Houpt, Inc., New York distributor of the Lozier cars, has opened a new branch at 1170 Bedford avenue, in Brooklyn, N. Y.

The Elm Street Auto & Carriage Works, 21 Elm street, Hartford, Conn., has succeeded L. J. Mansuy of that city.

The W. D. Newerf Rubber Company, Los Angeles and San Francisco, has taken on the full line of Invader lubricants and I. O. C. gear oil, and will act as distributor in California, Nevada, Utah and Arizona.

The Savage Tire Company, Los Angeles, Cal., will open branch houses in Portland, Ore., and Seattle, Wash.

The McKenn Auto Service Company has opened a new garage on Main street, Richmond, Ind.

D. W. Alderman, Jr., Florence, S. C., has opened a supply store in the Barry block, at Church and Evans streets.

Brassil's Service Station is a recent addition to the motor car establishments in Hartford, Conn., having located at 124 Allyn street.

The Dietrich Motor Car Company, Youngstown, O., has established salesrooms and a service station for the Cole motor cars at 133 Lincoln avenue.

J. D. Silcott and associates will open a new garage on 17th street, Parkersburg, W. Va.

The Jackson Motor Car Company has opened new salesrooms at 71 Centre street, Brockton, Mass.

Washburn Bros., of Pasadena, Cal., will establish a new agency in the garage that is being erected for E. H. Griffin in Alhambra, Cal.

The Billings Auto & Tire Supply Company has opened a new supply store at 181 Fourth street, Milwaukee, Wis., to do a wholesale and retail business in supplies, accessories, tires, etc. G. P. Jahn is manager.

The Stevens-Duryea Company, Chicopee Falls, Mass., has opened a service station in Cincinnati, O.

Charles Springer, Wheeling, W. Va., is soon to open a garage in the new building he is erecting on Seventh street.

Giese & Henke, Freeport, Ill., has opened the Illinois garage at 226-228 Exchange street.

Charles Peterson, El Monte, Cal., has opened a garage on the boulevard at Baldwin park, Covina, Cal.

The Ohio Brass Company, Columbus, O. has opened an automobile repair shop at 115 West Vine street.

The Overland Auto Company, Houston, Tex., has opened a salesroom on San Jacinto street.

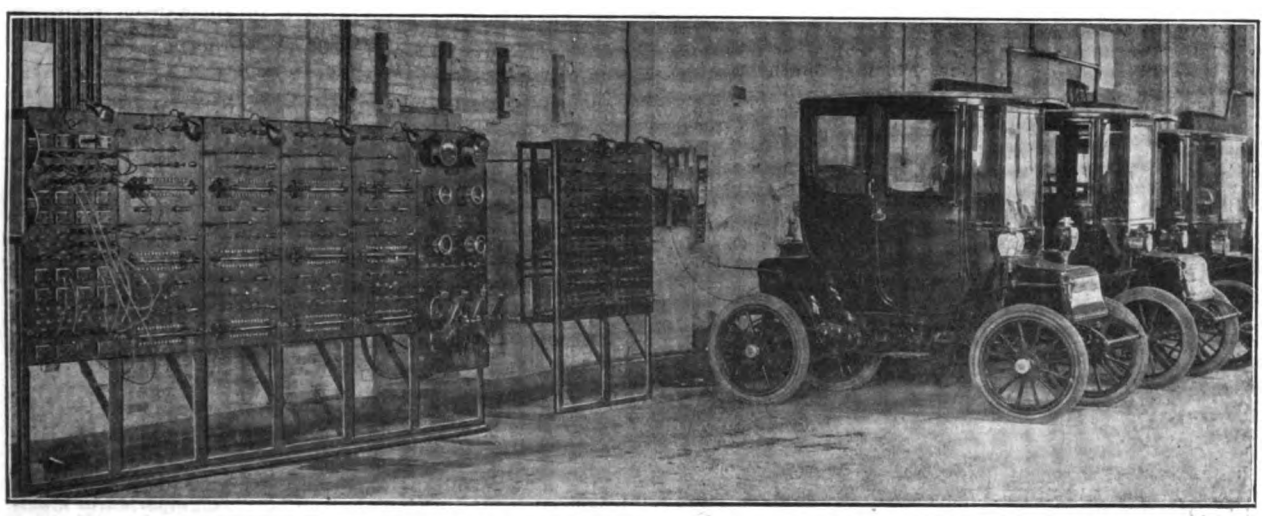
The Modesto Auto Supply Company, Modesto, Cal., has opened quarters in the Murray & Jones building.

Joseph Johnston, formerly with Sloan & Clipper, Newburg, N. Y., has opened a new garage on South Lander street.

The Ford Garage Company, C. E. Spear, proprietor, has opened a garage and repair shop in Kingston, N. C.

A. R. Castle & Co., Britt, Ia., has leased a building and will open a garage.

The Bluff City Welding Company, Memphis, Tenn., Frank F. Fransioli, president, has located at 419 South Second street.



Cutler-Hammer Battery Charging Panels Installed in Kopmeier Garage, Milwaukee, Wis.

The Automobile Distributing Company, Toledo, O., has opened a salesroom at 1011 Jefferson avenue, where it will handle the Regal line.

Dudley F. Benton and Walter Storms, Poughkeepsie, N. Y., will do business at 39 North Clover street, under the name of Benton's garage.

Fred Bomischen, Oxford Junction, Ia., has purchased the Oxford Junction garage of A. Vochoska.

E. A. Brandes has sold his garage in Grand Island, Neb., to John C. Thompson of Edgar, and the latter has taken possession.

The C. A. Chambers Company, Indianapolis, Ind., has succeeded the McFarlan Six Sales Company as local agent for McFarlan cars and Federal and Standard trucks.

Joseph Boyd has opened an up-to-date garage in Martinez, Cal.

Aaron G. Cohen, New Britain, Conn., has sold his garage and Ford agency to T. H. Cogswell and A. C. Nordstrom.

The Crary Company, Detroit, has established headquarters at 650 Woodward avenue, for marketing the Auto valve gasoline saver. The officers are: President, Frederick B. Stevens; vice president, F. J. Alvin; secretary and treasurer, L. H. Kirby.

The Crescent City Automobile Company, Ltd., Lafayette street, New Orleans, La., has been taken over by the Tharp-Bultman-Southeimer Company of Washington avenue.

W. J. Crowell, J. A. Rose and C. H. Garman, Charlotte, N. C., have formed a partnership to handle the agency for Haynes cars in that district.

M. W. Day, Edgeley, N. D., has sold his garage in that town and gone to Carrington to take charge of the Bull Dog garage.

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The Dayton Auto Company, 117 West Fourth street, Dayton, O., has changed hands, R. F. Myers now being in charge.

The Dayton Tire Company, 589 Boylston street, Boston, Mass., has taken the agency for the Hardman tire.

The Gay-Fourth Tire Repair Company is the name of a new vulcanizing company recently established at 139 East Gay street, Columbus, O.

The Georgetown Garage Company, Georgetown, Del., contemplates the purchase of cars for the operation of a passenger line.

E. B. Grant, Topton, and W. E. Roberts, San Luis Obispo, have purchased the Central garage in Lodi, Cal.

Joseph Griffin & Co., Mountain View, Cal., has purchased the garage heretofore conducted by James Small.

A. S. Karesh and T. J. McDaniels, Walterboro, S. C., have formed a partnership under the name of the Walterboro Automobile Company, and will conduct a garage in a building on the Savage mill lot, formerly occupied by the Collenon Auto Repair Company.

Kirby & Hubbard, Red Bank, N. J., a partnership heretofore existing between Ely Kirby and James H. Hubbard, operating a garage, has been dissolved. Kirby will sell automobile supplies and accessories in the Bailey building on East Front street. Hubbard is undecided as to his future connection.

The Lemke Electric Company, 280-284 Lake street, Milwaukee, Wis., has been appointed a service station for Simms magnetos. It also handles Splitdorf and Bosch ignition devices.

The Kruse Motor Car Company, Broad and Cherry streets, Philadelphia, will enlarge its business and carry a full line of accessories.

The Mack Motor Truck Company, a branch of the New York distributing house, has located a salesroom and service station for Mack, Saurer and Hewitt trucks at 88 Birnie avenue, Springfield, Mass., with E. N. Wright in charge as manager.

E. P. Madeley, Rogers, Tex., has purchased the Rogers garage of R. B. Lewis.

Fred R. Mann, Chris Rassmussen and others have formed a company to take over the Century garage in Watsonville, Cal.

McCreary & Ward has purchased the garage formerly conducted by Pierce Bros., on Blair Oaks avenue, in South Pasadena, Cal.

Murray & Allender, Fairfield, Ia., states that the item in the last issue of The Accessory and Garage Journal, announcing the sale of its garage, was incorrect. No sale has been made.

The Harter Auto Company, composed of J. J. Harter and W. Patee, has purchased the S. M. Elwood garage in Sac City, Ia. It is proposed to erect a new fireproof building.

The Metz Company, Waltham, Mass., has opened a factory selling branch at 2375 Broadway, San Diego, Cal.

PERSONAL NEWS OF THE INDUSTRY.

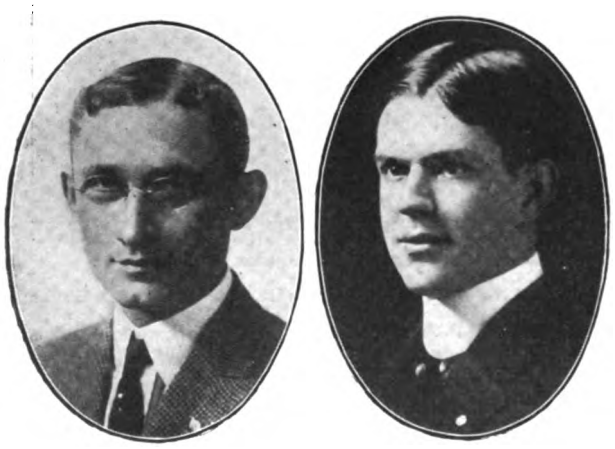
Walter A. Almy, who has been associated with R. C. Manning in the Motor Shop, Trenton, N. J., for the past year, has been appointed general sales manager of the Mercer Automobile Company of that city.

W. W. Beeson has been appointed manager of the Studebaker branch in Atlanta, Ga., to which are tributary the states of Georgia, Alabama, Florida, South Carolina and a part of North Carolina.

P. E. Bertsch, formerly manager of the Detroit branch of the Motz Tire & Rubber Company, died recently in Akron, O.

O. C. Blatherwick, manager of the Texas Motor Sales & Supply Company, Corpus Christi, Tex., has resigned his position.

E. J. Copeland has been appointed general manager of the Corcoran Lamp Company of Cincinnati, O. Mr. Copeland had been purchasing agent for the past three



At Left, E. J. Copeland, Who Resigns as Purchasing Agent of Buick Motor Company, and at Right, James T. Wilson, Who Succeeds Him.

years for the Buick Motor Company of Flint, Mich. James T. Wilson, also of Flint, for the past four years buyer for the Durant-Dort Carriage Company, is his successor.

James R. Bradford, sales manager for the M. B. M. Company, Boston, Mass., has resigned his position to become Pacific Coast representative for the Wagenhals Motor Car Company, Detroit.

J. K. Brasier and J. C. Cushman, Portland, Ore., have invented a new solution for the removal of carbon, which they propose to put on the market in the near future.

H. W. Callahan, formerly of Atlanta, Ga., is now associated with D. W. Alderman, Jr., Florence, S. C., in the wholesale and retail of parts and accessories.

R. W. Chapman, formerly with the National Motor Vehicle Company, Indianapolis, Ind., has become manager of the White Company's branch in that city.

Louis Chevrolet has withdrawn his connection with the Chevrolet Motor Company, Flint, Mich.

O. H. Clay has been appointed manager of the new Marathon tire branch at 1104 Hennepin avenue, Minneapolis, Minn.

Albert J. Ditman, until recently associated with the Mercer selling force in New York City, has been appointed assistant manager of the Locomobile branch in that city.

Charles G. Embleton, who has been manager of the Packard branch in Hartford, Conn., for the past year, has become manager of the branch in Springfield, Mass., in addition, and will divide his time between the two cities.

Edward Faust, formerly connected with the Buick Garage Company, Bluffton, Ind., will open a gagage in Portland, Ind.

Charles Fisher has been appointed district manager for the Mogul Motor Truck Company, St. Louis, Mo.

L. E. Harmon, formerly with the Myer Abrams Company, Boston agent for Lauth-Juergens trucks, has been appointed manager of the new Atterbury-Boston Motor Truck Company, which has located at 1619 Blue Hill avenue.

G. N. Hiller has been appointed editor and advertising manager of the Detroit Motorist, the monthly organ of the Wolverine Automobile Club, Detroit.

John Howard is in charge of a new garage recently opened on the Plaza in Las Vegas, N. M.

T. Johnston, secretary of the Republic Motor Company, Flint, Mich., has resigned.

John W. Kemo, Hartford, Conn., has been appointed manager of the new Chalmers branch in that city.

P. J. Lavin, formerly city salesman for the Carleton Dry Goods Company, St. Louis, Mo., has joined the sales force of the Lee Tire & Rubber Company in that city.

Louis Logie, Toronto, has been appointed Canadian sales manager of the Lozier Motor Company, Detroit. He formerly was sales manager of the Tudhope Motor Company, Orilla, Ont.

J. H. Mack, formerly identified with the Alco sales force, has become superintendent of sub-stations for the Autocar branch in Boston.

A. H. McIntyre, for a number of years a prominent figure in the automobile accessory field, has been appointed New England manager for the J. I. Handley Company, Indianapolis, Ind., distributor for Marion and American cars. His headquarters will be in Boston.

William B. Moseley, formerly with the Goodyear Tire & Rubber Company, is now a salesman for R. M. Owen & Co., New York City, distributor for Reo cars, as travelling salesman in the eastern district.

Harvey Nelson, Petaluna, Cal., has applied for a patent on a new gasoline gauge invented by him.

Fred Nichols, formerly assistant sales manager of the Chalmers Motor Company, is again located in Boston, Mass. He is now assistant district manager for New England.

Mrs. Charlotte Pomeroy, Lawrence, Mass., has been added to the sales force of the Hollander Motor Company, Boston distributor for the Cartercar.

L. E. Roberts, formerly with the Tri-State Auto Company, Minneapolis, Minn., has been appointed general sales manager of the New York branch of the Norwalk Motor Car Company, Martinsburg, W. Va.

Claude M. Logan has been appointed eastern sales representative of the Lozier Motor Company, Detroit. He will have his headquarters in Cleveland.

James W. Wellington, for eight years with the Maxwell motor car interests, has resigned. He was formerly manager of the company's plant at Newcastle, Ind.

O. A. Rhodin, Los Angeles, Cal., is to erect a garage at 1664 West Washington street, at a cost of $4800.

Lathrop Collins has been appointed manager of the Chicago branch of the International Motor Company, New York City.

William Chellis has been appointed manager of the Franklin branch in Portland, Me

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Clark G. Powell, secretary and treasurer of the Omaha Automobile Show Association, composed of dealers in that city, has been appointed manager for the ninth annual show, Feb. 22-27. Mr. Powell has held this position since the organization of the association, and, inasmuch as he is one of the oldest dealers in the city, he has been decidedly successful each year.

Eugene F. Russell, superintendent of the Locomobile Company of America's factory in Bridgeport, Conn., has been named by Mayor Wilson as a member of the city planning commission.

W. H. Shutt, formerly New England manager for the H. J. Koehler S. G. Company, distributor for the Koehler truck, has become general director of sales and advertising at the New York headquarters. He has been succeeded in Boston by Charles H. Leave.

Arthur T. Smith, formerly with the A. Elliott Ranney Company, New York distributor for Hudson cars, has resigned to go with the Colt-Stratton Company, eastern distributor for Cole cars.

Frank H. Smith has been made central district manager of the Lozier Motor Company, with headquarters in Chicago. His territory will include the states of North and South Dakota, Nebraska, Kansas, Missouri, Iowa, Illinois, Indiana, Minnesota, Wisconsin and the upper peninsula of Michigan.

F. G. W. Sudrow, for the past year identified with the Marion Motor Car Company, Indianapolis, as sales manager, has been made division manager for Marion cars in the southern states by the J. I. Handley Company of that city.

L. S. Tainter, New York City, has become general manager of the British Monogram Oil Company, Ltd., London, England.

J. S. Walker, formerly of the Locomobile branch in Chicago, has joined the sales force of the Cumberland Motor Company, Nashville, Tenn., Cole distributor in that territory.

Henry W. Nuckols, Now with Packard Company.

Henry W. Nuckols, who previous to the reorganization of the old United States Motor Company was president of the Columbia Motor Car Company of Hartford, Conn., is now general assistant to President Milton J. Budlong of the Packard Motor Car Companies of New York, Chicago and Philadelphia.

L. T. Upton, Constantine, Mich., is said to be interested in a new automobile concern which may locate in Elkhart, Ind.

Richard D. Willard, well known in New York as a salesman with the Pierce-Arrow and more recently for the Fiat, has joined the sales force of Harry S. Houpt, Lozier agent.

D. B. Williams has been appointed advertising manager for the J. I. Handley Company, Indianapolis, Ind., handling copy for both American and Marion cars.

R. S. Wiltrout, formerly manager of correspondence at the executive offices of the Stewart-Warner Speedometer Corporation, Chicago, has become sales manager of the John W. Blackledge Manufacturing Company of that city, maker of Velvet shock absorber.

Carl Wallerich, vice president of the Brown Commercial Car Company, Indianapolis, Ind., has been seriously ill at St. Vincent's hospital with peritonitis.

Nicholas F. Brady and J. C. Brady have been elected directors of the United States Rubber Company to fill the vacancies caused by the deaths of Frederick M. Shepard and Anthony N. Brady.

James L. Gavin, president of the Hoosier Motor Club of Indianapolis, Ind., accompanied by his wife, returned recently from a 3500-mile tour throughout New England.

E. S. Kelly, formerly tire expert with the B. F. Goodrich Company at Chicago, is now with the Firestone Tire & Rubber Company at Akron, O.

S. M. Udale, formerly assistant research engineer for the Studebaker Corporation, is now in charge of the laboratory and motor testing plant of Joseph Tracy, New York City.

F. L. Sample is now sales manager of the Wagner Oil Company with office at 551 West 42nd street, New York City. He was formerly with the Havoline Oil Company.

T. H. McGlehan, general manager of the Motz Tire & Rubber Company, Akron, O., for the past year, has been elected vice president of the company. Before going with the Motz company Mr. McGlehan was with the Goodyear Tire & Rubber Company, also of Akron.

John N. Willys, president of the Willys-Overland Company, Toledo, O., has announced that he will resume the entire management of the business owing to the death of George W. Bennett. The organization of the company will remain practically intact. C. S. Jameson, formerly one of the sales managers, has been elected a director and second vice president in charge of the sales of the company and subsidiary companies. Mr. Willys has appointed H. B. Harper sales manager of the Willys - Overland Company, and D. W. James assistant to the president.

John N. Willys, President, Willys-Overland Company.

H. E. Field is to leave the employ of the Thomas B. Jeffery Company, Kenosha, Wis., Jan. 1, and will devote all his time to his interests in the Kelly-Field Company.

Joseph Cjertsen, formerly sales manager of the Dart Motor Company, Waterloo, Ia., has been appointed manager of the St. Louis, Mo., branch of the H. E. Wilcox Motor Car Company.

George J. Tuttle, formerly manager of the automobile department of the sales branch of the Avery Company, has become manager of the truck department of the Gibson Automobile Company, Indianapolis, Ind.

J. L. Davidson, for some time in charge of the Studebaker plant No. 3 at Detroit, and who for the past several months has been a manufacturing expert for the Maxwell interests, has rejoined the Studebaker staff as outside inspector.

J. O'Gorman is manager of the new branch house that has been established by the Savage Tire Company at Portland, Ore., and J. O. Michaels is manager of the new branch at Seattle, Wash.

Joseph G. Anglada, New York City, has sold his interests in the Anglada Company of Detroit, and has resigned the presidency of that company. He has become interested in a company that will manufacture a small car of his design.

F. N. Carle, advertising manager of the General Vehicle Company, Long Island City, L. I., has been appointed master of transportation for the convention of the Electrical Vehicle Association of America.

William B. Fewell has returned to Boston, Mass., as manager of the branch of the Oakland Motor Car Company, after an absence as manager of the New York branch of that concern. He was born in Springfield, Mass., and gained his early knowledge of the automobile industry with the Locomobile Company of America, with which concern he was connected for many years. He left the Locomobile company to become associated with the Oldsmobile in St. Louis and worked up to the position of manager of that branch. From St. Louis he was transferred to Boston as manager for that company, and he has many friends in that city who are glad to learn of his return.

William B. Fewell, Manager, Boston Oakland Branch.

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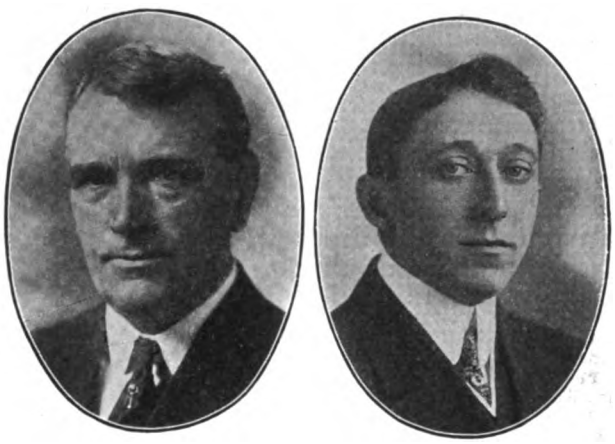
E. H. Chase, Jr., formerly general sales and business manager of the southern branch of the Olds Motor Works at Louisville, Ky., has become assistant sales manager for the Lyons-Atlas Company of Indianapolis.

H. E. Phillips, head of the educational department of the Dayton Engineering Laboratories Company, Dayton, O., in conjunction with J. J. Cole's engineering staff, has been conducting a school at the factory of the Cole Motor Car Company, Indianapolis, Ind. Mechanics from the Cole agencies in many of the neighboring states were in attendance.

James L. Geddes, president of the Kelly-Springfield Motor Truck Company, Springfield, O., was born on a farm near Banffshire, Scotland, received his early education in that vicinity and came to America in 1874. He has held several important positions with large corporations here, and last April was elected to his present office.



At Left, President James L. Geddes; at Right, Chief Engineer Charles Balough, Kelly-Springfield Motor Truck Company.

Charles Balough, chief engineer of the Kelly-Springfield Motor Truck Company, Springfield, O., maker of the Kelly-Springfield truck, was born in Budapest and graduated from the Royal St. Joseph University in 1902 with the degree of mechanical engineer. He came to America in 1903 and has been associated with the engineering department of many important companies before joining this concern in July, 1910.

E. L. Vail, for a number of years associated with C. F. Splitdorf and more recently sales manager of the Hoffecker Speedometer Company, has joined the staff of the Waltham Watch Company, Waltham, Mass., and will specialize on automobile timepieces.

F. R. Pendleton, formerly on the sales staff of the Cartercar Company, Pontiac, Mich., has become eastern sales representative of the Commerce Motor Car Company of Detroit.

Fred A. Cornell has joined the selling force of the Splitdorf Electrical Company, Newark, N. J. He was formerly of the sales staff of the Timken Roller Bearing Company and more recently service manager of the Willys-Overland Company.

L. B. Sanders, sales manager of the Abbott Motor Company, recently returned from California. He was accompanied by L. T. Wager of the Argonaut Motor Company of San Francisco.

Frank Kateley, formerly with the eastern branch of the R-C-H Corporation, is now business manager of the of the Thomas Howard Company, Brooklyn, N. Y., distributor for Correja and Flyer cars.

Alwin Gloetzner, formerly production manager of the Oldsmobile Company and factory manager of the K-R-I-T Company, is general manager and designer for the Flyer Motor Car Company, recently incorporated in Michigan with a capital of $100,000.

Ray Sheets has joined the sales force of Don Lee's northern California Cadillac branch.

K. C. Bourn of Hartford, Conn., has recently joined Edward S. Clark of Hartford, Connecticut representative for Modern trucks and Paige pleasure cars.

Roscoe Elwell, for the past two years with the Alco Company at Boston, Mass., has joined the selling force of the R. & L. Company, and will devote his entire time to the Garford line.

C. W. Kelsey, who organized the Motorette Company of Hartford, Conn., has retired from the manufacturing field.

J. B. Magee, formerly in charge of the advertising and publicity of the United States Tire Company in the western district, has been promoted to be resident manager of the Phoenix, Ariz., branch of the company.

C. C. Bradford, formerly manager of the Cleveland branch of the United States Light & Heating Company, has been appointed manager of the company, with offices in New York City.

Howard M. Plower, who has been travelling in the Long Island district for the Invader Oil Company, has been appointed manager of the Philadelphia branch of the company.

Walter L. Jordan, who was manager of the Detroit office of the Hoffecker Speedometer Company, has joined the staff of the Empire Automobile Company of Indianapolis. He will be assistant to Wallace C. Hood, commercial manager.

Fred Sliter is now connected with the N. A. Burtiss garage, Schenectady, N. Y., agent for the Chalmers, Hupmobile and Chandler cars.

Howard Wilcox, president of the Standard Motor Truck Company, Detroit, has sold his interest in the company and has retired from all connection therewith.

C. H. Pier, general manager of the sales department of the W. A. Paterson Company, Flint, Mich., has resigned. Mr. Pier has been connected with the carriage and automobile business of the Paterson company for the past 16 years.

NEW LOCATIONS AND REMOVALS.

Anderson's Tire Shop, Lowell, Mass., has removed from Bridge street to a better location nearer the centre of the city on the same street.

H. L. Arnold, Los Angeles, Cal., agent for Hudson cars, has enlarged his quarters.

The Bell Motor Company, Norfolk, Va., agent for Ford cars, is to secure a new location on upper Grandby or Freemason street.

The Brownnell Auto Company, Ford agent in Birmingham, Ala., announces the lease of a commodious assembly plant adjoining its quarters, 323-325 South 12th street.

The Buick Motor Company's new branch building in Atlanta, Ga., located at Peachtree and Harris streets, is held to be one of the most completely equipped factory branches in the country. George McCutcheon, southern district manager, will handle the Buick for the entire southern territory from this structure.

The Chalmers Motor Company, Philadelphia, has taken floor space in a structure being rebuilt at 254 North Broad street.

The Clayton Motor Supply Corporation, Clayton, N. Y., expects to remove to its new home the latter part of the month.

The Cleburne Motor Car Manufacturing Company, Cleburne, Tex., has removed to new quarters on South Robinson street.

The Cross & Brown Company, New York City, has leased the Galvin building, Boulevard and 13th avenue, Long Island City, N. Y., to the Renault Freres Selling Branch as a service department for Renault cars.

The Pennsylvania Tire Company has moved its Boston salesrooms from 149 Berkeley street to 735 Boylston street. Increase of business necessitated the larger quarters.

The Duluth Automobile Company, Duluth, Minn., has removed to 320 East Superior street.

The F. C. Eads Automobile Company, St. Joseph, Mo., will remove soon from 1218 Frederick avenue to 13th street and Frederick avenue.

The Ford Motor Company, Kansas City, Mo., has removed its retail department from 1608-1610 Grand avenue, to 1710, same street. Charles C. Meade is manager.

The Franklin Motor Car Company, Boston, Mass., with salesroom at 733 Boylston street and repair shop at 31 Irvington street, has removed to a new office building and service station at 616 Commonwealth avenue.

The Hill Top Motor Car Company, Cincinnati, O., has taken new quarters at 960 East McMillan street.

The Hupmobile Company, New York City, has leased the store at 250 West 54th street.

A. J. Jackson, Syracuse, N. Y., agent for Republic trucks, has purchased the Cronin garage and service station at 571-577 South Clinton street, which gives him much needed room.

The Jackson Auto Sales Company, Houston, Tex., has opened permanent quarters at 1011 Main street.

The Lee Tire & Rubber Company has leased the building at 1606 Broadway, New York City.

The Main Auto & Supply Company, Akron, O., now has one of the most modern and complete garages in the city at 1151-1153 South Main street.

The Maxwell Motor Company has located its St. Louis branch at 13th and Chestnut streets, with the Colonial Motor Car Company as local agent.

The Oakland Automobile Company, Houston, Tex., a factory branch, has removed to the Fox building at 1210 Main street.

The Oberwegner Motorcycle Company, Michigan avenue, Toledo, O., has removed to 813 Jefferson avenue.

Charles P. Palmer, Plainfield, N. J., has removed his repair shop from Sycamore street to 535 North avenue.

The Poughkeepsie Utilities Company, Poughkeepsie,

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N. Y., is now located in a new building on Mechanics court, where it will handle a full line of automobile supplies.

The Phillips Garage, Rockford, Ill., has removed from 326 Mulberry street to 418-420, same street.

The Pullman Auto Company, Pittsburg, Penn., has just completed a new garage on South Highland avenue at a cost of $150,000.

L. W. Quick, Watertown, N. Y., agent for Cadillac cars, will remove to a new location on State street.

Ryder & Karr, Estherville, Ia., has installed considerable new machinery in its repair shop.

The Savage Tire Company, Los Angeles, Cal., has enlarged its quarters and installed new machinery.

E. T. Scudder & Co., New York City, automobile broker, has leased the corner office at 2010 Broadway.

The C. T. Silver Motor Company, New York City agent for Overland cars, has removed to new quarters at Broadway, 55th and 56th streets. The service station will be located at 218 West 65th street.

The Southwestern Motor Sales Company, Fort Worth, Tex., has removed to its new building, recently completed, at a cost of $25,000.

The Tire Exchange, which opened recently on South 12th street, Birmingham, Ala., will remove to Gadsden, Ala.

The Van Allen Tire Supply Company, Houston, Tex., has located on Main street.

Harry Washburn and Frank Sterry, Norwich, Conn., are to occupy the old Tracy market, which is being remodelled into a first class garage.

The Broadway Electric Company, Nashville, Tenn., is now located in its new home at 1223 Broadway.

The Golden West Motors Company has built a concrete shop at Sacramento, Cal.

The Tom Swan Demountable Coupe & Limousine Company, Cleveland, O., has removed into larger quarters at 401 Broadway.

The Mercury Motor Truck Company, Chicago, Ill., has opened a new service station at 43rd and Halstead streets.

The Inter-State Automobile Company, Boston, Mass., has removed to its new salesrooms and service station at 618 Commonwealth avenue.

The Whitten-Gilmore Company, Boston, Mass., has moved into its new building recently erected at 620 Commonwealth avenue. It is a three-story brick and concrete building, 130 by 90 feet.

The Lake Auto Agency, Danbury, Conn., has moved from the Pyramid garage to Parmalee & Congalton's building on Crosby lane.

The T. H. Pollock Auto Company, Danbury, Conn., has completed new salesrooms at 2218 Farnam street. The company distributes Henderson cars.

The Eastern Motor Company, Atlantic City, N. J., has removed into larger quarters at 2720 Atlantic avenue.

The Overland Repair Company, New York City, has leased new quarters at 251 West 49th street and will locate there.

The Metz Motor Car Company, Boston, Mass., selling branch, has moved to its permanent home at 907 Boylston street, vacating the temporary headquarters at 887 Boylston street.

The Hearsey-Willis Company, Indianapolis, Ind., has discontinued headquarters on Market street and has opened new and spacious quarters on North Capitol avenue.

The Mack Motor Truck Company has leased a large service station at Massachusetts avenue, Albany and Osborn streets, Cambridge, Mass. The building is up-to-date in every detail.

The American Motor Equipment Company, 27 Haverhill street, Boston, Mass., has moved to larger quarters at 73 Washington street.

The Peerless Motor Car Company has enlarged its branch office in Philadelphia, Penn.

The Rambler Automobile Company has moved from East Fourth street, Waterloo, Ia., to a new location.

The Birmingham Garage, Birmingham, Ala., has located in its new garage on Avenue C.

CONTEMPLATED BUILDING OPERATIONS.

NEW PUBLIC GARAGES.

The Hope & Colner Auto Company, Cape Guardeau, Mo., has awarded the contract for erection of a one-story garage, 50 by 100 feet.

The Germantown Garage & Storage Company, Philadelphia, is having plans prepared for the erection of a one-story garage and stable, to be 44 by 135 feet and cost $9000.

A. P. Lahr, Evansville, Ind., will erect a modern garage of brick, two stories high, at a cost of $12,000.

George Bayha, Bellaire, W. Va., is erecting a new building for the Robinson garage. He will open a first class garage and supply house.

The Repass Automobile Company, Waterloo, Ia., has awarded contract for the erection of a new garage at an estimated cost of $10,000.

The John Beno Company, Council Bluffs, Ia., will have a new two-story garage erected.

Pearson & Low, Sac City, Ia., automobile dealer, has purchased property on South Fifth street and will erect a new modern fireproof garage.

Samuel Brearden of the Western Automobile Company, St. Louis, Mo., is to have a garage and shop erected at a cost of $35,000.

C. Roehlig, Tampa, Fla., is to have a new garage and blacksmith shop built.

Dunnard & Cook, Ceylon, Minn., is to erect a new modern garage at a cost of $5000.

Herbert Lahr, Evansville, Ind., will erect a new modern garage on Fourth street.

Pirtle & Co., Phoenix, Ariz., will have a new garage erected at a cost of $10,000. Contract to build was awarded to T. B. Stewart.

Lesher Livingston, Reading, Penn., is having a new garage erected near Fourth street by Mertz, Christman & Co. The garage will be up-to-date throughout with modern equipment.

Frank A. Minnemeyer, Pittsburg, Penn., will have a new garage erected. It will be two stories, modern and fireproof, and will cost $15,000.

The El Paso Garage, El Paso, Tex., is being erected for C. E. Monyer and S. V. Fulkerson.

John D. Schaal, Chambersburg, Penn., will erect a large modern garage on North Main street.

Rose Bros. Auto Company, Greensburg, Penn., will erect a garage, 90 by 110 feet, on lot in rear of Turney property.

Ernest Sprague and Alva Sprague, Clinton, Ill., have awarded the contract for the erection of a brick and concrete garage.

John Hart, Brazil, Ind., has awarded the contract for a new garage building to Monroe Cutshalf. The building has been leased to Crawford & Cooprider.

Dunton & Vator, Encanto, Cal., is to erect a new garage, which will be modern throughout.

James E. Stewart, Cambridge, Mass., is erecting a modern, fireproof garage on Massachusetts avenue at a cost of $30,000.

The Kern Land Company, Bakersfield, Cal., is to erect a new garage building on G street.

Frank Van Syckles, Perth Amboy, N. J., is erecting a modern garage on New Brunswick avenue.

The Reid-Blickley Automobile Company, Grand Rapids, Mich., is erecting a new garage building.

Julian A. Peverill, manager of the Glide Automobile Company, Waterloo, Ia., will erect a new garage on Sixth street.

Seeley Bros., Rensselaer, N. Y., is to erect a new garage at a cost of $10,000.

J. W. Leakin, Mount Royal, Md., has awarded the contract for a $27,000 garage to J. J. Moylan, Baltimore, Md.

The Adirondack Motor Car Company, Glens Falls, N. Y., is to erect a three-story garage on Main street.

The Beloit Auto Company, Beloit, Kan., is to erect a garage on East Main street. W. C. Brown will be manager.

Bushnell Bros., Philadelphia, will erect a garage at 2009-2013 North Hope street for the Lee & Faber Company.

The Cadillac Motor Car Company, Phoenix, Ariz., has purchased land at Center and Pierce streets and will erect a garage at a cost of $12,000.

The Chester Motor Car Company, Nashville, Tenn., is erecting a two-story garage at Gavock street and 11th avenue, to cost $15,000. C. A. Ferguson is architect.

The Correy Garage, Correy, Penn., will soon erect a new building on East South street.

T. Dewitt Beekman, Dundee, N. Y., is to erect a garage on Water street, just north of his brick block.

Gordon Crossman, Clinton, Mass., has secured land on Main street and will erect a modern garage.

The Davies-Leavitt Company, San Diego, Cal., agent for KisselKar and Overland cars, will erect a large modern garage.

The Diamond Garage Company, Pittsburg, Penn., is to erect a one-story garage on Burd street.

J. L. Eichold, Cincinnati, O., is erecting a garage on Madison road, near Gradin street, Walnut Hills. Stewart & Stewart is architect.

The Fredericksburg Motor Company, Fredericksburg, Md., will erect a large, modern garage at 616 Princess Anne street.

Hiram C. Gibson, South Deerfield, Mass., is erecting a garage on South Main street. Allen Bros. has the contract.

The Gibson Motor Car Company, Rochester, N. Y., has acquired property on Railroad street and will erect a modern garage.

The Greenlee-Hinshaw Automobile Company, Hutchinson, Kan., has plans for a garage just west of the Hoke building, on First avenue.

W. Griffith, Alhambra, Cal., has plans for a new garage on Wilson avenue, to cost complete, $6500.

J. W. Hartsuck, Albia, Ia., is erecting a large garage

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on South Main street, near the Falvey lumber yards.

C. Emerson Harvard, New Bedford, Mass., has plans for a new garage on Purchase street, near Franklin.

Hubbard & Witt, St. Paul, Minn., is to erect a garage near Lexington avenue.

G. L. Hudkins, Salina, Kan., agent for Ford cars, is to erect a new building at a cost of $10,000.

Irwin & Leighton, Philadelphia, has the contract for the erection of a garage building at Broad street and Lehigh avenue, for the Ford Motor Company, to cost $800,000.

The Kansas City Automobile Club, Kansas City, Mo., is to erect a four-story garage building at 1020 Oak street, with accommodations for 200 cars.

A. W. Kimble, Bakersfield, Cal., will erect a new garage on G street.

Jacob B. Kress of Westmont, Penn., has begun work on the erection of a new garage on Washington street, in Johnstown, Penn. It will be equipped with modern machinery throughout.

L. Lawrence, Newark, N. J., is erecting a garage at 392 Halsey street.

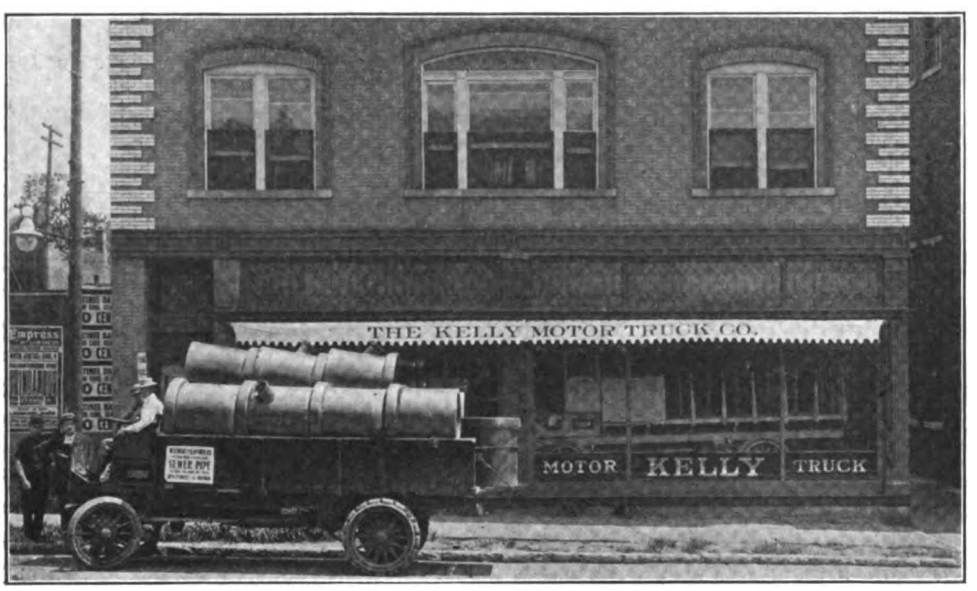
H. B. LeCate, Camden, N. J., has purchased property at King's highway and White Horse pike and will erect a garage.

Howard S. Johnson, Summit, N. J., has purchased land in Morris Plains, N. J., and will build a garage.

J. T. McCorkell, Philadelphia, has been awarded a contract for a garage at 2035 North Marshall street for Whittak Bros., to cost $2800.

The Ohio Auto Sales Company, Cleveland, O., is erecting a two-story building on North High street, near Warren, to cost $18,000.

E. R. Prittie, Phoenix, Ariz., state agent for the Cadillac, has purchased a lot on Center street, near the Adams annex, and will erect a modern garage to cost $30,000.



Kelly-Springfield Motor Truck Company's Branch in Kansas City, Mo.

The Overland Automobile Company, St. Louis, Mo., is erecting a new building at 2305 Locust street.

Harry B. Schwartz & Son, Reading, Penn., is to erect a garage at Pearl and Chestnut streets, to cost $7500.

C. G. Sherman, Chicago, will erect a new garage at 3608 Milwaukee avenue, to cost $7500.

Stearns & Caster, Stephen Girard building, Philadelphia, is preparing plans for a two-story garage at 17th and Canbria streets for the Electric Service Supplies Company.

Edwin J. Thomas, Youngstown, O., agent for Kline-Kars, has purchased the G. H. Boucsein property on Elm street, and will erect a garage.

C. A. Thompson, Springfield, Ky., is preparing to erect a garage on East Main street.

W. J. Wilson, Wheeling, W. Va., is erecting a new garage at 85 16th street, East End.

Frank I. Wintz, 1618 North 27th street, Philadelphia, is to erect a one-story garage at Perner and Woodstock streets for Dr. T. S. Dunn, to cost $7000.

W. K. Young & Bro., 1440 Washington avenue, Chicago, is contemplating the erection of a new garage.

B. L. Zapp, La Grange, Tex., is to erect a garage and automobile supply house at the northwest corner of the Square, to cost $2000.

Hall Bros., Davenport, Ia., is to build a new garage at 418-428 East Second street.

McKenzie Bros., Greenville, Ala., will build a 60 by 100-foot garage.

The Miles B. Mank Motor Car Company, Portland, Me., is to have a new service station erected that will contain about 36,000 square feet of floor space.

Henry Desmarais, Holyoke, Mass., is planning the erection of a three-story garage in the rear of his carriage shop.

Horace Rainey, Columbia, Tenn., will erect a fireproof garage, 70 by 125 feet, with glass front.

Carl Nemsila, Hailey, Idaho, is to have a large garage erected on First avenue.

W. H. Shaw, Sonora, Cal., has commenced remodelling the brick building adjoining his stable and will convert the same into a garage.

The Reed & McCready Garage, Arcata, Cal., is to be enlarged.

J. T. Carter, San Francisco, Cal., in the Balboa building, is preparing plans for a two-story garage to be erected on the George Wallace property at a cost of $7000.

P. B. Foster, New Haven, Conn., who recently purchased property adjoining his garage will erect an addition to his building on that property.

NEW PRIVATE GARAGES.

The Seabury-Carlson Company, Magnolia, Ia., will erect a new garage.

The Huselton Automobile Company, Butler, Penn., will erect a new modern garage.

Mrs. Ida M. Joice, Minneapolis, Minn., will have a garage and residence erected at a cost of $8000.

E. H. Griffin, Alhambra, Cal., is to have a new garage erected on Main street.

The Hooben Mercantile Company, Reading, Penn., will have a new garage and boiler house erected.

Charles A. Chapman, Day street, Catskill, N. Y., has awarded a contract to the Catskill Supply Company to build a steel garage.

Mary D. Seymour, Springfield, Mass., has been issued a permit to erect a garage at 128 Massachusetts avenue.

E. D. Ward, Worcester, Mass., is to have a new garage erected on Grand street.

Carr Prime, Oxford, Neb., will erect a new cement garage.

T. P. Bates, St. Louis, Mo., has given contract to the Merrill Construction Company for erection of a one-story garage, 21 by 24 feet.

F. J. Mayer, Milwaukee, Wis., has plans prepared for a two-story garage, 24 by 30 feet.

Dr. A. H. Levings, Milwaukee, Wis., is to erect a new private garage in the spring.

C. G. Warren, Minneapolis, Minn., is having plans prepared for the erection of a small private garage.

The Pennsylvania Coal & Coke Corporation, Cresson, Penn., has started work on a large modern garage.

Anton Trolle has been awarded the contract for a new garage at Sound View and Hillcrest avenues, Hartford, Conn., to cost $500.

James Hillard, Philadelphia, is to erect a new garage at 1710 Venango street, to cost $4700.

Charles C. Warren, Wenatchee, Wis., is erecting a one-story concrete garage on Wenatchee avenue.

Dr. DeHaven Eaches, Phoenixville, Penn., has received a permit for erection of a corrugated iron garage on Brower street.

Raymond Bros., Waterbury, Conn., has awarded the contract for the erection of a garage and bakery on West Main street.

George Gillick, Clayton, N. Y., is to have a new fireproof garage erected on James street.

Howard S. Johnson, Morris Plains, N. J., will have a new garage erected on Speedwell avenue.

Heydt & Haas, Reading, Penn., have given out the contract for the erection of a new one-story modern garage at a cost of $5000.

George E. Shaffer, Harrisburg, Penn., is to erect a one-story garage at the rear of 5-7 North 13th street, to cost $1200.

Dr. F. L. Quantius, McPherson, Kan., has awarded the contract for erection of a new garage at a cost of $5000.

Rev. Ellis Purlee, Red Bluffs, Cal., is to have a garage erected for him by the women of the Christian church.

H. F. Duesing, 1550 West Federal street, Youngstown, O., is having plans prepared for a one-story garage, 22 by 24 feet.

Mrs. L. C. Hern, Lagrange, Ga., will erect a one-story garage, 30 by 70 feet.

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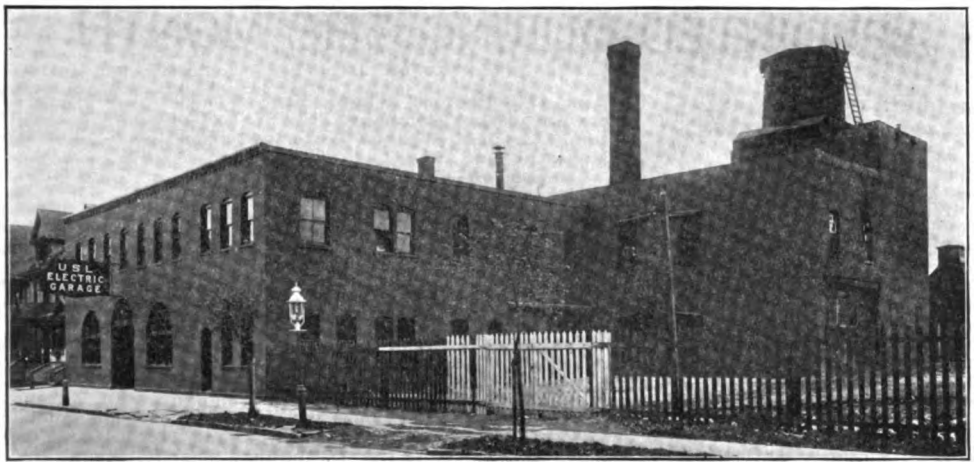


The U-S-L Service Station and Electric Garage at Buffalo, N. Y.

Huggins & Relihan, Corning, N. Y., is to erect a garage for Dr. Hubbell.

A. M. Dolph, Cleveland, O., has awarded the contract for the erection of a one-story garage, 22 feet square.

The Bureau of Building, Syracuse, N. Y., has issued permits for the following private garages: A. Roy Grant, 6 Brattle road, $600; Mrs. John Howell, 871 Sumner avenue, $200; W. H. Allen, 444 Rich street, $50; Marjorie L. Stacy, 501 Stinard avenue, $200; John Boyle, 231 Merriman avenue, $225; Mrs. Charles Haberle, 165 James street, $600; Monroe B. Clark, 258 West Brighton avenue, $200; A. Ball, 506 University place, $4000; William Post, 116 Wood avenue, $50.

ADDITIONS AND IMPROVEMENTS.

The Herring Motor Car Company, Des Moines, Ia., is to have its building on West Tenth street enlarged and improved.

The Groff Garage, Berlin, Penn., is contemplating the addition of a repair shop.

J. H. Thomas & Sons, Woodward, Ia., has leased a building and will remodel it into a garage and repair shop.

Alfred Shaw, Philadelphia, will have alterations made to his two-story brick and stone garage on Girard avenue. C. A. Shaw is architect.

Everybody's Garage, Leatherwood lane, Wheeling, W. Va., is constructing a much needed addition.

B. F. Erwin & Son, Philadelphia, is to erect an addition at a cost of about $1500 to the garage of J. A. Acuff.

The Bradford Garage Company, Bradford, Penn., is to have an addition to its garage at an approximate cost of $6000.

The Vandergroiff & Morris Garage, Shelby, Ind., is being enlarged and improved.

H. F. Wilkins, Chicago, Ill., has awarded the contract for remodelling his garage.

Fluke & Son, Altoona, Penn., has the contract to enlarge the garage of the People's Taxicab Company, 2200 Beale avenue.

The Barnes Motor Sales Company, Rockford, Ill., has purchased the Burr Bros. stables on South Church street and will remodel the building into a first class garage.

H. Jack Briggs, Oswego, N. Y., has leased the Ahwaga garage on Church street and will enlarge and improve the building.

The Draper Garage, E street, San Bernardino, Cal., is being enlarged and improved. Contract for the work was awarded to F. W. Lefior.

Markey & Coughman, New Paris, Ind., is to enlarge and improve its garage.

F. H. Alford, New Britain, Conn., is erecting an addition to the Hart garage on Main street.

The Mount Pleasant Garage, Tarrytown, N. Y., is being enlarged.

The Hobbie Automobile Company, Montgomery, Ala., has plans for the enlargement of its garage building.

L. C. Houck, San Antonio, Tex., is converting the Star Theatre building into a modern garage.

Edwin U. Alfrey, Johnstown, N. Y., owner of Alfrey's garage, is planning to enlarge the building and make other improvements.

Pierrepont B. Foster, New Haven, Conn., owner of Knight's garage, George street, has purchased adjoining property and will erect a two-story addition.

The Gainesville Motor Car Company, Gainesville, Fla., has awarded the contract for extensive alterations to its building to J. S. Edenfield.

The Herring Motor Car Company, Des Moines, Ia., is building a $30,000 addition. Two full stories are being added to the plant.

The Depot Garage, Modesto, Cal., has been leased by Romo Zamon and associates, who will enlarge and improve the building.

MISCELLANEOUS OPERATIONS.

J. C. Baird, Portland, Ore., is having a new building erected at a cost of $15,000, part of which will be used as a garage.

The Morristown Automobile School, Morristown, N. J., James O'Gorman, proprietor, has plans for an apartment house and garage on South street.

The W. D. Newerf Company, Los Angeles, Cal., is planning for new and larger quarters to be ready for occupancy about the first of the year.

F. A. Havens & Co., Philadelphia, is estimating on plans and specifications for alterations and additions to the residence and garage of W. K. Wetherill at Wynnewood, Penn.

The Fire Department, Fort Worth, Tex., is erecting a garage at the central station for the use of municipal machines.

The Ford Motor Company of Canada is to erect a six-story building at Dupont and Christie streets, Toronto, at a cost of $250,000.

The Ohio Auto Sales Company, Columbus, O., has had plans prepared for the erection of a new sales and office building near Warren street.

William J. Payne & Co., Allentown, Penn., is to erect a garage on Allen avenue to cost $5500.

John I. Bagdzuina, Chicago, is erecting a one-story garage at 2334-2336 South Oakley avenue, at a cost of $1000.

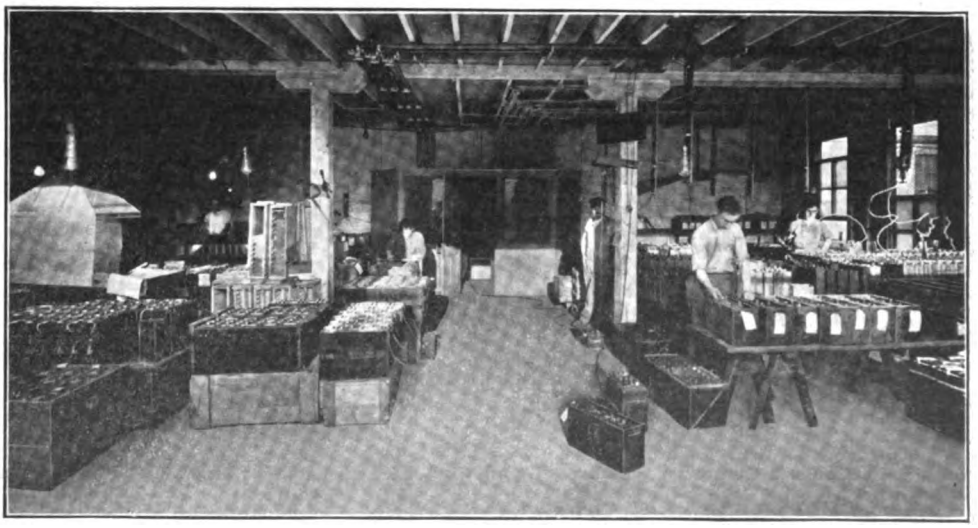
H. M. Ingram is erecting a garage in Martinsburg, Md.

Fiske & Miller, Lincoln, Neb., is having plans prepared for a large modern garage to be erected in the near future.

C. E. Meyers, Washington, D. C., is converting a building in the alley between Third, Fourth, G and H streets into a public garage, at a cost of $5600.

John Miles, Port Chester, N. Y., is erecting a new garage on Mamaroneck avenue.

T. J. Revertson, Chicago, Ill., is erecting a garage at 4204 Kammerling avenue, at a cost of $6000.



The Interior of the U-S-L Service Station at Cleveland, O.

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AGENCIES APPOINTED DURING THE MONTH.

GASOLINE PLEASURE CARS.

Abbott-Detroit—Snyder Automobile Company, 162 North Fourth street, Columbus, O.

Allen—Robison & Co., Des Moines, Ia.

American—J. P. McGuire, 1400 Hennepin avenue, Minneapolis, Minn.

Apperson—Orrin R. Hughes, Milwaukee, Wis.; Myers Motor Car Company, San Francisco, Cal.

Buick—Wilmington Auto Company, Mulberry street, Wilmington, Del.; Lima Buick Company, Lima, O.; Syracuse Buick Sales Company, Syracuse, N. Y.; Martin H. Schmidt, Xenia, Penn.

Cadillac—E. D. Rubel, Santa Maria, Cal.; Darwin Motor Car Company, Eau Claire, Wis.; Curtin Williams Automobile Company, Columbus, O.; Lamb & Swearengen, Houston, Tex.

Cartercar—DeWitt & Thornton, Billings, Mont.; Cartercar British Columbia Company, Victoria, B. C.; Moline Plow Company, Boise, Idaho; Phoenix, Ariz.; Portland, Ore.; Spokane, Wash.; San Francisco and Stockton, Cal.; J. W. Prescott, Seattle, Wash.

Case—F. G. Dunham, 1519 Bedford avenue, Brooklyn, N. Y.; Earl McGaughy, Pine Bluff, Ark.

Chalmers—Al Shem, Canton, O.; Huntsman-Hotchkiss Auto Company, Tucson, Ariz.

Chandler—Gaither Automobile Company, Columbus, O.; Chase Garfield, Tacoma, Wash.; Jacob Razor, Bloomington, Ill.; W. B. Gray & Son, Bridgeport, Ill.; W. H. Johnson, Cedar Rapids, Ia.; W. S. Farrant, Grand Rapids, Mich.; E. K. Myrick, Itta Bena, Miss.; Hollandwood Motor Company, Nashville, Tenn.; W. L. Sturtevant, New Bedford, Mass.; C. B. McAllister Company, Pittsburg, Penn.; Marshall, Wood & Riley Company, Plattsburgh, N. Y.; A. G. Parker, Pownall, Vt.; J. F. Hankins, Tucson, Ariz.

Chevrolet—Wisconsin Auto Sales Company, Milwaukee, Wis.

Colby—Knowles McCallum Company, Des Moines, Ia.

Cole—William L. Shallabarger & Sons, Decatur, Ill.; Poehlman Automobile Company, Baltimore, Md.; College Avenue Garage Company, Bloomington, Ind.; Model garage, Bowen, Ill.; J. E. Osborne, Carroll, Ia.; Conklin & Spindler, Chicago Heights, Ill.; Geo. C. Miller & Sons Carriage Company, Cincinnati, O.; Columbia Motor Car Company, Columbia, Mo.; Franklin Cycle & Supply Company, Columbus, O.; G. A. Bulliet, Corydon, Ind.; Davis Livery & Auto Company, Denison, Tex.; Lafayette Motor Car Company, Easton, Penn.; Clayton & Donahay, Freehold, N. J.; E. A. Merrill, Grand Rapids, Mich.; Washington garage, Green Bay, Wis.; A. M. Urquhart, Huron, S. D.; Capitol Equipment Company, Jefferson City, Mo.; P. E. Tabor, Joplin, Mo.; Cole Motor Car Company of Missouri, Kansas City, Mo.; John M. Selter, Lexington, Mo.; Auto Distributors Company, Logansport, Ia.; Abel Mitchell, Madison, S. D.; H. G. Burns, Mansfield, O.; C. E. Miller, Marion, O.; Charles K. Cohn & Co., Meridian, Miss.; Fred A. Morris, Mexico, Me.; Coover's garage, Milton, Penn.; Moorestown Motor Company, Moorestown, N. J.; Newton Motor Car Company, Newton, Ill.; J. Arthur Matthews, Ortonville, Minn.; Crescent Garage & Machine Company, Oxnard, Cal.; O. H. Peak, Parsons, Kan.; C. M. Davis, Pasadena, Cal.; J. Yauchscy, Perry, N. Y.; H. C. Simmons, Pilot Grove, Mo.; G. J. Stillman, Porterville, Cal.; J. R. Norris, Raleigh, N. C.; Stamper & Stamper, Salisbury, Mo.; Dixon & Baumgartner, San Jose, Cal.; H. Wood & Son, Santa Barbara, Cal.; Theodore Baisden, Santa Rosa, Cal.; John Winterfield, Sioux Center, Ia.; Sioux Rapids Automobile Company, Sioux Rapids, Ia.; Stavig Bros., Sisseton, S. D.; C. A. Oliver, Somerville, Tenn.; E. L. Ensign, Springfield, O.; Central garage, Streator, Ill.; Smith & Bellville, Tekamah, Neb.; Keystone Automobile Garage Company, Titusville, Penn.; Silas Swank, Wabash, Ind.; Elmer Orris & Co., Winterset, Ia.; Thorvald Hanson, Worcester, Mass.

Correja—Motors Repair Company, Huntington, N. Y.; Nagel Motor Car Co., Wilkesbarre, Penn.; Hill garage, Hamilton avenue, Brooklyn, N. Y.; H. E. Paxon, Parkesburg, Penn.; Yonkers Auto Station, Yonkers, N. Y.; A. D. Matteson, Swissvale, Penn.; Liberty garage, Jamaica, N. Y.; Hogan Store Company, DuBois, Penn.; I. Gardiner, Utica, N. Y.

Crow Elk-Hart—Wicks & Donley, Main street, Ashland, O.

Detroiter—Weber Implement & Automobile Company, St. Louis, Mo.

Dorris—J. W. Collins, Almo plaza, San Antonio, Tex.

Ford—J. E. Carson, Pearce garage, Macomb, Ill.; Stone Bros., East Grove street, Winchendon, Mass.; T. P. Newbecker, Ord, Neb.; George Van Winkle, Elk Creek, Neb.; Plattsmouth garage, Plattsmouth, Neb.; Klinger & Radloff, Watertown, Wis.; J. E. Jenkins, Weeping Water, Neb.; A. A. Canfield Company, Sanborn, N. D.; Newton H. Davis, Larue, O.; Newton H. Davis, Marion, O.

Franklin—Franklin Motor Car Company, Portland, Me.

Haynes—H. R. Ingalls, Asbury Park, N. J.; Model Auto Company, Clinton, Ia.; Brantjen Motor Car Company, St. Paul, Minn.; B. F. Johnson, Hazlehurst, Miss.; I. C. Kirkham, 1365 Bedford avenue, Brooklyn, N. Y.; Bolton-Myers Auto Truck Company, Troy, N. Y.; Toman Bros., Trenton, N. J.; J. M. Weekes, Watertown, N. Y.; J. A. Charette, Montreal, Que., Can.

Herreshoff—Dal Kirk, Leipsic, O.

Hudson—Triebel & Steenburg, Peoria, Ill.

Hupmobile—Fawley & Langdon, Waterville, Wash.; Dal Kirk, Leipsic, O.; Greer-Robbins Auto Company, Los Angeles, Cal.; W. T. Patten Motor Car Company, Seattle, Wash.

Imperial—M. H. Davis, Minneapolis, Minn.; Warner & Southwick Car Company, Columbus, O.; Des Moines Imperial Company, Des Moines, Ia.

Jackson—Pittsburg Mercer Automobile Company, Pittsburg, Penn.

Keeton—W. W. Hamilton, Pittsburg, Penn.

King—Guarantee Motor Car Company, San Antonio, Tex.; William P. Taylor, Wapakoneta, O.; Shenandoah Motor Company, Richmond, Va.; King Motor Car Company, Boston, Mass.; F. H. Barshar, Seattle, Wash.

KisselKar—J. E. Covey & C. M. Cole, Bryan, Tex.; W. R. Haish, Hinckley, Ill.; Julius C. Newmann, Rockaway Beach, L. I.; Mark A. Lawler, Cowdersport, Penn.; Edward E. Hileman, New Castle, Penn.; Newman Lofland, Rockwell, Tex.; Venita Auto Company, Venita, Okla.; Massillon Motor Car Company, 500 South Erie street, Massillon, O.; H. R. Oglesby, Springfield, Mo.; E. A. Brandes, Hastings, Neb.; C. A. Fay, Clinton, Ia.; G. H. Bremmer, Portage, Wis.; H. E. Blum, Beresford, S. D.; St. Louis KiselKar Company, 5802 Delmar avenue, St. Louis, Mo.; G. R. Lanning, Sioux Falls, S. D.; E. B. Delamater, Poughkeepsie, N. Y.; J. D. Hess, Grand Rapids, Mich.; Oliver & Howe, Tucson, Ariz.; Torke Bros., Plymouth, Wis.; M. J. O'Reilly, Osceola, Wis.; Smith & Perdew, 183 Third street, Keokuk, Ia.; Harrison P. Smith, Inc., Santa Rosa, Cal.; Von Hamm-Young Company, Honolulu, T. H.; Brandt Motor Car Company, 3501 Detroit avenue, N. W., Cleveland, O.

Knox—Capon Motor Company, St. Louis, Mo.

K-R-I-T—Imperial Auto Sales Company, Milwaukee, Wis.

Locomobile—Whittier Garage Company, Whittier, Cal.; A. G. Ilsend Motor Car Co., 911 Commerce St., Ft. Worth, Tex.; Engle & Vincent Auto Company, Columbus, O.

Lozier—McDonald Motor Car Company, Milwaukee, Wis.

Lyons-Knight—Jas. R. Burton Company, Nashville, Tenn.

Marathon—Tri-State Sales Company, Dallas, Tex.

Marmon—J. T. Lloyd Auto Company, Little Rock, Ark.

Maxwell—William Campbell, Johannesburg, South Africa; Colonial Motor Car Company, 13th and Chestnut streets, St. Louis, Mo.; Forbes Motor Car Company, Baum street, Pittsburg, Penn.; Maxwell Auto Sales Company, Milwaukee, Wis.; F. M. Bowers, Wapakoneta, O.; Huck-Clarke Company, Tucson, Ariz.; C. P. Wells, Corpus Christi, Tex.; Charles Hoefer, Higginsville, Mo.; Lamb & Swearengen, Houston, Tex.

McFarlan—C. A. Chambers Company, Indianapolis, Ind.

Mercer—Pittsburg Mercer Automobile Company, Pittsburg, Penn.

Metz—Southern Motor Car Company, St. Louis, Mo.; D. W. Short, Columbus, O.; G. H. Dudley, New Canton, Ill.; M. H. Phelton, Salem, Mo.

Moon—Elm Grove Motor Sales Company, Elm Grove, W. Va.; Interstate Auto & Supply Company, Des Moines, Ia.; Southern Illinois Garage & Auto Sales Company, DuQuoin, Ill.; L. J. Weaver, Morgantown, W. Va.; Kinch Automobile Company, New Orleans, La.; M. J. Wolfe, Brooklyn, N. Y.; A. L. Stocks, Morrisonville, Ill.; T. C. Hill, Winchester, O.; John Ruck, Hoopestown, Ill.; J. J. Armstrong & Son, Canyon City, Col.; Minerva Auto Company, Philadelphia, Penn.

Oakland—H. L. Robinson, College street, Washington, Penn.; D. W. Thornton, Akron, O.; Karl Gast Auto Garage Company, Akron, Ind.; Krause Auto Company, Allentown, Penn.; Grand Auto garage, Alliance, O.; Ashland Auto garage, Ashland, O.; High-Level Auto Company, Ashtabula, O.; G. W. Hanson, Atlanta, Ga.; S. C. Daisson, Bloomington, Ind.; Quiggle Bros., Blue Earth, Minn.; Burt & Son, Blue Mound, Kan.; Woods Garage & Sales Company, Brooklyn, N. Y.; Bucyrus Cycle & Auto Company, Bucyrus, O.; Auto Sales Company, Caney, Kan.; F. H. Parker, Canton, Miss.; H. I. Bunting, Cedar Rapids, Ia.; W. C. Wait, Chagrin Falls, O.; Charlotte Auto Company, Charlotte, Ia.; Charles C. Dickman, Chillicothe, Ill.; Quimby Climber, Chillicothe, O.; McLaren & Freeman, Chelsea, Mich.; Nelson Bros., Clifton, Kan.; R. W. Glick, Clyde, O.; Clintonian garage, Clinton, Mich.; Oscar Lear Motor Company, Columbus, O.; H. Swinney, Collins, Miss.; W. A. McDaniel, Converse, Ind.; Joseph W. Johnson, Coshocton, O.; T. J. Grippen, Council Grove, Kan.; H. H. Barton, Dayton, O.; E. B. McClary, Defiance, O.; Ideal Auto Company, Des Moines, O.; Oakland Motor Sales Company, East Orange, N. J.; O. N. Gibson, Eldorado, Ill.; O. H. Miedreich & Co., Evansville, Ind.; H. A. Pawling, Fayette, O.; Auto Sales Company, Findlay, O.; Fox-Shryock

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Auto Company, Fort Wayne, Ind.; Smith & Shuman, Fostoria, O.; Preston Auto Company, Franklin, Ind.; Jacob Post, Freeport, L. I.; Gettysburg Motor Car Company, Gettysburg, Penn.; A. W. Tindall, Hartford City, Ind.; B. F. Johnson, Hazlehurst, Miss.; Capitol Auto Company, Jackson, Miss.; W. J. Kelly, Jersey City, N. J.; John F. Judy, Judyville, Ind.; Howard Henry, Lawrence, Kan.; R. W. Jones, Lehighton, Penn.; Dal Kirk, Leipsic, O.; E. A. Bleck, Lima, O.; L. H. Miller, Lisbon, O.; C. L. Hoffman, Little Rock, Ark.; A. T. Spang Auto Company, Livingston, Wis.; Hageman & Nichols, Lorain, O.; Hawley King & Co., Los Angeles, Cal.; Brucker Motor Car Company, Mansfield, O.; Sephire Bissonnette, Manteno, Ill.; I. O. Millsor, Marion, O.; A. C. Marsh, Medina, O.; A. B. Rudy & Sons, Millersburg, O.; Creek Motor Sales Company, Milwaukee, Wis.; F. M. Neff, Milford, Ind.; Frank L. Young, Mt. Vernon, O.; J. E. Bowman, Muncie, Ind.; Corey Bros. Auto Sales Company, Napoleon, O.; D. P. McClure, Oskaloosa, Ia.; D. P. Hopkins, Painesville, O.; Model Garage & Auto Company, Paterson, N. J.; M. G. Smith, Peoria, Ill.; Oakland Sales Company, Peru, Ind.; Fred Kuhn, Plymouth, Ind.; Lowden & Flint City garage, Port Chester, N. Y.; D. K. McRitchie, Port Clinton, O.; J. Guy Britton, Reading, Penn.; C. D. Thompson, Redwood Falls, Minn.; Bethard Auto Company, Richmond, Ind.; Vail-Campbell Company, Riverhead, L. I.; Fred Converse, Round Lake, Ill.; Leo Gunning, Shreveport, La.; Glenn D. Smith, Springfield, Ill.; R. J. Fuller Garage, Stafford, Kan.; Jesse A. Miller, Terre Haute, Ind.; Baumgardner & Kibby, Toledo, O.; C. E. Stille, Tuckahoe, N. J.; Barr Bros., Uhrichsville, O.; W. N. Couffer, Urbana, O.; Oakland Sales Company, Wabash, Ind.; George W. Angstadt Company, Warren, O.; Waterloo Auto & Supply Company, Waterloo, Ia.; W. B. Crawford, West Frankford, Ill.; Talbert Auto Company, White River Junction, Vt.; Ash Implement Company, Willington, Kan.; O. E. Davis, Winchester, Ind.; H. Scott Johnson, Yonkers, N. Y.; Youngstown Auto & Repair Company, Youngstown, O.; Mehrling & Beelman, Chicago Junction, O.

Oldsmobile—Berwin Auto Company, Allentown, Penn.; J. Elmer Wood, Beverly, Mass.; Highland garage, Birmingham, Ala.; Crookston garage, Crookston, Minn.; H. E. Love, Huntington, W. Va.; Merrill-Stevens Company, Jacksonville, Fla.; Bond Motor Company, Kansas City, Mo.; Union garage, Lansing, Mich.; Wasson Company, Lincoln, Ill.; Dr. H. N. Boshell, Melvin, Ill.; Edwin S. Curtice, Meridian, Miss.; Cutting-Larson Company, New York City; C. H. Weaver, Oil City, Penn.; A. J. Carrick, Port Arthur, Ont.; Randall-Dodd Auto Company, Salt Lake City, Utah; Edgewood garage, Shamokin, Penn.; George D. Greenough, Sterling, Ill.; Carlow Auto Company, Taunton, Mass.; Begg Bros., Vancouver, B. C.; M. T. Pollock, Washington, D. C.

Overland—R. E. Dalrymple, Pine street, Paso Robles, Cal.; E. G. Gilbert, 773 Third street, San Bernardino, Cal.; E. C. Sells, Kenton, O.; American Auto Sales Company, Sycamore street, Newcastle, Penn.; Grant & Parmenter, Cabool, Mo.; J. W. Leavitt & Company, San Francisco, Cal.; O'Harry Auto Company, Charles City, Ia.; Three Rivers garage, Three Rivers, Mich.

Paige—Dal Kirk, Leipsic, O.

Palmer-Singer—Walter E. Burke, Boston, Mass.

Partin-Palmer—Fitton & Jackson, Indianapolis, Ind.

Paterson—Swanson-Christianson Auto Company, Des Moines, Ia.

Pathfinder—W. R. McKenzie, Fresno, Cal.

Perfex—M. S. Bulkley & Co., Los Angeles, Cal.

Pierce-Arrow—Fred Hannan, Lawton, Okla.

Premier—Dr. Dodd, Butte, Mont.; Oklahoma Motor Car Company, 413 North Broadway, Oklahoma City, Okla.; Hustis Bros., Summit avenue, Milwaukee, Wis.

Pullman—Meyer Motor Car Company, Buffalo, N. Y.

Regal—Anselm-Ganahl Motor Car Company, St. Louis Mo.; Automobile Distributing Company, 1011 Jefferson avenue, Toledo, O.; Peterson-Keyes Company, Indianapolis, Ind.; Andler's Motor Mart, 183 North street, Pittsfield, Mass.

Reo—Brodie Electric & Auto Company, Pleasant street, Manchester, N. H.; Auto Sales Company, Cleveland, O.; Zell Motor Car Company, Washington, D. C.

Richmond—Todd Auto Company, St. Louis, Mo.

Stearns-Knight—Pittsburg Mercer Automobile Company, Pittsburg, Penn.

Studebaker—H. T. Armington & Sons, Jacksonville, Fla.; California Auto Company, San Bernardino, Cal.; Arnett Auto Company, Kenton, O.; Richardson & Dunkerly, Mexico City, Mexico; Eugene Polk Motor Car Company, Fourth and Center streets, Little Rock, Ark.; L. E. Hoeye, Winkelman, Ariz.; Phelps Motor Car Corporation, Broadway and 59th street, New York City; O'Harry Auto Company, Charles City, Ia.; W. C. Nissen, Aberdeen, S. D.

Stutz—J. W. Cox & Son, Whittier, Cal.; Yetter & Morse, Hartford, Conn.; Lew Dalzell, Youngstown, O.

Velie—Frederick A. Schmidt Company, 123 East Seventh street, Cincinnati, O.; W. A. Hill, Peoria, Ill.

Vulcan—Elm Grove Motor Sales Company, Elm Grove, W. Va.

ELECTRIC PLEASURE CARS.

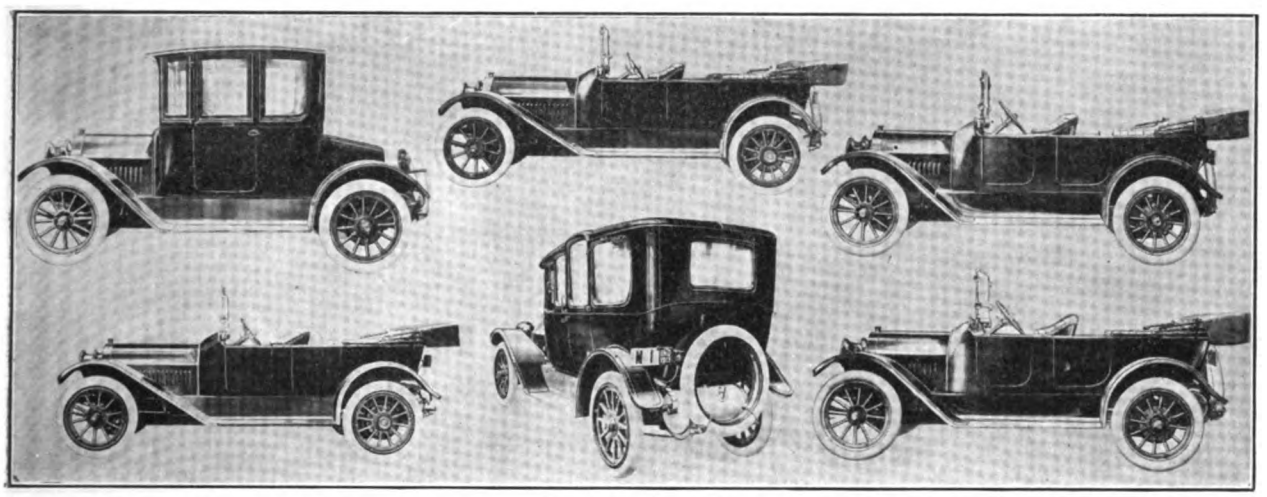
Baker—Pioneer Automobile Company, San Francisco, Cal.; Park Automobile Company, St. Louis, Mo.; M. Abel, Columbus, O.

Ohio—McDonald Motor Car Company, Milwaukee, Wis.; C. D. Paxson, Cleveland, O.

GASOLINE COMMERCIAL CARS.

Atterbury—Atterbury Boston Company, Boston, Mass.

Avery—Avery Auto Sales Company, Columbus, O.



Haynes Line for 1914 Comprises Two Sixes and a Four—Description on Page 21.

Brown—Henry L. Hornberger, San Francisco, Cal.

Wahl—M. W. Bond Automobile Company, St. Louis, Mo.

Commerce—R. L. Oakley, Portland, Ore.; Commerce Motor Sales Company, Chicago, Ill.; Coates Motor Company, Columbus, O.; Fernald Auto Company, Denver, Col.; Sterling Motor Car Company, Indianapolis, Ind.; Hall Bros. & Reeves, Kansas City, Mo.; Sparks Miller Motor Company, Los Angeles, Cal.; Monroe garage, Monroe, Mich.; Green's Purchasing Agency, New York City; R. C. Kiel, Oakland, Cal.; Baker Bell Motor Company, Philadelphia, Penn.; Nock Auto Company, Providence, R. I.; Smith's garage, Rochester, N. Y.; Hudson Company, San Antonio, Tex.; Merchants' Motor Truck Company, St. Louis, Mo.; J. C. Williams, Tampa, Fla.

Federal—Syracuse Buick Sales Company, Syracuse, N. Y.; C. A. Chambers Company, Indianapolis, Ind.; Ed. Rudolph, Phoenix, Ariz.

Garford—George W. Brown, Inc., Milwaukee, Wis.; J. W. Leavitt, San Francisco, Cal.; Capon Motor Company, St. Louis, Mo.

G. M. C.—Drummond Motor Company, Memphis, Tenn.

Kelly—Oscar Lear Automobile Company, Columbus, O.

Koehler—McDonald Motor Car Company, Milwaukee, Wis.; Hamal & Noble, Pittsburg, Penn.

Republic—A. J. Jackson, 571-577 South Clinton street, Syracuse, N. Y.

Rowe—Rowe Truck Sales & Service Company, Broad street, Philadelphia, Penn.

Service—Service Garage & Sales Company, Columbus, O.

Standard—C. A. Chambers Company, Indianapolis, Ind.

Stegeman—Columbia Tire & Top Company, 922 Commonwealth avenue, Boston, Mass.

Universal—Jesse A. Smith Auto Company, Milwaukee.

Wilcox—O. W. Roberts, Portland, Ore.

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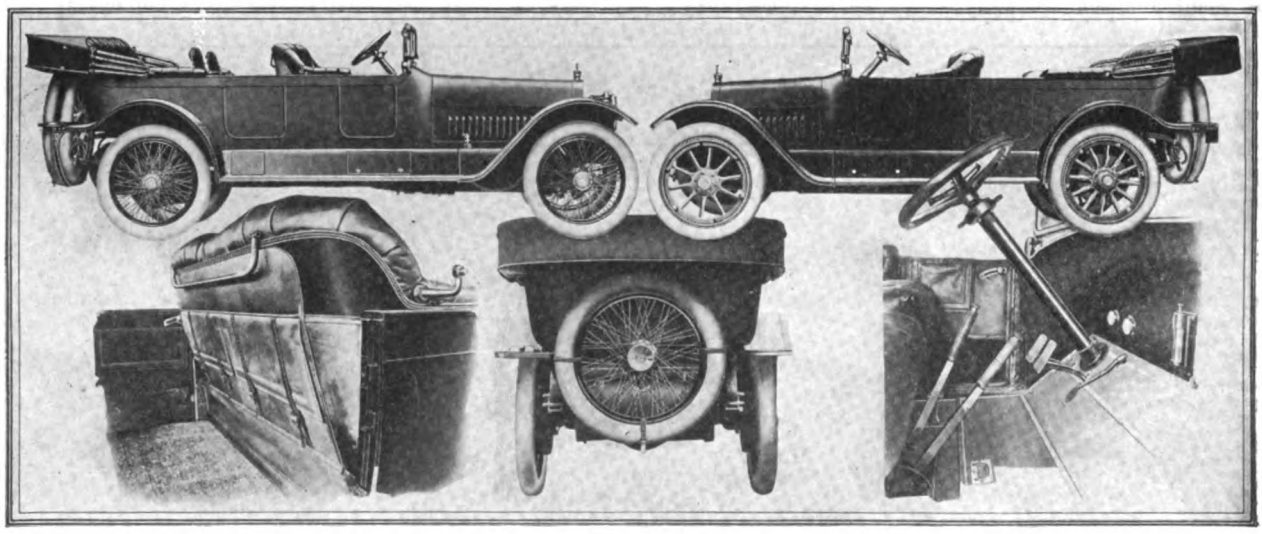
RECENTLY ANNOUNCED 1914 MODELS.

Pullman—Pullman Motor Car Company, York, Penn. Model 6-46. Remainder of the line continued. New light six-cylinder has unit power plant with bore of 3.75 inches and stroke of 5.25. Four-speed transmission with Vulcan electric gearshift. Extra long, flat front springs; three-quarter elliptic rear. Wire wheels. Price, $2400.

Havers—Havers Motor Car Company, Port Huron, Mich. Two six-cylinder models, continued from last season with but few changes, except in body design. Larger car known as 6-60, has motor with five-inch bore and 5.25-inch stroke, instead of four by 4.25. Eisemann magneto. North East starting and lighting system. Equipment very complete. Wire wheels optional.

Marathon—Marathon Motor Works, Nashville, Tenn. Distributor Herff-Brooks Corporation, Indianapolis, Ind. Champion, Winner and Runner models continued, each with touring car and roadster bodies. Improvements largely in body design. Champion and Winner equipped with electric lighting and starting. Champion motor, 4.5 by 5.125; Winner, 4.25 by 4.5; Runner, 3.5 by 4.5. Prices, Runner, $925 to $975; Winner, $1300 to $1325; Champion, $1470 to $1495.

Paige—Paige-Detroit Motor Car Company, Detroit. Models 25 and 36 continued with changes mostly in nature of refinements. Larger chassis comes completely equipped with Gray & Davis electric starting and lighting system; smaller supplies this at an extra charge. Both have unit power plants; model 25 motor, 3.75-inch bore and four-inch stroke; model 36, four by five inches. Both



Showing Some of the Features of the 1914 Stearns-Knight Line, Which Includes Three New Body Designs.

are of the L head type, with cylinders cast en bloc. Prices, model 25, $950; 36, $1275; electric lighting and starter, $75 extra.

Regal—Regal Motor Car Company, Detroit. Models T, N and NC, underslung, and C, overhung. Underslung bodies, touring car, roadster and coupe on same chassis. Overhung body, touring car. Principal changes include left hand drive, centre control, electric lighting and starting and elimination of side lights. Other changes mainly in refinement of details. Cars listed with full equipment this year. Prices, $1125 to $1600.

Buick—Buick Motor Company, Flint, Mich. Model B55. Six-cylinder touring car and roadster. Supplements new four-cylinder models, and like them has left hand drive with centre control, and the Delco combination electric lighting, starting and ignition system. Motor retains characteristic Buick overhead valves, and has bore of 3.75 inches and stroke of five, being rated by the maker at 48 horsepower. All Buicks are controlled by a single lever, operating on the ball and socket joint. Price, $1985.

Speedwell—Speedwell Motor Car Company, Dayton, O. Series H. Six-cylinder chassis with seven-passenger body. Few mechanical changes. Unit power plant. Bosch dual ignition system. Electric lighting and starting system. Left hand drive, centre control. Equipment includes: Electric horn, Warner speedometer, power air pump, Yale lock on gearshift lever, emergency gasoline supply, tire carrier of improved type, windshield integral with body, concealed tool box, and lockers under cowl. McCue wire wheels offered at an option. Either 36 by 4.5 or 37 by five-inch tires. Price, $2850.

Detroit Electric—Anderson Electric Car Company, Detroit. Models 43, four-passenger brougham with rear seat drive; 44, ladies' open victoria; 45, five-passenger brougham with front seat drive; 46, gentlemen's roadster; 47, four-passenger brougham, and 48, Duplex drive brougham. First three fitted with bevel gear rear axle. Last three have new Daimler-Lanchester imported worm gear. All are equipped with Hanlon patented rain vision window. Full aluminum bodies and fenders, and Detroit Electric shaft drive, chainless power plant continued. Price reductions on all models. Prices, $2300 to $3000.

Stutz—Stutz Motor Car Company, Indianapolis, Ind. Series E. Two chassis. E 4, four-cylinder; E 6, six-cylinder; both fitted with two-passenger, six-passenger touring and coupe bodies. Motors very much alike and both fit under the same hood. Four has bore of 4.75 inches and stroke of 5.5; six is four by five, instead of 4.25 by five as with the older six. Both are of the T head type. Four cast in pairs; six, in threes. Water jacketed intake manifold. New style of breather pipe. Individual pushrod enclosure. Clutch changed from multiple disc to cone. Electric motor starter designed by Harry Stutz and built by the Remy Electric Company. Wire wheels are offered at an option. Tires, 34 by 4.5 inches all around. Prices, E 4, $2150; E 6, $2400.

Crow Elk-Hart—Crow Motor Car Company, Elkhart, Ind. Three chassis and 10 body designs. Models D42 and D45, roadster and touring, have 35 horsepower motor four-cylinder, L head, cast in pairs. Models D52, D54, D55 and D56, roadster and touring cars, have 40 horsepower motor, four-cylinder, L head, 4.125-inch bore, 5.5-inch stroke, cast en bloc. Models D62, D64 and D66, roadster and touring cars, have 50 horsepower motor, six-cylinder, L head, 3.875-inch bore, five-inch stroke, cast in pairs. Briggs magneto on the small four, Briggs Mag-Lite ignition on the large four, and Deaco ignition, starting and lighting on the six.

Hupmobile—Hupp Motor Car Company, Detroit. One chassis fitted with five-passenger touring, six-passenger touring, two-passenger roadster and three-passenger inside driven coupe bodies. At option, all models are fitted with Westinghouse starting and lighting system, except the coupe, which has the starter only. With cars fitted with the starter, tires are carried at the rear. Changes largely in the nature of minor improvements. New and larger gasoline tank in cowl dash, with reserve tank built into the gasoline chamber. Magneto is provided with a rain shield. Prices, $1050 to $1350.

S. & M.—S. & M. Motor Company, Detroit. New concern. One chassis and four body designs—runabout, five and seven-passenger touring and limousine. Motor, Continental special, six-cylinder, 3.75-inch bore, 5.25-inch stroke, rated at 58 horsepower at 2000 revolutions. Bosch magneto, Timken front and rear axles, wire wheels with Timken hubs, Warner four-speed transmission, Gemmer steering gear, Rayfield carburetor, Mayo radiator, Parish & Bingham frame, Spicer universal joints, Firestone tires, electric starter. Springs, semi-elliptic front, three-quarter elliptic underslung rear. Left hand drive, centre control. Wheelbase, 130 inches. Weight, 3250 pounds. Full equipment. Prices, $2485 to $3500.

Marmon—Nordyke & Marmon Company, Indianapolis, Ind. Models 32, four-cylinder, and 48, six-cylinder, continued. New body designs, including three-passenger on six-cylinder chassis. New design of Northeast starting and lighting system, necessitates changes in location.

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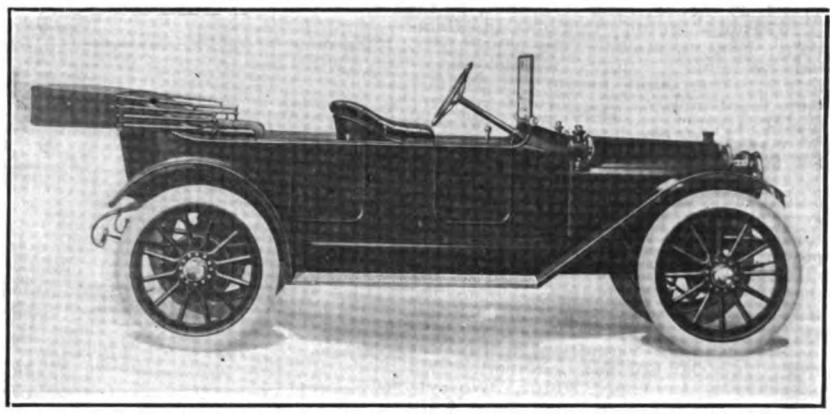
Magneto at the rear of motor instead of front. Zenith carburetor. Addition of single-cylinder motor driven air pump for tire inflation. Clutch on the four is given a wider face and slightly different spring inserts. Brake surface on the six has been enlarged in diameter and the brake adjustment is fitted with a double worm screw design. New type of front hub and steering knuckle on the six, shaped like a bullet and so arranged that the vertical spindle is directly in the centre line of the wheel. Prices, $3000 to $5000.

Flyer—Thomas Howard Company, sole factory representative, 319 Atlantic avenue, Brooklyn, N. Y. New car. Roadster. Motor, four-cylinder, four-cycle, water-cooled, cast en bloc, 2.75-inch bore, 4.5-inch stroke; barrel type crankcase, three-bearing crankshaft; vacuum feed oiling system, circulating water pump, magneto ignition. Cone clutch, 11 inches diameter, three-inch face, enclosed with flywheel. Transmission, two speeds forward and reverse. Unit power plant. Left hand drive, centre control. Springs, semi-elliptic front, full elliptic rear. Wheelbase, 100 inches. Tires, 28 by three inches, clincher rims. Wire wheels. Equipment includes windshield, two gas headlights, generator, two side oil lamps, rear lamp, tool kit, etc. Price, $495.

Howard—Howard Motor Car Company, Connersville, Ind. New six-cylinder model. Continental motor, specially designed to specifications of Chief Engineer J. C. Moore of Howard company. Exhaust system has two manifolds, two flexible exhaust pipes and two separate mufflers, the idea being that by having successive cylinders in their order of firing exhausting into alternate mufflers the possibility of exhaust gas diluting the incoming charge is effectually obviated. Bore, 4.125 inches; stroke, 5.25. Ignition, Bosch high-tension magneto and Atwater Kent system. Cone clutch. Three-speed transmission. Timken axles. Springs, semi-elliptic forward, three-quarter elliptic rear. Tires, 36 by 4.5 inches. Left hand drive, centre control. Electric lighting and starting.

Monarch—Monarch Motor Car Company, Detroit. New concern. R. C. Hupp, president. Five-passenger touring car. Motor, four-cylinder, four-cycle, cast in pairs; 3.1875-inch bore, five-inch stroke, rated at 25 horsepower; water-cooled, thermo-syphon; force feed lubrication; float feed carburetor; combined electric starting, lighting and ignition system. Leather faced cone clutch. Selective sliding gear transmission, three speeds forward and reverse. Three point suspension, motor and transmission on tubes. Drive by shaft, not enclosed; double universal joint. Semi-floating rear axle. Semi-elliptic springs forward, full elliptic rear. Pressed steel frame. Wheelbase, 110 inches. Tires, 32 by 3.5 inches. Torpedo type body, stream line, with radiator under sloping hood. Left hand drive, centre control. Equipment includes rain vision windshield, extension top, Jiffy curtains, Jones speedometer, electric horn, etc. Price, $1050.



Vulcan "27" Five-Passenger Touring Car, Having 115-Inch Wheelbase, Attractive Lines and Full Equipment.

Oldsmobile—Olds Motor Works, Lansing, Mich. Model 54. Five and seven-passenger touring car bodies. Larger motor; 4.25-inch bore and 5.5-inch stroke, instead of 4.125 by 4.75; increased rating from 40.8 to 50 horsepower. Six cylinders, still of L head type, but cast in sets of three. Valve size increased from 1.75 inches to 1.9375. Latest type Delco starting, lighting and ignition system. Cooling by centrifugal pump, instead of gear. Later type of Oldsmobile float feed carburetor. Wheelbase of five-passenger now 132 instead of 135, and of the larger car 139. Tires, 36 by five inches, on Baker straight side demountable rims. External appearance is not greatly changed, except that bodies are hung lower than formerly. Prices, $2975 to $3150.

Imperial—Imperial Automobile Company, Jackson, Mich. Models 32, 33 and 34, all four-cylinders. Model 44 now a six instead of four. An entirely new six with seven-passenger body. Models 32 and 33 on same chassis with new motor, 4.25-inch bore and 5.25-inch stroke, instead of four by 5.5. Cylinders cast en bloc. Model 34 unchanged except for refinements. Model 44 motor has cylinders cast in sets of three, 3.75-inch bore, 5.25-inch stroke. New chassis has motor cast in threes, 4.125-inch bore, 5.25-inch stroke; unit power plant; three point suspension. Multiple disc clutch, Raybestos faced. Three speeds forward and reverse. Full floating rear axle. Springs, semi-elliptic forward, three-quarter elliptic rear. Wheelbase, 137 inches. Tires, 36 by 4.5 inches. Body hung low. Left hand drive, centre control. All models now electrically lighted and started. Prices, $1500 to $2500.

Moon—Moon Motor Car Company, St. Louis, Mo. Light six-50 Streamline. Motor differs from new model 42 four-cylinder engine in being of the L head type. Cylinders cast in threes. Bore, 3.75 inches; stroke, 5.25. Maker's rating, 58 horsepower at 1800 revolutions. Multiple disc clutch. Four speeds forward and reverse, direct drive on the third. Full floating rear axle. Wheelbase, 129; tread, 56 or 60. Tires, 35 by 4.5 inches. Weight, 3840 pounds. Delco electric light, starting and ignition system. Motor tire pump. Two types of bodies, both of the streamline design, one seating five, and the other six or seven. Also, new Moon coupe on four-cylinder chassis. Motor T head, cast in pairs, 4.5-inch bore, five-inch stroke. Three-speed transmission. Body fitted with sashless windows, extra wide driving seat and special compartment for storing spare tires. Prices, $1750 to $2225.

Packard—Packard Motor Car Company, Detroit. Model 38. Two types of chassis, touring and phaeton, and 19 body styles. Changes include worm bevel gear drive, recently announced, and the following: Cylinders cast in threes. Siamese exhaust manifold with separate passage for each set of cylinders. New oiling system; all piping within crankcase and camshaft drilled to carry oil. Bosch duplex ignition system; all wiring enclosed within a compartment in unit with the water outlet manifold. Bijur electric lighting and starting system. Wheelbase increased to 140 inches. Shape of rear axle altered. Rear springs slung under axle. Brake drums increased to 17 inches diameter; brake cross shafts mounted on axle housing; brake rods within chassis. Plate clutch brake instead of band. New gearshift, eight inches further forward to allow left side entrance; new door on drive side. Tapering hood and cowl to conform. Tires carried at the rear on all models. Prices, chassis, $3100; touring car, $3850; similar reduction in all body styles.

Stearns—F. B. Stearns Company, Cleveland, O. Coupe and Sedan added to former line, fitted to either four or six-cylinder chassis. Knight motor continued. Six remains practically the same, while transmission in the four is moved from rear axle to amidships location. All models fitted with sloping hood, following so-called foreign practise; left hand drive, centre control and wire wheels, the last named being optional.

Vulcan—Vulcan Manufacturing Company, Painesville, O. Model 27. Five-passenger touring car. Motor, four-cylinder, L head, en bloc, 3.375-inch bore, five-inch stroke. Lubrication, combination positive feed and constant level splash. Thermo-syphon cooling. High-tension magneto. Unit power plant, three point suspension. Cone clutch. Selective transmission, three speeds and reverse. Semi-floating rear axle. Service brakes, external contracting; emergency, internal expanding. Semi-elliptic springs forward, three-quarter elliptic rear. Clincher rims with 32 by 3.5-inch tires. Left hand drive, central control. Price, $850.

Haynes—Haynes Automobile Company, Kokomo, Ind. Models 26, 27 and 28. First two, six-cylinder, practically only difference being in the length of wheelbase. Model 28, four-cylinder. All motors have bore of 4.25 inches and stroke of 5.5, L head type, cast in pairs. Cooling, centrifugal pump. Lubrication, force feed and splash. Stromberg carburetor. American Simms magneto. Haynes contracting band clutch. Three-speed transmission. Left hand drive. All models fitted with Vulcan electric gearshift and Leece-Neville electric lighting and starting system. Prices, $1985 to $3850.

Cole—Cole Motor Car Company, Indianapolis, Ind. Series Nine. Three models of Series Eight have been reduced to two, a four and a six-cylinder. Held to be a standardized product. Motors have same bore and stroke, 4.25 by 5.25 inches. Cylinders cast in pairs. Delco lighting and starting. Taylor Noll pump. Left hand drive; centre control. Two, four and five-passenger bodies on four; two, six and seven-passenger, coupe and limousine on six. Prices, $2350 to $4000.

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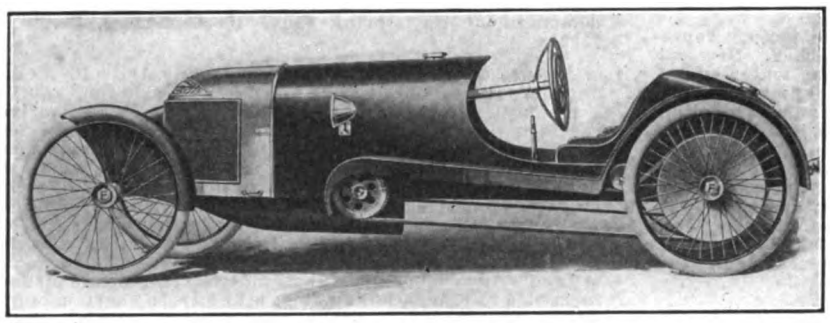
SOME RECENTLY ANNOUNCED CYCLECARS.

Victor—Victor Motor Car Company, 271 Diamond street, Philadelphia, Penn. Two passengers, side by side. Motor, four-cylinder, water-cooled, 3.25-inch bore, four-inch stroke, cone clutch, three-speed transmission, bevel driven rear axle, wire wheels, 30 by three-inch tires. Wheelbase, 90 inches; tread, 52. Equipment includes top and windshield.



Falcon Roadster Type, Produced by Concern in Cleveland, O.

Davis—Davis Cyclecar Company, Detroit. Special Spacke motor. Three-speed transmission. Wheelbase, 96 inches; tread, 36; weight, 600 pounds. Two passengers, tandem.

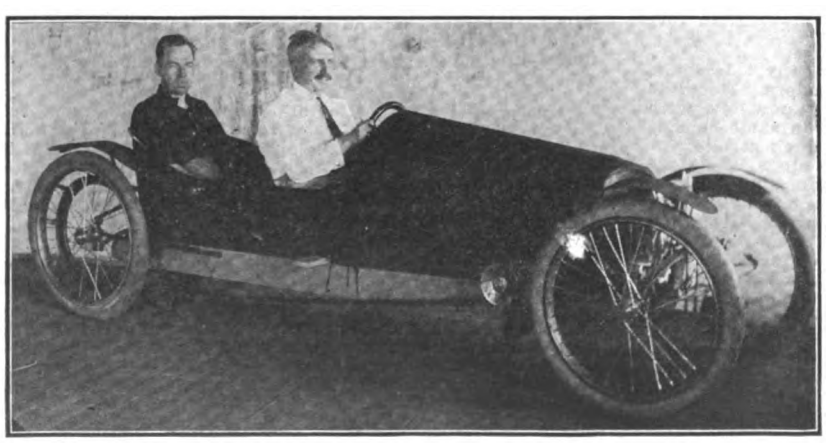
De Cross Cy Car—De Cross Cy Car Company, Cincinnati, O. Motor, two-cylinder, air-cooled, 9-12 horsepower. Magneto ignition. Friction transmission. No differential. Ash frame. Wire wheels. Tires, 28 by 2.75 inches. Tread, 36 inches; road clearance, 10 inches.

Fenton—Fenton Cycle Car Company, Fenton, Mich. Two passengers, side by side. Motor, De Luxe standard, rated at nine horsepower. Friction transmission, V belt, Cantilever spring suspension. Wire wheels. Wheelbase, 96 inches; tread, 36; weight, 500 pounds. Price, $375.

Economycar—Economycar Company, Indianapolis, Ind. Two passengers, tandem. Motor, two-cylinder motorcycle type, rated at 8-10 horsepower. Drive by silent chain and V belts. Wire wheels. Tires, 28 by three inches. Wheelbase, 106 inches; tread, 36; weight, 393 pounds. Price, $425.

Downing-Detroit—Downing-Detroit Cycle Car Company, Detroit. Two passengers, tandem. Motor, two-cylinder, air-cooled, V, 3.5-inch bore, 3.67-inch stroke, rated at 12 horsepower. Bosch magneto. Schebler carburetor. Two speeds forward and reverse. Semi-elliptic springs, front and rear. Tires, 28 by 2.75 inches. Wheelbase, 103 inches; tread, 56. Price, $450.

Imp—Imp Cycle Car Company, Auburn, Ind. Two passengers, tandem. Motor, two-cylinder, air-cooled, V, rated at 10 horsepower. Starts by crank from the seat, crank being inserted in the centre of the steering wheel. Friction transmission. Final drive by V belt. No axles; instead, two flat springs are set crosswise of the frame and fastened at the ends to yokes, between which the wheel spindle is fitted. Wire wheels. Tires, 28 by 2.5 inches. Wheelbase, 100 inches; tread, 36; ground clearance, eight inches; weight, 550 pounds. Price, $375.



The Imp, an Indiana Product, Which Starts from the Seat.

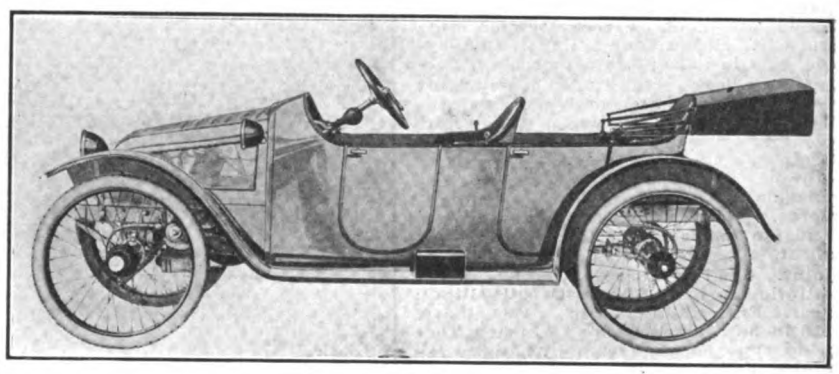
Falcon—Falcon Cyclecar Company, Cleveland, O. Two passengers, side by side. Motor, two-cylinder, air-cooled, rated at 10 horsepower. Friction transmission, drive by V belt. Semi-underslung suspension. Motor starts from seat. Automatic electric lighting and ignition system. Wheelbase, 96 inches; tread, 36; weight, 325 pounds. Price, $385.

Little Princess—Princess Cyclecar Company, Detroit. Two passengers, side by side. Motor, four-cylinder, four-cycle, air-cooled, L head, 2.75-inch bore, 3.675-inch stroke, rated at 12 horsepower. Bosch magneto. Holley carburetor. Engine starts from the dash. Planetary transmission. Wire wheels. Tires, 28 by three inches. Wheelbase, 86 inches; tread, 44; weight, about 600 pounds. Price, $400.

American—American Cyclecar Company, Bridgeport, Conn. Two passengers, side by side. Motor, four-cylinder, four-cycle, water-cooled, 2.875-inch bore, four-inch stroke. Wire wheels. Wheelbase, 80 inches; tread, 44. Equipment includes electric lights, windshield and top.

Woods Mobilette—Woods Mobilette Company, 1509 Michigan avenue, Chicago. Two passengers, tandem. Motor, four-cylinder, 14 horsepower. Friction transmission. Special spring suspension. Wire wheels. Tires, 28 by 2.25 inches. Wheelbase, 89 inches; tread, 30; maximum width, 35; height, 48; weight, about 450 pounds. Price, $350.

Twombly—Twombly Motors Company, 258 West 69th street, New York City. Models A and B. Model A motor, four-cylinder, water-cooled, bloc cylinders, 15 horsepower. Selective transmission, three speeds forward and reverse. Shaft drive. Wheelbase, 102 inches; tread, 38; road clearance, nine inches. Two passengers tandem. Model B motor, two-cylinder, air-cooled, Twombly, V type, rated at 10 horsepower. Cylinder ports are opened and closed by means of piston valves, a construction held to make for silent operation. Friction transmission. Final drive, side chains. Wire wheels. Tires, 28 by three inches. Wheelbase, 96 inches; tread, 38; road clearance, nine. Two passengers, tandem.



Woods Mobilette Tandem Design Is Made in Chicago.

Los Angeles—Los Angeles Cycle Car Company, 612 South Olive street, Los Angeles, Cal. Two passengers, side by side. Motor, two-cylinder, 3.375-inch bore, 3.875-inch stroke, rated at 10 horsepower. Friction transmission, V belts. Wire wheels. Tires, 28 by 2.75 or three inches. Wheelbase, 102 inches; tread, 44; weight, 450 pounds. Price, $395.

Voiturette—American Voiturette Company, Detroit. Two-passenger roadster, two-passenger tandem and four-passenger touring car. Motor, four-cylinder, 3.25-inch bore, 3.75-inch stroke, rated at 22.5 horsepower. Transmission, three speeds and reverse. Wire wheels. Tires, 30 by three inches. Wheelbase, 100 inches; tread, 44; weight, 820 pounds. Prices, roadster, $495; tandem, $510; touring car, $520.

Other Cyclecar Companies, which have not announced their product as yet, include: Blood Bros., Kalamazoo, Mich.; Autoette Company, Chrisman, Ill.; Carrette Manufacturing Company, 334 Monadnock building, Chicago, Ill.; Continental Engine & Manufacturing Company, Minneapolis, Minn.; Saxon Motor Car Company, 2609 East Jefferson avenue, Detroit; Zip Cyclecar Company, Davenport, Ia.

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REPORTED CHANGES IN TRADE ADDRESSES.

Logan & Taylor's Garage, St. Louis, Mo., from 2940 Olive street to Delmar and Euclid streets.

Frank Geeke Auto Company, St. Louis, Mo., from 4455 Manchester street to 526 De Boliviere street.

Olds Motor Works, St. Louis, Mo., from 406-408 North 12th street to 3205 Locust street.

Mots Tire & Rubber Company, St. Louis, Mo., from 5187 Delmar boulevard to 1909 Locust street.

Gerber & Winton, St. Paul, Minn., from 688 St. Peter street to 492 St. Peter street.

Benoist Buel Company, St. Louis, Mo., 614 Navaree building to 3935 Olive street.

American Garage & Motor Company, Detroit, Mich., from 506 Canfield avenue to 36 Coplin avenue.

Crescent Auto & Supply Company, St. Louis, Mo., from 2320 Russell street to 2317 Minnesota street.

Major Motor Car Company, St. Louis, Mo., from 1512 Locust street to 902 Central National Bank building.

James A. Allsopp, Brooklyn, N. Y., from 331 Fourth street to 340 11th street.

Eckel's Bay Ledge Garage, Brooklyn, N. Y., from 359 55th street to 6950 Third avenue.

Earl W. Dean, Pittsburg, Penn., from 10 Hemlod street to 535 Grant street.

Central Auto Supply Company, Indianapolis, Ind., from 909 East Washington street to 21 South Tuxedo street.

Cleveland Drop Forging Company, Cleveland, O., from Berea road and L street to 642 Rockefeller building.

Remy Electric Company, Indianapolis, Ind., from 533 North Capitol avenue to Anderson, Ind.

Frontier Specialty Company, Buffalo, N. Y., from 732 Main street to 539 Ellicott street.

Powell Engine Corporation, Brooklyn, N. Y., from 47 Lincoln street to P. O. Box 553, New York City.

J. S. Remson Manufacturing Company, Brooklyn, N. Y., from 754 Bedford avenue to 1410 Bedford avenue.

Motor Car Maintenance Company, New York City, from 142 West 48th street to 7 West 61st street.

Gwynn-Bacon Vulcanizer Company, St. Louis, Mo., from 1456 Goodfellow street to 3437 Arsenal street.

Foss-Hughes Motor Company, Providence, R. I., from 17 Snow street to 206 Elmwood avenue, Elmwood station.

Myers Auto Top Company, Dayton, O., from Dayton to 1070 Gilbert avenue, Cincinnati, O.

K. V. Motor Cycling Company, Cleveland, O., from 7708 Lake avenue to 808 St. Clair avenue.

E. E. Short Motor Car Company, Indianapolis, Ind., from 427 North Meridian street to the Colonnade.

I. C. Kirkham, Brooklyn, N. Y., from 1060 Bedford avenue to 33 Grant square.

E. D. Craig, Norfolk, Va., from 41 West City Hall avenue to Savannah, Ga.

J. W. Reitz Auto Company, Cleveland, O., from 2607 West 85th street to 2033 West 89th street.

Reliance Motor Truck Company, Pittsburg, Penn., from 210 West Olin street to the Fulton building.

Fiat Automobile Company, Providence, R. I., from 17 Dorrance street to 26 Snow street.

Goodyear Tire & Rubber Company, Louisville, Ky., from 423 West Walnut street to 331 East Broadway.

Jager Motor Car Company, Louisville, Ky., from 931 South Third street to 121 West Hill street.

C. F. Gilmour, Detroit, Mich., from 978 Woodward avenue to 1521 McKee street, Kansas City, Mo.

Pence Auto Company, Minneapolis, Minn., from 800 Hennepin avenue to box 983.

Studebaker Bros. of Minnesota, Minneapolis, Minn., from 832 Hennepin avenue to 527 Second avenue, South.

Stoddard-Dayton Auto Company, Minneapolis, Minn., from Hennepin and Ninth streets to 409 10th street, South.

Robertson Motor Company, Minneapolis, Minn., from 111 South 10th street to 2320 South Humboldt street.

N. W. Overland Company, Minneapolis, Minn., from 921 Hennepin avenue to 1208 Hennepin avenue.

N. W. Carriage & Battery Company, Minneapolis, Minn., from 409 South Fifth street to 1207 Harmon place.

Motor Sales Company, Minneapolis, Minn., from 409 Fifth street, South, to 720 Phoenix building.

Moore Carving Machine Company, Minneapolis, Minn., from 723 Third avenue, South, to 1918 Portland avenue.

Haynes Auto Company, Minneapolis, Minn., from 219 South Sixth street to 1100 Hennepin avenue.

Van De Grift Motor Car Company, Louisville, Ky., from 303 Keller building to 1415 Keller building.

Charles J. Young, Galveston, Tex., from 2218 Postoffice street to 201 West Park street, San Antonio, Tex.

Lloyd A. Hoover, Minneapolis, Minn., from 1600 East Lake street to 1613 East Lake street.

J. Albert Hogg, Lowell, Mass., from 505 Westford street to 12 Whidden street.

Union Motor Car Company, Providence, R. I., from 32 Eddy street to box 1057.

F. W. Boettcher, Aberdeen, S. D., from Aberdeen to 210 South Newton avenue, Minneapolis, Minn.

Continental Motor Equipment Company, St. Louis, Mo., from 5887 Delmar street to 3124 Locust street.

Sanford Motor Car Company, Denver, Col., from 1916-1922 Broadway to 327 Cooper building.

Flint Motor Car Company, Providence, R. I., from 411 Industrial Trust building to 1118 Turks Head building.

Neal Kitchel Motor Sales Company, Detroit, from 844 Woodward street to Coldwater, Mich.

Special Motor Vehicle Company, Cincinnati, O., from 223 East Fourth street to 26 the Alexandria.

Babcock Electric Garage & Sales Company, Cleveland, O., from 5804 Euclid avenue to Buffalo, N. Y.

Cleveland Auto Company, Cleveland, O., from 2160 East Ninth street to 10,115 Somerset street.

O. L. Weaver, Cleveland, O., from 1208 Schofield street to 1216 Huron road.

Carl Derfler, Chicago, Ill., from 58 Maple street to 908 Willow street, Lincoln Park station.

James F. Patton, Cleveland, O., from 4609 Euclid avenue to 2548 Prospect street.

Palace Garage, Chicago, Ill., from 5535 Hate street to 53 East 55th street, Jackson Park station.

Empire Tire Company, Kansas City, Mo., from 1512 Grand avenue to 216 East 15th street.

Chalmers Motor Company of Missouri, Kansas City, Mo., from 1424 Grand avenue to 1830 Grand avenue.

Auto Tire & Vulcanizing Company, Kansas City, Mo., from 15th and Holmes streets to 1613 Grand avenue.

L. W. Thompson Company, Louisville, Ky., from 243 East Walnut street to Montague house, Rockford, Ill.

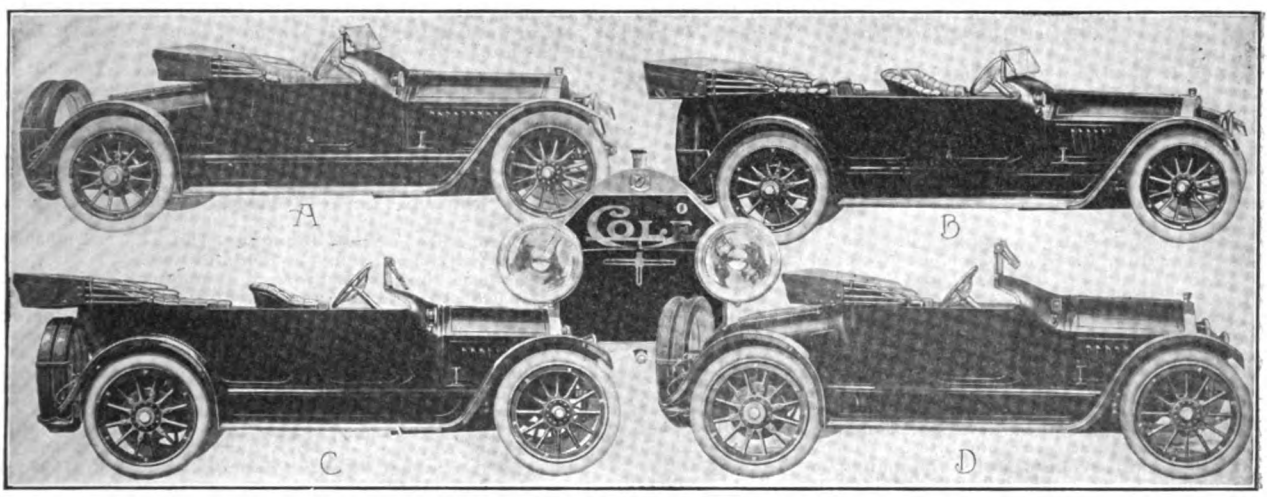
Carter Motor Car Company, Kansas City, Mo., from 912 East 15th street to 1100 McGee street.

Van V. Manning, Kansas City, Mo., from 913 East 15th street to Leavenworth, Kan.

Herbert S. Hawley, Mount Vernon, Wash., from Mount Vernon to 625 East Adam street, Spokane, Wash.

Arthur M. Rawlson, Watertown, S. D., from Watertown to Williston, N. D.

Genung Motor Car Company, Kansas City, Mo., from 1716 Grand avenue to 1523 Grand avenue.



Cole Series Nine: A, Six-Cylinder Roadster; B, Seven-Passenger Touring; C, Four-Passenger Touring; D, Four-Cylinder Roadster—Description on Page 21.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR AND PARTS MANUFACTURERS.

Donegan Auto Body & Specialty Company, Hartford, Conn.; $21,000; W. R. Donegan, J. J. Walsh, Leon S. Risley.

London Limousine Company, Hempstead, N. Y.; $10,000; John A. McAvoy, Charles U. Stowe, Anna M. Stowe.

Metal Parts Engineering Company, Detroit; $25,000; to manufacture automobile parts; W. L. Kenfield, W. W. McIntyre.

Ross Sleeve Valve Motor Company, Chicago; $20,000; F. W. Bull, E. Lundbald, A. S. Lyton.

Sharrer Patent Top Company, New York City; $25,000; to manufacture tops, etc.; E. B. Hart and others; 35 Pearl street.

Simplex Automobile Company, Wilmington, Del.; $1,500,000; H. E. Latter, W. J. Maloney, O. J. Reichard.

Simplex Wire Wheel Company, Springfield, Ill.; $300,000; A. G. Loveless, J. J. Cusick, John R. Cochran.

Hudson River Aviation Company, New York City; $30,000; to manufacture motors; T. L. Cunningham, L. H. Phelps, New York City; H. W. Kays, Croton-on-Hudson.

Michigan Motor Car Company, Wilmington, Del.; $1,000,000; H. E. Latter, W. J. Maloney, O. J. Reichard.

Resilient Auto Wheels Company, Duluth, Minn.; $25,000; to manufacture and deal in automobiles and parts thereof.

Dodge Motor Company, Detroit, Mich.; to manufacture motor cars.

Standard Automobile Manufacturing Company, Denver, Col.; $5000;

Roch Oil Motor Company, Boston, Mass.; $50,000; William W. Potter, Charles M. Ludden, Amos M. McLean.

Phelps Motor Car Corporation, Manhattan, N. Y.; $50,000; motors; Frederick L. Sanford, Ernest P. Craw, Harold A. Biggs.

Lovell Engine Company, Hartford, Conn.; $50,000; to manufacture automobile engines; D. M. Wright, Fred W. Stickle, A. W. Lovell.

Ritz Cyclecar Company, Brooklyn, N. Y.; $10,000; to manufacture motorcycles, motor cars, cyclecars, etc.; Albert T. Maurice, A. S. Campbell, Daniel B. Murray.

Harding Specialties Company, Boston, Mass.; $50,000; auto tops; Walter W. Harding, Thomas J. Graham, Henry W. Sprague.

Motor Materials Company, New York City; $100,000; F. C. Fearing, R. H. Robbins, B. A. Wordeman.

S. & M. Motor Company, Detroit; $10,000; to manufacture S. & M. car.

Commercial Auto Body Company, New York City; $12,000; to manufacture wagons and motor trucks; William Hertz, Casper A. Scheiper, Arthur W. Owen, 208 West 69th street.

Los Angeles Cyclecar Company, Los Angeles, Cal.; $10,000; W. S. Bohannon and others.

Oleson-Adams Manufacturing Company, Detroit; $10,000; to manufacture automobiles.

Allen & Cleaveland Motor Company, Los Angeles, Cal.; $3,500,000; S. T. Allen, G. A. Cleaveland, Jr., J. H. Crube, J. M. McDonald.

Pacific Motor Coach Company, Los Angeles, Cal.; $500,000; T. Y. Drake, W. H. Bradrick, J. L. Stone, A. B. Miner, L. D. Collings, C. O. Bacon.

Taylor Auto Auxiliary Spring Company, Los Angeles, Cal.; $10,000; C. F. De Shields, J. R. Tooley, H. H. Bailey.

Texas Motor Truck Company, San Antonio, Tex.; $10,000; William H. Smith, Marvin Trice, S. Burg.

DEALERS AND AGENTS.

Darwin Motor Car Company, Eau Claire, Wis.; $10,000; O. L. Darwin, M. D. Garrison and others.

Dickinson Bros. Motor Company, Glasgow, Ky.; $12,000; Brents Dickinson, B. G. Dickinson, T. D. Dickinson.

Elm Grove Motor Sales Company, Elm Grove, W. Va.; $10,000; G. W. Hand, Howard Springer, Dr. R. M. Pedicord, D. N. Walter, John Shorts.

Goodwin-Sherman Motor Car Company, Providence, R. I.; $25,000; Charles H. Goodwin, Chester A. Sherman, William J. Ford.

Henderson Motor Car Company of Virginia, Richmond, Va.; $15,000; president, J. H. Harding; secretary and treasurer, L. Casselman, Jr.

Hugenot Motor Company, New Rochelle, N. Y.; $3000; S. H. Kent, A. D. Stubblebine, P. A. Stubblebine.

Metco Motor Company, Port Jefferson, N. Y.; $5000; E. Hillis, L. A. Sorenson, E. C. Hobcraft.

Monona County Auto Company, Onawa, Ia.; $20,000; H. L. Craven, W. J. Benson, E. P. Myrland, James McIntyre, Ira Brown, John W. Anderson, Max Grant, C. E. Underhill.

Richardson Automobile Company, Tucson, Ariz.; $20,000; Henry Gauthen, C. W. McCullough and others.

White Motor Company, Richmond, Va.; $10,000.

Stuyvesant Auto Trading Company, New York City; $12,000; Simon Klein, Joseph Goldstein, Bertha Steinhardt.

Brockway Motor Truck Sales Corporation, New York City; $15,000; vehicles and supplies; William N. Brockway, John F. Soby, Richard C. Sack.

Senyard Automobile Company, Pine Bluff, Ark.; $10,000; to buy and sell automobiles; Roy Senyard, Mildred Senyard, Fred Senyard.

Christian County Ideal Motor Company, Louisville, Ky.; $4000; Charles R. Lewis and others.

Auto Dealers Outlet Company, New York City; $10,000; H. D. Palmer and others.

Bellamore Toomey Company, New York City; $30,000; D. G. and D. R. Bellamore, Bronx; T. H. Toomey.

Cincinnati Velie Motor Sales Company, Cincinnati, O.; $5000; John J. Fauth, Elmer Strategies, J. J. Grogan.

Carolina Motor Company, Statesville, N. C.; $25,000; H. H. Yount, S. B. Miller, J. M. Deaton.

Times Square Automobile Company, Chicago; $150,000; to manufacture and deal in automobiles and accessories.

Mann Motor Car Company, Pine Bluff, Ark.; $10,000; to deal in automobiles.

Harper's Motor Sales Company, Charlotte, N. C.; $25,000; W. J. Crowell, J. A. Rose, C. H. Gorman.

Grady Roueche Motor Company, Salt Lake City, Utah; $10,000; president, F. W. Roueche.

Haynes Motor Sales Company, Charlotte, N. C.; $25,000.

McDonald Motor Car Company, Milwaukee, Wis.; $10,000.

Pontiac Motor Car Company, Pontiac, Ill.; $25,000; I. A. Morrison, C. F. Taylor, E. Hoobler.

Paul Wargny & Co., Chicago; $2500; to deal in automobiles, etc.; Gustav Mueller, Paul Wargny, Sidney B. Meyer.

Cash Automobile Company, Darlington, S. C.; $1000; C. C. Vaughn, G. B. Brasington, J. B. Blackwell.

C. A. Chambers Company, Indianapolis, Ind.; to deal in motor trucks.

Moon Sales Company, Bridgeport, Conn.; $15,000; Barnith Sachs, Henry H. Drucker, Samuel B. Drucker.

New Jersey Sales Company, Newark, N. J.; $10,000; to do a general automobile business; Robert M. Olyphant, Jr.; Charles E. Macker, Rupert W. K. Anderson.

GARAGES AND REPAIR SHOPS.

M. A. Newman Garage Company, Floresville, Tex.; $5000.

Standard Auto Station Company, Chicago, Ill.; $3000; Joseph M. Harris, Anthony J. Schmidt.

Automobile Supply & Storage Company, Tallahassee, Fla.; $10,000; to conduct general automobile business.

Jamaica Plain Express & Garage Company, Boston, Mass.; $10,000; Charles C. Levery, Martin C. Flynn, Lewis L. P. Atwood.

Cambridge Garage Company, Cambridge, Mass.; $5000; H. Peabody Farnham, W. C. Fort, E. E. Farnham.

Henderson Garage & Machine Company, Monroe, N. C.; $25,000.

Patterson Garage Company, Springfield, Ill.; $4500.

Sixty-First Street Garage Company, Chicago; $1500; A. C. Bender and others.

Metropolitan Garage Company, Cleveland, O.; $5000; C. Mulcahy, Harry Loeb and others.

Loring Avenue Garage, Salem, Mass.; $5000; George H. Brooks, George P. Brooks, Ashley R. Slee.

G. R. Garage & Manufacturing Company, Hempstead, N. Y.; $50,000; L. B. Huff and others.

Motor Shop, Trenton, N. J.; $25,000; Robert C. Manning and others; 640 East State street.

Baldwin Auto Garage, Rutherford, N. J.; $100,000; D. N. Knoller and M. Cohen, Newark; A. Ely, Jr., Rutherford.

Reeves Garage & Motor Company, Camden, N. J.; $100,000; general automobile business; W. Lippincott, Haddon Heights; C. M. Reeves, Camden; A. Moulton McNutt, Collinswood.

Caldwell Garage & Machine Shop, Caldwell, N. Y.; $25,000; F. W. Klein and others.

United States Garages, New York City; $500; J. H. Herman, Jr., H. D. Bristol, Rose Simon.

Wilmont Automobile Company, Minneapolis, Minn.; $10,000; to conduct a garage and repair shop.

ACCESSORY AND SUPPLY HOUSES.

Self Compressed Indestructible Auto Tire Company, Pierre, S. D.; $100,000.

Spring Cushion Tire Company, Pittsburg, Penn.; $30,000.

Quality Rubber & Auto Supply Company, Philadelphia, Penn.; $25,000; to manufacture and deal in tires of all descriptions.

Panama Rubber Company, Los Angeles, Cal.; $500,000; to manufacture auto tires and machinery; president, W. D. Newerf.

Southern Tire & Rubber Company, Augusta, Ga.; $150,000; president, Weems A. Smith; vice president, J. P. Armstrong.

Harroun Carburetor Company of New York, New York City; $25,000; V. Kliesrath, W. F. Blaisdell, R. B. Hults.

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Splitdorf Electrical Company of Chicago, Chicago; $25,000; C. F. Splitdorf, A. E. Splitdorf, G. W. Kimble.

Sireno Company, New York City; $5000; to deal in horns; G. H. Tamlyn, C. F. Pearce, W. H. Pearce.

Safety Auto Signal Company, Los Angeles, Cal.; $10,000; G. Damron, C. A. Switzer, J. C. Percival, Jr., E. E. Noon.

Jeffery-Dewitt Company, Augusta, Me.; $500,000; to manufacture and deal in automobile parts and accessories; president and treasurer, E. M. Leavitt, Winthrop; Ernest L. McLean, Burleigh Martin, S. A. Trask, Augusta; R. A. Kittredge, Hallowell.

Rose Manufacturing Company, Philadelphia, Penn.; to manufacture automobile headlights.

Mecca Tire Company, Philadelphia, Penn.; $100,000; to deal in and manufacture rubber goods and automobile appliances.

Standard Auto Equipment Company, Clevleand, O.; $10,000.

C. & P. Kerosene Carburetor Company, New York City; $10,000; Louis F. Pelletier, Ernest F. Ciglia, Helding Anderson.

S. & K. Tire Company, New York City; $10,000; automobile tires; Herman Senner, Bernard S. Kaplan, James J. Coomber.

Nichols Tire & Rubber Company, New York City; $5000; James C. Nichols, Yonkers, N. Y., and others.

United States Pneumatic Rim & Tire Company, Wilmington, Del.; $1,000,000; Charles B. Bishop, Clarence J. Jacobs and others.

Federal Auto Supply Company, Buffalo, N. Y.; $6000; Franklin E. Bard, Julius M. Schwert and others.

Deatherage Airless Tire Company, Richmond, Ky.; $14,000; J. S. Collins, S. H. Deatherage and others.

Chester Rubber Tire & Tube Company, East Liverpool, O.; $250,000; president, John E. Newell; vice president, George A. Hasson; James C. Freshwater, George Arner.

$50,000; to carry passengers by boat and automobiles.

Red Diamond Auto Line, Paducah, Ky.; to buy, sell, own, operate, etc., automobiles and automobile accessories.

Marion Motor Car Company, Marion, O.; $10,000; to establish a line of motor cars.

Southern Motor Car Company, St. Louis, Mo.; $5000; general motor car and general motor accessories business; B. C. Quarles, J. D. Kerr and J. David Barth.

Peter H. Havey & Sons, Yonkers, N. Y.; $50,000; Ambrose S. Havey, Sylvester L. Havey, Sarah P. Havey, Nellie P. Havey, John Cullen, Edward Traub.

American Motor Transit, Camden, N. J.; $100,000; L. J. Bergdoll, F. R. Hansell, F. S. Garman.

Staunton Automobile Livery & Transfer Company, Staunton, Va.; $25,000; president, N. C. Williams; secretary, T. M. Hoopes.

Stewart Transportation Company, Perth Amboy, N. J.; $2000; Walter K. Whitaker, Raymond S. Meyers and others.

Wilson Engineering Company, Buffalo, N. Y.; $20,000; C. G. Hulbert, W. F. Gagnon, W. H. Pfeiffer.

Motor Transportation Company, 62 South street, Morristown, N. J.; $20,000; to operate motor vehicles from Morristown to Madison; Edward P. Guerin, Jared T. Little and others.

Mutual Taxicab Company, Pittsburg, Penn.; $10,000; Antonio Floecker, C. E. Meyer, M. J. Dain.

Automobile Realization Company, Chicago, $90,000; to deal in automobiles and accessories; A. B. Johnston, G. B. Smith, G. F. Matthis.

Auto Salvage Company, Kansas City, Mo.; $12,000; Claude S. Peck, Bessie G. Peck, W. R. Chamberlain.

Tire Buyers, Guilford, Me.; $600,000; to manufacture and deal in tires; H. Hudson, J. H. Hudson.

Cleveland Motor Lamp & Radiator Company, Cleveland, O.; $10,000; to deal in motor car supplies; W. H.

Baker Electric Models in Perry Centennial Parade, Cleveland, O., Headed by First Machine Made, Driven by Oldest Employee of Company Costumed as Father Time.

Potsche Storage Battery Company, Chicago; $75,000; to deal in batteries, electric and automobile supplies, etc.; J. N. Lucas, A. S. Coon and others.

Edwardsville Garage & Auto Supply Company, Edwardsville, Ill.; $10,000; Thomas J. Fahnestock, Olin H. Giese, Walter Kriege.

Automobile Engine Tester Company, New York City; $25,000; to sell automobile engine testers, etc.; R. Corin and I. M. Cohen, New York City; S. Mirbach, Mt. Vernon, N. Y.

American Motor League, Philadelphia, Penn.; $100,000; to manufacture and deal in cars and accessories; E. M. Wilke, John Groetch and others.

Portland Auto Specialties Company, Portland, Me.; $5000; Frederick M. Smith, Anna T. Graham, Frank H. Purinton.

Premier Auto Novelty Manufacturing Company, New York City; $15,000; automobile accessories; Harry G. Kosch, Hyman Cohen, Charles Weiland; 194 Riverside drive.

Columb Tyres Import Company, New York City; $50,000; H. Ray Paige, A. C. Kahler; 1789 Broadway.

A. V. Specialty Company, Suffolk, Va.; to manufacture and sell Nurney auxiliary air valve; A. C. Nurney and others.

Bowling Green Rubber Company, Bowling Green, O.; $25,000; to manufacture tires; C. W. Greene, M. L. Cope, C. P. Cope, Loren Campbell, Mont Clouse.

UNCLASSIFIED.

Rio Grande Auto Company, Hidalgo, Tex.; $10,000; to operate auto livery business.

Glenbernie Transportation Company, New Bern, N. C.;

Montie, J. L. Balash, E. E. Kiesler, H. J. Monson, W. L. Ross.

Automatic Safety Signal Company, New York City; $25,000; to manufacture and deal in lamp appliances; H. Siegler, M. M. Becker, P. R. Feign.

Whiting Motor Car Company, Philadelphia, Penn.; $15,000.

Warm-Hand Steel Wheel Corporation, Poughkeepsie, N. Y.; $150,000; to manufacture steering wheels; G. E. Smith, W. S. Barton, J. C. Barton.

Spokane Motor Manufacturing Company, Spokane, Wash.; $50,000; E. A. Torrance, R. L. Dickerson and others.

Arthabaska Motor Car Company, Ltd., Victoriaville, Que.; $19,000; F. Bastien, J. O. Bastien, A. Quesnel, Jr., W. Bergeron, L. P. Crepear.

DeWitt Muffler Company, Wilmington, Del.; $30,000; to deal in parts; C. E. DeWitt, A. L. Downey, R. B. Rupert.

Auto Motor Car Company, Aberdeen, N. D.; $10,000; H. A. Page, Sr.; H. A. Page, Jr.; R. J. Cochran, W. A. Blue and others.

Sommerest Garage Company, Boston, Mass.; $15,000; J. J. Shea, L. L. Cambridge.

Zip Cyclecar Company, Davenport, Ia.; $25,000; R. W. Phelps, G. Decker French, F. W. Skinner.

Williams-Hasley Motor Car Company, Pittsburg, Penn.; $15,000; S. Hasley, S. A. Williams, W. G. Hasley.

Burns Automobile Exchange, New Orleans, La.; $10,000; general automobile business and to specialize in exchange of second hand cars; W. T. Burns, William H. Byrnes, Helen McGrath.

Taxicab Association, New York City; $50,000; to manufacture and deal in automobiles; L. H. Biglow, Jr., A. L. Loomis, A. Wichfeld.

Bond Automobile Company, St. Louis, Mo.; $10,000;

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wholesale buying and selling automobiles, accessories and automobile repairing; Mark W. Bond, Caroline Bond, Charles Kist.

John J. Roche Company, Hartford, Conn.; $50,000; to deal in automobiles and supplies; John J. Roche, Carroll F. Roche, Henry W. Nichols.

Doughty Tire Company, Portland, Me.; $2,000,000; T. L. Croteau, Albert A. Richards, B. M. Maxwell.

Aurora Vulcan Company, Bridgeport, Conn.; $250,000; to manufacture automobile supplies.

Frankfort Motor Car Company, Frankfort, Ky.; $3000; T. P. Rogers, J. G. Rogers, O. C. Kenney, J. E. Manford, A. L. Manford, A. L. Bacon.

A. P. Mitchell Auto Company of Fort Worth, Fort Worth, Tex.; $15,000; F. L. Toepperwein, J. R. Walker, H. Roos.

Dimmer Company of America, Chicago, Ill.; $21,000; A. A. Pantelis, O. O. H. Weidner, John H. Lally.

C. & P. Kerosene Carburetor Company, New York City; $100,000; H. Anderson and others.

Buckeye Motor Trucking Company, Cleveland, O.; $10,000; F. E. Kulas, E. Powell and others.

AUTOMOBILE PATENTS GRANTED RECENTLY.

Pressure Gauge, Harutun B. Azadian, Syracuse, N. Y., assignor to Akabi R. Azadian of the same place. No. 1,072,415. Filed May 20, 1909.

Automobile Light Shifter, John G. Becker, Campbell, Mo. No. 1,072,418. Filed Jan. 30, 1913.

Float, Ernest D. Broderick, Detroit. No. 1,072,420. Filed Aug. 23, 1911.

Lubricant Retaining Means, Alexander T. Brown, assignor to the Brown-Lipe Gear Company, Syracuse, N. Y. No. 1,072,421. Filed Jan. 11, 1911.

Spring Wheel, William T. Crawford-Frost, Baltimore, Md. No. 1,072,433. Filed Oct. 2, 1911.

Control Lever, William C. Durant, Detroit, assignor to the Chevrolet Motor Company of the same place. No. 1,072,438. Filed April 4, 1912.

Tire Protector, Silas S. Huffman and Dur A. Huffman, Youngstown, O. No. 1,072,464. Filed March 13, 1913.

Wrench, Frederick Newell Martindale, Spraguesville, N. Y. No. 1,072,479. Filed Dec. 21, 1912.

Carburetor, George S. Pierson, Kalamazoo, Mich. No. 1,072,492. Filed July 28, 1913.

Vehicle Wheel, Charles Schwartz, Philadelphia. No. 1,072,515. Filed Oct. 5, 1912.

Device for Tire Chains, John A. Staples, Newburgh, N. Y. No. 1,072,522. Filed Oct. 5, 1912.

Electrical Measuring Instrument, Ray L. Triplett, Bluffton, O., assignor by mesne assignments to the Dillon Manufacturing Company of the same place. No. 1,072,531. Filed Nov. 28, 1910.

Wrench, Frederick Waldner, Alexandria, S. D. No. 1,072,535. Filed April 22, 1913.

Electric Battery, David H. Wilson, Chicago. No. 1,072,551. Filed Sept. 18, 1905.

Spark Plug Terminal Connector, Charles W. Beck, Rockville Centre, N. Y., assignor by mesne assignments to the Michigan Motor Specialties Company of the same place. No. 1,072,561. Filed Oct. 15, 1910.

Carburetor, Joseph Brautigam, Detroit, assignor by mesne assignments of one-half to Frank A. Rolf of the same place. No. 1,072,565. Filed July 5, 1912.

Valve Operating Mechanism, Herbert Benjamin Briggs, Tacoma, Wash. No. 1,072,566. Filed Oct. 28, 1911.

Anti-Skidding Device, Charles W. Cramer, Scranton, Penn. No. 1,072,579. Filed May 11, 1911.

Vehicle Spring Device, Robert L. Donlan, Seattle, Wash. No. 1,072,586. Filed March 7, 1912.

Heater for Radiators, William Gallagher, St. Louis, Mo. No. 1,072,595. Filed April 28, 1913.

Acetylene Welding Process, George C. Schemmel, Wapakoneta, O. No. 1,072,655. Filed July 29, 1912.

Nut Lock, Frank Smith, Quick, W. Va. No. 1,072,666. Filed Aug. 7, 1912.

Gas Engine Governor, Frank G. Burghoffer, Bellingham, Wash. No. 1,072,696. Filed Aug. 28, 1912.

Resilient Vehicle Tire, John T. Clark, Provo, Utah. No. 1,072,699. Filed Nov. 8, 1911.

Automobile Street Cleaner, David Gaul, Los Angeles, Cal. No. 1,072,713. Filed Feb. 23, 1912.

Carburetor, Robert W. Kaltenbach, Cleveland, O., assigner of one-half to Ernest J. Kaltenbach, Brooklyn, N. Y. No. 1,072,733. Filed May 31, 1912.

Two-Cycle Engine, Horatio H. Newman, Sandersville, Ga. No. 1,072,766. Filed Aug. 12, 1912.

Shock Absorber, Adolph Peteler, New York City. No. 1,072,770. Filed Feb. 20, 1912.

Gauge for Fuel Tanks, Philip M. Bush, Hartford, Conn., assignor to the Bush Manufacturing Company of the same place. No. 1,072,819. Filed Dec. 5, 1911.

Automatic Safety Brake, Lee G. Eggers, Mount Lebanon, Penn., assignor to Zeffie M. Eggers of the same place. No. 1,072,841. Filed Aug. 26, 1912.

Carburetor Mechanism, Milton L. Sammons, Kansas City, Mo. No. 1,072,875. Filed May 29, 1913.

Gauge for Fuel Tanks, Edward S. Savage, Rochester, N. Y. No. 1,072,876. Filed July 31, 1912.

Tire Support, Louis Cadwell, New York City. No. 1,072,909. Filed March 3, 1913.

Tire, Ora Dimmitt, Green Castle, Mo. No. 1,072,925. Filed Feb. 5, 1912.

Double Acting Wrench, Robert Owen, Jr., Shawnee, O. No. 1,072,980. Filed Feb. 3, 1913.

Vehicle Wheel, Jorge Guerrero, Paris, France. No. 1,073,040. Filed Dec. 26, 1911.

Automobile Heating Device, Frederick J. Moore, Brooklyn, N. Y., assignor of one-half to Philip Howard Reid, Sheepshead Bay, N. Y. No. 1,072,635. Filed March 20, 1913.

Spark Plug, Edwin C. Henn, Cleveland, O. No. 1,073,043. Filed Jan. 4, 1912.

Safety Crank, John O. Stanley, Holyoke, Mass. No. 1,073,058. Filed Sept. 28, 1912.

Motor Plow, Leslie S. Hackmey, St. Paul, Minn. No. 1,074,115. Filed Sept. 19, 1910.

Gaseous Fuel Mixer, Willis S. Parker, Philadelphia, Penn., assignor to Delomont E. Notley and Willis S. Parker, copartners, trading as the Parker Manufacturing Company of the same city. No. 1,074,136. Filed June 11, 1913.

Vehicle Spring, Lewis A. Huston, New York City. No. 1,074,178. Filed July 28, 1913.

Valve Seat, John Henry Mixer, Shale, Cal. No. 1,074,191. Filed June 20, 1912.

Hood of Motor Cars, Anton Aumuller, Munich, Germany. No. 1,074,232. Filed May 6, 1912.

Spring Wheel, Roddie C. Behrends, Easton, Ill. No. 1,074,235. Filed Jan. 2, 1912.

Lock for Automobiles, Albert Austin Bennett, Los Angeles, Cal. No. 1,074,238. Filed June 10, 1913.

Igniter, Edwin Charles Jones, Toronto, Ontario, Canada, assignor of one-half to James Pearson of the same city. No. 1,074,265. Filed March 25, 1913.

Spring Wheel, Samuel James Poyner, Pierson, Manitoba, Canada. No. 1,074,290. Filed Sept. 3, 1912.

Device for Stopping Engines, Tom Elmer Johnson, Northwood, Ia. No. 1,074,327. Filed Sept. 21, 1912.

Gearing for Motor Vehicles, Eugene Harold Avery, Bradgate, Ia. No. 1,074,341. Filed Oct. 19, 1911.

Automobile Horn, Ray H. Manson, Elyria, O., assignor to the Dean Electric Company of the same place. No. 1,074,371. Filed May 6, 1912.

Lap Robe, George Sullivan, New York City. No. 1,074,389. Filed May 19, 1911.

Magneto Ignition System, John M. Dinkins and Franklin B. Hayes, assignors of eight-fifteenths to William Taylor, all of Indianapolis, Ind. No. 1,074,416. Filed June 5, 1908.

Seat for Motorcycles, Frank G. Kimpel, Edgerton, O. No. 1,074,438. Filed May 20, 1913.

Lamp, Donald D. Myers, Lafayette, Ind., assignor to the Esterline Company, Indianapolis, Ind. No. 1,074,449. Filed April 21, 1913.

Self-Closing Funnel, Karl Heinrich Rosenauer, Frankfort-on-the-Main, Germany. No. 1,074,465. Filed March 18, 1911.

Clutch Construction, Powell Evans, Philadelphia, Penn. No. 1,074,500. Filed May 8, 1912.

Headlight Control, Harvey W. Potts, Longmont, Col. No. 1,074,527. Filed March 28, 1913.

Magneto, Carl Ebner, Stuttgart, Germany. No. 1,074,542. Filed March 9, 1910.

Carburetor, Edgar A. Riotte, Bronxville, N. Y., assignor to the Standard Motor Construction Company, Jersey City, N. J. No. 1,074,575. Filed Jan. 16, 1912.

Starting Valve Gear, Jean Romeyn, Brussels, Belgium. No. 1,073,633. Filed June 17, 1912.

Internal Combustion Engine, Paul S. Smith, Newburg, N. Y. No. 1,073,640. Filed April 22, 1909.

Internal Combustion Engine, William James Wright, Franklin, Penn., assignor to the Wright Engine Company, Pittsburg, Penn. No. 1,073,652. Filed March 5, 1912.

Combustion Engine, Guido Fornaco, Turin, Italy. No. 1,073,671. Filed Aug. 12, 1911.

Gasoline Tank, Leland F. Goodspeed, Milwaukee, Wis., assignor to the Milwaukee Locomotive Manufacturing Company of the same city. No. 1,073,676. Filed Feb. 17, 1912.

Primary Battery Cell, Julius H. Gugler and George W. Colles, Milwaukee, Wis., said Colles assignor to said Gugler. No. 1,074,677. Filed June 22, 1910.

Valve Guiding Tool, Herman, Bernard and Peter Horn, Washita County, Okla. No. 1,073,686. Filed Dec. 21, 1911.

Vehicle Wheel, John F. Mitchell, Topeka, Kan. No. 1,073,697. Filed Sept. 26, 1907.

Carburetor, Leonard Atwood, Boston. No. 1,074,727. Filed April 14, 1909.

Acetylene Gas Generator, Charles H. Long, Fairbury, Neb. No. 1,073,767. Filed Jan. 15, 1913.

Internal Combustion Engine, Luther O. Martin, Parkersburg, W. Va. No. 1,073,770. Filed Jan. 25, 1912.

Variable Speed Transmission Gearing, Joseph Michaud, Fort Kent, Me. No. 1,073,775. Filed June 14, 1912.

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FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

11,637, Acetylene Gas Generators—In response to inquiries from the United States an American consul reports that many towns in the country in which he is located are without electric lights, and it may be possible to create a demand for acetylene lighting apparatus. He sends the names of two business men in his district with whom it might be advantageous for American firms to communicate. Correspondence with these men may be in English, but all pamphlets, price lists, descriptive matter, etc., to be of any value should be in Spanish.

11,640, Motor Power Agricultural Machinery—An American consul reports that a resident of his district wishes to get into communication with American manufacturers of complete outfits of motor power harvesting and agricultural machinery, such as motor engines, harvesters, thrashers, plows and harrows. He desires catalogues, with price lists f. o. b. New York City, or c. i. f. city of destination. Considerable machinery of this class is now being used in the country in question with very satisfactory results, but there is an opening for a large increase in the local sales, which ought to be taken advantage of. Correspondence should be in Spanish.

11,656, Copper Wire, Tubes and Sheets—A German distributor of metal wire, tubes and sheets informs an American consular officer that he is desirous of forming connections with American manufacturers of copper wire, tubes and copper sheets.

11,662, Motor Cars—A letter has been received by an American consul from a business man in India stating that he requires over a dozen commercial motor cars of 32 seats for passenger service and also some lorries (trucks) for transporting goods. He desires to be informed of the best makes of American cars, and also mentions that he would like to purchase such cars on the installment system. He states that he is prepared to give sufficient references, and corresponds in English.

11,682, Representation in Australia—A business firm in Australia informs an American consulate that it would like to get in touch with large American industrial concerns with a view to representing them in that country. The firm writes that the article is immaterial as long as it is well supported with samples, catalogues, detailed prices, freights, insurance rates, etc. However, it will undertake to handle the business of only such firms as are prepared to grant the sole agency for their products.

11,689, Automobile Tires—An American consulate has been requested by a foreign business man to place him in communication with American manufacturers of automobile tires. He desires to represent in Italy an American firm manufacturing rubber tires, with the object of importing and selling such goods on that market. He deals in automobiles, is in close touch with that trade, and states that he can find sales for pneumatic tires. Manufacturers are requested to quote terms, prices, conditions, discounts, etc., and correspondence should be in Italian or French.

11,696, Automobile Trucks—An American consular officer reports that he has been requested by a local business man to place him in communication with American firms manufacturing low priced automobile trucks. He desires to represent in Italy an American manufacturer of such trucks, particularly low priced cars, as he states there is a market for trucks costing not more than $1600. Correspondence should be in Italian or French. Prices, terms, conditions, discounts and catalogues are desired.

11,711, Catalogues of Motor Cars and Motor Boats—An American consul requests that manufacturers, especially those of motor cars and motor boats, file in his office as soon as possible their catalogues and price lists for 1914.

11,713, Motor Fire Truck—A report from an American consul in Canada states that a local board of fire commissioners has under consideration the purchase of a motor truck. It is proposed to purchase a machine that will be a combined steamer, chemical, hose and ladder truck.

11,720, Gasoline, Benzine, Automobiles and Mineral Oils—An American consul reports that a business man in Italy desires to be put in communication with American concerns handling gasoline and benzine who may be willing to ship direct. He states that he would be able to build up a considerable amount of business, and would take agencies for Sicily and southern Italy. In addition, he is interested in automobiles, motorcycles, accessories, mineral oils and greases. Offers may be sent direct or through the consulate in question.

11,734, Automobile Accessories—An American consular officer in Canada has forwarded the name of a well established firm which desires to receive from American manufacturers catalogues and price lists of automobile accessories.

11,739, Fire Apparatus—The American consular agent at Nelson, B. C., reports that the City of Nelson is considering the purchase of a motor hook and ladder truck for use in the fire department. Manufacturers of this equipment should communicate with the City Clerk, City of Nelson, British Columbia, Canada, for details regarding requirements.

11,768, Hardware, Motor Trucks, Etc.—A foreign firm informs an American consulate that it intends to push the sale of American goods throughout Europe, Asia Minor, Syria, Egypt and northern Africa. It desires representation on a commission basis of the following: Cheap motor trucks, hardware, plumbers' supplies, well drilling machinery, pipes and fittings, frogs and switches for tramcars and railroads, wire of all kinds, and tires for automobiles.

11,771, Motor Cars, Engines and Motorcycles—A report from an American consul in England states that a firm in his district would like to secure an agency for American motor cars. Another firm is open to take an agency for motor engines, motor boats and motorcycles.

11,782, Gasoline Engines, Etc.—An American consular officer in Canada forwards the name of a local firm which desires to enter into communication with American manufacturers and exporters of gasoline engines, copper paint, cordage of all kinds, gasoline, builders' supplies and cotton waste.

11,789, Motor Boats—A business man in Italy has requested an American consul to put him in touch with American manufacturers of motor boats. He desires to represent such a firm and import its boats into that country. Prices, terms, discounts, etc., are desired. Correspondence in Italian or French.

11,803, Self-Starting Apparatus for Automobiles—A well known and highly reputed firm of automobile agents in a German city informs an American consular officer that it desires to secure the representation in that country of a first class American self-starting device for automobiles, operated either by electricity or by compressed air.

11,810, Automobiles, Motor Boats and Electrical Supplies—An American consular officer in a Latin-American country reports that a resident of his district has just opened a new store for the handling of automobiles, motor boats and electrical supplies. He states that he also proposes to carry a full line of tools for carpenters, machinists, etc.

COMING EVENTS.

October.

Oct. 24—Convention, American Iron & Steel Institute, Chicago, Ill.
Oct. 27-28—Convention, Electric Vehicle Association of America, Chicago, Ill.

November.

Nov. 2-3—Road race, El Paso, Tex.-Phoenix, Ariz.
Nov. 3-8—Motorcycle show, Coliseum, Chicago, Ill.
Nov. 4-5—Road race, Los Angeles, Cal.-Phoenix, Ariz.
Nov. 4-5—Road race, San Diego, Cal.-Phoenix, Ariz.
Nov. 6—Track races, Phoenix, Ariz.
Nov. 8-12—Track races, Shreveport, La.
Nov. 7-15—Olympia Show, London, England.
Nov. 8-15—Show, Atlanta, Ga.
Nov. 22-29—Show, Providence, R. I.

December.

Dec. 1-3—Annual meeting, American Automobile Association, Richmond, Va.
Dec. 9-12—Convention, American Road Builders' Association, Philadelphia, Penn.
Dec. 10-12—Convention, Retail Implement & Vehicle Dealers' Association, Milwaukee, Wis.
Dec. 11-20—International exposition of safety and sanitation, American Museum of Safety, New York City.

January.

Jan. 2-10—Importers' Salon, Hotel Astor, New York City.
Jan. 3-10—Pleasure car show, Grand Central Palace, New York City.
Jan. 10-17—Show, Cleveland, O.
Jan. 24-31—Show, Rochester, N. Y.
Jan. 24-31—Pleasure car show, Coliseum, Chicago, Ill.
Jan. 26-31—Show, Scranton, Penn.
Jan. 31-Feb. 7—Show, Minneapolis, Minn.

February.

Feb. 2-7—Pleasure car show, Buffalo, N. Y.
Feb. 9-14—Truck show, Buffalo, N. Y.
Feb. 22-27—Show, Omaha, Neb.
Feb. 22-March 5—Show, Cincinnati, O.
Feb. 24-28—Show, First Regiment Armory, Newark, N. J.

March.

March 7-14—Pleasure car show, Mechanics' Building, Boston, Mass.
March 17-21—Truck show, Mechanics' Building, Boston, Mass.

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ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

Typhoon Horn.

The Typhoon Signal Company, Chicago, announces a new type of Typhoon electric horn known as type F, and although it is a popular priced signal, it is covered by a very liberal guarantee. It is constructed in two styles. One has a six-inch projector for mounting on the outside of the car, and this model is finished in three styles, namely: All black enamel, nickel and black enamel, and brass and black enamel. The other type is made expressly to be placed under the hood and is fitted with a long projector to project the sound. It is finished in all black. It is stated that short circuiting is prevented by utilizing a 7.5-inch flexible tubular connection for the wiring to the horn, and the construction eliminates the conventional use of terminals for attaching the leads from the battery. The signal is designed to be operated on any standard six-volt battery, and full length wire cable and push button are included in the equipment. The tone is said to be clear and penetrating, but not discordant. It sells for $4.00.

Shiller Cigarette Holder.

The Shiller Manufacturing Company, Chicago, is marketing a novelty termed the Shiller cigarette holder, which is a device that may be located in any desired position, either on the steering wheel or other convenient place on the car. The lower part of the holder is provided with a clamp for attaching to the steering wheel, for example, while the upper end clasps the cigarette.

J-M Spark Plug.

The H. W. Johns-Manville Company, New York City, is manufacturing a spark plug which carries with its sale a guarantee of 10,000 miles of service and the company states that any plug failing to give satisfaction will be replaced by a new one. One of the features of the J-M is the use of double insulation, it comprising mica and porcelain, the former being wound around the electrode. It is stated that the dual insulation, either of which is sufficient to insure perfect sparking, will withstand high voltages. The J-M spark plug is made in all sizes; is adapted to either battery or magneto currents, and sells for $1.00. The company issues a booklet on ignition which will be mailed upon request.

Pruden License Holder.

The laws of many states require that the car license be carried either in the machine or upon the person. When it is carried in the clothing and this changed, one is likely to forget to transfer it. The W. E. Pruden Hardware Company, 260 West 52nd street, New York City, is marketing the Pruden license holder, comprising a metal case so constructed as to retain the license and protect it from injury. The holder is fitted with a Corbin lock and an extra key is included. It sells for $3.00.

Rear Light Alarm.

The enforcement of the ordinances respecting the tail light has led to the marketing of a number of devices for notifying the driver when the lamp is extinguished and these are made both for electric and oil lamps. The Guaranteed Specialties Company, Kinney building, Newark, N. J., is manufacturing the rear light alarm, which is designed for electric lighting equipments, although the company states it produces an outfit to convert oil into electrical units, which permits use of its device. The rear light alarm comprises a compact, round, hard rubber box, containing an electro-magnet and a buzzer, the last named giving forth a strident sound when the filament of the tail lamp burns out or the circuit is broken. The box is provided with three terminals, one of which is connected directly to the battery, while the others are connected across the lamp terminals. A switch is also included. The device operates on a six-volt circuit and consumes practically no current as the buzzer may be cut out by the switch as soon as it sounds. The equipment comes packed in a neat box, and includes suitable length of wire, etc. Its selling price is $5.00.

Pioneer Batterymeter.

Motorists who pay attention to details realize the importance of giving the storage battery utilized with lighting and motor starting systems that care that is necessary for maximum efficiency. While the condition of the cells may be ascertained by the use of a voltmeter, makers of batteries recommend testing the specific gravity of the electrolyte, and for this purpose a hydrometer is used, an instrument permitting of fine readings not possible with the voltmeter. The Northwestern Chemical Company, Marietta, O., manufactures several types of instruments for this work and the Pioneer batterymeter No. 1 is shown in an accompanying illustration. It comprises a hydrometer enclosed in a sturdy glass tube and the electrolyte is drawn into the device by a rubber bulb. A suitable snout for inserting through the opening in the cells is also incorporated. The Pioneer batterymeter is nicely made and is guaranteed to be accurate in its readings. Its selling price is $3.50.

Ideal Automatic Hose Attachment.

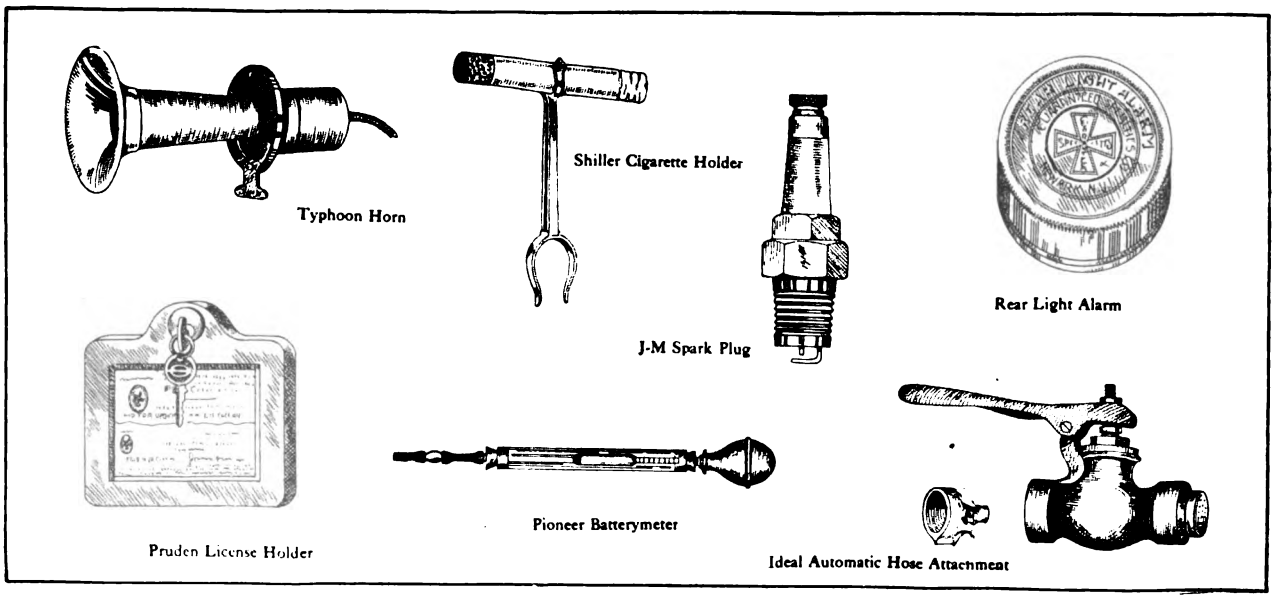
There is no doubt that the water wasted in washing motor cars represents a large sum. Many owners and chauffeurs allow the water to run when cleaning the machine, by dropping the hose instead of shutting off the supply until again needed. The Gaylord Sanitary Manufacturing Company, Rochester, N. Y., is marketing the Ideal automatic water saver attachment, which is stated will earn its cost in 30 days where metered water is used. The device is secured to the conventional hose and is equipped with a lever which normally shuts off the supply when pressure is released. Being very compact and designed to fit the hand, it is a simple matter for the operator to compress the lever, which action allows the water to flow. A spray or jet nozzle is included, making it possible to vary the size of the stream and according to the character of the work. The Ideal comes in polished brass or nickel plated and sells for $2.00.

Avery Electric-Acetylene Burner.

P. C. Avery, president of the Acetylene Gas Company, Milwaukee, Wis., has brought out an auxiliary or emergency burner for electric lighting systems, permitting the use of acetylene in the event trouble is experienced with the lighting equipment. The new device comprises an acetylene burner, which may be fitted into the electric lamp socket by removing the bulb. The gas burner is connected to an auxiliary gas tank by a tube leading out through the front of the electric lamp. The glass cover is removed when the burner is in service, making it unnecessary to drill a special hole in the lamp as a lead for the tube. It is claimed that the flame will not blow out in the strongest wind. The device sells for 50 cents.

Mosler Silent Knight Plug.

Spark plug construction and location are being given more attention by engineers than formerly, and, coupled



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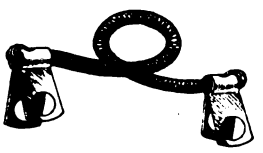
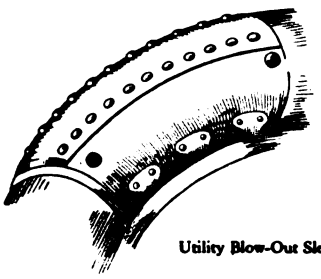
Avery Electric-Acetylene Burner

Mosler Silent Knight Plug



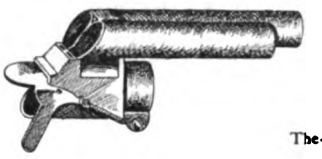
Hi-Po Spring Battery Connector

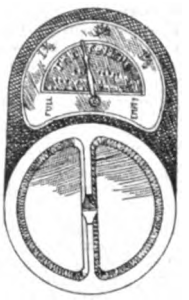


Utility Blow-Out Sleeve

A. A. S. Fibre Tubing

Blazer Horn





The-Tel-Tale Gasoline Gauge

with the high efficiency of the magneto, ignition troubles are reduced to a minimum. A. R. Mosler & Co., Mt. Vernon, N. Y., produces a large variety of spark plugs to meet the varying requirements of different motors and in an accompanying illustration is shown the Mosler Silent Knight plug, which embodies the well known Spitfire characteristic, namely, the protected central electrode. The plug is constructed to operate satisfactorily in splash of oil and to fire accurately under compression. It is constructed in metric sizes, platinum pointed, also in a 7/8-18 open end, two point type. Both are designed to withstand high voltages and the burning effect of magneto currents.

Hi-Po Spring Battery Connector.

Loose dry cell battery terminals are annoying and with ordinary members care must be exercised in tightening else the battery terminal will be broken. The Hi-Po Waterproof Battery Company, 1007 Atlantic avenue, Brooklyn, N. Y., is marketing the Hi-Po spring battery connector, which is stated to be self-locking. It is attached with the fingers, and it is also claimed that it will not jar or loosen in service. Another advantage pointed out in the design is that a perfect contact is obtained thereby increasing the efficiency of the cells. A feature of the terminal employed is that the wire may be secured without soldering, a patent tie making a perfect electrical connection. The construction and method of attachment to a cell is made clear in an accompanying illustration. They sell for $1.25 a hundred.

Utility Blow-Out Sleeve.

The Utility blow-out sleeve is produced in several forms by W. L. Johnson & Co., Endicott, N. Y. That illustrated is termed style D and is constructed from a one-piece heavy chrome split leather and is provided with an additional tread thoroughly studded. The last named feature prevents skidding. This type of sleeve does not require straps or laces, hooks fitting the rim. It is claimed that the sleeve cannot creep as it is held securely by inflating the tire. The leather is soft and pliable and is held to be water proof. The Utility blow-out sleeve is made in lengths varying from six to 12 inches and in sizes from three to five inches.

A. A. S. Fibre Tubing.

Hard vulcanized fibre tubing is employed for a large number of useful purposes, such as carrying the high-tension leads, wiring electric lighting systems, socket linings, bushings, etc. Being very tough and durable it can be forced in place without danger of breakage and it also may be machined and cut easily. The American Auto Supply Company, 1741 Broadway, New York City, and 1408 South Michigan avenue, Chicago, is marketing a hard vulcanized fibre tubing which comes in 24-inch lengths and has inside diameters of 1.125 and 1.5 inches. The thickness of the walls is .09375 inch. The net weight of each tube is 20 ounces. It sells for 48 and 60 cents respectively.

Blazer Horn.

The Motor Specialties Company, Waltham, Mass., is marketing a new exhaust operated horn, which is not only moderately priced, but may be attached easily and without alterations to the exhaust pipe or muffler. It is secured to the exhaust pipe by a special clamp and may be locked with a screw driver. The horn proper is stationary and one of its features is that the tubes extend toward the front of the car, insuring an efficient signal even when the motor is operating slowly. The gases are deflected to the tubes by a simple lid device which does not impede the egress of the gases, thereby eliminating opportunity of purring noises when the horn is not being utilized. The construction is simple and high grade throughout and the maker states that it will not clog. It is designed especially for model T Ford automobiles and sells for $3.75.

The-Tell-Tale Gasoline Gauge.

The Bundy-Goebel Manufacturing Company, Detroit, Mich., is producing an ingenious device for indicating the amount of gasoline in the fuel tank. The-Tell-Tale gauge is not only compact, but it is stated that it may be fitted to the fuel container in less than two minutes and that after installation requires no attention. One of the features of the device is that the tank may be filled without disturbing the gauge, a filler cap of neat appearance being provided. The gauge is oval, one section comprising a calibrated face, over which moves an indicating hand. As the gauge may be placed in plain view, as with a roadster type of car, the driver may ascertain the amount of fuel on hand from the seat by simply turning his head. The-Tell-Tale is constructed for various types and makes of machines, including roadsters, runabouts, touring, etc., and sells for $2.00.

Shino Mitten Duster.

The Pioneer Manufacturing Company, Cleveland, O., is marketing the Shino mitten duster, which is formed to fit the hand and to make easy the cleaning and polishing of the upholstery and body of the motor car. The duster is chemically prepared, and it is claimed that it will absorb all dust and that the texture of the material is so fine and soft that it will not scratch the finest of surfaces. It is also stated that crevices in the upholstery, where dust collects, are reached easily.

Radio-Escape.

The Radio-Escape, so named because it is designed to prevent evaporation of the fluids utilized in the radiator, is manufactured by the Globe Machine & Stamping Company, Cleveland, O. It is made in two styles, that illustrated being known as B, and is adapted to any type of radiator cap. It is fitted by tapping and drilling a hole and it is stated that the device is entirely automatic in its action. By its use it is claimed that evaporation is held to less than a quart for an entire season, and that it makes for economy when alcohol or other anti-freezing solutions, subject to evaporation, are employed. Type A is made for new cars.

Weld Extra Jet.

The Weld Manufacturing Company, North Chatham, Mass., announces the Weld extra jet, which is designed to make starting of the car easy in cold weather as well as to eliminate the trouble of priming the cylinders. The entire operation is controlled from the seat, a small, compact lever being utilized, which may be operated by the foot. The principle of the device is that of providing a rich mixture to the cylinders for starting and operation until the motor has become sufficiently warm to operate efficiently under the normal mixture. The Weld differs from the usual types of priming devices in that the fuel is completely vaporized, properly mixed with air and conveyed to the intake manifold in proximity to the cylinders, thereby eliminating opportunity for condensation or precipitation through long contact with the cold metal walls of the induction pipe. The extra jet takes gasoline from the float chamber of the carburetor, and, as the opening is above the fuel level of the float, leakage is not possible. The size of the extra jet is approximately .75 by 3.5 inches. Connection from the jet to the actuating handle is by means of a small brass chain. It is stated that it is attached without soldering, only two small holes being required for an .125 inch pipe. In addition to making for easy starting it is pointed out that the adjust-

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ment of the carburetor will not require changing to enrich the mixture for cold weather starting. It sells for $5.00.

Liberty Bell.

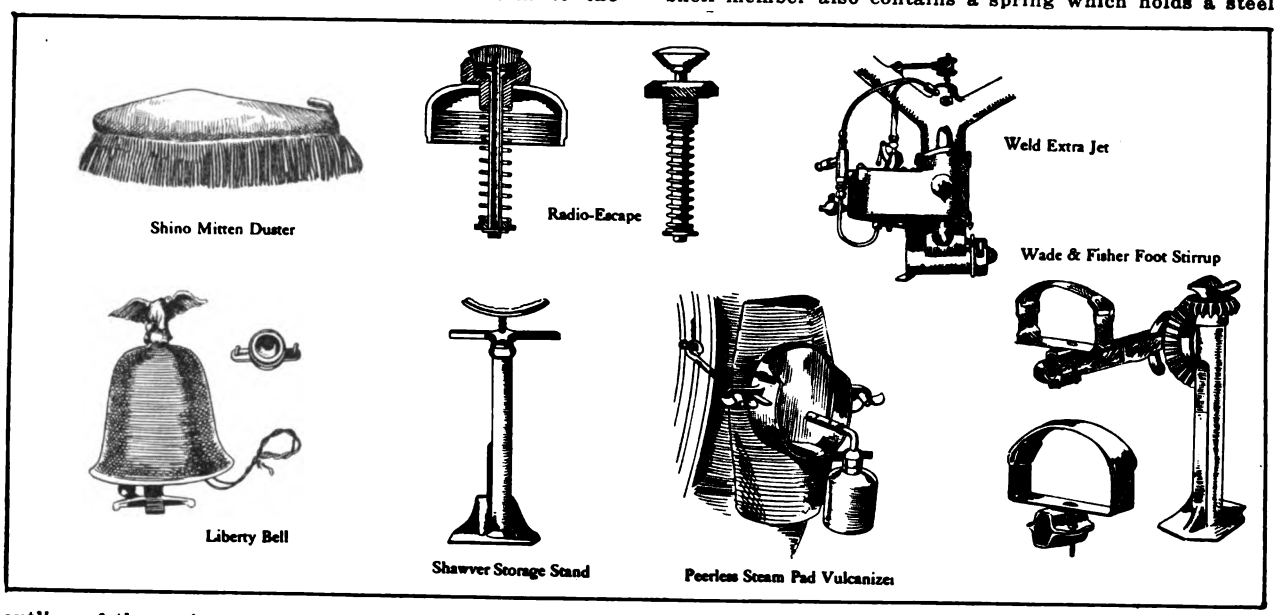
The Liberty bell, manufactured by the Liberty Bell Company, 346 The Arcade, Cleveland, O., differs from the usual electric signalling devices in that it is an actual bell having a tongue actuated on the current of four standard dry cells. It is five inches high, five across the base, and can be mounted on any convenient place on the car, and being surmounted by an eagle, presents an attractive appearance. The tone is said to be unusually pleasing and effective, being distinct but mellow. It is stated to be water, dust and fool proof and a suitable length of cord and switch accompany each signal. The construction of the bracket is such as to make for easy installation. It sells for $10.00.

Shawver Storage Stands.

The Shawver Company, Springfield, Mass., is manufacturing the Shawver storage stands, which are moderately priced and designed especially for service when the car is stored for the winter. They come in sets of four and are placed under each axle of the machine, relieving the tires of all weight. Each stand has a suitable, substantial base, and by means of a screw thread arrangement may be adjusted to various heights. It is not necessary to jack up the car as the stands are operated easily. The stands sell for $3.75 a set.

Peerless Steam Pad Vulcanizer.

The Peerless steam pad vulcanizer is produced by the Leader Manufacturing Company, 3049 West 25th street, Cleveland, O. Its face is concaved to conform to the outline of the casing and suitable side brackets are provided for the tension chain, which is secured by eye bolts locked with wing nuts. It is stated that it will vulcanize a patch on a tube or casing from a puncture to a patch nine square inches. It takes but two to five minutes' application of the hydrocarbon heater to generate sufficient heat to vulcanize thoroughly and a water pad automatically prevents burning either the patch or surrounding rubber. The equipment includes suitable material to make repairs to tubes and casings. Its selling price is $2.50.



Wade & Fisher Foot Stirrup.

Wade & Fisher, 3807 Lake avenue, Chicago, is introducing the Wade & Fisher foot stirrup attachment, which is a practical device and one designed to save considerable labor when a wheel must be jacked up to change a tire or for other work. It comprises a metal stirrup, shaped to conform to the foot and having a flexible band at the top. This band is utilized to prevent the foot from slipping when the handle of the jack, to which the device is clamped, is moved upward. The clamp is so constructed that it will fit any type jack handle and as the stirrup swivels it may be permanently attached. To operate, the foot is placed in the stirrup, enabling operation of the jack without stooping and soiling the clothing. It sells for $1.00.

Boyce Motometer Junior.

To obtain maximum efficiency from the motor the cooling water should not be allowed to boil, it being held that the best results are obtained when it attains a temperature of about 170 degrees Fahrenheit. When the motor overheats through a lack of water or oil, because of too rich a mixture, defective pump, etc., a loss of power follows and unless the trouble be remedied a large repair bill is likely to result. These conditions are not noted as a rule, until the car is stopped and an examination is made. The Motometer Company, Inc., 1790 Broadway, New York City, is marketing a Junior model of the Boyce Motometer, which is a neat, compact device for attachment to the radiator cap. It is fitted with a protected glass tube containing a red fluid which is actuated by the temperature of the water in the radiator. The dial of the Motometer is calibrated in degrees and lettered to denote the results obtained from varying temperatures, these including the maximum and minimum points, steaming and freezing, respectively. A small opening in the face of the dial permits of reading the device at night when the headlights are burning, as the red column is easily visible against the white background of the light. The Motometer is adapted to any type of radiator cap; comes finished in nickel or polished brass, and is moderately priced. Complete details of the device are set forth in a booklet which will be mailed on request. It sells for $5.00.

Apco Anti-Rattler No. 3.

The Auto Parts Company, Providence, R. I., announces a new Apco device termed the Anti-Rattler No. 3. It is one of the most practical accessories for model T Ford cars brought out by this concern, as by it play in the ball end of the steering arm and connections is eliminated and it is possible to make adjustments from time to time as needed. It replaces the usual steel cap on both ends of the steering gear connecting rod, which, when adjusted by filing the halves of the ball socket, usually result in the part binding when the wheels are turned. This is due to the difference between the worn, flat and round part of the ball. The Apco device consists of a bronze shell adjusted by means of a screw plug in the base, and with it, it is possible to eliminate all play. The shell member also contains a spring which holds a steel stud in contact with the ball, resulting in a cushioning effect, and thus in easier steering. The new device sells for $1.00. The company has also brought out a new brake lining for the service brake, a material in which all metal is eliminated. It is held by the Ford engineers that the use of a friction material containing any metal is largely responsible for magneto troubles, in that particles of the material affect the efficiency of the flywheel generator. The Apco lining is of special construction; comes in lengths to fit the brake drum and rivets are supplied with each length. It sells for 50 cents a foot.

Radico.

Radico is a chemical preparation for repairing leaks in the radiator, and it is claimed by the maker, the Radico Manufacturing Company, Springfield, Mass., that the compound contains no acids or injurious minerals which would eventually corrode the metal and cause other leaks. It is also stated that a damaged cooler can be repaired in 15 minutes. The compound comes in a compact can and can be easily stored in the tool box. It sells for 60 cents.

A. V. Shock Absorber.

The A. V. shock absorber, marketed by the Hudson Export & Import Company, 140 West 42nd street, New York City, is an imported design operating on the hydropneumatic principle. A hydraulic device is utilized for the purpose of putting a load on the springs in order to prevent any bouncing effect, but this load comes into operation when the spring is compressed, not on the recoil. There are two springs, one taking the normal load, the second, which is not as long, coming into operation when the load becomes greater. The hydraulic device consists of a centrally situated cylinder in which works a small piston connected to the crosshead. Smaller holes are bored at intervals through the walls of this cylinder

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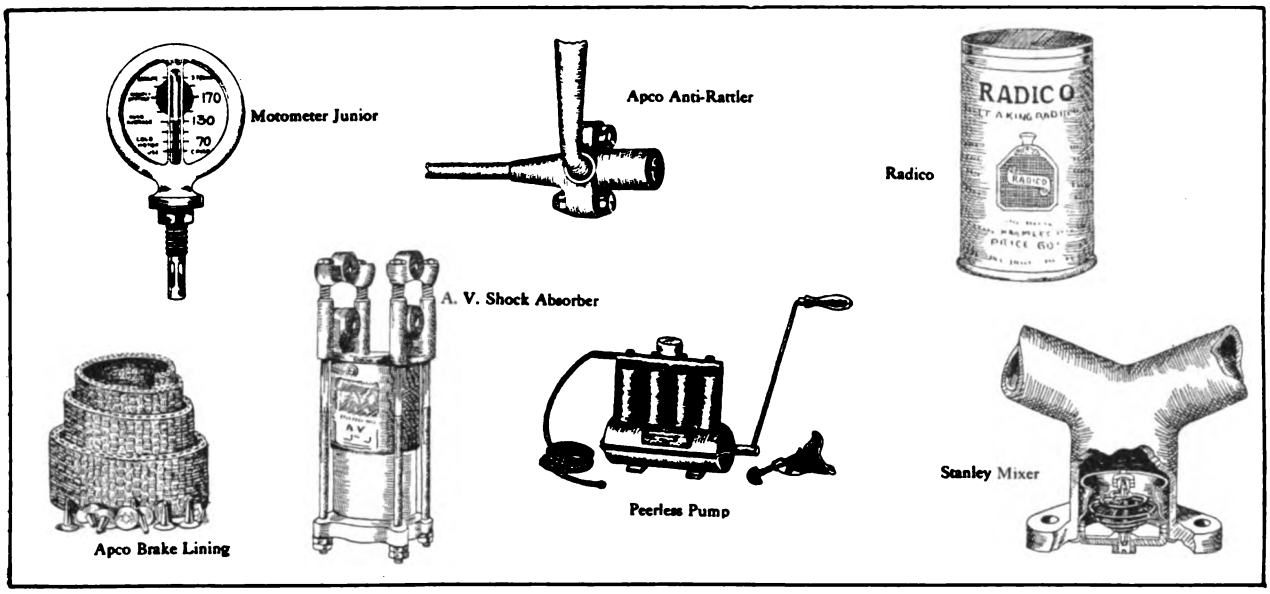


and through these castor oil is forced on the down-stroke of the plunger. At the end of the down-stroke the level of the liquid rises above the top of the open ended cylinder, and the expansion of the springs, therefore, causes this oil to pass into the cylinder again, both through the small holes in the wall and also past the cup lever. The case containing the springs and forming the extension of the part upon which they rest at the base slides between the inner and outer tubes and thereby prevents any ingress of foreign elements to the working mechanism. An adjusting block is placed at the bottom, which allows the spring pad to be raised so as to place more pressure on the springs. The guides of the four slide bars are externally situated. A special form is made for use with the front springs, operating on the same principle, but the parts are arranged to replace the spring shackle in compression.

Peerless Pump.

The Peerless four-cylinder pump, produced by the Peerless Accessories Manufacturers, 1926 Wabash avenue, Chicago, is a small, compact unit, operated by a crank and designed to be clamped to the running board of the car. It requires but little effort to operate and it is stated that a large sized tire can be inflated to the maximum pressure in a very short time. Each equipment includes a clamp, suitable length of hose and a gauge. The hose connection automatically opens and closes the valve in the tire. The pump comes finished in black enamel with nickel trimmings. It weighs nine pounds. It sells for $15.00.

Polo Pneumatic Tire Alarm.

The importance of keeping the tires inflated to the proper pressure is well understood by the experienced motorist, but in the event of a small leak on the road the loss of air is not noticed until the car is stopped. The Polo Pneumatic Alarm Manufacturing Company, Clear Lake, S. D., is marketing a unique device termed the Polo pneumatic tire alarm, which comes in sets of four and is designed for attachment to the usual valve stem. When the pressure falls below a given point the alarm is sounded automatically, calling the attention of the driver to the shoe. The signal is said to be shrill and easily noted above the noises of the machine. The device is bored from solid brass, is very small and does not attract from the appearance of the car.

Pierce Speed Controller.

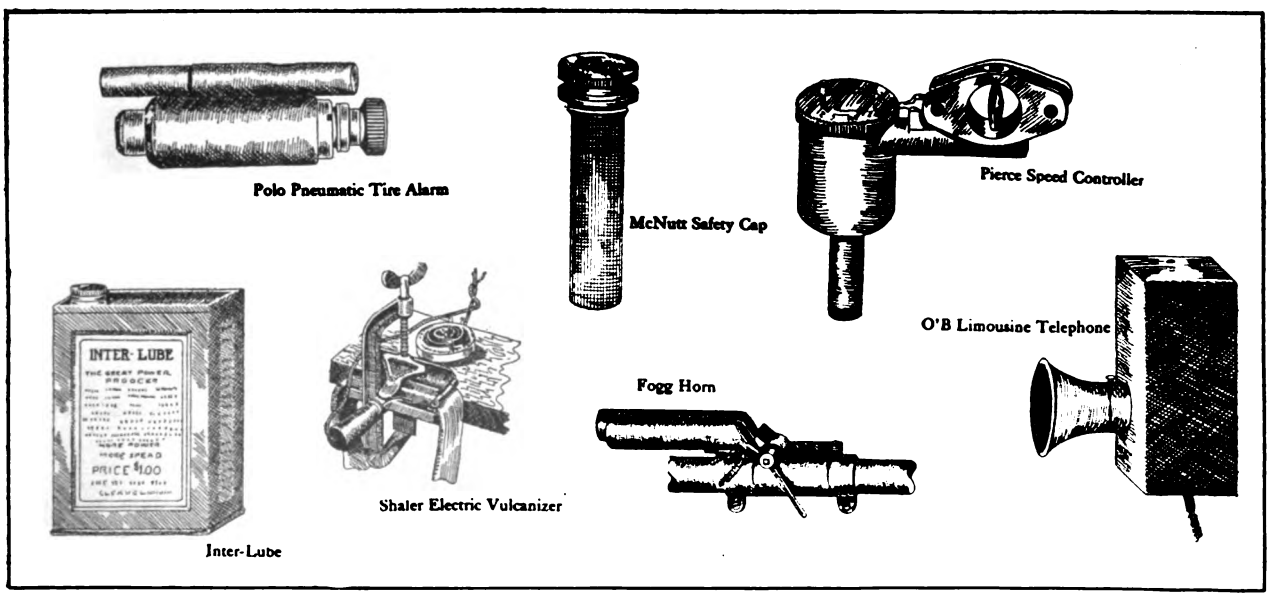
A form of governor, but differing from conventional practise in that it can be set for different speeds and locked, the owner retaining the key, is the Pierce speed controller, manufactured by the Pierce Speed Controller Company, Anderson, Ind. It is mounted between the carburetor and the intake manifold and regulates the supply of fuel by means of a butterfly valve. The last named component may be so set as to limit the vehicle speed as desired, a dial being incorporated for adjusting the mechanism and fitted with a lock. The device does not affect the speed of the engine until the set speed is exceeded. All parts are enclosed, so as to be dust, water and tamper proof. The price varies according to the finish.

O'B Limousine Telephone.

The Joseph F. O'Brien Manufacturing Company, 61 Park Place, New York City, is marketing a new limousine telephone which differs from usual construction in that a reply can be received from the chauffeur. The design of the receiver employed by the driver is made so as to be loud speaking in order that instructions may be heard in noisy traffic. The inside instrument comprises a receiver and transmitter in a unit, and a button is also incorporated for signalling the chauffeur. The system may be operated by dry cells or a storage battery and the instruments are very neat and compact, that utilized by the passenger being fitted with suitable length of flexible cord, retainer, etc.

Inter-Lube.

The Inter-Lube Chemical Company, 915 Schofield building, Cleveland, O., is marketing a liquid preparation called Inter-Lube, which is mixed with the gasoline in



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the proportions of one teacupful to five gallons of fuel. It is stated that it will mix freely with the fuel without stirring, and is free from injurious chemicals and sediment. Several claims are made for the compound, among which are: Increase of mileage, more power, less lubricant required, no carbon and easier starting. A can is said to be sufficient for 50 gallons of gasoline, increasing the normal cost of the fuel about two cents a gallon. It sells for $1.00.

McNutt Safety Cap.

The McNutt Can Company, 352 Pearl street, New York City, maker of non-explosive cans and tank devices for handling and storing explosive liquids, is manufacturing the McNutt safety cap, which is a device adapted to fuel tanks on motor cars. It is in the form of a screw cap and incorporated in it is a check valve, preventing vapors from leaving the container, but permitting ingress of air as required to break the vacuum where a gravity system is employed. This check valve prevents evaporation of the fuel, as well as eliminating danger of explosion through fire. The valve member has a fusible disc which gives vent to the internal pressure when the container is subjected to fire, thereby preventing an explosion. It is stated that considerable economy is made possible through the use of the device, which is moderately priced. It sells for $2.00.

Shaler Electric Vulcanizer.

The C. A. Shaler Company, Waupun, Wis., is marketing a portable type of electric vulcanizer designed for service in the private or public garage, which may be operated on the lighting current, the outfit being constructed for direct or alternating currents and of different voltages. Plates are included for casings and tubes and a large variety of work may be performed with the equipment. The temperature is regulated by a rheostat, making the vulcanizer adaptable to all kinds of repairs, and the regulating device can be located away from the work bench, where it cannot be injured through accident. The company manufactures a wide variety of vulcanizing outfits and issues a booklet on the work, which will be mailed on request.

Fogg Horn.

The Motor Specialties Company, Cooper Lane, Waltham, Mass., is manufacturing a special exhaust operated horn designed especially for model T Ford cars, although it may be fitted to other types. It is a compact, well designed signalling device, simple in construction and being installed between the motor and the muffler its efficiency is not impaired by a leaky muffler. The signal proper is so arranged that the sound is thrown forward, insuring a volume of tone, even with the motor operating slowly. There are few moving parts, and no opportunity for back pressure or for clogging. It can be so installed that it does not interfere with the use of the usual cut-out.

Prest-o-Ceal.

Prest-o-Ceal is the product of the American Manufacturing & Distributing Company, Louisville, Ky., and is a thin paste holding in suspension the exact proportions of mineral solids and a fibre that will harden quickly. Enough of the liquid is injected into the inner tube to form a thin layer, and the material is spread evenly by the motion of the wheel.

NEW FORD MASTER VIBRATOR.

New York Coil Company Brings Out 1914 Model "T" Having a Number of New Features.

The new 1914 model "T" master vibrator for Ford cars, shown in an accompanying illustration, is manufactured by the New York Coil Company, 338 Pearl street, New York City, which concern has been building master vibrators for the past six years along with its well known line of ignition devices. It contains a number of new features and several departures in construction found in no other instrument of this type.

Instead of using hard rubber or wood, the deck is formed of a very soft quality of steel heavily nickel plated, upon which all of the working parts are secured. This construction entirely does away with the warping and changing of the parts relating to each other through dampness, heat or other causes. But one adjustment is provided, this being ratchet retained, and having an unusually long spring carrying the armature, the instrument cannot fail to produce strictly satisfactory results throughout the entire range of the adjustment screw. In reality the adjustment is provided only to compensate for the slight wear taking place at the contact points. The armature employs the hammer break principle, removing all possibility of the contact points sticking or fusing together.

New Ford Master Vibrator.

An original feature is the front plate, which is built integral with the coil, forming a substantial backing for the switch, and allowing the instrument to be utilized with dry cells or magneto. The size of the master vibrator complete is six by three by three inches. It is made with a very fine mahogany finished case and the maker states that it is unusually efficient when used in connection with electric lights. Easy starting of the motor is possible with the lights burning.

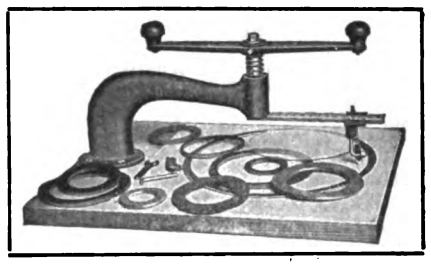
The instrument is sold with the express understanding that the purchase price will be refunded if not strictly as represented. Attractive and instructive literature will be sent all readers of the Accessory and Garage Journal upon request. The company maintains a western branch at 1429 Michigan avenue, Chicago.

SPRINGFIELD CIRCLE CUTTER.

Will Cut Accurately Glass, Sheet Copper, Gaskets, Washers, Etc., up to 14 Inches Diameter.

Cutting gaskets, washers, etc., by hand, not only requires considerable time, but frequently the material is wasted. The Shawver Manufacturing Company, Springfield, O., is marketing the Springfield circle cutter shown in an accompanying illustration, which is a device that will not only save labor and time in preparing gaskets, washers, etc., but these may be cut very accurately and in quick time.

The instrument is provided with a positive measuring scale by which the cutter proper may be set quickly to the size desired. The cutter will cut circles up to 14 inches in diameter and as the equipment includes a steel point glass cutting tool, knife for square edge work and one for bevel edge, a wide variety of work may be performed. Replacements of lamp glasses are possible with the cutter and sheet copper is also handled easily. The tool is constructed of high grade material throughout, comes with a wrench and weighs but 12 pounds. The manufacturer will supply additional details on request and has an interesting proposition for dealers, garages and service stations.



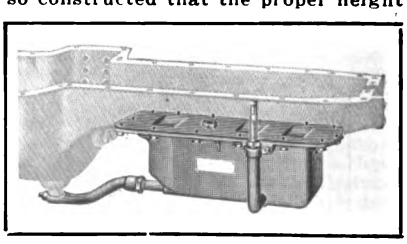
Springfield Circle Cutter.

OILER FOR FORD T MOTORS.

Denver Accessory Company Marketing Automatic Lubricator and Has Special Offer for the Trade.

The Danver Accessory Company, 18 Broadway, Pawtucket, R. I., is manufacturing the Danver automatic auxiliary oiler for model T Ford motors, which differs materially from oilers designed for this type of engine in that it is of the constant circulation type, assuring proper lubrication under all conditions of service and motor speed, and preventing an oversupply.

It replaces the usual lower crankcase, is of aluminum with bronze fittings and permits of carrying a larger supply of oil than with the regular system. Compartments are provided into which the connecting rods dip and these chambers are so constructed that the proper height of the oil is maintained at all times, irrespective of the supply in the base. The oil circulates constantly, thereby keeping it cool, and as the height of the lubricant is regulated there is no waste of oil, smoking or sooting of the plugs. The maker states that it will also prevent oil being thrown onto the spark plugs, short circuiting these members; that considerable more mileage is obtained, and that it is not necessary for the owner to carry an extra supply of lubricant on the car.



Danver Ford Oiler.

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Each oiler is provided with well designed and constructed gauge having a tell tale, and this member being above the partition of the crankcase is easily read, etc. The Danver automatic auxiliary oiler can be fitted without any alteration of the crankcase and requires but a short time to install. The company is making a special offer to Ford dealers, agents, repair shops and garages, and the discounts are very liberal. Complete descriptive matter will be forwarded by addressing the Danver Accessory Company, 18 Broadway, Pawtucket, R. I.

ALLEN-FRICTION WRENCHES.

A High Grade Tool, Operating on the Friction Principle—Instant Grip One of Its Features.

The Allen Wrench & Tool Company, 4 Meadow street, Providence, R. I., is manufacturing the Allen-Friction socket wrench sets, equipped with the Allen-Friction wrench, which possesses a number of interesting and practical features. The wrench proper, which is patented in the United States and other countries, is an adaptation of the friction principle, has an instant grip and makes possible its operation in limited spaces. This feature is a valuable one in motor car work and the maker states that it will displace nuts and bolts where other types of wrenches fail.

The wrenches are made of a high carbon steel, drop forged, carefully machined, pack hardened and ground. The sockets accompanying each set are also constructed of high grade material. In addition, the company manufactures the Allen-Friction drill, which is utilized in connection with the wrench and this tool is especially adapted to automobiles, factories, machine shops, etc.

The growing demand for its product has compelled the company to remove to larger quarters, where additional machinery, etc., will enable the concern to double its output, which has been sold principally throughout the East and on the Pacific slope. The Allen Wrench & Tool Company is represented by M. A. Bryte of San Francisco, Cal.; in Europe, by Buck & Hickman, Ltd., London, England; in Paris, France, by Fenwick Freres & Co., and in Frankfurt, Germany, by F. G. Kretschmer & Co.

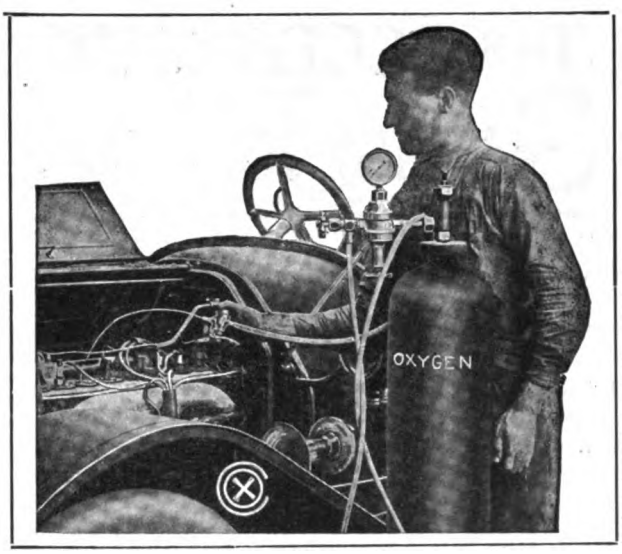
COX CARBON CLEANER.

Employs Oxygen and Consumes Carbon in Cylinders in Quick Time and at Slight Expense.

The old method of displacing the cylinders, when carbon must be removed, and scraping the deposits, involves considerable expense to the customer, to say nothing of delay in the time consumed in the operation. By using the latest process it is possible to increase the number of customers as well as to add to the profits of the garage, repair shop or service station.

The Cox Brass Manufacturing Company, Dudley avenue, Albany, N. Y., is marketing the Cox oxygen carbon cleaner equipment, shown in an accompanying illustration, and the method of operation is also outlined. The outfit includes a tank of oxygen, suitable length of hose, regulator, gauge, etc., and a flexible device for inserting in the spark plug opening. When the oxygen is brought into contact with the carbon and other deposits within the cylinder, these ingredients are entirely consumed and without injuring the metal. An advantage of the outfit is that carbon can be displaced from points a scraping tool will fail to reach.

It is stated by the maker that it requires from six to 10 minutes to clean a cylinder and at an average cost of 10 cents. The outfit is safe to handle and the tanks may be exchanged for new ones anywhere, the cost being slight. The company points out that a large number of motors may be cleaned daily, enabling the owner of the outfit to derive a handsome profit, and issues interesting data on the equipment, which will be forwarded on request. The selling price of the Cox Oxygen carbon cleaner is $25.



Showing Operation of Cox Oxygen Carbon Cleaner Outfit.

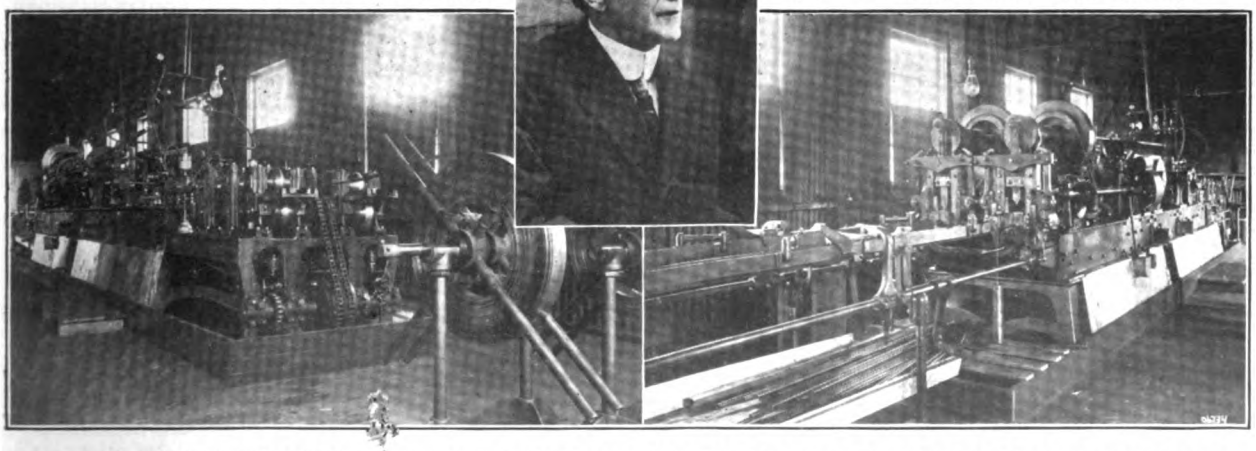
FOR PRODUCING STEEL TUBING.

Invention of Marshall B. Lloyd Expected to Have Decided Influence on This Branch of the Industry.

Representatives of seamless tube manufacturers met recently in Detroit to inspect a new machine for the production of seamless tubing. It is automatic in action and is the invention of Marshall B. Lloyd, president of the Lloyd Manufacturing Company, Menominee, Mich., who is more or less well known in the industry through his connection with the designing of woven wire fabric weaving machinery and other mechanical improvements.

The new machine is compact, occupying factory space three by 20 feet. It produces two tubes at once, being operated by two men. The hot or cold rolled steel is fed into it at one end and the tubing comes out at the other. Every step is automatic—forming, welding, straightening, sizing, polishing, drawing and cutting being performed without deterring the forward progress of the steel. It is claimed that it will turn out finished, polished tubing at the rate of 4000 feet a day, and in any size, weight, form or length desired.

The flat, metal strip is drawn through a series of small rollers which form it into the tube shape by a mandrel of peculiar construction on the inside. The tube emerges from these rollers in all appearances seamless, the edges being even and tight, and passes into a device that holds it in position to be welded, the edges being melted by the use of gases. The small, thin burr is removed by a knife, and the tube is smoothed by an emery wheel. It next passes into a large powerful vise, virtually an automatic bench, and is then sized and polished by cold rolling with water. The last operations which are performed are those of straightening and cutting.



Lloyd Automatic Seamless Tube Machine: At Left, Feeding the Flat Strip in at One End; at Right, Completed Tubing Emerging from the Other; Insert, the Inventor, Marshall B. Lloyd.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

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CONTRIBUTIONS.

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ADVERTISING.

Information supplied at request.

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Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

SELLING TALK VS. SYSTEM.

It appears to be quite the vogue on the part of a large number of general and trade magazines to supply those in the industry with so-called selling talks. Possibly, extensive office experience with newspapers and magazines qualifies a writer to advise dealers and garagemen with respect to the proper methods to be employed in disposing of cars and supplies. It may be that any man can revolutionize a dealer's business from an editorial chair, by the use of instruction books and half-formed opinions, with a few witticisms thrown in. But, from the writer's observation, men in the automobile industry are fully capable of acting as qualified salesmen.

The average dealer handles enough money each year to mean a big net profit, and, at certain times, the profit appears actually to exist on the books. However, for some reason, overhead selling expenses and maintenance charges eat up the apparent surplus. What is needed, therefore, are practical suggestions from men who have had actual experience, and such men invariably advise the adoption of some accounting system.

In order to inaugurate successful innovations in any department of the business, it is necessary to have full knowledge of all the conditions. The dealer may be depended upon to study his local field and to use all the diplomacy at his command. There is no broad highway to success, but rather, each man must analyze his own business, adopting and applying the system which shall best meet his needs. The object must be to detect the leaks that cause the profits to dwindle away, and effectually put a stop thereto.

STUDY ACCESSORY OFFERINGS.

While it is true that many car manufacturers have considered the comfort and convenience of the owner in including a large number of accessories and fittings heretofore regarded as extra equipment, there is still a respectable list of machines in use, some of them comparatively new, the owners of which it is possible to interest in refinements of this character. The garage or supply house which carefully watches the trend of the market will recognize the advisability of studying carefully the offerings in this field.

This advice applies quite as well to those who have been devoting their attention more exclusively to the repair shop, since many of the new devices are of such character that they can readily be made a source of considerable profit on the part of the repairman who exercises his latent business ability. In short, those in the trade would do well to give earnest consideration to all new lines of accessories and supplies which make their appearance.

POSSIBILITIES OF THE CYCLECAR.

If the interest thus far manifested in the cyclecar is any criterion upon which to base conclusions, then the new type of vehicle is to meet a ready market. There are several problems in connection with the production of these machines which must be worked out by engineers, and since designers have the benefit of the years of experiment which have resulted in the practical automobile, there seems to be no question that eventually these will be solved to the satisfaction of the public.

Dealers will be urged to make contracts with cyclecar manufacturers, and, like the producers, will be in no position to judge of the possibilities until opportunity has been had to test the machines in the hands of owners. At present, it would appear that the chief difficulty will lie in prevailing upon an eager buying public to await the necessary experimentation. That the cyclecar will prove a practical vehicle, in work for which it is intended, there seems to be no reason for doubting. The dealer has every reason for co-operating with the manufacturer to the end that when the new machine is ready for the market it may be in such condition as to warrant active exploitation.

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REMOVING AND REPLACING BEARINGS.

MANY anti-friction bearings are damaged in the removal or during application when repairing mechanism in which they are mounted,

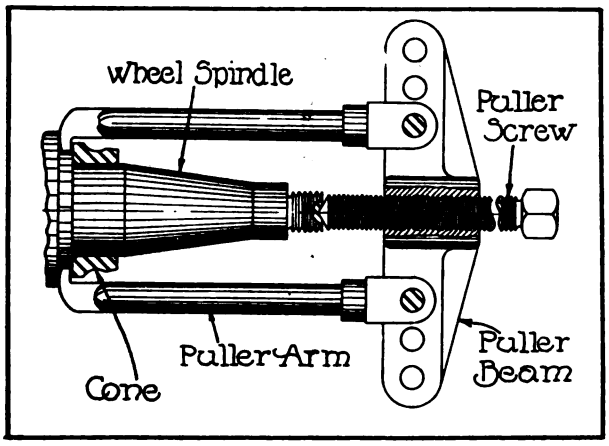

Fig. 1—Modified Form of Wheel Puller Having Two Arms and Cross Beam for Displacing a Bearing Cone.

but this results more from ignorance of their nature than deliberate intent to damage them, according to the New Departure Manufacturing Company in its ball bearing manual issued recently. A common cause of bearing failure is noted when they are driven in place by blows from an ordinary machinist's hammer applied directly to the bearing face or through the medium of a steel drift or blunt cold chisel. Ball bearings should never be driven in place or removed by the use of steel or other hard metal tools because the race members may be permanently sprung or deformed by this treatment.

Wherever the construction permits, bearings should be removed by direct application of pressure to the part that is tightly fitted. When a bearing is mounted in a wheel hub, as indicated at Fig. 2, a simple form of wheel puller can be employed to advantage. This is a substantial casting of malleable iron or bronze made approximately the same shape as the hub cap, threaded inside to fit the hub and having a substantial set screw at least .75 inch in diameter passing through the threaded boss at the centre. The screw should be long enough to pull the wheel and bearing entirely off the spindle or axle tube. A shouldered plug of steel with a depression drilled therein to locate the screw point may be pushed in the hollow tube to centralize the screw pressure. In use, the wheel puller casting or wheel is kept from turning and, as the screw advances, it pulls off the wheel and the bearing it contains.

A modified form of puller having two arms and a cross beam that can be used when a bearing cone must be removed from an axle or spindle is shown at Fig. 1. An attachment to permit it to remove a bearing of the unit type, such as a single or double-row angular, without exerting any pressure on the balls or outer race is clearly depicted at Fig. 3. This consists of a split casting adapted to be clamped loosely around the shaft back of the bearing inner race and any pressure exerted to remove the bearing is applied directly against the member which is a force fit on the shaft. When any form of hub or bearing puller fails to start the member to which it is applied by direct pull, its action may be accelerated after the screw has been tightened sufficiently to place the parts under a certain initial tension by a few sharp, well directed hammer blows on the beam or main body of the device. In all cases, where possible, the pressure applied to remove a bearing or part should be exerted directly against the portion that is a tight fit on the shaft or in the housing. In most cases it is the inner member of the bearing that is a force or press fit on the shaft; the outer member is usually a push fit in the housing and may be removed easily.

If it is necessary to force the bearing off with a series of blows, always use a brass or hard babbitt metal bar or drift, or even a piece of hard maple, hemlock or oak. Do not direct all the blows at any one point on the bearing as this tends to cramp it and will make it harder to drive off. Distribute them evenly around the entire circumference, always having successive blows at points diametrically opposite.

When driving bearings in place, it is always best to use some form of soft metal yoke member as shown at Fig. 4, or a tubular section piece as indicated at Fig. 5. With either the yoke or the other tubular form, the hammer blows are distributed evenly and the bearing is driven into place without injury to either the shaft or bearing components. When a double fork member is used, one end can be made to drive against the inner race member, while the other can be

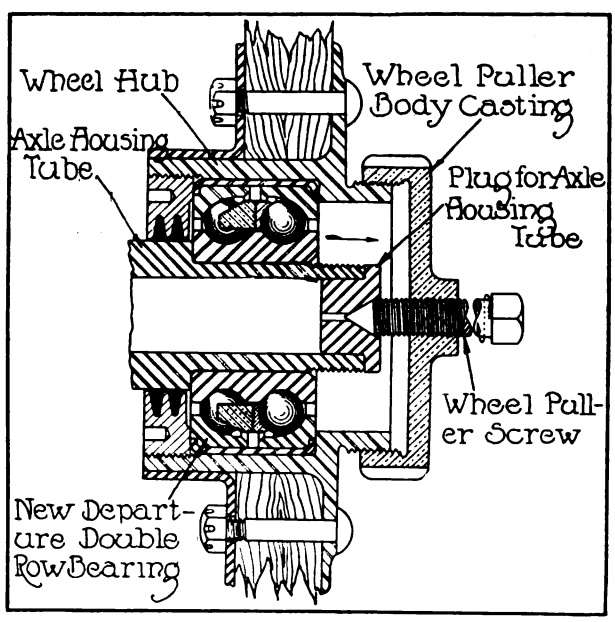

Fig. 2—Hub Wheel Puller for Removing Wheel and Bearing from Shaft or Axle Tube.

spread enough to fit the outer race if desired. Complete instructions on ball bearings are given in the manual which will be forwarded free by

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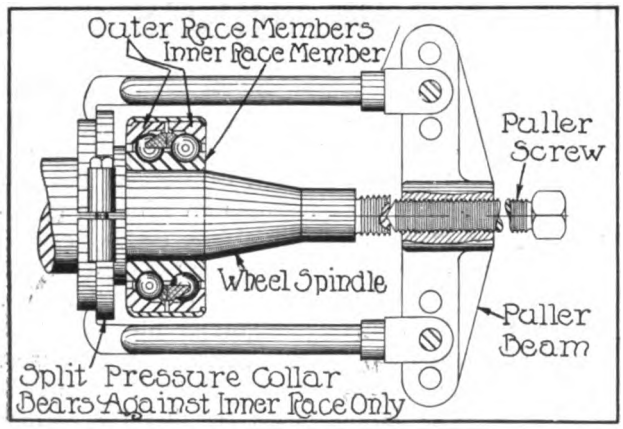

Fig. 3—Construction for Removing Single or Double-Row Annular Bearings Without Exerting Stresses on the Balls.

addressing department D of the New Departure Manufacturing Company, Bristol, Conn.

DETERMINING STEEL.

A method of determining self-hardening steel from ordinary cast steel is to hold the metal against a high speed emery wheel. If the color of the spark given off be bright red, it can be taken for granted that the material being ground is cast steel. If it is a dull red, however, the steel is of the self-hardening brand, and the sparks made are very much like those given off from cast iron.

GRAPHITE AFTER VALVE GRINDING.

It is said that the use of dry graphite for finishing the work of valve grinding is decidedly beneficial as a fine surface is obtained on the seat and valve proper. The graphite is utilized after the grinding is completed and the seat and valve should be wiped dry before using the material.

CASE HARDENING HINT.

In case hardening, where the work must be uniformly hard all over, the usual treatment is satisfactory, but when only the wearing surfaces are to be hardened and other parts left soft for machining, etc., a different process will be required. Ordinary fire clay is sometimes used, but it tends to crack or peel during the heating, exposing some of the surface, which is not desired.

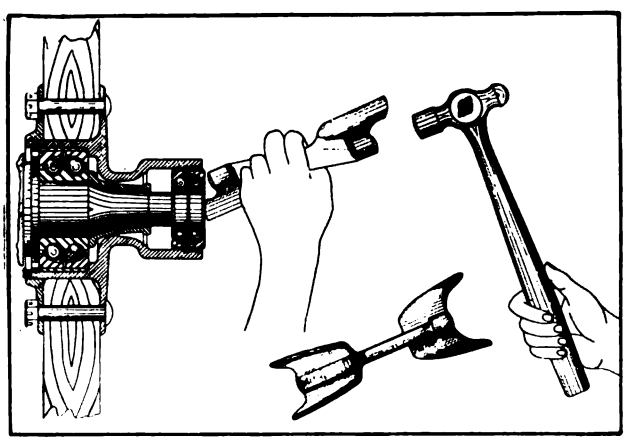

Fig. 4—Illustrating Proper Method of Driving Bearings in Place with Yoke Member of Soft Metal.

It is suggested by an experienced mechanic that a solution of copper be used on the parts desired to be left soft, in that less than one-hundredths of an inch in thickness of the copper will resist the action of any hardening compound. If plating vats are not convenient, a strong solution of sulphate of copper may be utilized.

SOFT METAL PUNCH.

In driving out shafts, etc., the ends are apt to become damaged even with the use of a copper or brass drift. The following suggestion for a drift is made by a repairman: Take a piece of weldless steel tube, 1.5 inches in diameter and nine long, and braze a wrought iron plug in one end. Next fill the tube with molten lead. It is said that it makes a most efficient punch as the lead is well supported, every blow of the hammer acts with telling effect and there is no rebound after the impact.

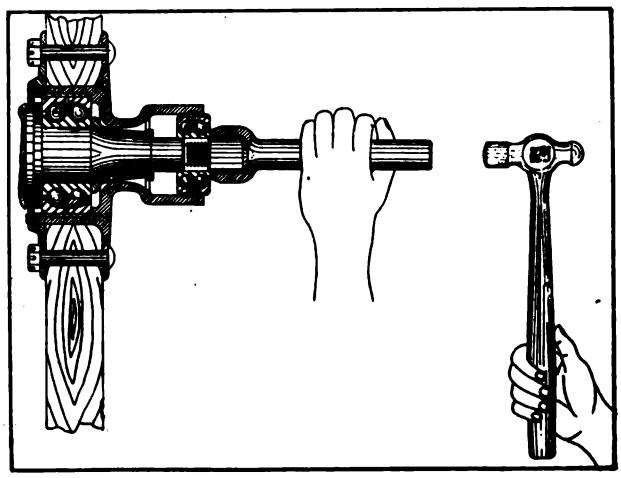

Fig. 5—Showing How the Blows of Hammer May Be Distributed Evenly with Tubular Tool.

SUGGESTS IODINE FOR CUTS.

Cut and bruised fingers are not uncommon, and owing to the dirt and oil working into these, they are difficult to heal. A repairman recommends the use of iodine instead of diluted carbolic acid, etc., stating that the former penetrates all lubricant and dirt, has a beneficial effect and causes the wound to heal more rapidly.

BUILDING UP BEARINGS.

The following suggestion is made by a workman, for adjusting the small ends of connecting rods where considerable play exists: Press the bushing out of position in the vise and sweat a layer of solder onto the outside surface. After pressing the part into position again it will be found to be smaller than before and the wristpin can be refitted.

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MARKET QUOTATIONS FOR THE MONTH.

GENERAL MATERIAL PRICES.

The quotations below present the high points reached by the several commodities listed during each week during the past month:

Material	Sept. 22	Sept. 29	Oct. 6	Oct. 13	Oct. 20
Antimony, lb.	.07½	.07½	.07½	.07½	.06¾
Beams & Chan., lb.	1.61	1.61	1.61	1.56	1.56½
Bessemer steel, ton	25.00	25.00	23.00	23.00	23.00
Copper, elec., lb.	.16¾	.16½	.16⅝	.16½	.16⅝
Copper, lake, lb.	.16⅞	.16¾	.16⅞	.16⅞	.16⅞
Cottonseed oil, lb.	7.40	7.24	7.21	7.00	6.97
Cyanide potash, lb.	.19	.19	.19	.19	.19
Fish oil, Menhaden br.	.33	.38	.38	.38	.39
Gasoline, auto, 200 gals.	.22¼	.22¼	.22¼	.22¼	.22¼
Lard oil, prime	.95	.95	.95	.95	.97
Lead, 100 lbs.	4.75	4.75	4.60	4.50	4.40
Linseed oil	.52	.52	.50	.50	.51
Open-hearth steel, ton	24.00	24.00	23.00	23.00	23.00
Petroleum, Kans., cr., bbl.	1.03	1.03	1.03	1.03	1.03
Petroleum, Penn., cr., bbl.	2.50	2.50	2.50	2.50	2.50
Rapeseed oil, refined	.68	.68	.68	.68	.66
Sulphuric acid, 60.	.90	.90	.90	.90	1.00
Tin, 100 lbs.	42.50	42.20	41.13	40.75	40.50
Tire, scrap	.09½	.08¼	.08¼	.08¼	.08¼

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of October were as follows:

Pennsylvania dark	$2.50	Ragland	.70
Second sand	2.50	Illinois above 30°	1.30
Tiona	2.50	Illinois below 30°	1.30
Mercer black	2.00	Kan. & Okla.	1.03
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.80
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.39	Caddo, La., 38°	1.05
South Lima	1.34	Caddo, La., heavy	.75
Indiana	1.34	Spindletop	1.06
Prince	1.39	Canadian oil	1.79
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	31½	31	21½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-62°	20¼	20	19¾
73 a 76°	29½	29¼	29
Stove	23	22¾	22½
Auto, 68-72°	26½	26¼	26

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	13	a	13½
Tank wagon delivery	..	a	9
Fuel, 31°	9¼	a	..
Fuel, 34°	10¼	a	..

Naphtha.

Auto in wood	..	a	21
Auto in garages, steel bbls.	..	a	17
V. M. & P. deod., in steel	17	a	18
V. M. & P. deod., in wood	..	a	21

Gasoline.

86°	..	a	29½
74-76°	..	a	25¼
67-70°	..	a	22¼
Stove	..	a	21

COMPARATIVE QUOTATIONS ON AUTOMOBILE SECURITIES.

Week of	Sept. 22		Sept. 29		Oct. 6		Oct. 13		Oct. 20		1912	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com.	155	..	155	..	155	160	150	..	155	..	150	165
Ajax-Grieb Rubber, pfd.	95	100	95	100	95	100	94	100	95	100	94	98
Aluminum Castings, pfd.	97	100	97	100	97	100	98	100	98	100	100	102
Chalmers Motor, com.	100	108	100	108	..	102	..	102	98	102	..	..
Chalmers Motor, pfd.	98	102½	98	102	..	102	..	102	94	102	..	..
Consolidated Rubber Tire, com.	34	36	35	36	35	37	34	36	35	37	10	15
Consolidated Rubber Tire, pfd.	92	96	94	97	92	95	94	96	90	95	50	60
Firestone Tire & Rubber, com.	268	275	265	275	265	275	267	270	265	267	270	275
Firestone Tire & Rubber, pfd.	103	104	103	104	102	104	102	104	102	103	106	107½
Garford Co., pfd.	90	95	90	93	90	93	85	91½	85	90	99	100
General Motors, com.	35	37	38¾	39½	39	39½	38	39¼	38	39	36½	37½
General Motors, pfd.	79	81	81	81½	81½	82½	80½	81½	76½	79	78	80
B. F. Goodrich, com.	28½	29	27	27½	25	26	23	24¾	20	21	72½	73
B. F. Goodrich, pfd.	90	91	90	91	88	90	88	90	85	88	106¾	107¼
Goodyear Tire & Rubber, com.	288	296	294	300	285	294	284	288	275	282	375	380
Goodyear Tire & Rubber, pfd.	98½	99½	97	99	97½	98½	97½	98½	97½	98½	105	106
Gray & Davis, pfd.	..	..	..	..	..	102	..	102	..	102	..	..
Hayes Mfg. Co.	..	..	..	..	..	90	..	..	..	..	..	92
International Motor, com.	..	5	..	5	..	5	..	5	..	5	17	19
International Motor, pfd.	10	15	10	15	10	15	10	15	10	15	76	78
Lozier Motor, com.	16	..	15	..	15	..	15	..	15	..	..	..
Lozier Motor, pfd.	..	90	..	90	..	90	..	90	..	90	..	..
Maxwell Motor, com.	2½	3½	2½	3½	2½	3½	2	3	1¾	2½	..	..
Maxwell Motor, 1st. pfd.	28	31	..	28	26	27½	24	26	21	24	..	..
Maxwell Motor, 2nd. pfd.	6½	7½	..	7	6	7	5½	7	5	7	..	..
Miller Rubber	133	137	135	140	135	140	130	135	130	135	130	140
Packard Motor Car, pfd.	94½	100	95	100	95	100	95	100	95	100	105½	107
Peerless Motor Car, com.	33	40	33	40	33	40	25	35	25	35	..	..
Peerless Motor Car, pfd.	87	90	87	90	87	90	85	90	85	90	..	..
Pope Mfg. Co., com.	9	11	9	10½	..	9½	..	9	..	8	30	34
Pope Mfg. Co., pfd.	28	32	28	30	..	30	..	30	..	28	70	74
Portage Rubber, com.	..	40	..	45	..	45	..	40	..	35	..	..
Portage Rubber, pfd.	..	90	..	95	..	95	..	95	..	92	..	..
Reo Motor Truck	..	11	..	11	..	10¼	9	10	8	9	..	10½
Reo Motor Car	..	17	16½	18	17	18	16½	17¾	16	17¾	..	23
Rubber Goods Mfg. Co., pfd.	102	106	102	106	100	106	100	106	100	106	..	..
Stewart-Warner Corp., com.	57	62	60	61½	61	..	65	..	63½	66½	..	..
Stewart-Warner Corp., pfd.	95	97	94	96	96	97½	94	98	94	97	..	..
Studebaker Corp., com.	22	24	22	24	21¾	24	20	22	19	20	43½	44
Studebaker Corp., pfd.	80	84	79	85	77	80	75	77	73	78	94	97
Swinehart Tire & Rubber	86	90	85	88	85	88	80	85	80	85	98	100
U. S. Rubber, com.	63½	64	63	63¾	62½	63	61¾	62½	57½	59	..	..
U. S. Rubber, 1st. pfd.	107½	108	107½	107¾	106¾	107½	105½	106½	103½	104½	..	..
White Co., pfd.	104	107	104	107	104	107	105	110	105	110	105	108
Willys-Overland, com.	67	67½	68	69½	68	69	66	68	63	65	..	..
Willys-Overland, pfd.	82	90	85	90	87	92	85	92	85	92	..	..

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HOW NEW TARIFF AFFECTS THE INDUSTRY.

THE new Underwood tariff bill, which was signed by President Wilson, Oct. 3, contains a number of rates which affect the automobile industry. The chief item of interest is found in the reduction of duty on automobiles valued at less than $2000, and on chassis and parts. A comprehensive list of the articles in which the industry is interested, with the old and new rates, follows:

	Old	New
Automobiles, value over $2000	45%	45%
Automobile bodies	45%	45%
Automobiles, value under $2000	45%	30%
Automobile chassis	45%	30%
Automobiles, finished parts	45%	30%
Motorcycles	45%	25%
Aeroplanes	45%	20%
Chromium metals	20-25%	15%
Iron, pig	$2.50 ton	free
spiegeleisen	$2.50 ton	free
scrap	$1.00 ton	free
ferromanganese	$2.50 ton	free
bar	6-10c lb.	5%
round rods	6-10c lb.	5%
Iron or steel, beams, etc	3-10c lb.	10%
sheets	5-10c lb.	12%
forgings	30%	12%
anti-friction balls and bearings	45%	35%
hoop, band or scroll	3-10c lb.	10%
Sheets, cold hammered	4-10c lb.	15%
sheets, galvanized	2-10c lb.	15%
pickled	2-10c lb.	15%
polished	1½c lb.	15%
sheets, cold rolled	2-10c lb.	15%
Steel, ingots		free
bars, Bessemer, etc	3-10c lb.	8%
bars, made by crucible, etc	3-10c lb.	15%
shavings	40%	20%
Iron and steel shot, grit and sand	1c lb.	30%
Wire (except gold and silver) covered	45%	20%
articles made of	40%	20%
Axles and parts of	45%	10%
Blacksmith's hammers, sledges, etc	1⅜c lb.	10%
tongs	45%	10%
Bolts, iron or steel	1½c lb.	10%
Nuts, nut blanks and washers	¾c lb.	5%
spiral and lock washers	¾c lb.	30%
Iron castings	1c lb.	10%
Malleable iron castings	7-10c lb.	10%
Chains of all kinds	⅞c lb.	45% 20%
Metal tubing or hose	30%	20%
Cylindrical or tubular tanks	30%	20%
Files	25-77½c doz.	25%
Steel rivets and studs	45%	20%
Wood screws	3-10c lb.	25%
Aluminum, crude	7c lb.	2c lb.
scrap alloys	7c lb.	2c lb.
plates, sheets, bars, rods	11c lb.	3½c lb.
in strips	45%	3½c lb.
Barium, sodium, magnesium, potassium	3c lb. + 25%	25%
Antimony, regulus	1c lb.	10%
oxide of	1½c lb. + 25%	25%
salts and compounds of	25%	25%
Argentina or German silver	25%	15%
Bronze powders	12c lb.	25%
Bronze, Dutch metal and aluminum leaf	6c 100	25%
Brazier's copper	2½c lb.	5%
Gold leaf	35c 100	35%
Silver leaf	10c 100	30%
Tinsel wire	5c lb.	6%
Bullions and metal threads	5c lb. + 30%	25%
Quicksilver	7c lb.	10%
Nippers and pliers	8c lb. + 40%	30%
Machinery	45%	20%
Other iron and steel manufactures	45%	20%
Lead articles	45%	20%
Metal composition	45%	20%
Nickel wares	45%	20%
Pewter wares	45%	20%
Platinum wares	45%	50%
Tin wares	45%	20%
Tinfoil	45%	20%
Zinc wares	45%	20%
Snap fasteners	50%	15%
Aluminum, brass and bronze wares	45%	20%
Copper, gold and silver wares	45%	20%
Lead bearing ores	1½c lb.	¾c lb.
Lead bullion	2½c lb.	25%
Sheet lead	2⅜c lb.	25%
Metallic mineral substances	20%	10%
Varnishes	25%	10%
Sulphuric ether	8c lb.	4c lb.
Woven, figured upholstery goods	45%	35%
Manufactures of rubber, not otherwise specified	35%	10%
Tungsten ores	10%	free
Cotton, bagging, gunny cloth, etc	6-10c	free
Gambier and crude gutta percha	free	free
Cotton waste	free	free
Coal tar, crude	free	free
Creosote oil	free	free
Leather, band, bend, belting	5%	free
Leather, grained buffed, split	7½%	free
Skins for morocco, unfinished	5%	free
Skins for morocco, finished	15%	free

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.

Of The Accessory and Garage Journal, Published Monthly, at Pawtucket, Rhode Island, required by the act of August 24, 1912.

NOTE—This statement is to be made in duplicate, both copies to be delivered by the publisher to the postmaster, who will send one copy to the Third Assistant Postmaster General (Division of Classification), Washington, D. C., and retain the other in the files of the postoffice.

Name of	Postoffice Address
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Managing Editor, CARL A. FRENCH	Pawtucket, R. I.
Business Manager, WILLIAM H. BLACK	Pawtucket, R. I.
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WILLIAM H. & DAVID O. BLACK, JR.	Pawtucket, R. I.

Owners: (If a corporation, give names and addresses of stockholders holding 1 per cent. or more of total amount of stock.)
None.

Known bondholders, mortgagees and other security holders, holding 1 per cent. or more of total amount of bonds, mortgages or other securities:
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WILLIAM H. BLACK, Editor.

Sworn to and filed with Postmaster October 5, 1913.

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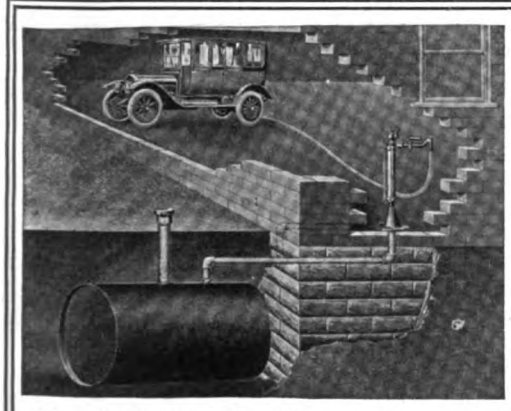

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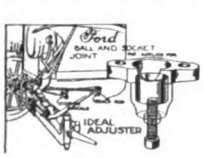
Easy to Install
Easy to Adjust
Made Especially for the FORD Car



Stop All Noise and Rattle
FORD Radius Rod and Steering Rod

The largest size is used for adjusting front end of radius rod, and enables you to take up at any time all lost motion on these parts, also eliminates the rattle and noise. All this is done by a turn of the setscrew which tightens the bearing on the inside.

The small size is used for adjusting the ball and socket joints on the steering gear connecting rod.

We guarantee all adjusters for the life of a car and they are so simple they can not work out of adjustment or need repair.

WILL FIT ANY FORD MODEL. Will give territory and special discount to dealers. **List Price, Large Size, $2.00; Small Size, $1.75.** If unable to purchase from your dealer, order direct. Manufactured by

JOHN A. VANSICKLE, 2122 East Washington St. INDIANAPOLIS, IND.

PLANHARD CARBURETOR

Agents Wanted in

Portland, Me.	Fall River, Mass.
Augusta, Me.	Provincetown, Mass.
Calais, Me.	Salem, Mass.
Lakeport, N. H.	Lynn, Mass.
Concord, N. H.	New Bedford, Mass.
Portsmouth, N. H.	Providence, R. I.
Newburyport, Mass.	Newport, R. I.
Montpelier, Vt.	Pawtucket, R. I.
Burlington, Vt.	New London, Conn.
Springfield, Mass.	New Haven, Conn.
Pittsfield, Mass.	Bridgeport, Conn.
Worcester, Mass.	Mystic, Conn.
Marblehead, Mass.	Stamford, Conn.

Hartford, Conn.

Dealers desiring to handle this live seller and get the profits in their own territory write at once to

Eisner-Lenk Co.

1074 Boylston St., Boston, Mass.
New England Distributors

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You Will Never Use a Ratchet If You Once Use the ALLEN-FRICTION SOCKET WRENCH---"The Wrench with the Instant Grip"

Best Drop Forged, High Carbon Steel

Pack-Hardened Ground

Acknowledged SUPERIOR to the most improved ratchet. Works where it is impossible to use the ratchet. A simple FRICTION device, without teeth, springs, pawls, balls or rolls. The **ALLEN-FRICTION SOCKET WRENCH** is used in all Repair Shops, Service Stations and Garages. **NO DEALER OR GARAGE SHOULD BE WITHOUT ONE.**

Standard No. 31 wrench set or No. 21, for the Repair Shop, Garage and Service Station. Ford Special, Adapted to Ford Cars—A BIG SELLER. No. 9, for small Runabouts, Motor Boats, Etc.—Another BIG SELLER.

Write for Circulars and Discounts

ALLEN WRENCH & TOOL CO., Providence, R. I., U. S. A.

M. A. BRYTE representative at San Francisco, Cal.

THE HEINZE ELECTRIC COMPANY

MANUFACTURERS OF

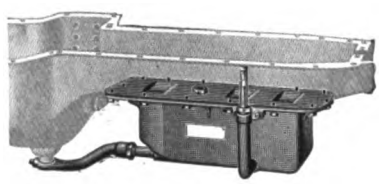
Ignition and Generating Apparatus

LOWELL, MASS.

Factory and Main Office: LOWELL, MASS.

Sales Office: DETROIT, MICH.

BIG PROFITS FOR THE FORD DEALER AND REPAIRMAN.



The DANVER OILER produces more lubricating capacity, provides constant circulation, is automatic and prevents smoking and fouled plugs. The only perfect oiler for Ford motors. Its principle is right. Easily fitted. A BIG SELLER. Write for our **special offer** to Ford agencies, dealers and repairmen.

DANVER ACCESSORY COMPANY

Manufacturers of DACO Accessories

18 Broadway, Pawtucket, R. I.

The Springfield Circle Cutter

FOR CUTTING

LAMP GLASS, SHEET COPPER and RUBBER GASKETS, FELT and FIBER WASHERS, ETC.

Capacity—any size circles from 0 to 14".

Positive measuring scale to determine sizes.

The equipment includes one steel-point glass cutting tool; one knife for square edge; one knife for bevel edge, and one wrench. Weight 12 lbs.

MANUFACTURED BY

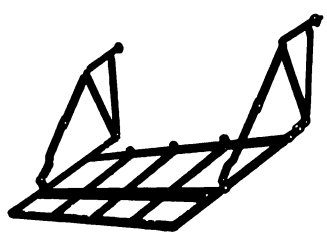
THE SHAWVER MFG. CO., Springfield, Ohio

"SPECIAL" 1913 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



1913 Ford Rack

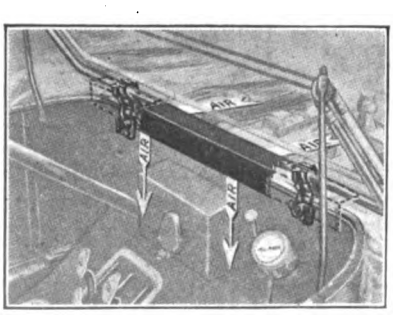
This Rack Will Fit Any 1913 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

EXCELSIOR ADJUSTABLE VENTILATOR FOR MODEL T FORD



Admits Fresh Air No Draughts

Excelsior Adjustable Ventilator provides proper ventilation of the front compartment of automobiles, where the excessive heat is unbearable. The **ventilator** admits fresh air but prevents draughts. The opening is adjustable and can be closed. Can be installed in a few minutes.

Black Enamel Finish.

Retail Price $3.00

Write for Discounts and Particulars.

C. B. WATTLES

441 BUTLER EXCHANGE PROVIDENCE, R. I.

New Departure "TWO-IN-ONE" Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.

Bristol, Connecticut

EDWARDS FIREPROOF STEEL

GARAGES

For Automobiles and Motorcycles

$30 and Up

Easy to put up. Portable. All sizes. Postal brings latest illustrated catalog.

The Edwards Mfg. Co., 416-466 Eggleston Ave., Cincinnati, Ohio

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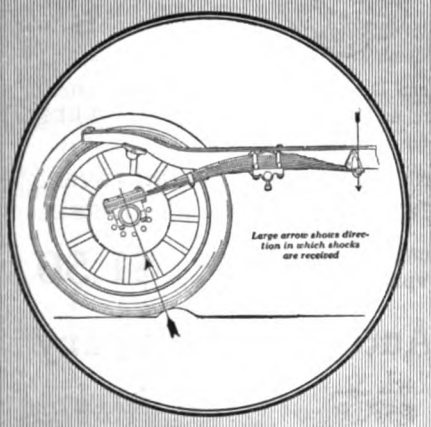
"NONE SO EASY RIDING" —and the Reason



KING

A KING Owner Is Our Best Sales-Agent

Every time he drives his car or compares it with others of near price he is convinced anew, and convinces his friends, of the KING'S high value for

$1095 WITH EQUIPMENT

Famous Ward Leonard Starter and Generator $100 net additional

Rough Roads Smoothed Out

by the KING'S FLOATING CANTILEVER SPRINGS which are a modification of those used with such notable success by the Lanchester Motor Car Company of England. They are set at right angles to the direction taken by the resistance offered to road shocks. The arrows in the illustration show how this adjustment receives and throws back all jars. These springs make auxiliary shock-absorbing devices wholly unnecessary, give ample road clearance and freedom from "side swing," guarantee complete comfort to occupants, and assure a long, economical life to car and tires.

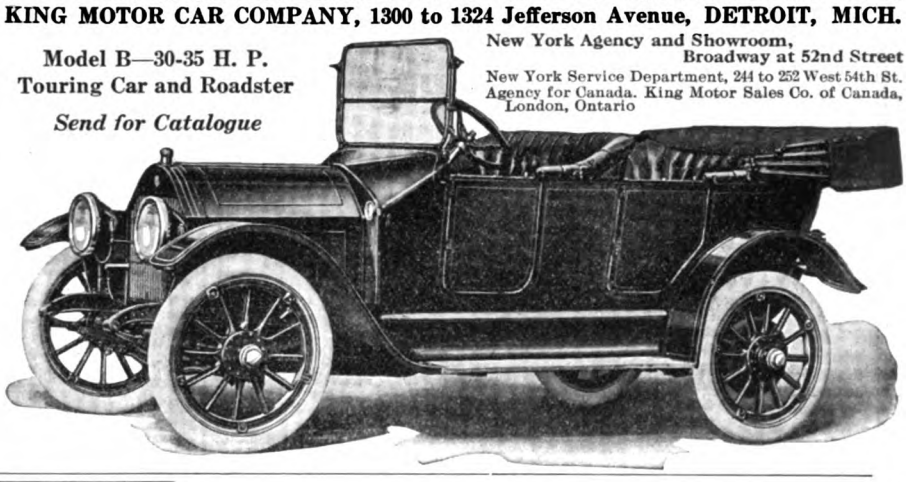
KING MOTOR CAR COMPANY, 1300 to 1324 Jefferson Avenue, DETROIT, MICH.

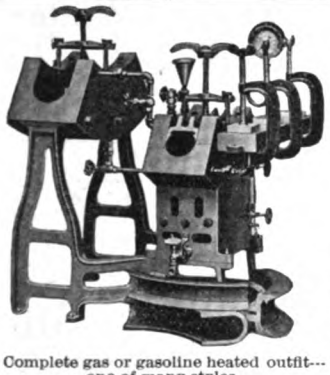
Model B—30-35 H. P.
Touring Car and Roadster

Send for Catalogue

New York Agency and Showroom,
Broadway at 52nd Street

New York Service Department, 244 to 252 West 54th St.
Agency for Canada. King Motor Sales Co. of Canada, London, Ontario





Complete gas or gasoline heated outfit—one of many styles.

Repair Tires

BIG PROFIT— SMALL CAPITAL

MEN, tire repairing is a mighty profitable business. And it requires very little capital to buy complete equipment. You can get an Akron-Williams—the **BEST** made at $125.00 and up.

You have an unlimited field. 40 million dollars was spent this year for tire repairs.

With the big profits, you can pay for equipment the first year and make money besides.

Quality Means Success

Your success depends upon the quality of your work. Quality work depends on quality equipment. So you should equip with Akron-Williams. Then your success is assured.

Akron-Williams Best Made

The fact that these leading **Tire Makers** use Akron-Williams equipment, proves it is the **best.**

Akron-Williams equipment is used by Firestone, Goodyear, Diamond, Hartford, Republic, Pennsylvania, Revere, Consolidated, Empire, U. S., Hood, and many others—27 out of the 30 leaders.

Localized Heat

That's a big feature of Akron-Williams repair outfits. The three separate steam chambers give heat just where wanted—an exclusive, patented feature.

We Make Everything

used in tire repairing. And we make tire repair plants of any capacity.

Get Our Book

Write today for our Catalog No. 12. It tells all. Get started in this profitable business. The demand is increasing every day.

The Williams Foundry & Machine Co., Ash Street AKRON, OHIO

The Waterhouse & Lester Co., San Francisco, Exclusive California Distributors.

Something New:—

The "NYCO" Accelerator and Power Adder for Ford Cars

Proves a **revelation** on any Model "T" Ford car and will give a great **increase in speed,** a marked **saving in gasolene,** and a perfectly cool motor at all times. Prevents the formation of **carbon** in the cylinders and spark plugs, and gives to the Ford **a smoothness and quick acceleration hitherto unknown.**

Installed between the the carburettor and inlet manifold **without drilling or tapping** in fifteen minutes.

PRICE COMPLETE $5.00

Liberal Discount to the Trade

SHEER MERIT has proven our new Model "T" and Senior

Master Vibrators

SUPERIOR TO ANY EXISTING TYPE

Senior Model $12.00

The New 1914 Model "T" $10.00

Discounts are Right and They Stay Sold

New York Coil Company

338 Pearl Street, New York, N. Y.

Western Branch: 1429 Michigan Ave., Chicago, Ill.

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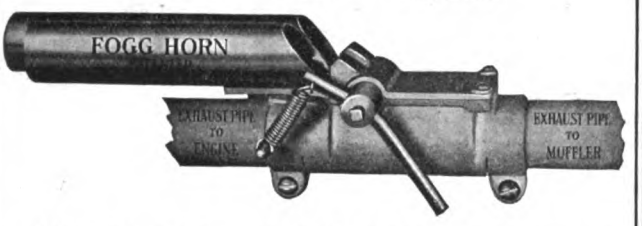
THE FOGG HORN
FOR FORD CARS



Made for people with SMALL CARS who want to make a BIG NOISE.

ATTACHED between MUFFLER and ENGINE by any repair man, in thirty minutes' time. Is not affected by LEAKY MUFFLERS and throws the sound ahead instead of leaving it behind.

Note the simplicity of Construction, the few moving parts. Blows at low speed without racing motor. Will not clog or cause Back pressure.

The ONLY EXHAUST HORN made that will blow satisfactorily on all FORD CARS.

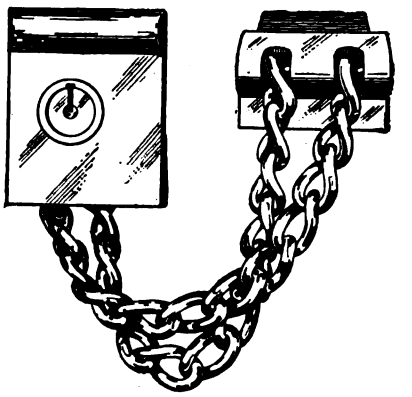
Can be placed ahead of cut-out and can be used when cut-out is open.

Guaranteed for life of car. Attractive proposition to the trade. Write for descriptive matter.

MOTOR SPECIALTIES COMPANY

2 Cooper Lane Waltham, Mass.

BRACELET AUTO LOCK
Retail Price $2.50

THE LOCK  THAT LOCKS

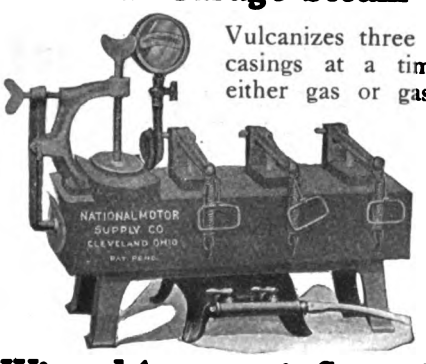
FREE Fine Metal Display Case, including Demonstrating Lock and showing your firm name, FREE with order of twelve locks or more.

LOCKS GASOLINE LEVER OR SPARKING LEVER OR BOTH—STEERING WHEEL OR ALL THREE

Dealers Sample Lock, complete, prepaid, for . . . **$1.50**

Bracelet Auto Lock Company
32 N. Clark St. Chicago, Ill.

National Garage Steam Vulcanizer

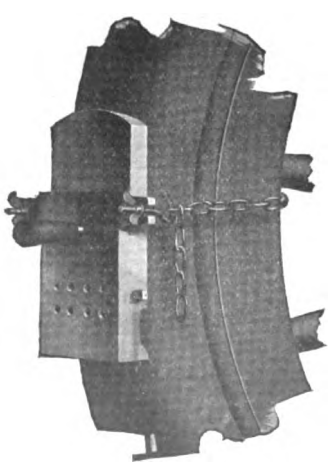


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

MANUFACTURED BY

THE NATIONAL MOTOR SUPPLY CO.

5604 Euclid Ave., Cleveland, O.

For Fall and Winter Riding

Play Safe With A DEWEY POWER TIRE PUMP $10 COMPLETE

The necessity for correct tire inflation is really greater in the Fall and Winter months than it is in the Summer. It means more to you in personal safety as well as longer life for your tires.

With the Dewey, you avoid both inner and outer risks to your tires. It is the only tire pump that is never oiled. It can't grease rot your delicate inner tubes.

The Dewey, with high grade dial and all connections, including 12 ft. of special hose, tested to 1,000 lbs., sold everywhere under a year's rigid guaranty for **$10**

Keep your tires at the exact pressure upon which their guaranty depends.

See your dealer—insist upon the Dewey.

THE DEWEY-ANDERSON CO. 450 Woodruff Avenue, TOLEDO, OHIO

Dealers Profit from the Sale of
HARRIS
TRADE MARK REG. U.S. PAT. OFF.
OILS

Increased good will—satisfied customers—consequent steady trade—will be yours if you carry "America's Leading Lubricants".

A. W. HARRIS OIL CO.

326 S. Water St., PROVIDENCE, R. I.
143 No. Wabash Ave., CHICAGO, ILL.

A Little Goes a Long Way and Every Drop Counts.

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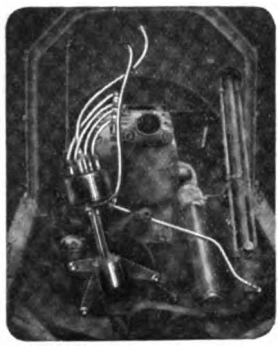
The Atwater Kent Ford Ignition



does more than eliminate the frequent and troublesome adjustment of the Ford coils.

The Atwater Kent Ignition assures perfect synchronization at all speeds, eliminating preignition and overheating—starts easily with a quarter turn of the crank and frequently without cranking by means of the starting button on the coil.

Effects a saving in gas, wear and vibration by enabling the motor to run slowly while the car is standing and run as smoothly "on high" at four miles an hour as at thirty or fifty.

The Atwater Kent will, in addition, wonderfully increase the power, speed, flexibility and hill-climbing ability of the Ford car, and gives superior results and costs less than half that of the high tension magneto.

It consists of the Unisparker or distributor elevated to a convenient and accessible position which takes the place of the Ford timer and a single non-vibrating coil is installed in place of the four vibrating coils.

It is easily installed by any one who can time a motor—no holes to bore—a screw driver and wrench are the only tools required.

Price complete with hand-operated switch $28.00—foot-operated switch $2.00 extra.

Write at once for Circular "L" and trade prices.

ATWATER KENT MFG. WORKS 4932 STENTON AVENUE PHILADELPHIA

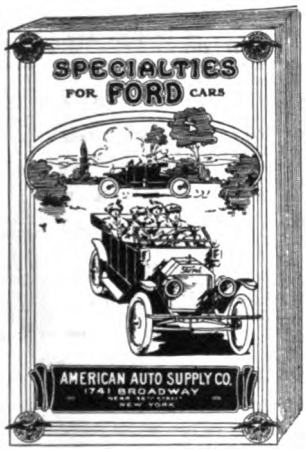
Dixon's Graphite Transmission and Differential Grease No. 677

Flows with the gears at all temperatures and will not run off when the gears are stationary. The graphite coats the metal surfaces with a veneer that protects them from wear, and makes cool, quiet-running gears and bearings. "Lubricating the Motor," No. 49, explains more fully.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827



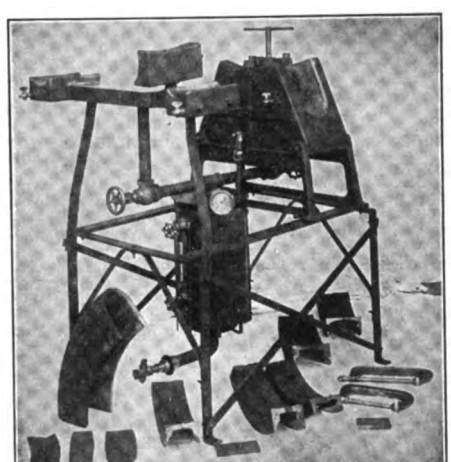
Write today for the Most Complete Illustrated Catalog of FORD SPECIALTIES Ever Published. Sent *Free*

This book is absolutely essential for the convenience, comfort and economy of every Ford owner. It shows all the latest and best Ford accessories and parts, with prices and descriptions—a dictionary of Ford information.

Don't delay—Write today

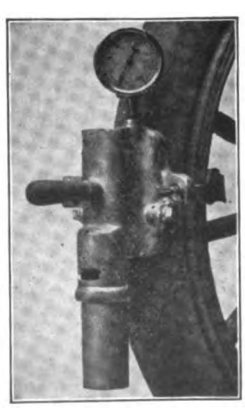
American Auto Supply Co.

1741 Broadway (Near 56th St.) New York



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit. Ask for Catalogue C. Tells how to do the work.



Van Steam Portable

$5.75 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver. Also repairs tubes.

VANDERPOOL CO.

Springfield, Ohio

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Auto Parts Co., Providence, R. I.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight streets, Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 818 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1839 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree Street, Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Waits Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

ADJUSTERS.

Vansickle, John A., Indianapolis. (Ford Ideal Ball and Socket Joint.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTO LOCKS. (See Locks.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)
Motor Specialties Co., 2 Cooper Lane, Waltham, Mass.

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Brots Co., J. S., 250 W. 54th St., New York. (F. & S.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
Rhineland Machine Works Co., 140 W. 42d St., New York City.
Branches: 1254 Michigan Ave., Chicago; 650 Woodward Ave., Detroit; 1424 Vine St., Philadelphia; 220 Motor Mart, Boston.
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Waits Auto Supply Co., 81 Exchange place, Providence. (Success.)
Willard Storage Battery Co., 5716 Euclid Ave., Cleveland. (LBA Lighting and Starting.)
Branches: 136 West 52nd St., New York; 1191 Woodward Ave., Detroit; 2241 Michigan Ave., Chicago; 243 Monadnock Bldg., San Francisco.

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BLOW-OUT PATCHES. (See Patches.)

BODIES, TRUCK.

Motor Truck Body Co., 320 Franklin St., Detroit.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Raybestos.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRAKES.

Royal Equipment Co., The, 422 Housatonic Ave., Bridgeport, Conn. (Duplex.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Planhard Mfg. Co., 1790 Broadway, New York. (Planhard.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Herreshoff Motor Co., 620 Harper Ave., Detroit. (Herreshoff.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Keeton Motor Co., Detroit. (Keeton.)
Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Brown Commercial Car Co., Peru, Ind. (Brown.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)
Willet Engine & Truck Co., Inc., 8-10 Lock St., Buffalo. (Willet.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 10 Postoffice Sq., Boston. (Atlantic.)
Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
Willys-Overland Co., Toledo, O. (Overland.)

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BUYERS' GUIDE---Continued

CATALOGUE SYSTEMS.

Catalogue Systems Co., Fisher Bldg., Chicago, Ill.

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. E., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

CLOCKS FOR DASHBOARDS, ETC.

Boston Clock Co., 16 State St., Boston.
Chelsea Clock Co., 16 State St., Boston.

CLUTCHES—AUTOMOBILE FRICTION.

Brets Co., J. S., 250 W. 54th St., New York. (Hartford Cone.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Northwestern Chemical Co., The, Marietta, O. (Carbonox.)
Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)
Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GARAGES, PORTABLE. (See Houses, Portable Steel.)

GASKETS AND GASKET CUTTERS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)
Shawver Co., Springfield, O.

GAUGES.

National Motor Supply Co., 1911 Euclid Ave., Cleveland. (Tire Pressure and Gasoline Tank.)
Branches: In all principal cities.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)
Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)
Motor Specialties Co., 2 Cooper Lane, Waltham, Mass. (Fogg.)

HOUSES, PORTABLE STEEL.

Kolb Sales Co., 1790 Broadway, New York. (Ruby.)

IGNITION APPARATUS.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

LICENSE NUMBER BRACKETS.

National Motor Supply Co., 1911 Euclid Ave., Cleveland, O.
Branches: In all principal cities.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apleo.)
Dean Electric Co., Elyria, O. (Dynalux.)
Remy Electric Co., Anderson, Ind. (Remy.)

LOCKS, AUTOMOBILE.

Bracelet Auto Lock Co., 82 No. Clark St., Chicago.

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)
Branches: Boston, Fall River, Philadelphia.
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)
Branch: 143 No. Wabash Ave., Chicago.
Hews, Geo. A., 142-144 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)
Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.
Refineries: Georgetown, Ky.; Lawrenceville, Ill.
Invader Oil Co., 80 Broad St., New York. (Invader.)
Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 3556 11th St., N. W., Washington, D. C.
Miller, Chas. E., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (McToRol, Non-Fluid, Kojex.)
Northwestern Chemical Co., Marietta, O. (Gear-Silence.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Texas Company, The, 7 West St., New York.
Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Brets Co., J. S., 250 W. 54th St., New York. (U. & H.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Marburg Bros., 1790 Broadway, New York. (Mea.)
Remy Electric Co., Anderson, Ind. (Remy.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1038 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1828 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Kent Mfg. Co., Atwater, 4937 Stenton ave., Wayne Junction, Philadelphia. (Kent Pocket.)
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTORCYCLES AND SUPPLIES.

Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Batabrook, Bangor, Me.

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Apleo.)
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Remy Electric Co., Anderson, Ind. (Remy.)

PACKING, FIRE

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Anti-Rust Paint Co., Dept. 7, Akron, O. (Thomas.)
Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PATCHES.

Invincible Puncture Proof Tire Co., 58 Sabin St., Providence. (Invincible.)
National Motor Supply Co., 1911 Euclid Ave., Cleveland.

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., Marietta, O.

PRIMERS.

Interstate Auto Accessory Co., Indianapolis. (Ideal.)

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PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Dewey-Anderson Co., Toledo, O. (Dewey Power.)
Shawver Co., Springfield, O.

RADIATOR CONNECTORS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
Firestone Tire & Rubber Co., Akron, O.
Branches: In all principal cities.
Standard Welding Co., Cleveland. (Stanweld.)
United States Tire Co., Broadway and 56th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

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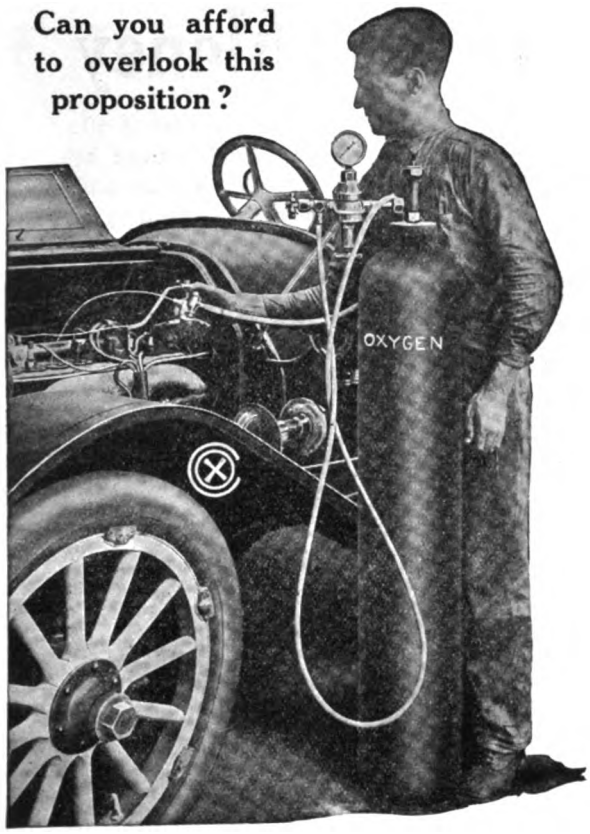

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FOR GARAGE AND SERVICE STATIONS

Carbon consumed in 6 to 10 minutes at an average cost of 10 cents per cylinder.

Positively cannot injure the motor and absolutely safe to handle.

Think of the prompt and profitable service you can render your customers.

(Garage dealers throughout the country charge $1.00 per cylinder for this work.)

Tanks are loaned and are exchanged anywhere at the cost of refill.

Write for particulars.

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DUDLEY AVENUE, ALBANY, N. Y.

Price of Complete Outfit, $25.00

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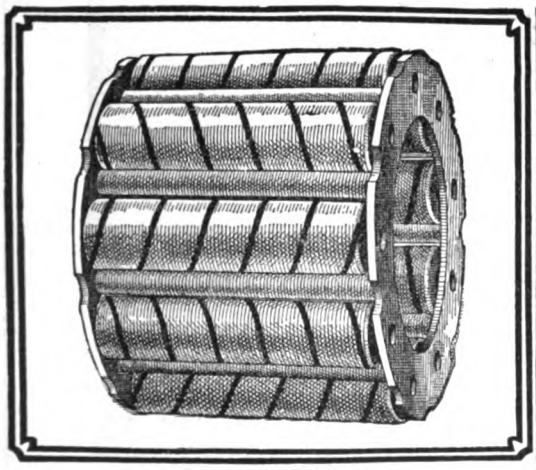

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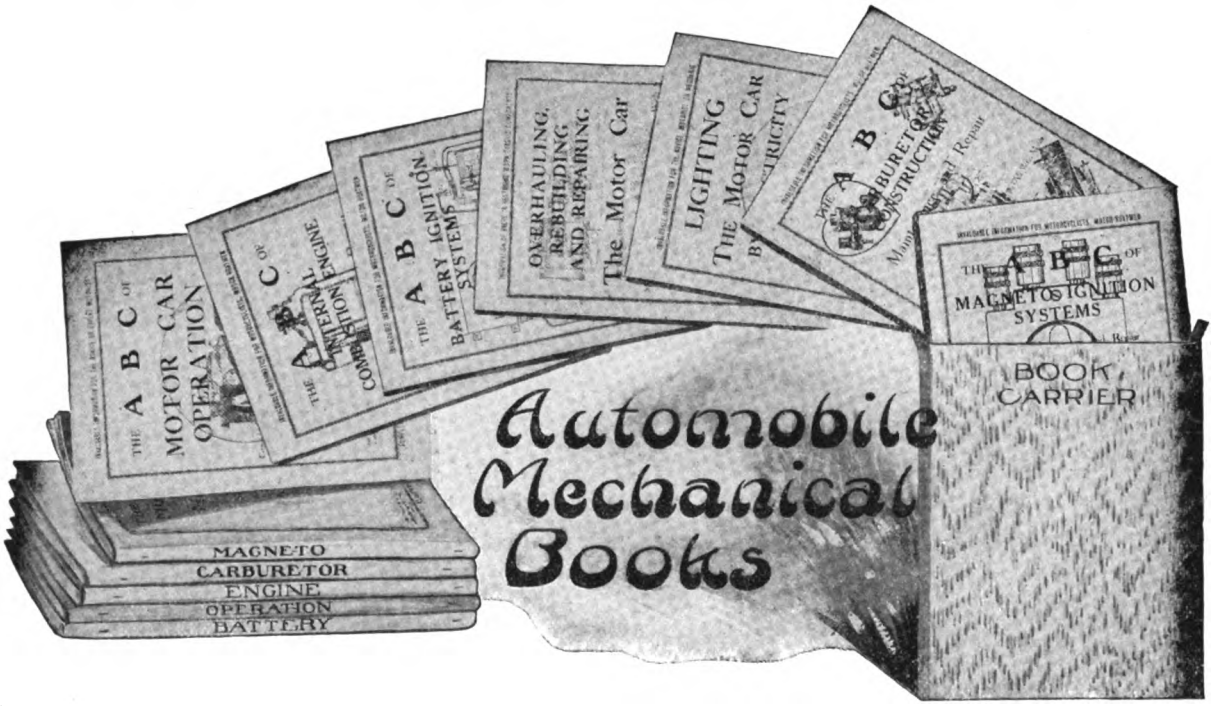

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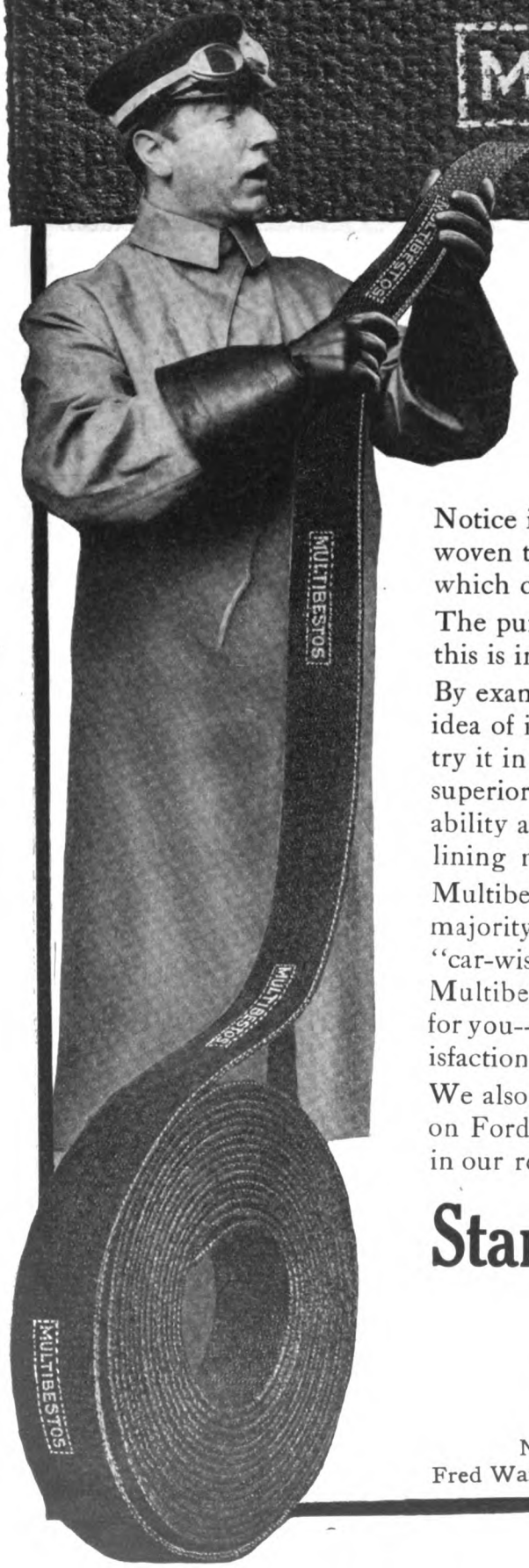

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Notice its firm texture and solid construction. It is multiple woven throughout and has no "stuffers", loose plies or layers which can pull apart and wear unevenly.

The purest of long fibre asbestos is used in Multibestos and this is interwoven with brass wires.

By examining its weave and general appearance you get some idea of its superior quality. When you take Multibestos and try it in actual service you get a more thorough idea of this superiority, for repeated tests have proved that in braking ability and all-around service it is superior to any other brake lining made.

Multibestos has been adopted as standard equipment on a majority of the leading cars and an increasing number of "car-wise" owners are coming to insist that nothing but Multibestos be used on their brakes. Surely it is the lining for you---the lining which will give the greatest service and satisfaction to your customers.

We also make a lining specially designed to meet conditions on Ford cars. If you are interested in this Ford Special or in our regular Multibestos we would be glad to hear from you.

Standard Woven Fabric Co.

Framingham, Mass.

Sales Branches

C. D. Schmidt, 276 Canal St., New York, N. Y.
F. E. Sparks, 1430 Michigan Ave., Chicago, Ill.
F. Shirley Boyd, 903 Boylston St., Boston, Mass.
N. A. Petry Co., Inc., 1427 Vine St., Philadelphia, Pa.
Fred Ward & Son, Inc., Cor. First & Howard Sts., San Francisco, Cal.

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., NOVEMBER, 1913. No. 7.

THREE CAR CONCERNS CHANGE HANDS.

Edwards-Knight to Become Garford-Knight---Chicago Electric Removed to Toledo---Gerber Interests Buy Abbott-Detroit---Other News of the Industry.

THREE concerns in the industry, engaged in the production of pleasure cars, have changed hands within the past month. This means that in each instance the controlling stock has been purchased by new men, and in all but one case there will be a change in manufacturing plans as well.

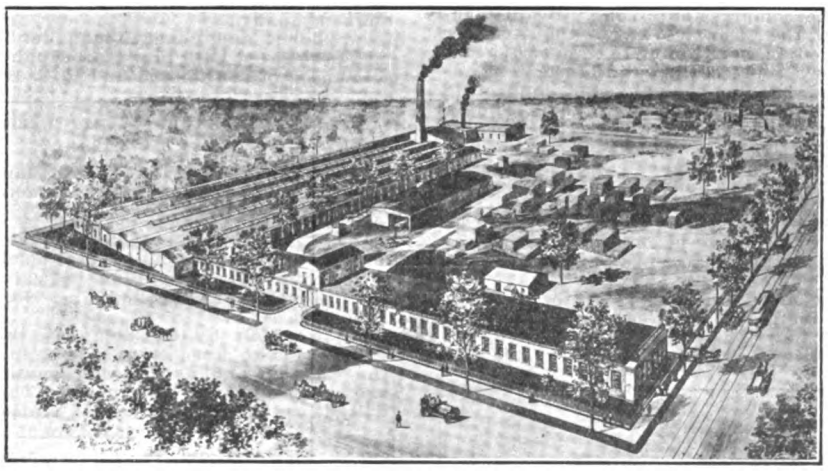
John N. Willys, president of the Willys-Overland Company, Toledo, O., and interested financially in a number of other concerns in the industry, has purchased the plant and all license rights, stock and equipment of the Edwards Motor Car Company, New York City, which was organized something like a year ago to produce the Edwards-Knight car. Mr. Willys states his intention of building the new cars, which will be known as the Garford-Knight, in the big and modernly equipped plant which he owns at Elyria, O. H. J. Edwards, designer of the Edwards-Knight automobile, will go to Elyria as chief engineer.

C. A. Neracher, formerly chief engineer for the Willys-Overland Company, has resigned to become one of the principal stockholders in the Carl Electric Vehicle Company, which has purchased the good will and machinery of the Chicago Electric Motor Car Company in Chicago, maker of Chicago electric pleasure cars. It is understood that a new plant will be opened in Toledo for the production of these machines and a business wagon under a new name.

Announcement is made from Detroit that the Edward F. Gerber Company, Pittsburg, Penn., heretofore well known in the industry as a distributor of cars in Western Pennsylvania, has purchased outright the plant and business of the Abbott Motor Company, Detroit, the sale having been ratified by about 90 per cent. of the stockholders. The name of the latter concern will not be changed and the production of Abbott-Detroit cars will be continued as heretofore.

CAMERON IN WEST HAVEN.

Oct. 24 marked the completion of the removal of the plant of the Cameron Manufacturing Company, maker of Cameron cars, from Beverly, Mass., to its new home in West Haven, Conn. The concern expects to have its full quota of men at work within 90 days, and it is anticipated that the new facilities will enable production of 1000 cars a year.



The New Plant of Cameron Manufacturing Company in West Haven, Conn.

The West Haven plant is that formerly utilized by the Mathushek Piano Company and comprises practically three buildings and six acres of land. The main structure, 420 by 120 feet, will be known as the assembling and machine department. Another at right angles to this, 325 by 60

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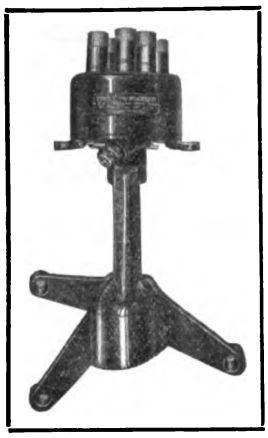
feet, will be utilized as the body building, painting and trimming department. The testing building is 150 by 50 feet. Completed cars will not undergo their road test on the public highways, but on a specially constructed track within the grounds.

ATWATER KENT FORD IGNITION.

Includes Unisparker or Distributor Replacing Usual Timer and Single Non-Vibrating Coil.

Perfect synchronization of the spark with multi-cylinder motors is an important factor in the maintenance of the car. With the spark of proper value and occurring at the predetermined instant in the cylinder, maximum efficiency may be expected from the power plant. On the other hand, lack of synchronization results in heating, loss of power, waste of fuel, etc.



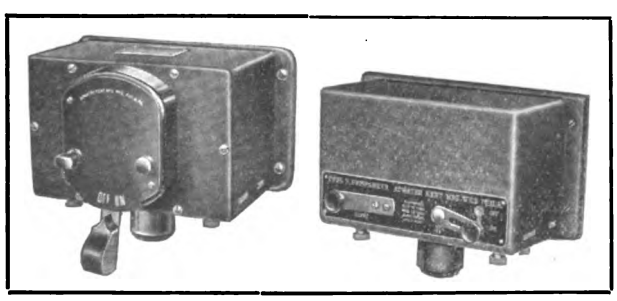
Atwater Kent Ford Unisparker.

The Atwater Kent Manufacturing Works, 4937 Stenton avenue, Wayne Junction, Philadelphia, has brought out an application of its well known Atwater Kent ignition system to the model T Ford motor. It consists of the Unisparker or distributor elevated to an accessible position by the brackets and gears shown in an accompanying illustration and taking the place of the usual Ford timer. A single non-vibrating coil is substituted for the regular coil, and a quality of the system is that when used with six ordinary dry cells or a six-volt battery, it will provide sufficient current for operating the car 2000 miles. This permits the Ford flywheel generator to be used solely for lighting purposes and it is obvious that better illumination at low motor speeds will be obtained, as the coil is not drawing any current.

The Atwater Kent ignition gives a single, quick, hot dynamic spark, irrespective of the speed of the engine, obtaining a rapid combustion of the gas and resulting in the greatest pressure upon the piston at the very beginning of the power stroke. As the spark is sufficiently hot at all engine speeds to ignite any mixture that will burn, the combustion of the gas is complete before the exhaust stroke takes place, thereby resulting in a cooler motor and preventing overheating of the cooling fluid.

The system is installed easily, the regular timer being removed with its wires. Its hexagonal nut is employed to retain the loose gear of the Atwater Kent system. The cylinder nearest the radiator is then placed on top dead centre of the compression stroke. By displacing three screws on the gearcase cover the Atwater Kent bracket is placed in position with the two gears in mesh and the screws replaced and tightened. An advance rod is supplied by the company for connecting the Unisparker to the usual operating linkage. Timing of the distributor is made possible by loosening the hexagonal nut retaining the loose gear and rotating the distributor shaft in the direction indicated by the arrow on the bracket housing until a click is heard. The nut is then tightened. The spark lever on the wheel is retarded about 1.5 inches from its maximum advance in order that additional retard may be obtained, as well as to permit of a wider range of advance as the speed of the motor increases.

After attaching the Atwater Kent coil to the dash the secondary wires are installed. This is accomplished by removing the cap of the Unisparker, which can be replaced in but one position owing to the small guide pins and slots. The cap is retained by steel springs at the base of the instrument and these are turned to displace it. The proper connections with the wires leading to the spark plugs are made by noting that the brass segment on the distributor block on the end of the shaft is directly opposite one of the brass distributor pins in the cap. It will denote the proper terminal for the No. 1 cylinder. The remaining members are wired according to the firing order which, in the case of the Ford, is 1, 2, 4, 3. The installation can be made by a garage man or the Ford owner, who knows how to time his motor, in about four hours' time. No machine work is necessary, the only tools required being a wrench and a screw driver. The system comes with a hand operated switch as shown or with a foot member, the latter being listed slightly extra.



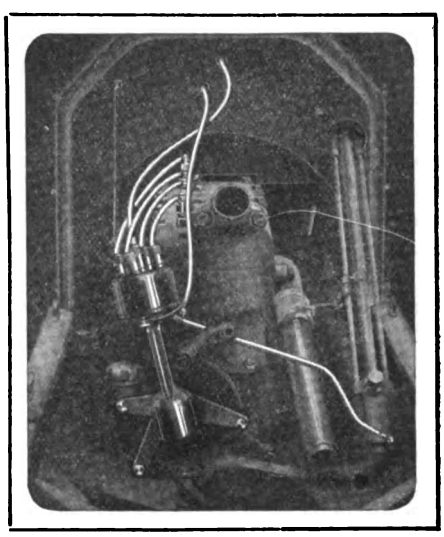
Foot and Hand Operated Switch Utilized with Atwater Kent Ford System of Ignition.

The Atwater Kent ignition is now entering its ninth season and has grown steadily in reputation and favor, being recognized as a standard of efficiency and simplicity among ignition devices. It has been adopted by a number of well known car manufacturers, as well as owners. It can be obtained direct from the company or at any jobber or dealer. The maker has an interesting proposition for dealers.

CHALMERS MEN IN SAXON COMPANY.

Concern Will Produce New Car to Sell at a Price in Competition with the Cyclecar.

The Saxon Motor Company, recently incorporated in Detroit, is composed of nine of the present officials of the Chalmers Motor Company of that city, and is to manufacture a car to sell for $395. This new machine will have a wheelbase of 96 inches and standard tread, and it is stated that it will not be in the cyclecar class though selling at a price which might be considered in competition with that type.



Showing Atwater Kent Ford Ignition System Installed.

The company is incorporated with a capital stock of $350,000, $100,000 of which is preferred and $250,000 common. W. H. Ford, secretary of the Chalmers company, is president and general manager, and other Chalmers men associated with him are: Hugh Chalmers, Lee Counselman, George Dunham and C. C. Hinkley.

REMOVES TO BUSH TERMINAL.

General and Sales Offices of Eisemann Magneto Company Now with the Factory.

The Eisemann Magneto Company, New York City, has moved its sales and general offices from 225-227 West 57th street to the building in which the factory is located, Bush Terminal building No. 8, 32 33rd street, Brooklyn, N. Y.

It was felt by the company that it was more advantageous to have these offices in closer relation with the factory, and as the old location was largely outgrown, the change was made. The New York address will be retained as a service station.

JOINS DETROIT ADVERTISING AGENCY.

Melvin J. Adams, Well Known in the Industry, Goes with Carl M. Green Company.

Melvin J. Adams, long associated with the newspaper and automobile advertising lines, has joined the force of the Carl M. Green Company at Detroit. The prominent position in the automobile advertising field that the Green company has won through handling of the accounts of the Chalmers, General Motors, Detroit electric and others, should be materially increased and the efficiency improved by the acquisition of Mr. Adams.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

PLEASURE CAR AGENCIES WANTED.

9377—Minnesota Concern, recently organized, is interested in securing agency for pleasure cars selling from $600 to $1500.

9384—New Hampshire Company, now agent for two lines, is willing to add pleasure cars selling from $950 to $4000.

9398—Ohio Agency is in the field to handle pleasure cars selling from $950 to $2250.

9396—Iowa Company, with territory in eastern part of state, will take agency for pleasure cars selling from $800 to $2500.

9380—Connecticut Concern, controlled by new interests, is in the field for an agency for pleasure cars selling at $400 to $750.

9383—Iowa Concern, now handling one line, is interested in securing agency for pleasure cars selling from $700 to $1500.

9393—Maryland Agency is interested in pleasure car lines selling from $950 to $5000.

9385—New York Concern, with new quarters, will take agency for pleasure cars selling between $2000 and $4000.

9392—Texas Company will take agency for pleasure cars selling from $750 to $1250.

9388—Mississippi Company is interested in securing the agency for pleasure cars selling at $600 to $1900.

9395—New York Concern, with territory in three counties, is willing to take agency for pleasure cars selling from $900 to $1300.

9390—Maryland Company, now agent for one line, is interested in adding pleasure cars selling from $300 to $600.

9397—Iowa House will take agency for pleasure cars selling from $990 to $2690.

9391—Massachusetts Garage is interested in securing agency for cars selling from $475 to $600.

9387—New York Company, now representing parts manufacturers, is interested in a pleasure car proposition. No price limitation is mentioned.

9382—Texas Garage, recently incorporated, will take agency for pleasure cars selling from $550 to $3500.

9379—New Jersey Corporation, recently established, wants agency for pleasure cars selling at $950 to $4000.

9378—Massachusetts Company, under new management, is willing to take agency for pleasure cars selling between $500 and $1500.

9381—Iowa House, established in new quarters, is interested in securing agency for pleasure cars selling from $750 to $2150.

9386—Mississippi Agency is willing to add pleasure cars selling from $500 to $2500.

9600—Illinois Company is interested in securing agency for pleasure cars selling from $400 to $1000.

9654—New York Company is in the field for an agency for pleasure cars selling from $1000 to $2500.

9636—Minnesota House, now agent for one line, is willing to take agency for other pleasure cars selling between $300 and $800.

9625—Mississippi Concern is interested in securing agency for pleasure cars selling from $750 to $2300.

9623—Wisconsin House, now agent for trucks, is in the field for pleasure cars selling from $950 to $2000.

9673—Texas Company will take agency for pleasure cars selling from $550 to $5000.

9648—Ohio Concern is in the field to secure agency for pleasure cars selling from $900 to $2500.

9686—South Dakota House is interested in securing agency for pleasure cars selling from $450 to $950.

COMMERCIAL CAR AGENCIES WANTED.

5284—Pennsylvania Company is willing to take agency for motor trucks. Selling prices not stated.

5292—Florida Company will take agency for power wagons selling from $500 to $1500.

5295—Iowa Concern is interested in securing agency for motor business wagons selling from $500 to $2000.

5281—New Hampshire Company is interested in securing agency for motor trucks selling from $950 to $4500.

5289—Maryland House is willing to take agency for power wagons selling at about $500.

5283—New Jersey House, recently incorporated, would represent motor trucks selling from $950 to $5000.

5293—Iowa Company is in the field for an agency for motor trucks selling from $1250 to $4000.

5287—Mississippi Company will take agency for power wagons selling from $600 to $3500.

5290—Texas House, now handling one truck, will add power wagons selling at $500 to $2000.

5285—New York Concern is willing to take agency for motor trucks selling from $500 to $4000.

5288—Maryland Company, now agent for pleasure cars, is interested in securing agency for power wagons selling from $700 to $1500.

5294—Ohio House will take agency for motor trucks selling from $1250 to $2000.

5286—New York Company will take agency for motor trucks at all prices.

5291—Maryland Concern will take agency for power wagons selling around $1250.

5337—Washington Company, recently organized, is interested in securing agency for power wagons selling from $800 to $1500.

5346—Illinois House, now handling pleasure cars, is in the field for agency for motor trucks selling from $1000 to $1500.

5375—Texas Company is willing to take the agency for commercial vehicles selling from $1000 to $5000.

5364—Wisconsin Company would like to take agency for motor trucks selling from $500 to $3500.

5357—Mississippi House, long established, is interested in an agency for motor trucks selling at $2000.

ACCESSORY AGENCIES WANTED.

7398—Maryland House wishes to secure agency for automobile equipment, accessories and supplies.

7380—Massachusetts Company wishes to secure agency for general line of accessories and supplies for automobiles.

7406—Pennsylvania Concern is interested in securing agency for equipment, accessories and supplies for automobiles.

7406—Iowa House is in the field to handle power wagon and pleasure car equipment, accessories and supplies.

7384—Connecticut Company wishes to secure agency for automobile accessories and supplies.

7387—Iowa Concern will take agency for all kinds of automobile accessories and supplies.

7395—Maryland House is in the field for a full line of equipment, accessories and supplies for automobiles and power wagons.

7408—Ohio Company is willing to take agency for automobile equipment, accessories and supplies.

7386—Texas Concern is interested in securing agency for automobile supplies and accessories.

7379—Minnesota Company will take agency for automobile equipment, accessories and supplies.

7406—New York House, with three counties open, will take agency for automobile accessories, supplies and equipment.

7389—New Hampshire Garage, with one county open, is willing to take agency for all kinds of accessories, supplies and equipment for automobiles and power wagons.

7383—Massachusetts Company will take agency for automobile accessories and supplies.

7399—Florida House is open for an agency proposition in automobile equipment and accessories.

7382—Pennsylvania Concern would like to secure agency for accessories, supplies and equipment for automobiles.

7390—New York Company will take agency for automobile and power wagon equipment, accessories and supplies.

7410—California House is in the field to handle automobile supplies and accessories.

7405—Michigan Concern is willing to take agency for automobile equipment, accessories and supplies.

7385—Iowa Company is interested in securing agency for supplies, equipment and accessories for automobiles.

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7391—Mississippi Concern wants agency for all kinds of automobile accessories and supplies.

7401—Illinois House will take agency for automobile supplies, equipment and accessories and for power wagon supplies.

7392—Nebraska Company is in the field to handle supplies, equipment and accessories for automobiles and motor trucks.

7396—South Carolina Store, recently started, will take agency for automobile equipment, supplies and accessories.

7402—Iowa House will take agency for automobile supplies, equipment and accessories.

7381—New Jersey Company will take agency for automobile and power wagon supplies, equipment and accessories.

7404—New Jersey House wants agency for automobile supplies.

7388—New York House desires agency for supplies, accessories and equipment for automobiles.

7393—Mississippi Company will take agency for accessories, equipment and supplies for automobiles and power wagons.

7397—California Concern is interested in securing agency for automobile supplies and accessories.

7394—Maryland Company wishes to secure agency for automobile supplies.

7407—Ohio House is in the field to handle automobile and power wagon accessories, equipment and supplies.

7422—Utah Company desires agency for supplies, accessories and equipment for pleasure cars and power wagons.

7430—California Company, newly formed, would like to secure agency for equipment, accessories and supplies for automobiles.

7409—California Company, recently located in new quarters, is interested in securing agency for automobile supplies and accessories.

7441—Iowa House will take agency for supplies, equipment and accessories for pleasure cars and motor trucks.

7534—Mississippi House is in the field to represent makers of accessories and supplies for automobiles.

7567—Wisconsin Concern is seeking the agency for automobile and power wagon equipment, accessories and supplies.

7544—Ohio Company is willing to take the agency for equipment, accessories and supplies.

7581—Connecticut Company, now agent for automobiles, will take agency for supplies, accessories and equipment for pleasure cars and power wagons.

7510—Missouri House is in the field for agency for equipment, accessories and supplies.

7521—Indiana Company is very much interested in securing agency for supplies for automobiles.

7530—Utah House is interested in taking agency for supplies, accessories and automobile equipment.

7565—Illinois House wishes to secure agency for all kinds of equipment and supplies for automobiles.

7587—South Dakota House, recently incorporated, is in the field to take agency for automobile supplies and equipment.

7561—Washington Concern, with county territory open, wants to secure agency for accessories for automobiles and cyclecars.

7547—Ohio House, now under new management, is in the field to secure agency for supplies and accessories.

GARAGE EQUIPMENT WANTED.

8400—Ohio Concern wishes to secure garage equipment and supplies.

8393—New York House is interested in securing garage supplies.

8384—Texas Company is in the field for garage supplies.

8390—Mississippi House is open for garage supplies and equipment.

8401—Ohio Company wants to secure supplies and equipment for garage.

8382—Connecticut Company is interested in supplies for garage.

8380—New Jersey Concern is open for garage supplies and equipment.

8396—Iowa Company wants to secure supplies and equipment for garage.

8399—Pennsylvania Company, newly formed, is ready for garage equipment and supplies.

8386—New Hampshire Garage wants to secure garage supplies and equipment.

8423—California Company is in the field for garage equipment and supplies.

8436—Utah House is open for supplies and equipment for garage.

8445—Iowa Concern wants garage supplies and equipment.

8454—California Garage is inquiring for supplies and equipment for garage.

8392—South Carolina House wants to secure garage supplies and equipment.

8387—New York House, in new location, wants garage equipment and supplies.

8389—Nebraska Company is in the field for garage equipment and supplies.

8394—Illinois Concern, well established, is looking for garage equipment and supplies.

8379—Massachusetts Concern, under new management, wants equipment selling at moderate price, for small garage, and general garage supplies.

8388—Mississippi House is interested in garage supplies and equipment.

8383—Iowa Company wants equipment and supplies for garage.

8398—Michigan Agent is interested in supplies for garage.

8395—Iowa Company will take garage supplies and equipment.

8397—New Jersey House is interested in securing garage supplies.

8385—New York Company is in the field for garage equipment and supplies.

8391—Maryland Garage wants to secure supplies and equipment for garage.

8381—Pennsylvania Company wants garage supplies and equipment.

8402—California Garage wants supplies and equipment for its establishment.

8532—Illinois Company is in the field to purchase equipment and supplies for garage.

8564—Indiana House is especially interested in securing garage equipment and supplies.

8528—Missouri Concern wishes to secure equipment and supplies for garage.

8568—Ohio Company is looking for garage supplies and equipment.

REPAIR SHOP AND MACHINE TOOLS.

6239—Nebraska Company is in the field for machine tools and repair shop supplies and equipment.

6255—Iowa Company would like to secure machine tools and supplies and equipment for repair shop.

6266—Utah Concern is interested in supplies and equipment for repair shop and machine tools.

6274—California House is in the market for machine tools and repair shop supplies and equipment.

6283—California Company is inquiring for equipment and supplies suitable for repair shop, and for machine tools.

6245—Illinois Company wants supplies and equipment for repair shop and machine tools.

6250—Ohio Concern is interested in machine tools and supplies and equipment for repair shop.

6241—Maryland Agent is in the field for supplies and equipment for repair shop and for machine tools.

6246—Iowa Company is looking for machine tools and repair shop supplies and equipment.

6249—Pennsylvania Company would like to secure supplies and equipment for repair shop and machine tools.

6236—New Hampshire Company, operating large garage, is in the field for repair shop supplies and equipment, and machine tools.

6233—Iowa Company, in new quarters, is open for machine tools and repair shop supplies and equipment.

6248—Michigan Company is in the field for machine tools.

6247—New Jersey House is looking for machine tools and repair shop supplies.

6240—Mississippi House is now open for machine tools and repair shop supplies and equipment.

6251—Ohio Company is interested in machine tools and repair shop supplies and equipment.

6237—New York Concern is interested in securing machine tools and repair shop equipment and supplies.

6235—New York Company is in the field for machine tools and repair shop supplies and equipment.

6234—Texas Company is interested in repair shop supplies.

6230—Massachusetts House is interested in supplies for small repair shop.

6238—Mississippi Company is interested in securing supplies and equipment for repair shop and machine tools.

6231—New Jersey Concern wants machine tools and repair shop supplies and equipment.

6244—New York Company, operating in three counties, is interested in repair shop supplies and equipment.

6243—South Carolina House is in the field for repair shop supplies.

6232—Pennsylvania Company wishes to secure machine tools and supplies and equipment for repair shop.

6252—California Concern is interested in machine tools.

MISCELLANEOUS OPPORTUNITIES.

3760—Massachusetts Concern is interested in securing vulcanizing supplies and equipment.

3761—Ohio Company is in the field to represent tire manufacturers.

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MARKET QUOTATIONS FOR THE MONTH.

GENERAL MATERIAL PRICES.

The quotations below present the high points reached by the several commodities listed during each week for the past month:

Material	Oct. 27	Nov. 3	Nov. 10	Nov. 17
Antimony, lb	.06¼	.06¼	.06¼	.06¼
Beams & Chan., 100 lbs.	1.56	1.56	1.56	1.56
Bessemer steel, ton	22.50	22.00	22.00	22.50
Copper, elec., lb	.16¾	.16½	.16⅛	.16⅞
Copper, lake, lb	.16⅞	.16⅞	.16⅝	.16¾
Cottonseed oil, lb	6.92	6.99	7.00	7.06
Cyanide potash, lb	.19	.19	.19	.19
Fish oil, Menhaden, br.	.38	.38	.38	.38
Gasoline, auto., 200 gals.	.22¼	.22¼	.22½	.22¼
Lard oil, prime	.95	.95	.95	.95
Lead, 100 lbs	4.35	4.35	4.35	4.35
Linseed oil	.50	.50	.50	.50
Open-hearth steel, ton	23.00	22.00	22.00	23.00
Pet'leum, Kan., cr., bbl.	1.03	1.03	1.03	1.03
Pet'leum, Penn., cr., bbl.	2.50	2.50	2.50	2.50
Rapeseed oil, refined	.65	.64	.64	.64
Sulphuric acid, 60	.90	.90	.90	.90
Tin, 100 lbs	40.50	40.05	40.15	40.45
Tire, scrap	.08⅛	.07½	.07½	.08⅛

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of November were as follows:

Pennsylvania dark	$2.50	Ragland	$ .70
Second sand	2.50	Illinois above 30°	1.35
Tiona	2.50	Illinois below 30°	1.35
Mercer black	2.00	Kan. & Okla.	1.03
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.80
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.44	Caddo, La., 38°	1.05
South Lima	1.39	Caddo, La., heavy	.75
Indiana	1.34	Spindletop	1.06
Prince	1.44	Canadian oil	1.84
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	31½	31	21½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-62°	20¼	20	19¾
73 a 76°	29½	29¼	29
Stove	23	22¾	22½
Auto, 68-72°	26½	26¼	26

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	18	a	18½
Tank wagon delivery	..	a	9
Fuel, 31°	9¼	a	..
Fuel, 34°	10¼	a	..

Naphtha.

Auto in wood	..	a	20
Auto in garages, steel bbls	..	a	16
V. M. & P. deod., in steel	17	a	18
V. M. & P. deod., in wood	..	a	21

Gasoline

86°	..	a	29½
74-76°	..	a	25¼
67-70°	..	a	22¼
Stove	..	a	21

COMPARATIVE QUOTATIONS ON AUTOMOBILE SECURITIES.

The following quotations indicate the condition of the market respecting automobile securities during each week of the past month and in comparison with last year at this time:

Week of	Oct. 27		Nov. 3		Nov. 10		Nov. 17		1912	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com	150	...	150	...	150	...	200	215	180	200
Ajax-Grieb Rubber Pfd	95	100	94	100	94	100	96	102	98	102
Aluminum Castings, pfd	98	100	98	100	98	100	98	101	100	102
Chalmers Motor, com	98	102	..	98	..	98	..	98	..	..
Chalmers Motor, pfd	94	100	..	96	..	96	..	96	..	..
Consolidated Rubber Tire, com	35	37	34	37	30	35	28	33	11	14
Consolidated Rubber Tire, pfd	90	95	90	96	85	95	90	94	50	60
Firestone Tire & Rubber, com	260	270	260	270	260	270	250	255	285	288
Firestone Tire & Rubber, pfd	102	104	102	103½	103½	104½	103	104	105½	107
Garford Co., pfd	85	90	85	90	85	90	80	90	99	100
General Motors, com	38	39	37	38½	36	37½	36	37½	35	36
General Motors, pfd	76½	79	76	78	74	77	74	76	76¾	78
B. F. Goodrich, com	21	22	20	21	17½	18½	18¼	19	71	72
B. F. Goodrich, pfd	88	89	87	88	80	81	80½	81½	107	107¾
Goodyear Tire & Rubber, com	270	280	270	278	..	250	225	230	412	415
Goodyear Tire & Rubber, pfd	97½	98½	97¾	98½	96½	98	96	97½	104½	105½
Gray & Davis, pfd	..	102	96	102	96	102	96	102	..	..
Hayes Mfg. Co	..	..	..	..	..	..	..	..	..	90
International Motor, com	..	5	..	5	..	5	..	5	20½	22½
International Motor, pfd	10	15	10	15	..	15	10	15	74	78
Lozier Motor, com	15	..	15	..	15	..	10	16	..	..
Lozier Motor, pfd	..	92	..	92	..	92	..	92	..	..
Maxwell Motor, com	1½	2¼	2	2½	2¼	2¾	2½	3	..	..
Maxwell Motor, 1st. pfd	20	23	18	21	19	21	20	21½	..	..
Maxwell Motor, 2nd. pfd	5	7	4¾	6	5¼	6¼	6	7	..	..
Miller Rubber	130	135	130	135	130	135	120	130	143	147
Packard Motor Car, pfd	95	100	..	95	168	177	90	94	105½	107½
Peerless Motor Car, com	25	35	25	35	25	35	15	25	..	..
Peerless Motor Car, pfd	85	90	85	90	85	90	75	85	..	..
Pope Mfg. Co., com	1	4	1	3	1	3	1	3	26	29
Pope Mfg. Co., pfd	15	25	14	20	14	20	10	20	71	73
Portage Rubber, com	..	35	..	35	..	35	..	35	..	..
Portage Rubber, pfd	..	92	..	92	..	92	..	90	..	..
Reo Motor Truck	7	8	6½	7½	..	7½	6	7½	8¾	9½
Reo Motor Car	15	17	16	17	15	16½	15	16½	19	21½
Rubber Goods Mfg. Co., pfd	100	106	100	106	100	106	100	106	105	108
Stewart-Warner Corp., com	64	66	62	64	62	65	55	60	..	..
Stewart-Warner Corp., pfd	94	97	96	98	95	98	94	98	..	..
Studebaker Corp., com	18	20	17	18	16¾	17½	16½	17½	42	44
Studebaker Corp., pfd	70	72¼	70	71	65	67	66½	69	94½	96½
Swinehart Tire & Rubber	80	85	80	85	80	85	78	80	99	101
U. S. Rubber, com	59½	60	58	60	52	53	53½	54½	..	..
U. S. Rubber, 1st. pfd	104½	105½	104	105	95⅝	99⅝	99¾	100	..	..
White Co., pfd	105	110	105	110	105	110	104	110	105	108
Willys-Overland, com	62	64½	64½	67	62½	64	64	66	..	..
Willys-Overland, pfd	84	92	85	92	84	92	84	92	..	..

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. NOVEMBER, 1913. NO. 7.

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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

CONSIDERING THE OVERHEAD.

Many men have made money very easily in the automobile business, but the day has gone by when the prospective purchaser is willing to pay a large bonus to secure a delivery date. The demand no longer exceeds the supply, but it still exists, and careful study of the local field should afford plenty of opportunity for making sales. However, since conditions have changed, it follows that sales methods must change.

Some dealers appear to be under the impression that because an article costs them $1 and they can sell it for $1.25, the net profit to the dealer should be 25 per cent. on the investment. Such a method of calculating profits fails to take into account the matter of overhead.

By overhead is meant the items of rent, light, heat, power, salesmen's expenses, taxes, interest on the investment, depreciation, insurance, wear and tear on machinery, cost of delivery system, etc. Each of these has its direct bearing upon the sale of every dollar's worth of goods that leaves the place.

The successful man in any line of endeavor is he who keeps careful watch of the minor details. No man can expect to overcome difficulties without first learning of their existence. No automobile dealer, garage man or repair shop proprietor can hope to give the matter of overhead that attention which it requires without first adopting some system which shall detect the leaks and indicate the proper check upon them. Such a system need not be complicated or savor too much of red tape, but it should be certain in its results and enable the proprietor to know at all times whether he is conducting his business at a loss.

OUTLOOK FOR COMING SEASON.

The automobile industry, although one of the youngest in point of years, has grown very rapidly and now occupies a place very close to the head of the list of industrial institutions in this country. In takes enormous capital to finance such great enterprises. Some few concerns have recently found it necessary to withdraw entirely from the field, and others are undergoing a readjustment. The condition of the money market generally is such as to direct special attention to events of this character, and naturally some uneasiness may be felt among the dealers throughout the country.

It is only necessary to recall that during the so-called panic of 1907 the automobile industry was among the few which went through the period without suffering any appreciable effect. At that time, it also may be remembered, men of decided prominence in business life were deploring the fact that the public was investing its money in automobiles instead of gilt edged stocks and bonds. This was held to be particularly deplorable, since automobiles depreciated in value very rapidly.

It would be possible to draw some very interesting comparisons between the depreciation in value on motor vehicles and that which has befallen some of the stocks and bonds hitherto regarded as excellent investment securities. But the main point at issue is the stability of the automobile industry, and of this there can be little doubt.

The practicability of the modern motor vehicle, whether designed for passenger or freight service, is unquestioned. Its economic value is equally as certain. Business men have learned to depend upon both types, and if they were suddenly called upon to do without them, their importance in these respects would very quickly be made apparent.

Dealers have but to bear some of these facts in mind when considering the possibilities of the local market during the 1914 season. The failure of any one or several motor car manufacturers can have no very serious permanent effect upon the industry as a whole, and there is abundant evidence that the future holds much of promise to those who are prepared to conduct their business along strictly business lines.

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GENERAL NEWS OF THE MANUFACTURERS.

The Kentucky Wagon Manufacturing Company, Louisville, Ky., has elected R. V. Board of Boston, Mass., president, to succeed W. C. Nones, who resigned to become chairman of the board of directors. Philip S. Tuley, Louisville, was elected vice president.

The B. F. Goodrich Company plant at Akron, O., was visited recently by 1000 members of the Knights Templar of Ohio.

The United Puncturine Company, Detroit, has established a branch agency at 4108 Olive street, St. Louis, Mo. Adolph F. Loehr is manager.

The J. P. L. Cyclecar Company, Detroit, has been organized to build a new cyclecar.

Chester L. Bicker, designer of the Henderson car, is interested in a new cyclecar to be known as the Bicar. A company will be organized with headquarters in Indianapolis, Ind., to manufacture this product.

O. G. Temme, Chicago, Ill., proprietor of the Triple Action Spring Company, has recently purchased the entire business of the Johnson Shock Absorber Company.

The Palmer-Moore Company, Syracuse, N. Y., has recently established agencies in Binghamton, Utica, Auburn, Hudson and Rochester, N. Y., and in Providence, R. I. Plans are now being made to enter Boston and the other New England territory.

The Mercer Automobile Company, Trenton, N. J., has recently announced the introduction of the Mercer limousine.

The Joseph Dixon Crucible Company, Jersey City, N. J., maker of Dixon's graphite lubricants, has been conducting a novel advertising campaign in the New York City territory, in which the automobile shown in an accompanying illustration has played an important part. The machine was in charge of A. G. Thomson, who was assisted by New York Manager John M. Ready and a corps of active salesmen. As a result, many automobile users in the Metropolis are better acquainted with the Dixon products.

The Metz Company, Waltham, Mass., through President Charles Metz, has announced that Metz cars will be entered in every honest test in which they have the opportunity to compete in 1914 and that a fund will be set aside for that purpose.

Arrol-Johnston, Ltd., Paisley, Scotland, manufacturer of a popular British car, has placed an order with Gray & Davis, Boston, Mass., for a large number of its starting and lighting systems.

The Crown Motor Car Company, Louisville, Ky., is now perfecting a new car that it intends to sell at around $400. The new machine, while light, will not be in the cyclecar class.

The National Drawn Steel Company, East Liverpool, O., has recently been organized with a capital of $100,000, to manufacture drawn steel products, including automobile appliances, gas engines, etc. It is expected that operations will be started in a few months.

The B. F. Goodrich Company, Akron, O., has established a Canadian branch at Toronto, Ont.

The Lustrine Manufacturing Company, Indianapolis, Ind., was recently formed with a capital of $10,000, to make Lustrine, a polish for automobile bodies. A workshop and laboratory have been opened on East New York street and operations will be started on a large scale when the company is settled in the quarters. M. A. Seligman and George M. Hollingsworth are interested in the new company.

The Ten Broeck Tire Company, Louisville, Ky., organized about the first of the year with a capital of $250,000, has found business to be very successful and the plant has been run all the year at full capacity.

The Akron Airless Tire Company, Akron, O., has been formed by a number of capitalists to make and sell a rubber core to be used in place of the inner tubes in pneumatic tires.

The Russian Tyre Sales Company, importer of Prowodnick tires, has been taken over by the Columb Tyres Imports Company. The salesrooms will be retained at 1891 Broadway and 71 Columbus avenue, New York City.

Will H. Brown, upon assuming his new duties as general sales manager of the Indianapolis branch of the Cole Motor Car Company, announced that the Brown Commercial Car Company will continue business the same as usual with office and service station at 425 North Meridian street, Indianapolis.

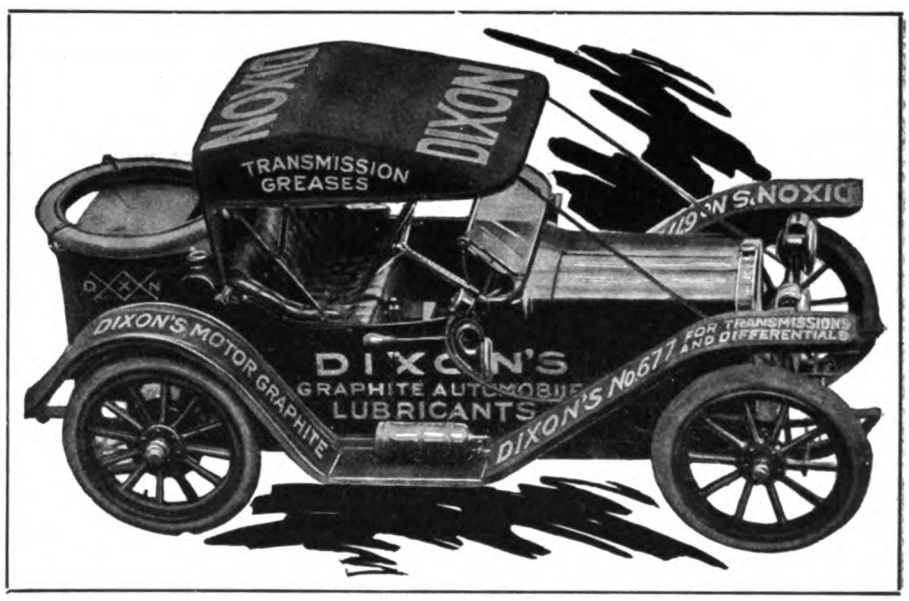
The Splitdorf Electrical Company, in the recent process of incorporation of the branch houses, made several important executive changes. The Splitdorf Electrical Company of Detroit is now incorporated with these officers: President, C. E. Brelsford; treasurer and manager, H. J. Hinley; secretary, W. J. Murray. The Splitdorf Electrical Company of Chicago has been incorporated with R. S. Preble as president and manager, and E. A. Kelley as secretary and treasurer.

The H. W. Johns-Manville Company, New York City, has taken control of the distribution of the Jones speedometer, made by the Jones Speedometer Company of the same city. New service stations will be established by the Johns-Manville company in all localities within the next few months.

The Ford Motor Company, Detroit, Mich., has established a new system of grading the employees which has resulted in a general increase in their salaries of about 13 per cent.

The American Cyclecar Company, Bridgeport, Conn., is now manufacturing the Trumbull cyclecar.

The Bosch Magneto Company, New York City, maker of the Bosch magneto, announces the appointment of new distributors as follows: Bertram Motor Supply Company, Salt Lake City, Utah; Schuman Carriage Company, Honolulu, T. H. The following are the new Bosch supply stations recently appointed: T. M. Caldwell, Amarillo, Tex.; Charles Arnholm, Barre, Vt.; A. R. Rettinghouse, Centralia, Ill.; Electric Service Company, Dallas, Tex.; Robert R. Ashwell, Hartford, Conn.; Bering Tire & Rubber Company, Houston, Tex.; Andrew Cowan & Co., Louisville, Ky.; Manley-Wilkins Company, Mt. Carmel, Ill.; Tire Trading Company, Newark, N. J.; J. M. Hubbard & Co., Norfolk, Va.; Tiffany Diamond garage, Poughkeepsie, N. Y.; H. G. Guenther, San Antonio, Tex.; Wyckoff-Cord Auto Company, Sioux City, Ia.; Child, Day & Churchill, Spokane, Wash.; Motor Shop, Trenton, N. J.; Tri-State Supply Company, White Plains, N. Y.; P. N. Montague garage, Winston-Salem, N. C.



Machine Utilized by Joseph Dixon Crucible Company in Dispensing Knowledge of Dixon's Graphite Lubricants.

REMOVALS AND NEW BUILDINGS.

The International Harvester Company, Akron, O., is erecting a large plant in that city for the manufacture of small delivery trucks.

The Van Blerck Motor Company, Detroit, Mich., is to move to Monroe, Mich., where a plant will be established.

The Michelin Tire Company, Milltown, N. J., it is reported, is to establish a branch manufactory in Canada.

The White Swan Cyclecar Company is to erect a factory at Marysville, Cal.

The Weston-Mott Company, Flint, Mich., has recently opened factory No. 7 to take care of the increased demand for the axles and rims that the company produces. The new building is of brick, 75 by 330 feet, and has a daily capacity of 3000 rims.

The Perfex Company, Los Angeles, Cal., has moved into its new factory at 52nd street and Santa Fe avenue.

The Anderson Electric Car Company, Detroit, has awarded the contract for the erection of an additional story to its building at 687 Woodward avenue.

The Pennsylvania Rubber Company, Jeannette, Penn.,

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has started work on the erection of a new power plant. The building will cost $130,000.

The T. C. Beach Auto Turntable Company, St. Johns, Mich., has opened a Detroit office at 870 Woodward avenue. The company manufactures automobile turntables for garages.

Red Head Spark Plug's New Home in Bush Terminal, Brooklyn, N. Y.

The Pontiac Motor Castings Company, Pontiac, Mich., is enlarging its building.

H. R. Schoch, Philadelphia, Penn., is planning to erect a plant at Hunting Park avenue and Stokeley street for the manufacture of automobiles. The building will be of reinforced concrete, four stories and basement, 270 by 340 feet, and will cost approximately $100,000.

The Auto Parts Company, Providence, R. I., has secured a permit for the erection of a new building at Goff and Eddy streets. It will be of brick, one story high, 45 by 116 feet.

The Double Fabric Tire Company is building a new factory at Auburn, Ind., to replace the one destroyed by fire last spring. It will be 80 by 180 feet and will be used for the manufacture of Interlock inner casings.

The National Auto Radiator Company, White Plains, N. Y., has started business at 159 Stanley avenue.

The Light Inspection Car Company, Hagerstown, Ind., maker of the Teetor motor, is enlarging its quarters to take care of the necessitated larger output.

The Cole Motor Car Company, Indianapolis, Ind., has started work on the erection of a new building which will cost about $200,000. It will be four stories high, fireproof and otherwise modern throughout.

The Panther Rubber Manufacturing Company will erect a plant at Sherbrooke, Que., in the near future.

Grant F. Discher, president and general manager of the Garage Equipment Manufacturing Company, Milwaukee, Wis., has filed suit in the federal court at that city against the Milwaukee Auto Specialty Company on charge of infringements of patents on brackets for bumpers or protecting guards.

The Homer Motors Company, Los Angeles, Cal., will erect a new factory for the manufacture of motors and for the construction of a heavy tractor and light delivery wagons. There will also be a foundry for making all castings necessitated by the product of the company.

The Cookville Veneer Company, Cookville, Tenn., maker of automobile spokes, is to erect a new plant in connection with the one already established at Strong, Miss.

The Lyons-Atlas Company, Indianapolis, Ind., organized early this year to take over the business of the Atlas Engine Works of that city, and to produce a Knight engined car, is to make four and six-cylinder pleasure cars under the name of the Lyons-Knight, and commercial cars. Complete information as to the commercial vehicle line has not been made public as yet.

The Metz Company, Waltham, Mass., maker of the Metz car, is to establish an athletic field for the employees of the plant, which will be equipped so that sports may be enjoyed throughout the entire year.

The White Company, Cleveland, O., is building an addition to its motor car paint shop and another, 240 by 30 feet, will be erected to the main building.

The Continental Motor Truck Company, Denver, Col., is reported to be contemplating the establishment of a branch plant at Waterloo, Ia. Representatives of the company have been in the latter city looking for a favorable site.

The Catassauqua Motor Car Company, Allentown, Penn., will establish a plant on River road for the manufacture of light vehicles.

The Simpson Tire Company, Detroit, it is reported, is considering the establishment of a large plant, either at Los Angeles or Torrance, Cal., for the manufacture of its product.

The Emil Grossman Company, maker of the Red Head spark plug, recently took possession of its new factory in building No. 20, Bush Terminal, Brooklyn, N. Y., which is shown herewith. The machinery heretofore installed in the New York and Detroit factories of the concern has been removed to this plant, in addition to new equipment of the most modern type, and the facilities for the production of Red Head spark plugs have been increased very materially in consequence.

The Republic Rubber Company's operatives, Youngstown, O., have elected five of their number to serve on the board of governors of the new club house which will be formally opened in December, as follows: Oscar Watkins, C. A. Miller, Daniel Evans, J. Deiter and C. C. Porter. They will serve with three other members, to be appointed by President T. L. Robinson.

The Pope-Hartford Company, Boston, Mass., has taken the agency for the Maxwell cars, according to the announcement of Manager F. H. Lucas.

The F. E. Lorts Company, Cleveland, O., maker of fore doors and coupe bodies, has opened a Chicago distributing branch at 1547 South Michigan avenue.

The Golden West Motors Company, Sacramento, Cal., which will manufacture a commercial car, is to erect a large building in which modern machinery will be installed.

Bontel & Mackey, Los Angeles, Cal., body manufacturer, has moved to new quarters at 1953 South Grand avenue.

The Panama Rubber Company, Los Angeles, Cal., is to erect a new large building for the manufacture of automobile tires.

The Mitchell-Lewis Motor Company, Racine, Wis., is to open a branch at Fairmount, W. Va.

FINANCIAL NOTES.

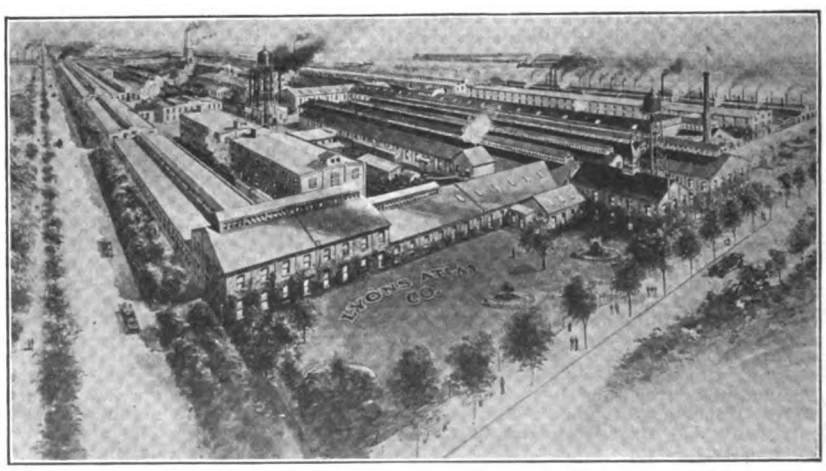
The Kelly Reamer Company, Cleveland, O., has increased its capital stock from $25,000 to $50,000, in order to provide sufficient funds for increasing the manufacturing facilities.

The Herschell-Spillman Company, Niagara Falls, N. Y., has increased its capital stock from $200,000 to $250,000.

The Paige-Detroit Motor Car Company, Detroit, expects to have its new plant at Fort and McKinstry streets ready for occupancy on Dec. 1 and anticipates doing business at the new address on or about that time. The financial statement of the company for the quarter ending in September shows that the gross sales increased $1,200,000 over the same period of last year.

The Vulcan Rubber Company, Erie, Penn., has secured the permission of the state officials to increase its capital from $100,000 to $200,000.

The Russell Motor Car Company, Toronto, Ont., issues its annual statement, showing a net loss for year ended July 31 of $152,826, as compared with a profit of $180,127 for the previous year. Dividends of seven per cent. were paid on the preferred stock and 3.5 per cent. on the common stock, totalling $112,000. As a profit balance of $303,233 was brought over from the previous year a balance of $38,407 still remains.



Plant of the Lyons-Atlas Company, Indianapolis, Ind.

The Moon Motor Car Company, St. Louis, Mo., an-

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nounces that the business done in the month of September was the best for any single month since the company was started eight years ago.

The Weed Chain Tire Grip Company, New York, secured an injunction in the United States district court at Detroit against the Perry Chain Manufacturing Company, Lansing, Mich., restraining the latter company from making a certain type of non-skid chains for motor cars which is held to be an infringement of the Weed patents. An appeal from the decision is expected.

The Schacht Automobile Company, Cincinnati, O., real estate was sold Nov. 10 to a tinware dealer of that city for $17,350. The inventory value was set at $26,000.

The R. C. H. Corporation, Detroit, auction sale did not bring forth any bids that were high enough to satisfy the receiver and in consequence no action was taken relative to the disposition of the business.

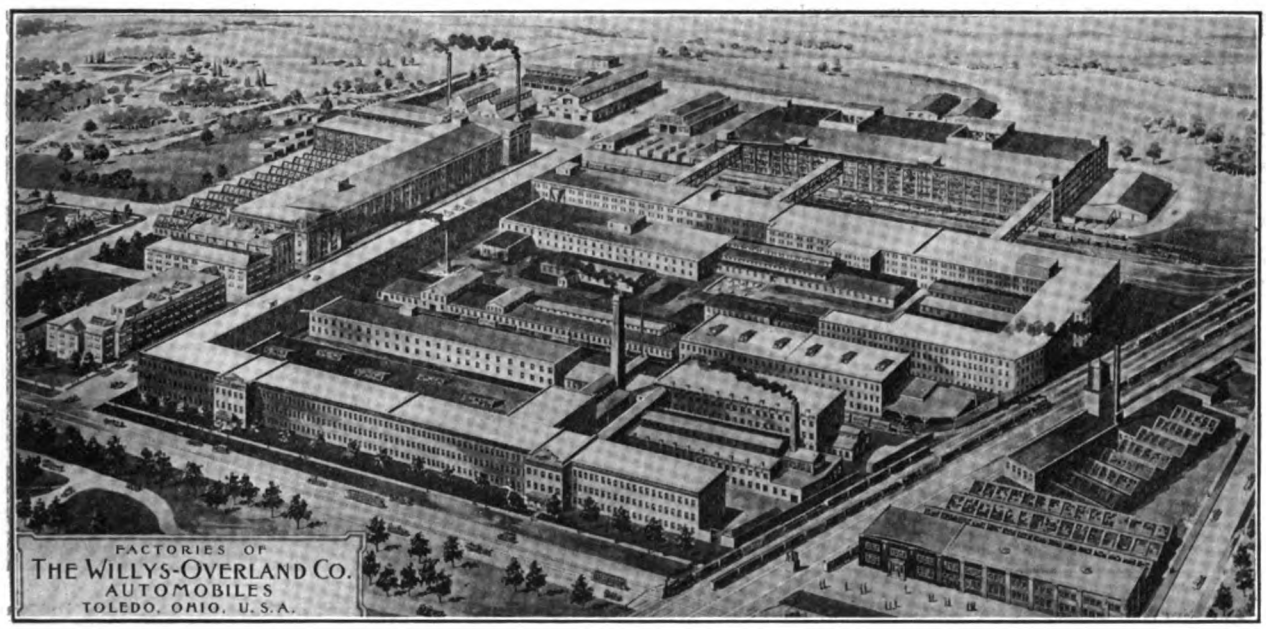
The Premier Motor Manufacturing Company, Indianapolis, Ind., stockholders at a special meeting called for the purpose authorized a $500,000 increase in the capital stock and a bond issue of $250,000, thereby providing a substantial increase in working capital.

DIVIDENDS DECLARED.

General Chemical Company, New York City, regular quarterly of 1.5 per cent. on common stock, payable Dec. 1, to stock of record Nov. 19.

International Harvester Company, Chicago, Ill., quarterly of 1.75 per cent., payable Dec. 1.

Willys-Overland Company, Toledo, O., regular quarterly of 1.5 per cent. on common stock, payable Nov. 10.



Plant of the Willys-Overland Company, Toledo, O., Where Overland Cars Are Produced.

Studebaker Corporation, Detroit, regular quarterly of 1.75 on preferred stock, payable Dec. 1, to stock of record Nov. 20.

RECENTLY ANNOUNCED CYCLECARS.

Little Detroit Speedster—Detroit Cyclecar Company, 504-508 Elks' Temple building, Detroit. Two passengers, side by side. Motor, four-cylinder, water-cooled; bore, 2.75 inches; stroke, four. Ignition, magneto; carburetor, firm's own make; cooling, thermo-syphon; lubrication, splash with gravity feed. Disc clutch. Selective type transmission, two speeds forward and reverse. Shaft drive. Wood wheels. Tires, 28 by three inches. Wheelbase, 92 inches; tread, 44. Weight, 850 pounds. Price $375.

Trumbull—American Cyclecar Company, Bridgeport, Conn. Two passengers, side by side. Motor, four-cylinder, water-cooled, block; bore, 2.875 inches; stroke, four. Ignition, Unisparker, current from storage batteries. Lubrication by pump and splash. Friction, transmission; four speeds forward and reverse. Roller chain drive. Special, patented, quick demountable wire wheels. Tires, 28 by three inches. Wheelbase, 80 inches; tread, 44. Weight, 650 pounds. Price, with top, electric head and tail lights, windshield, mechanical starter, electric horn, oil gauge, jack, pump and tool kit, $425; with spare wheel, hub cap and tire, 60-mile speedometer and dash clock, $475.

Mercury—Mercury Cycle Car Company, 807-815 Scotten avenue, Detroit. Two passengers, tandem. Motor, De Luxe twin-cylinder; bore, 3.5 inches; stroke, 3.5. Ignition, Bosch magneto; carburetor, Schebler; cooling, air; lubrication, splash with gravity feed. Friction transmission; V belt drive. Wire wheels. Tires, 28 by 2.5 inches, with non-skid tread. Wheelbase, 100 inches; tread, 36. Weight, not given. Price, $375.

MISCELLANEOUS NEW BUILDINGS.

The Dallas Automobile Club, Dallas, Tex., is having a new club house erected at an approximate cost of $18,000.

The Cadillac Motor Car Company, Toledo, O., is erecting a new building at the corner of Woodward avenue and Burroughs street, which will be used as a service and storage station.

A. B. Gay, Randolph, Vt., will erect a new building on Merchants Row, that will include a garage.

Thomas J. Hare, Marion, Penn., is having plans and specifications prepared for alterations to his residence and garage.

The Atlantic Refining Company, Pittsburg, Penn., is planning the erection of a large new building at Molwood street and Baum boulevard, to be used as salesrooms and warehouse.

Charles E. Bolling, city engineer, Richmond, Va., will remodel a meat market into a garage.

Charles B. Fish, Buffalo, N. Y., is planning to erect an automobile supply station near Rhode Island street.

The Chandler-Lyon Company, Los Angeles, Cal., is erecting a new automobile building on Grand avenue.

C. A. Platt, Philadelphia, Penn., is preparing plans and specifications for a two-story brick and stone garage and stable to be erected for Herbert L. Clark at Wayne, Penn.

B. Davidow, San Francisco, Cal., will have a new automobile building erected on Van Ness avenue at a cost of $25,000.

Benjamin F. Measley, Avalon, N. J., is having plans and specifications estimated for the erection of a brick and frame residence and garage.

Frank Mahan, Ardmore, Penn., is estimating on revised plans for a garage and stable for W. L. Austin, Villanova, Penn.

The People's Taxicab Company, 2200 Beale avenue, Altoona, Penn., has awarded a contract for a 50 by 71-foot addition to the plant.

Weil & Mayer, 5 Beekman street, New York City, is to build a one-story testing station for taxicabs, 50 by 200 feet. New York City is the lessee.

W. H. Murphy, Fox Lake, Wis., is to build a garage and machine shop.

Marcus Cleaves, Bar Harbor, Me., and Fred Coffin, Gouldsboro, Me., will build a garage and machine shop at Bangor, Me., on the lot opposite the Granite hotel.

The Holmes Motor Company, Mystic, Mass., is erecting a large addition to its plant.

The Clark & McMaster Piano Company, Rutland, Vt., is building a new cement garage on its property, which will be entire fireproof. The building will be 40 by 40 feet.

The Wallerboro Garage Company, Wallerboro, S. C., has been formed to engage in repair work.

The United Electric Light Company, Springfield, Mass., is to erect a number of buildings, including a garage.

M. B. Cull & Co., Pittsburg, Penn., will have a modern commercial garage erected at a cost of $9000.

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NEW CONCERNS AND BUSINESS CHANGES.

NEW GARAGES AND REPAIR SHOPS.

The Farmingdale Garage, Inc., Farmingdale, N. Y., has been formed by Leo Kappertz to conduct a general garage business.

The Kittitas Auto Company, Ellensburg, Wash., has opened a new garage at Fourth and Water streets.

A. C. Veiton & Son, Tomah, Wis., is planning to establish a new garage and machine shop.

Bert Noll, Wheeling, W. Va., has converted the old Hippodrome building into a modern garage and will conduct business there under the name of Noll & Co.

James E. Stewart, Cambridge, Mass., has just had erected a new garage at 380 Green street. It is modern throughout in construction and equipment and was built at a cost of $30,000.

Hart Bros., New York City, has leased a building at 228 West 20th street for stable and garage.

Muns & Gamble, Toledo, O., has had a new garage erected on Main street at a cost of $8000.

The Chelsea Garage, Chelsea, Mass., was opened a short time ago. The garage is 80 by 90 feet and the repair shop is 35 feet by 35 feet. Oscar R. Bergstrom is manager.

The Parker Auto Repair Company, Dayton, O., recently formed, has erected a modern garage on Jefferson street and business operations have been started.

S. W. Kent Miller, Martinsburg, W. Va., has started business operations in a new garage.

J. P. Conway and M. A. Brown, Napoleon, O., have opened a new garage and will handle the Overland and Hudson cars.

Daily Bros., Lincoln, Neb., has opened a garage and repair shop at 19th and O streets.

C. J. Shannon, Virginia, Minn., has opened a garage on Walnut street. He will handle the Case car.

The Senyard Automobile Company, Pine Bluffs, Ark., recently incorporated, has opened a garage on East Second avenue.

The Glenwood Garage, Riverside, Cal., C. A. Dundas, manager, has erected a large addition to its building.

The Vernon Square Garage, Worcester, Mass., owned and operated by Charles A. Bixby and Albert Eaton, has added an automobile repair shop.

The Harter Auto Company, Sac City, Ia., has been formed by J. J. Harter, G. W. Patee and O. W. Chalfant. The S. M. Elwood garage has been purchased and a new building, 66 by 132 feet, will be erected.

B. L. Marks, San Francisco, Cal., has been granted a permit to maintain and operate a public garage at Fourth and Brannan streets.

Charles Morgan, Boone, Ia., has opened a garage and repair shop in West Third street.

Joseph Johnston, Newburg, N. Y., has leased the Nutt garage on Lander street and has opened for business.

A. B. Cravath of Santa Ana, Cal., is to establish a garage and machine shop in Holtville, Cal.

Donaldson S. Sipes, Colton, Cal., has opened a new garage in the DeArmand block.

Frank Mead and James Ready, Franklin, N. H., are planning to open a garage and repair shop on Memorial street.

C. W. Crain & Bro., Harrison, Tenn., has opened a new garage in that town.

The Charles Behlen Sons Company, Cincinnati, O., has opened a fireproof, modernly equipped garage devoted exclusively to the needs of electric machines. There is storage capacity for 50 machines.

NEW CAR DEALERS.

The Middlesex Automobile Company, New Brunswick, N. J., has recently been formed and located at 88 Albany street.

Stanley Ketchum, Vermillion, S. D., has opened salesrooms in the Dunlop Fruit Company building. He recently became agent for the Buick cars.

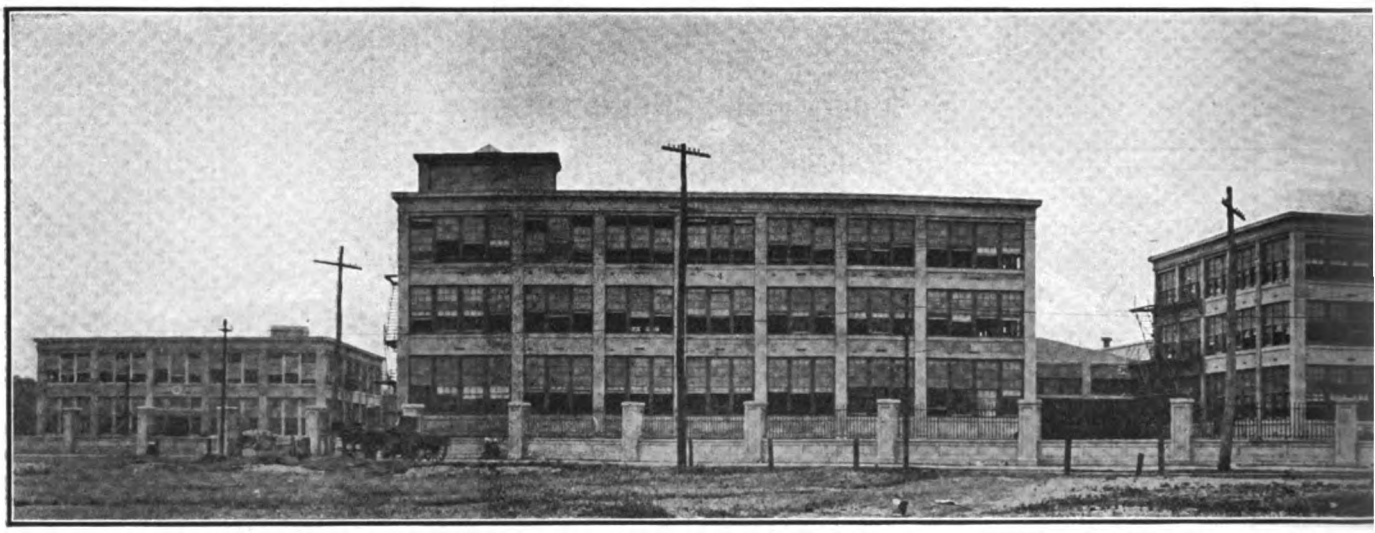
The Westcott Motor Sales Company, Columbus, O., has organized to sell the Westcott car in central Ohio. E. W. Craighead is general manager and the headquarters are at 138-140 East Chestnut street.

Bruce Jackson, formerly proprietor of the Jackson Automobile Company of Muscatine, Ia., has become a partner in the J. A. Zeman Automobile Company, Davenport, Ia. The company will handle the Mitchell cars.

The Onondaga Motor Company, Syracuse, N. Y., has been formed to handle the Hupmobile. The new concern is a subsidiary of the Chalmers-Syracuse company.

E. A. Test, Bakersfield, Cal., and associates have taken over the Ford agency and will conduct an automobile business.

The Coryell-White Motor Car Company, Pasadena, Cal., has been formed to sell the Paige and Howard cars. The company is located at 161 West Colorado street.



The Service Depot of the Edison Electric Illuminating Company of Boston, Located on a Tract of 12 Acres in Massachusett tory, Gasoline and Electric Machine Garage, Covered Drive or Loading Space, T

The Chase Motor Truck Sales Company has been formed in Gastonia, N. C., by G. H. Marvin and J. L. Snyder. The company will distribute the Chase motor trucks.

GARAGE TRANSFERS.

The Green Bros. garage business at Arkadelphia, Penn., has been purchased by Luckett Gullodge, who has changed the name to the Arkadelphia garage.

Samuel Lemos, Danville, Cal., has sold his garage business to Harris Bros.

C. Raymond, Miami, Ariz., has taken over the garage on Sullivan street.

S. L. Speer, New Orleans, La., has purchased the controlling interest in the mechanical department of the Donaldsonville garage, Donaldson, La., from K. A. Aucoin.

The Union Garage, Oroville, Cal., has been purchased from C. H. Martin by G. H. Matthews & Son, who will improve the building and operate the business.

The Connellsville Garage, Apple street, Connellsville, Penn., has been taken over by a stock company of which Burgess Evans is the head. Extensive improvements are to be made to the property.

Clayton Jackson, Manteca, Cal., has purchased an interest in the Escalon garage.

The Hike Garage, Sloan Springs, Ark., has been sold to W. H. Bailey, who has taken possession.

The Galt Garage, Galt, Cal., has been sold to T. J. Sawyer and E. Hudelson.

The Austin Avenue Garage, Waco, Tex., has been purchased by J. J. Richard, who will operate the same.

The Crane & Kennedy Garage, Oneida, Ill., has been

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purchased by Leonard Wikoff, formerly of the Galesburg Machine Works. Mr. Wikoff has taken possession and will conduct the business.

The Warsaw Auto Company, Columbus, Ind., has sold its garage business to L. M. Neher.

The Alameda Garage, Alameda, Cal., has been purchased by John G. Dorward and Robert Dorward.

The Olathe Automobile Company, Olathe, Kan., has purchased the Trail garage and moved the entire equipment to its new building.

George W. Gates, Windsor Locks, Conn., has sold his garage and repair business to Louis L. Stone. The name has been changed to the Buick Service Station.

The Oakley Garage, Antioch, Cal., has been leased by Tony Dalporto and Manuel Perry, who will operate it.

The Holtsmuller & Flesher Garage, Dayton, O., has been purchased by Henry J. Wagner. A. B. Flesher will be superintendent of the shop work.

A. K. Josahl has purchased the garage of Taylor Bros. at Verona, N. D.

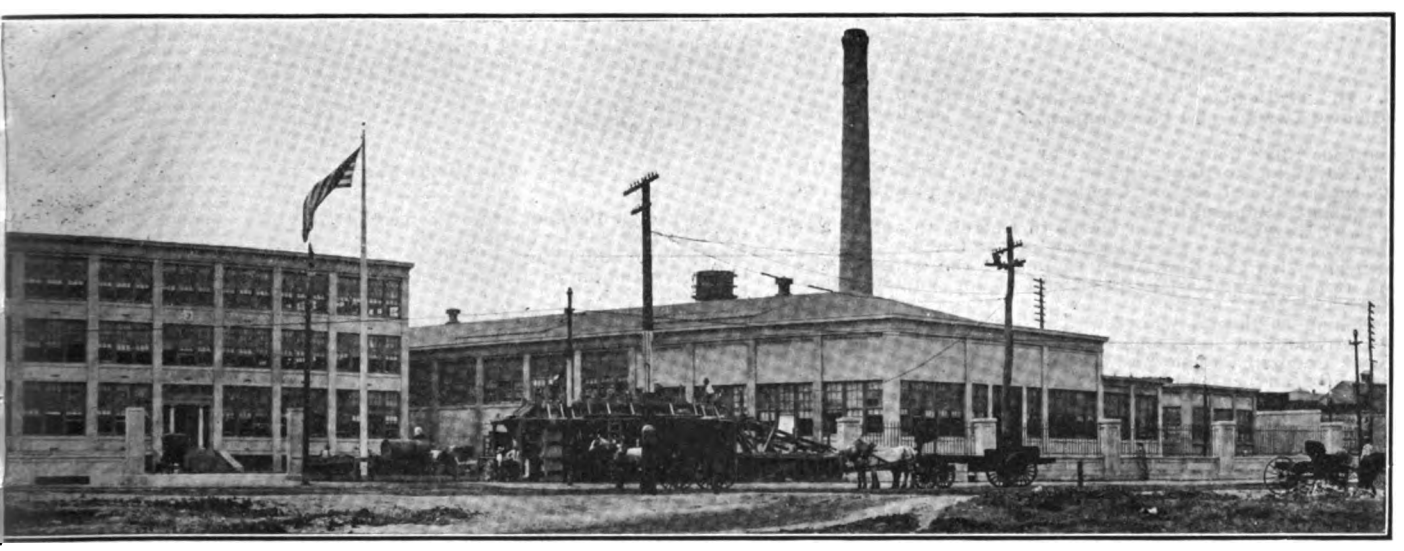
George Plein, Joseph Ley and Frank Cook, Plainview, Minn., have become proprietors of the Plainview garage, and will conduct business under the name of the Plainview Auto Company. A first class repair shop will be a feature.

The Hamilton Automobile Company, Seattle, Wash., has purchased the garage business of Ira D. Lundy, who has retired from the motor car industry.

A. H. Swank, Galesburg, Ill., has purchased the interest of Frank Clark in the Main garage on East Main street and has taken possession.

G. D. Siemantel, Raton, N. M., has purchased the Sperry garage and changed the name to the National garage.

The F. X. Lauturbur Company, Sidney, O., has sold its garage business to Charles McClure and Walter Brookey, who will operate under the firm name of McClure & Brookey. The new firm will locate at the corner of Fair street.



Avenue, an Ideal Situation for Distribution Over 600 Square Miles of Territory—From Left to Right the Buildings Are: Laboratemporary Administration Building and Stock House, Storehouse and Power Plant.

OTHER SALES AND TRANSFERS.

J. A. Hollinger has purchased an interest in the Overland Motor Car Company, Hutchinson, Kan., and withdraws from the Allinger-Hollinger Auto Company, Salina.

F. E. Nemec, St. Cloud, Minn., has sold his interest in the Nemec & Bisenius Overland agency to Joseph Hamburger. In the future the business will be conducted under the name of Bisenius & Hamburger.

The Transue-Williams Company, Alliance, O., has purchased the plant of the Davies-Bach Company. Extensive improvements will be made.

Sidney C. Elliott, Seymour, Conn., manager of the Seymour Auto Company, is reported to have purchased the interests of the Derby Trucking Company.

S. B. Ebersol and Ray Hinch, Marseilles, Ill., have formed a company to take over the Marseilles Auto & Supply Company and the Ebersol Motor Car Company. A new building 60 by 100 feet is being erected at a cost of $5000.

The Perett-Barber Motor Sales Company, Detroit, has absorbed the Barber Motor Sales Company.

The Texas Motor Car and Supply Company, Corpus Christi, Tex., will sell out its business interests to a new company of which S. C. Smith is the head.

W. T. Keys, Algona, Ill., has sold the Kossuth Motor Car Company to Paul Clement of La Porte City.

F. J. Schisler, Winthrop, Minn., who recently purchased the entire interests of the Winthrop Motor Car Company, has formed a partnership with Otto Sommer.

Harry Webb, Webster, S. D., has disposed of his interest in the South Dakota Motor Sales Company.

MISCELLANEOUS BUSINESS CHANGES.

The Overland Automobile Company, Houston, Tex., has changed its name to the Strong-Roberts Automobile Company. F. S. Strong is president.

The Sheldahl Auto Company, Sheldahl, Ia., has been formed and is now open for business.

The Barrett Motor Car Company, Buffalo, N. Y., will on Jan. 1 change its name to the Paige-Buffalo Company.

The Auto Service Company, Concord, N. C., and the Cabarrus Motor Company have been consolidated.

The Times Square Automobile Company, New York City, has bought the left over stock of the Michigan cars, formerly produced by the Michigan Buggy Company, Kalamazoo, Mich.

The Auto Delivery Company, Tacoma, Wash., is to lease the new building that will be erected at 15th and Dock streets.

The A. R. Davis Motor Company, Cleveland, O., distributor of Studebaker cars, has increased its capital stock from $10,000 to $50,000 to effect a co-operative system of profit sharing with the employees.

Harry W. Henes, Chicago, Ill., has formed the Henes Sales Corporation with headquarters at 179 West Washington street. The company will handle tools and devices adaptable to the automobile business.

W. O. Taylor, Toledo, O., has purchased the stock of R. R. Browne in the Erie Supply Company, dealer in automobile accessories.

M. S. Bulkley & Co., Los Angeles, Cal., Pacific Coast distributor for the Autocar and Smith-Milwaukee motor trucks, has contracted for the entire output of the Perfex Company, Los Angeles, and has established a large sales and service department.

NEW ACCESSORY HOUSES.

Cecil R. Culler and associates are interested in a retail and wholesale automobile supply house that is to be located in Orangeburg, S. C.

R. R. Browne, Toledo, O., formerly manager of the Erie Supply Company, has opened a wholesale and retail supply and accessory store at 126 Erie street.

Edward A. Cassidy has withdrawn from Petry-Cassidy, Inc., Philadelphia, Penn., and organized the firm of Edward A. Cassidy & Co., to represent several supply and accessory manufacturers.

The Skiff-Atherton Tire Company, Greenfield, Mass., is a new tire company recently organized and located in that place. The members of the firm are O. J. Skiff, formerly with the B. F. Goodrich Company at Springfield, and F. E. Atherton, recently of Springfield.

Baker & Hamilton, San Francisco, Cal., has taken the agency for Savage tires in the California territory.

J. P. Wise, Hazelhurst, Miss., agent for the Ford cars, has opened a garage with a full line of accessories.

The Progressive Tire Company, Toronto, Ont., has been appointed Canadian representative for Ajax tires. Headquarters are maintained at 137 Church street.

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PERSONAL NEWS OF THE INDUSTRY.

C. H. Wallerich, vice president of the Brown Commercial Car Company, Indianapolis, Ind., who has been ill for several weeks, has regained his health and resumed the duties of his position.

C. H. Wallerich, Vice President Brown Commercial Car Company.

W. O. Duntley, Chicago, Ill., president of the Chicago Pneumatic Tool Company, maker of the Little Giant truck, is now established in new quarters at 1470 Michigan avenue.

J. H. Newmark advertising manager of the Oakland Motor Car Company, Pontiac, Mich., completed five years of service in that capacity last month.

O. J. Woodward, sales manager of the Woods Motor Vehicle Company, Chicago, Ill., has tendered his resignation, which was accepted to take effect on the first of January. He has not announced any definite plans for the future.

J. M. Van Harlingen, New York City, formerly with the International Motors Company, is now practising as a transportation engineer.

C. T. Meyers is to open offices in Detroit to act as adviser of prospective purchasers of motor trucks. He was formerly with the New York branch of the General Motors Company and with the Rapid Motor Vehicle Company at Pontiac, Mich.

Joseph E. Baker, who recently became electric vehicle introduction engineer for the Washington Water Power Company, Spokane, Wash., was presented with a handsome silver loving cup by the Electric Motor Car Club, Boston, Mass. Mr. Baker is to introduce a campaign in the interests of the electric vehicle for the new company in Spokane.

C. D. Brown, Omaha, Neb., who has been identified with the E. R. Wilson Auto Company for the past five years, is spending the winter in Galveston, Tex.

E. O. Hoopengarner, New York City, manager of the New York branch of the Swinehart Tire and Rubber Company, was married recently to Miss Georgia Margerin of White Plains, N. Y.

Charles D. Hastings is now being congratulated by his many friends on the event of the second anniversary of his appointment as general manager of the Hupp Motor Car Company, Detroit.

W. E. Raiguel, sales manager of the Disco Company, Detroit, has been elected secretary of that company.

J. L. Wold, Twin Valley, Minn., has resigned from the Twin Valley Garage and Supply Company. O. G. Groslie has been appointed in his place.

Louis Parsons has returned to Bristol, Conn., from the West to take the management of his father's automobile repair shop and garage.

Arthur Storz recently drove his six-cylinder Hudson from North Platte to Omaha in 10 hours flat. The distance covered was 325 miles, making an average hourly run of 32.5 miles.

John Calder, president of the International Motor Company, New York City, has resigned. He is succeeded by Vernon Monroe, formerly secretary, who was elected to the position.

A. W. Treybal, Bridgeport, Conn., identified with the advertising activities of the Locomobile Company for the past year and a half, has resigned and is to enter the advertising field in New York City.

E. W. Hoover, district manager of the eastern territory for the Woods electric automobiles, has opened an agency in Hartford, Conn.

H. A. Fuller has resigned his KisselKar agency at New Rochelle, N. Y. At the age of 72 years Mr. Fuller was the oldest automobile agent in the country.

Daniel F. Sullivan, Manchester, N. H., who has been general sales manager for the Brodie Electric and Automobile Company, has resigned to enter business for himself and will handle the Ford cars in Manchester and vicinity.

F. M. Bowman, San Francisco, Cal., was re-elected general manager and treasurer of the American Motors California Company at the recent annual meeting of the stockholders.

C. S. Brewster, Philadelphia, Penn., has severed his connection as representative of the Stewart-Warner Speedometer Corporation of that city.

A. B. C. Hardy, general manager of the Chevrolet Motor Company, Flint, Mich., acted as toastmaster at the recent dinner given by the board of commerce at that city to William C. Redfield, secretary of commerce.

J. W. Cully has resigned as manager of the Detroit factory branch of the Swinehart Tire and Rubber Company, Akron, O.

S. A. Taylor of the General Motors Export Company, New York City, has sailed for San Juan, Porto Rico, where he will look over the field and probably establish an agency for the Buick cars.

James L. Barley, Marion, Ind., well known to the automobile trade through his connection with the Harwood-Barley Motor Truck Company, died at Denver, Col., recently at the age of 62 years.

C. H. Smith, manager of the Chicago Diamond tire branch, has recently returned from a month's vacation spent on the Flambeau Indian reservation in Wisconsin.

W. R. Chandler of the Holt-Chandler Company, New York City, distributor of Maxwell cars, has withdrawn. While he will retain his interest in the company he will be succeeded as vice president and general manager by S. W. Decktrade.

Norval A. Hawkins, commercial manager of the Ford Motor Company, Detroit, has sufficiently recovered from his two recent operations to be removed to his home at 100 Merrick avenue.

J. Q. Friend, North Manchester, Ind., who recently purchased E. J. Kane's control of the Indianapolis Auto Clearing House, has been elected vice president of that concern.

George P. Sweet has retired as secretary of the Disco Company, Detroit.

PROMOTIONS.

Forest H. Peabody, for the past eight years assistant to C. E. Fay, manager of the New England branch of the Ford Motor Company at Boston, has been promoted to become manager of the branch of the Ford company at Louisville, Ky.

W. H. Beidler, for the past two years with the Don Lee organization in San Francisco, Cal., has been made manager of the company's branch at Sacramento.

J. S. Jones, San Francisco, Cal., has been appointed wholesale manager of the White company for southern California and Nevada. Mr. Jones has been associated with the White interests on the Pacific Coast for several years and has a wide acquaintance in that district.

S. H. Humphrey, factory manager of the Hupp Motor Car Company, Detroit, has been promoted to assume general supervision over the entire production of the company, both at its Detroit and Canadian plants, under the title of manufacturing manager.

W. S. Pettit has been appointed sales manager of the Commerce Motor Car Company, Detroit, succeeding H. B. Bennett, who was promoted to become general manager. Mr. Pettit has been associated with the Studebaker Corporation as advertising manager, and his long connection with the automobile business and his complete knowledge of the trade makes him an ideal man for his new position.

S. H. Humphrey, Manufacturing Manager, Hupp Motor Car Company.

C. A. Van Doren was, a short time ago, appointed manager of the new direct factory branch of the Miami Cycle and Manufacturing Company, Middletown, O., that has been established at Springfield, Mass., to facilitate distribution of Flying Merkel motorcycles in the New England market. George Schueller, formerly advertis-

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ing manager, is to be Mr. Van Doren's assistant.

R. C. Hoffman, formerly connected with the motor works department of the J. I. Case Threshing Machine Company, Racine, Wis., has become associated with the Haynes Automobile Company, Kokomo, Ind., in the position of chief draughtsman.

NEW CONNECTIONS.

Claude M. Logan has been made eastern manager of the sales department of the Lozier Motor Company. His headquarters will be in Cleveland, O.

Howard B. Chandler, Portland, Me., manager of the Harmon Automobile Company since 1910, has accepted the position of manager for the Miles B. Mank Motor Car Company.

Richard C. Skinner, Hartford, Conn., for some time state representative of the Hood Rubber Company, has joined the sales force of the Goodyear branch.

E. G. Soward, Kenosha, Wis., formerly sales agent of the Rambler cars in the southwestern territory, has been appointed manager of the business department of the Velie Motor Vehicle Company, Moline, Ill.

H. C. Henderson, Philadelphia, Penn., formerly with the local Stearns agency, has joined the Yerkes staff at 2035 Market street.

Charles Huff, Indianapolis, Ind., has joined the city sales staff of the Buick Motor Company.

W. A. Sellon has been appointed manager of the Brooklyn, N. Y., branch for the Chevrolet Motor Company.

Arthur C. Hull, Oakland, Cal., for many years interested in the Maxwell cars in that territory, is now representing the Chandler and Hupmobile lines there.

W. S. Pettit, Sales Manager, Commerce Motor Car Company.

Otis Funderburk has been appointed sales manager of the carburetor division of the Detroit Lubricator Company. He was formerly Michigan manager for the Rayfield carburetor.

George H. Duck, New York City, has accepted the position of truck manager manager for the New York branch of the Locomobile company. Mr. Duck was formerly manager of the New York branch of the Matheson company.

E. G. Bland, formerly with the Michelin Tire Company as Detroit manager, has been appointed manager of the Detroit branch of the Jackson Automobile Company.

G. F. McCurdy has been appointed sales manager for the Westcott Motor Car Company, Richmond, Ind.

G. A. Coats, formerly of the Michigan Motor Car Company, has become Michigan district sales manager of the Haynes Automobile Company with headquarters at Kalamazoo.

S. A. Merinbaum, formerly of Chicago, Ill., is now assistant advertising and publicity manager for the Haynes Automobile Company, Kokomo, Ind.

Henry Clark, for many years with the Splitdorf Electrical Company at Boston, Mass., has been appointed foreman of the Sinclair garage, Portsmouth, N. H.

Arthur G. Beharrell, who has been connected with the Boston branch of the Velie Motor Vehicle Company, has accepted a position with the Studebaker Corporation at Boston.

E. C. McGraw, at a recent meeting of the McGraw Tire and Rubber Company, East Palestine, O., was elected vice president.

E. G. Cleary, formerly cashier for the Lozier Motor Company at Detroit, is now connected with Nettleton & Crittendon at Boston, Mass.

Corlis Wadleigh has succeeded C. A. Young in charge of the fire apparatus department of the Boston branch of the Knox Company.

H. R. Williams of Pittsburg is now sales manager of the accessory department of the Gibson Automobile Company, Indianapolis, Ind.

Adolph F. Loehr has been appointed manager of the new agency for the United Puncture Company at 4108 Olive street, St. Louis, Mo.

Harry Ludwig has become sales manager of the branch of the Packard Motor Car Company at Providence, R. I. He was formerly associated with the Corbin Manufacturing Company, New Britain, Conn., and for the past two years was manager of the Fiat branch at Providence.

R. C. Hoffman, Chief Draughtsman, Haynes Automobile Company.

A. E. Bush has become manager of the agency of the California Tire and Rubber Company at 752 South Olive street, Los Angeles, Cal.

W. J. Andrews, San Francisco, Cal., formerly manager of the truck department of the Standard Motor Car Company and for the past two years manager of the truck department for the J. W. Leavitt Company, has joined the sales force of the White Company, distributor of White trucks. He will act as special representative in connection with General Manager Urquhardt.

W. Lininger has been appointed sales representative for the Michigan territory by the Keeton Motor Company, Detroit.

W. W. Wells, formerly with the Packard, Pope-Hartford and Locomobile companies, has become manager of the W. L. Plumb Motor Company, 159 Brookfield street, White Plains, N. Y.

Herbert L. Severance, long prominent with the tire and rubber selling field, has become sales manager of the Racine Rubber Company, Racine, Wis.

Charles Sauwell, well known in San Antonio, Tex., where he has been identified with the automobile business for a number of years, has joined the sales force of the A. E. Staacke Automobile Company.

P. J. Barrier, formerly with the Pullman Motor Car Company, has recently become associated with the Lyons-Atlas Company of Indianapolis, Ind. Mr. Barrier is now travelling through the Middle West establishing agencies for the Lyons-Knight automobile.

H. D. Ellis, Houston, Tex., who has been handling automobiles in that city for a number of years, has taken a position with the Halff company, which has taken over the Hawkins-Halff Automobile Company.

A. D. Kennedy has become associated with the Chicago force of the Haynes company. He was formerly with the Marion Sales Company.

Benton Fremont, manager of the Oakland branch, Paterson, N. J., has become manager of the New York City branch of the Chevrolet Motor Company. Mr. Fremont has been in the business since 1905, when he joined the Lozier forces, and later was on the staff of the Stearns company.

C. H. Van Doren, New England Manager for Merkel Motorcycles.

Robert M. Barker, for the past two years advertising manager of the Chase Motor Truck Company, Syracuse, N. Y., has resigned to accept a similar position with the Palmer-Moore Company, same city, manufacturer of a light delivery truck. Mr. Barker has been with a New York City agency.

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REPORTED CHANGES IN TRADE ADDRESSES.

O. L. Gooden, Babylon, N. Y., to Orlando, Fla.

American Ignition Company, Revere, Mass., to 180 Falcon street, East Boston, Mass.

Johnstone Auto Lock Company, Cleveland, O., from 847 Rockefeller building to 2001 Euclid avenue.

Pathfinder Lamp Company, Columbus, O., from 149 North Fourth street to 767, same street.

Auto Parts Sales Company, St. Louis, Mo., from 2301-2303 Locust street to 2612 Washington street.

Alfred O. Blaich, Chicago, Ill., from 934 Pratt street to 1956 Clyburn avenue.

Hays Analysis Instrument Company, Chicago, Ill., from 7035 North Clark street to 1775 Lunt avenue.

Crary Gas Lock Company, Detroit, Mich., from 650 Woodward avenue to 471, same street.

Motz Tire and Rubber Company, Los Angeles, Cal., 336 West Pico street to 948 South Main street.

Union Electric Light and Power Company, St. Louis, Mo., from 3920 Morgan street to 20 Locust street.

Auto Repair and Rental Company, St. Louis, Mo., from 1103 Pine street to 245 Security building.

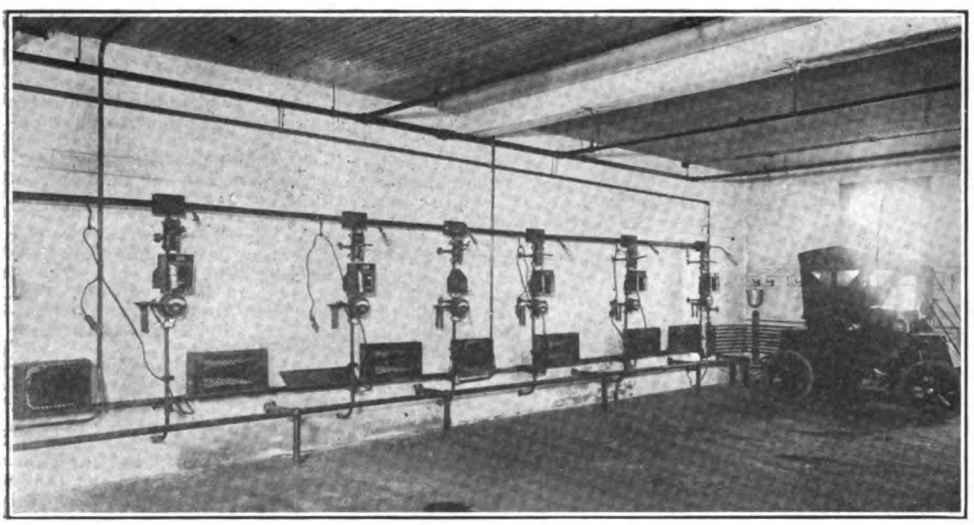
Superior Motor Sales Company, St. Louis, Mo., from 2007 Locust street to Wainwright building.

Wholesale Supply Company, New York City, from 30 Church street to Nyack, N. Y.

Sireno Company, New York City, from Taylor building to 18-20 Rose street.

Doyle Motor Car Company, Kansas City, Mo., from 3324-3326 Main street to Lexington, Mo.

Nelson & LeMoon, Chicago, Ill., from 605 West Monroe street to 849 North Kedzie avenue, Carpenter station.



Interior of the Garage Maintained by the Rochester Railway & Lighting Company, Rochester, N. Y.

Van Cleave Motor Car Company, St. Louis, Mo., from 5795 McPherson street to care Van Dorn Electric Tool Company, Cleveland, O.

Empire Auto Repair Company, Chicago, Ill., from 1307 Wabash avenue to 4304 Forestville avenue.

J. W. Rentz Auto Company, Cleveland, O., from 2067 West 85th street to 2033 North 89th street.

C. L. Shiver, St. Louis, Mo., from 2300 St. Charles street to care St. Louis Hide and Tallow Company.

Fred R. Jenkins & Co., Chicago, Ill., from 112 West Adams street to 72, same street.

Sterling Motor Sales Company, Cleveland, O., from 2158 East Ninth street to 420 Williamson building.

A. W. Blanchard, Brooklyn, N. Y., from 342 Flatbush avenue to 101 Liberty street.

Lincoln Garage, Brooklyn, N. Y., from 47 Lincoln street to 126 Sterling place.

Ira F. Trautman, Brooklyn, N. Y., from 131 Sixth avenue to 227 Flatbush avenue.

G. W. Hunter, East Chicago, Ill., from 4721 Forsyth street to Hammond, Ind.

Barger Auto Company, Cleveland, O., from 1680 Euclid avenue to 3011, same street.

Foley Auto Truck Company, Cleveland, O., from 5210 Euclid avenue to 707 Long avenue.

Barnes Auto Company, Cleveland, O., from 5400 Euclid avenue to 11,406, same street.

Clarence Malin, Cleveland, O., from Citizens building to 1914 Euclid avenue.

Universal Tire Repair Company, Buffalo, N. Y., from 77 Edward street to 22 Summer street.

Northern Garage, Buffalo, N. Y., from 106 College street to 77 Virginia place.

Liberty Radiator Company, New York City, from 354 West 50th street to 117 West 51st street.

Edward Street Garage, Buffalo, N. Y., from 79 Edward street to 27 Summer street.

American Vulcanising Works, Syracuse, N. Y., from 313 North Salina street to 316 Montgomery street.

Racine Boat and Auto Company, Detroit, Mich., from 253 Jefferson street to 140 Hendrie street.

Woods Electric Garage, Detroit, Mich., from 344 Jefferson street to 19 Selden street.

John E. O'Neill, Lawrence, Mass., from 444 Essex street to 290, same street.

E. E. Whipple, Providence, R. I., from 6 Broadway to 322 Broad street, Elmwood station.

W. E. Cheever Company, Providence, R. I., from 84 Supreme street to 84 Sprague street, Elmwood station.

Lister, Smith & Walsh Company, Providence, R. I., from 13 Dorrance street to 37 Chestnut street.

W. B. Hollander, Providence, R. I., from 35 Snow street to 314 Broad street, Elmwood station.

Trinity Square Garage, Providence, R. I., from Trinity square to 87 Weybosset street.

Maxwell-Briscoe Motor Company, St. Louis, Mo., from 306 North 12th street to 3950 Olive street.

International Motor Company, Cleveland, O., from 1620 Walnut street to New Amsterdam street.

Mercer Automobile and Supply Company, Cleveland, O., from 6010 Euclid avenue to Youngstown, O.

Columbus Auto Brass Company, Columbus, O., to 767 North Fourth street.

W. A. Farmer, Terre Haute, Ind., from 669½ Wabash street to North Terre Haute, Ind.

James Cunningham Son & Co., St. Louis, Mo., from 2018 Locust street to Chicago, Ill.

R. I. Coach Company, Cleveland, O., from 1803 Prospect street to Box 108.

Buckeye Garage and Sales Company, Cleveland, O., from 6112 Euclid avenue to P. O. Station B.

Harry H. Kendall, Providence, R. I., from 139 Stanwood street to 773 Broad street, Elmwood station.

Fred E. Gilbert & Co., Jacksonville, Fla., from 925 Main street to Box 1147.

MacKay Manufacturing Company, Boston, Mass., from 185 Amory street, to Box 131, Jamaica Plain station.

Peleg Brown Company, Providence, R. I., from 83 Aborn street to Box 10, Narragansett Pier, R. I.

James D. Rourk, Brooklyn, N. Y., from 1170 Bedford avenue to 641 Laurel avenue, Bridgeport, Conn.

Empire City Auto Company, Brooklyn, N. Y., from 343 Wilbughty street to 33 St. Marks street.

Lamb-Daniel & Co., Detroit, Mich., from 712 Union Trust building to 1825 Dime Bank building.

A. R. Riley, Riverside, Cal., to 200 South Hudson street, Pasadena, Cal.

Asadean Gauge Manufacturing Company, Syracuse, N. Y., from Industrial Trust building to Box 393.

Kolb Sales Company, New York City, from Broadway and 58th street to 30 Church street.

Tingue, Brown & Co., New York City, from 64 Reade street to 120 East 25th street.

Batcheller Rubber Manufacturing Company, New York City, from 112 Hudson street to 1612 Broadway.

J. L. Petithomme, Oakland, Cal., from 1129 East 14th street to Peters place, Seaview, Sonoma county, Cal.

L. B. Repair Company, New York City, from 225 West 57th street to 1920 Broadway.

Millward & Cook, New York City, from 208 West 124th street to 708 Washington street.

Lincoln Garage, New York City,, from 213 East 47th street to 64th street and Broadway.

Gns Lind & Co., New York City, from 231 East 47th street to 423 East 76th street.

Ewing Auto Repair and Rental Company, St. Louis, Mo., from 2015 Locust street to 705 North Garrison street.

H. J. Koehler, Brooklyn, N. Y., from 120 Livingston street to 1709 Broadway, New York City.

Montgomery Motor Sales Company, Detroit, Mich., from 467 Woodward avenue to Boulevard and Mt. Elliott streets.

Palace Auto Station, New York City, from 208 West 124th street to 122nd street and St. Nicholas avenue.

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CONTEMPLATED BUILDING OPERATIONS.

NEW PUBLIC GARAGES.

Farrar & Downing, Dexter, Me., will have a new garage erected at a cost of $8000.

The Universal Paper Bag Company, Lambertville, N. J., is erecting a large building, which will include a garage.

Daniel E. Schunke, 405 Amherst street, Buffalo, N. Y., is to erect a two-story garage to cost $5000.

Burwell & Snodgrass, Parkersburg, W. Va., will erect a building to be occupied as a garage and repair shop by Dils & Stout.

The Chester Motor Car Company, Nashville, Tenn., is to have its garage building rebuilt.

Dr. E. P. Watkins, San Diego, Cal., is interested in a new public garage that is to be erected at a cost of $5000 on Fifth street.

John Chapek, San Luis Obispo, Cal., will erect a modern garage on the Warden ranch.

J. B. Kelley, San Francisco, Cal., will erect a seven-story garage at 1460 Market street.

Louis Pramontier, 68 Champlain street, Detroit, will have a garage erected on Columbia street at a cost of $5400.

J. W. Bancroft, Cedar Falls, Ia., is planning the erection of a garage and automobile building.

Parkhurst & Lavender, Webster City, Ia., is to erect a modern garage at a cost of $15,000.

George Schas, Fargo, N. D., is to erect a large modern garage on Ninth street.

John P. Snyder, Minneapolis, Minn., has permit and plans for the erection of a garage at 2116 Blaisdell avenue to cost $9000.

The Auburn Auto Company, Danville, Ill., is having a new garage built at 141 Walnut street. The building will be two stories high, 59 by 132 feet.

Redway & Smith, Cortland, N. Y., is to have a new garage built which will be 60 by 180 feet.

E. P. Joster, Baltimore, Md., will erect a public garage on Spring street. It will be one story in height and cost $5000.

C. Barry, Thief River Falls, Minn., is to have a garage and machine shop built.

Calvin Farnsworth is interested in the erection of a new garage at Bancroft, Mass.

The Loma Supply Company, Loma, Col., is having a new garage erected which will be equipped with modern conveniences.

H. H. Lughlin, Pittsburg, Penn., will have a new garage erected in the 14th ward at an approximate cost of $5100.

Fred Hatcher, Delta, Ia., is to have a new garage erected which will be 48 by 60 feet.

Peter J. Devine, New York City, will have a new garage erected on 170th street at a cost of $7500.

Arthur G. Morey, 9 South La Salle street, Chicago, Ill., will receive bids for erection of a one-story brick garage to cost about $16,000.

William F. Baker, Milford, Mass., has formed a company to erect a modern garage at a cost of $10,000.

Journigan & Sons, Norwalk, Cal., is having a new and modern garage built.

F. & E. Sweraldo, East Orange, N. J., will have a new garage built at 252 Central avenue at a cost of $15,000.

Anthony Myer, 1050 Hancock street, Brooklyn, N. Y., will have a new garage erected on Jefferson avenue at a cost of $10,000.

McGucken & Hyer, Tampa, Fla., is having a large modern garage erected on Governor street.

Henry Braden, Anheim, Cal., will erect a new garage on East Center street and install all modern equipment.

P. T. Boty, Sioux City, Ia., will erect a fireproof garage on 27th street.

The Riverside Motor Car Company, Riverside, Ia., is to erect a new modern garage. All new equipment will be installed.

Wiley & Russell, Greenfield, Mass., is having a new garage erected on Deerfield street.

Fry Bros., Columbia, Tenn., is to have a new garage erected on South Garden street at a cost of $5000.

C. W. Nevin, Palmyra, N. Y., is having plans and specifications estimated for the erection of a one-story garage, 32 by 120 feet.

Paul Thiesen, Rock Island, Ill., is having a new garage erected on Fifth avenue at a cost of $15,000.

Gillinder & Sons, Philadelphia, Penn., is to have a garage erected on State road.

Leo Lang, 185 Hemlock street, Brooklyn, N. Y., has had plans completed for a one-story garage, 50 by 30 feet, to cost $2000.

J. M. Harris, 193 Barksdale avenue, Memphis, Tenn., has been awarded the contract to erect a two-story garage at cost of $1500 for James H. Malone.

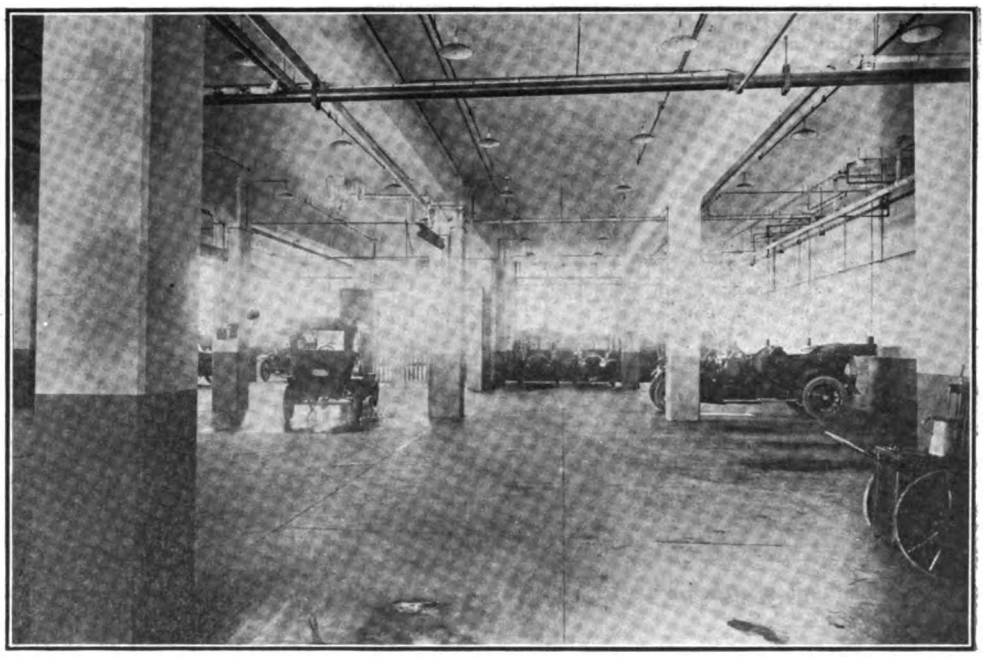
Christopher Hart, Philadelphia, Penn., is having plans and specifications estimated on for the erection of a garage and workshop at Gravers lane and Norwood street.

The Central Auto Company, Grand Rapids, Mich., will erect a two-story modern garage.

The Sun Company, 2429 South Halstead street, Chicago, Ill., is planning to build a one-story garage in the near future.

J. H. Brandt, 46th and Kingsessing avenues, Philadelphia, Penn., is having plans and specifications estimated for the erection of a garage.

The Consolidated Gas Company, Baltimore, Md., will store its automobiles in a new commercial garage for which application for erection at Monument and Grave streets has been made.



Section of the Ground Floor of the Gasoline Garage of the Edison Electric Illuminating Company of Boston, Illustrating the Location and Equipment of the Washstand.

Theodore Dickinson, St. Joseph, Mich., will build a one-story garage, 36 by 30 feet, at cost of $10,000.

F. C. Goodman, 253 The Arcade, Cleveland, O., is planning the erection of a one-story garage, 48 by 60 feet.

George F. Pelham, New York City, has prepared plans for the erection of a five-story brick and stone fireproof garage for the Ardsley Garage Company, to be erected at 159-165 77th street.

The Milledgeville Garage, Milledgeville, Ga., is to be erected solely for the benefit of the shareholders who have joined a co-operative movement to erect the building.

Mooney's Messenger Service, Port Huron, Mich., has had preliminary plans prepared for a two-story garage, 100 by 100 feet.

Horace W. Sellere, Philadelphia, Penn., will take revised bids on plans and specifications for a garage to be erected at Ardmore, Penn., for James B. Ladd.

A. W. Loe, Wheeling, W. Va., is planning an addition to his garage to be used as a repair shop.

B. F. Virdin, Philadelphia, Penn., has been awarded the contract for an addition to the garage of S. Klippinger at 3127 Huntingdon street, at a cost of $2100.

A. N. Overbaugh, Renwick, Ia., is to have a public garage erected.

The Bryant Motor Car Company, Waterloo, Ia., is to have a garage erected on West Fifth street. It will be 50 feet by 120 feet.

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The Ohio Auto Sales Company, Columbus, O., has awarded the contracts for the erection of a new office and salesroom at a cost of $17,000.

W. & F. Felbert, Cleveland, O., has been given the permit for the erection of a large garage at 7016 Lake avenue. It will be 80 by 112 feet and will cost $6000.

Baldwin Hegenhahn, Chicago, Ill., has plans and permit for the erection of a new one-story brick garage on Lincoln avenue, to cost $10,000.

B. C. Brown and F. D. Frazier, Dufur, Ore., are to build a garage in that city.

Wilson & Wentrow, Philadelphia, Penn., are having plans prepared for the erection of a garage and repair shop on 21st street.

The Atlantic Land Company, Pittsburg, Penn., is to build a two-story garage, 60 by 251 feet.

Louis Delmas, Philadelphia, Penn., is having plans prepared for the erection of a two-story brick garage, 25 by 35 feet.

R. F. White, Oxford, Penn., is having plans prepared for the erection of a two-story brick garage.

Reiff & Leinbach, Reading, Penn., is preparing to build a two-story garage, 40 by 80 feet.

James M. Montgomery, 112 Grant street, Newburgh, N. Y., is planning the erection of a two-story concrete garage, 60 by 125 feet, at a cost of about $18,000.

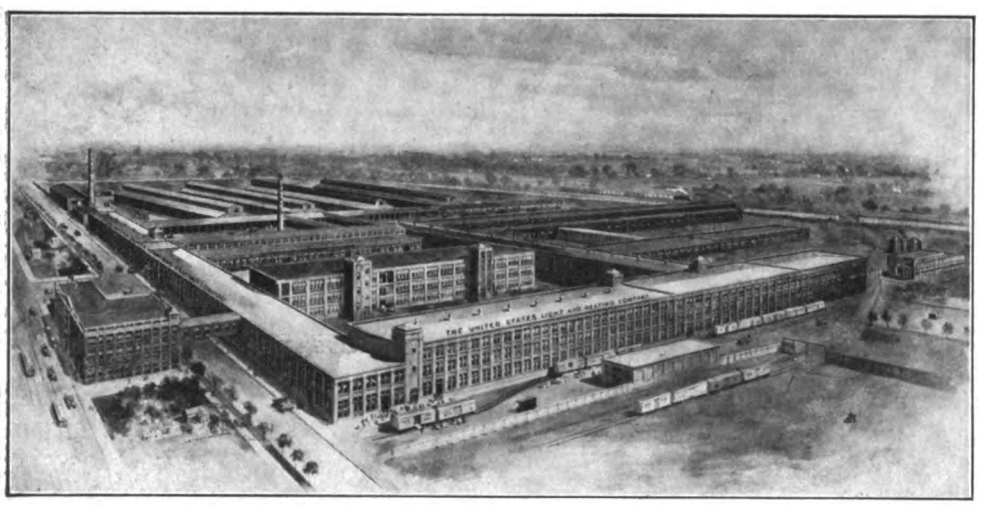
Dr. Samuel C. Blair, Philadelphia, Penn., has awarded the contract for the erection of a one-story brick garage at 2819 Fletcher street. It will be 91 by 57 feet and cost $2500.

Oliver Crosby, 804 Lincoln avenue, St. Paul, Minn., is planning to build a 2.5-story garage, to accommodate 49 cars, at a cost of $75,000.

D. S. Menasco was elected president of the American Motors California Company, San Francisco, Cal., at the recent meeting and the other officers elected are: Vice president, Marc Brunnell; treasurer and general manager, F. M. Bowman; secretary, H. M. Street.

Newton Hale, Des Moines, Ia., is to have a brick garage erected at Floris, Ia., on the Davis property.

J. A. Huhn and George A. Maro, Glendora, Cal., are planning to build a garage on Vermont avenue at cost of $5000.



The U-S-L Plant at Niagara Falls, N. Y., Claimed to Be the Largest Storage Battery Factory in the World.

ADDITIONS AND IMPROVEMENTS.

The Luling Auto Supply Company, Houston, Tex., is having extensive improvements made to its building.

The Empire Garage, Oroville, Cal., is being improved. Torrill & Francis is the proprietor.

The Eastport Garage Company, Belfast, Me., is having its garage repaired and altered.

M. R. Isaacs, Philadelphia, Penn., is having the building at 822 North Broad street altered and improved and will use it as a garage and salesroom.

The Hebb Motor Company, Lincoln, Neb., will have the old building on 17th street remodelled into a garage.

The Stoddard Motor Car Company, Springfield, Mass., is remodelling its office so as to give double the present space.

Belle B. TenEyck, Bridgeport, Conn., is having the garage on Fairfield avenue enlarged.

A. Ollendorff and Henry Hauman, Newark, N. J., will have the old building at 45 William street remodelled into a modern garage.

The Beason Auto Company, Franklin, N. H., is preparing to enlarge its garage on Main street.

The Jawers Auto Supply, Philadelphia, Penn., is to have its garage at 604 North Broad street enlarged.

Abraham Kaplan, Brooklyn, N. Y., is having his two-story garage on Eastern parkway enlarged.

The Rocky Ford Garage, Rocky Ford, Col., is having extensive improvements made.

Edwin U. Allfrey, Gloversville, N. Y., is to have extensive alterations and repairs made to his garage.

The Orange Automobile and Machine Company, East Orange, N. J., is planning the erection of a large addition. It will be two stories high, 50 by 100 feet.

The Sterling Automobile Company, Wilkesbarre, Penn., is to remodel and improve its new building at 54 North Pennsylvania avenue.

T. M. Fitzgerald, Lansdowne, Penn., has awarded the contract for alterations to his garage.

George DeWitt, North Easton, Mass., has secured the contract for an addition to the garage of Oliver Ames. Improvements will cost about $4000.

NEW PRIVATE GARAGES.

A. T. Nesmith, Boston, Mass., has been awarded a permit for the erection of a frame garage at 284 Faneuil street, Brighton district.

Jane F. Jacobs, Boston, Mass., has been awarded a permit for the erection of a brick automobile storage building at 18 and 20 Parker Hill avenue.

E. E. Atkinson, Minneapolis, Minn., is to erect a private garage at a cost of $9000.

Frank J. Garside, Atlantic, Ia., will erect a new modern garage on lower Chestnut street.

Charles D. Fisher, Hagerstown, Md., is to erect a new garage on North Mulberry street.

O. J. Newman, Chino, Cal., has been awarded the contract to erect a one-story brick garage on Central street, Los Angeles, Cal.

Mrs. Robert S. McCormick, Washington, D. C., is to have a large two-story garage erected at Massachusetts avenue and W street.

M. L. Sperry, Waterbury, Conn., has awarded the contract for the erection of a modern garage.

Arthur N. Park, Somerville, Mass., is to erect a new garage.

W. W. Enspach, Milton, Penn., has awarded the contract for the erection of a one-story garage, 20 by 30 feet, at a cost of $2000.

Dr. B. F. Hancock, Overbrook, Penn., is taking bids on plans for a one-story and basement garage, 23 by 33 feet, to cost approximately $2000.

Mabel H. Walker, 22 Breed street, Lynn, Mass., has awarded the contract for the erection of a one-story garage, 18 by 25 feet. The garage will be erected at Suncook, N. H.

Turner & Co., Philadelphia, Penn., have been granted a permit to erect a garage to cost $700 at 800 Chew street for S. F. Barke.

Charles Blackwell, Staunton, Ill., contemplates building a one-story garage at a cost of about $500.

Henry W. Longfellow, Boston, Mass., has received a permit for the erection of a brick garage at 320-322 Lincoln street, Brighton district.

James J. Jacobs, Boston, Mass., has received a permit for the erection of a frame automobile storage building at rear of 17 and 19 Hobart street, Brighton district.

George Crump, Sumner, N. J., is having specifications drawn for a new garage.

Jacob Bippus & Son, 116 East Illinois street, Evansville, Ind., will erect a one-story garage for D. S. Ragon at 1004 Upper First street.

Dr. J. M. Tufty, 2015 West Superior street, Duluth, Minn., has awarded a contract for the erection of a private garage to cost $1000.

Dr. Jesse Hilligas, 14 South Sixth street, Allentown, Penn., will erect a one-story garage, 10 by 15 feet, at a cost of $1500.

Thomas Duff, Philadelphia, Penn., has been granted a permit to erect a garage at 1212 East Venango street, to cost $150. Garage will be built for A. Brown.

W. J. McCabe, 2230 Woodland avenue, Duluth, Minn., has awarded a contract for the erection of a garage, 32 by 55 feet, to cost $5000.

Adam H. Cormack, 368 Richmond avenue, Buffalo, N. Y., will build a private garage.

C. H. Ruppert, 1700 Perkiomen avenue, Reading, Penn., is to build a one-story garage, 30 by 15 feet.

Dr. L. J. Harris, 325 West Cortland street, Jackson, Mich., has awarded the contract for the erection of a garage.

C. Kieft, 3434 Grenshaw avenue, Chicago, Ill., has been awarded a contract to build a small garage by H. Hilton.

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RECENTLY ANNOUNCED 1914 MODELS.

McFarlan—McFarlan Motor Car Company, Connersville, Ind. Six-cylinder. Motor, T head, en bloc, four-inch bore, six-inch stroke. Mea magneto. Stromberg model G3 carburetor. Centrifugal water pump, electric generator and air pump on left side of motor. Multiple disc clutch. Three-speed selective transmission. Full floating rear axle. Underslung three-quarter elliptic rear springs. Left hand drive, centre control. Two-passenger roadster, seven-passenger touring, four-passenger coupe and seven-passenger limousine. Prices, $2590 to $4000.

Oakland—Oakland Motor Car Company, Pontiac, Mich. Model 35 four-cylinder, model 43 four-cylinder and model 48 six-cylinder. Model 35 continued with changes largely in the nature of refinements in design and equipment. Model 43 retains the same general outward appearance of the old model 42. Larger motor, 4.25-inch bore and 5.25-inch stroke, instead of 4.125 by 4.75. Model 48 is new and is designated a little six. Motor, 3.5-inch bore and five-inch stroke, L head, cast en bloc; four main crankshaft bearings of ample size; double exhaust manifold, and inlet manifolds of special Oakland design. Delco combined ignition, lighting and starting system. Leather faced cone clutch. Three-speed selective transmission. New special control lever bolts to rear of gearbox. Semi-floating rear axle. New method of brake adjustment. Model 35 as touring car and roadster. Models 43 and 48 as touring car, cabriolet, coupe and sedan. Prices, $1150 and $1200 for model 35; $1785 for the others.

Jeffery—Thomas B. Jeffery Company, Kenosha, Wis. Formerly Rambler and Cross Country. New throughout. Two models, a four and a six. Motors the same dimensions, 3.75-inch bore, 5.25-inch stroke; L head, cast en bloc on the four and in pairs on the six. Rayfield carburetor. Bosch magneto. Inverted cone clutch, fitted with clutch brake. Four-speed gearset with centre control. Left hand drive. Floating annular ball bearing rear axle. U. S. L. electric system. Power tire pump. Four has wheelbase of 116 inches and tires, 34 by four inches; six has 128-inch wheelbase and tires, 36 by four. Four in roadster, five-passenger touring and sedan, also two-passenger coupelette. Six in five and six-passenger touring, sedan and limousine. The prices range from $1500 to $3700.

Mitchell—Mitchell-Lewis Motor Company, Racine, Wis. Three chassis, two sixes and a four. T head motors. Four and larger six have 4.25-inch bore and seven-inch stroke, while smaller six has same bore and six-inch stroke. Remy ignition. Full floating rear axle. Seven-eighths elliptic springs. Left hand drive, centre control Additional equipment. Four in two, four and five-passenger bodies; little six in the same and a seven-passenger; big six, seven-passenger only. Prices, four, $1595; little six, $1995; big six, $2350.

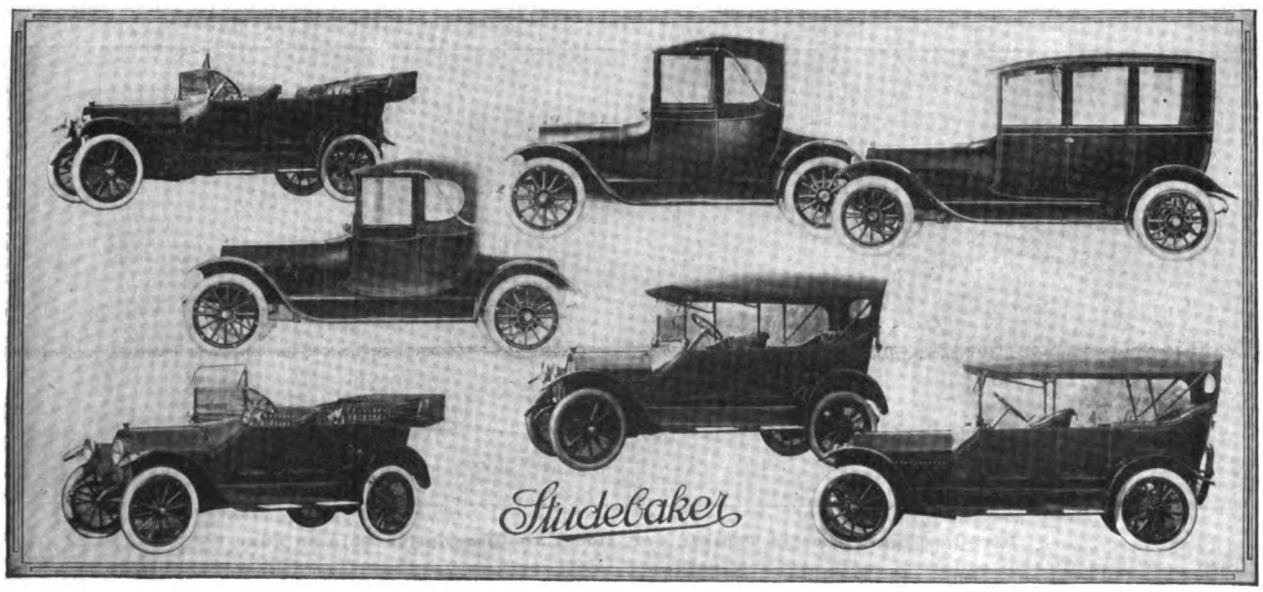
Metropol—Metropol Motors Company, 1926 Broadway, New York City. Roadster. New. Motor, four-cylinder, four-cycle, water-cooled, vertical, T head, cast en bloc; 4.25-inch bore, 7.875-inch stroke, said to develop 90 horsepower under brake test. Large valve diameter, 2.5 inches. Lubrication, combined force feed and splash. Three-speed selective transmission. Semi-elliptic springs. Artilery wood wheels, fitted with 33 by four-inch tires on Stanweld rims. Wheelbase, 115 inches, tread 56. Price, $1350.

Ohio—Crescent Motor Company, Cincinnati, O. Model Royal and 4-35. Former has a six-cylinder motor, four-inch bore and six-inch stroke, multiple disc clutch, four-speed transmission, full floating rear axle, left hand drive, centre control. Latter has four-cylinder motor, 4.25-inch bore and 4.75-inch stroke; multiple disc clutch, three-speed transmission, full floating rear axle, right hand drive, inside control. Both with five-passenger touring car bodies. Prices, four, $1275; six, $1985.

Luverne—Luverne Automobile Company, Luverne, Minn. The big brown Luverne, self-starting six. Motor rated at 50 horsepower; unit power plant. Bosch magneto. Rayfield carburetor. Multiple disc, dry plate clutch. Selective transmission. Full floating rear axle Wheelbase 128 inches. Tires, 36 by 4.5 inches, on Baker demountable rims. Pneumatic starting system, four-cylinder air compressor also supplying air for tires. Double lighting system. Five and seven-passenger touring bodies. Price, $2500.

Dorris—Dorris Motor Car Company, St. Louis, Mo. Model I. Five and seven-passenger touring car. Motor, four-cylinder, vertical, water-cooled, valve-in-the-head type, cast in pairs, 4.375-inch bore, five-inch stroke. Greater accessibility of camshaft gears, bearings and motor starter. Larger valve diameter, three inches instead of 2.25. Flechter carburetor. Bosch magneto. Westinghouse electric lighting and starting system. Special Dorris dry plate clutch has more plates. Larger tires, 26 by 4.5 inches, mounted on Stanweld rims. Left hand drive, centre control. Prices, five-passenger, $2500; seven-passenger, $2550.

Speedwell—Speedwell Motor Car Company, Dayton, O. This company states that the previous announcement in these columns created an erroneous impression, in that wire wheels (make not specified) can be supplied at an additional charge of $100, and 37 by five-inch tires are not supplied on the five-passenger models listing at $2850. Larger tires, together with extra seats, make a seven-passenger car, which lists at $2950.



Some of the New Body Designs Fitted to the Studebaker 1914 Models, Including Landau-Roadster, a Convertible Type of Attractive Lines.

Empire—Empire Automobile Company, Indianapolis, Ind. Model 31. Five-passenger touring car. Motor, four-cylinder, water-cooled, L head, with cylinders cast in pairs; bore, 3.75 inches; stroke, 4.5. Carburetor, model H Holley. Ignition, high-tension Eisemann magneto with fixed spark. Lubrication, combined splash and pressure feed. Cooling, thermo-syphon. Clutch, disc and ring. Transmission, selective, three speeds forward and reverse. Semi-floating rear axle. Front springs, semi-elliptic; rear, three-quarter scroll elliptic. Wheelbase lengthened to 110 inches. Tires, 32 by 3.5 inches. Right hand drive, centre control. Price, $900.

Studebaker—Studebaker Corporation, Detroit. Two chassis, a four and a six. Former fitted with two-passenger landau-roadster and touring bodies; latter with touring, landau-roadster and sedan. Motors have same bore and stroke, 3.5 by five inches. Two-unit electrical system replaces single member. Current supplied by LBA battery, also utilized for ignition, in connection with Remy distributor. Specially designed Schebler carburetor. Improved transmission. New clutch trunnion ring lubrication. Underslung elliptic springs at the rear. Left hand drive, centre control. Disappearing auxiliary seats on the seven-passenger six. Landau-roadster, a new type, copied from the design by Salmon & Sons, an English body builder. Prices, $1050 to $2250.

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AGENCIES APPOINTED DURING THE MONTH.

GASOLINE PLEASURE CARS.

Apperson—Mann Motor Car Company, Pine Bluff, Ark.; Co-Operative Motor Car Company, 918 Main street, Buffalo, N. Y.

Auburn—Northwestern Automobile Company, Minneapolis, Minn.

Buick—Winthrop Motor Car Company, Winthrop, Minn.; Martin H. Schmidt, Xenia, O.; Taxter & Cawood, Central avenue, Tarrytown, N. Y.; C. D. Clement, Medford, Ore.; Hiram Wever, Portsmouth, N. H.; Geraghty Motor Company, Woburn, Mass.; Leroy Dobyns, Hilliards, O.; George Birum, Osage, Ia.

Cadillac—B. H. Wiethorn, Monona, Ia.; O. G. Caton, Independence, Kan.; Greenlease Company, Joplin, Mo.

Chalmers—W. J. Friel, Portsmouth, O.

Chandler—Young & Richards, Alpine, Tex.; Jos. De Bona, Eagle Pass, Tex.; Tri-State Motor Car Company, El Paso, Tex.; Chandler Motor Car Company, Fort Worth, Tex.; White Motors Company, Kansas City, Mo.; Lozier Company of San Antonio, San Antonio, Tex.; E. T. Clark, Seattle, Wash.; Major Automobile Company, Montreal, Can.

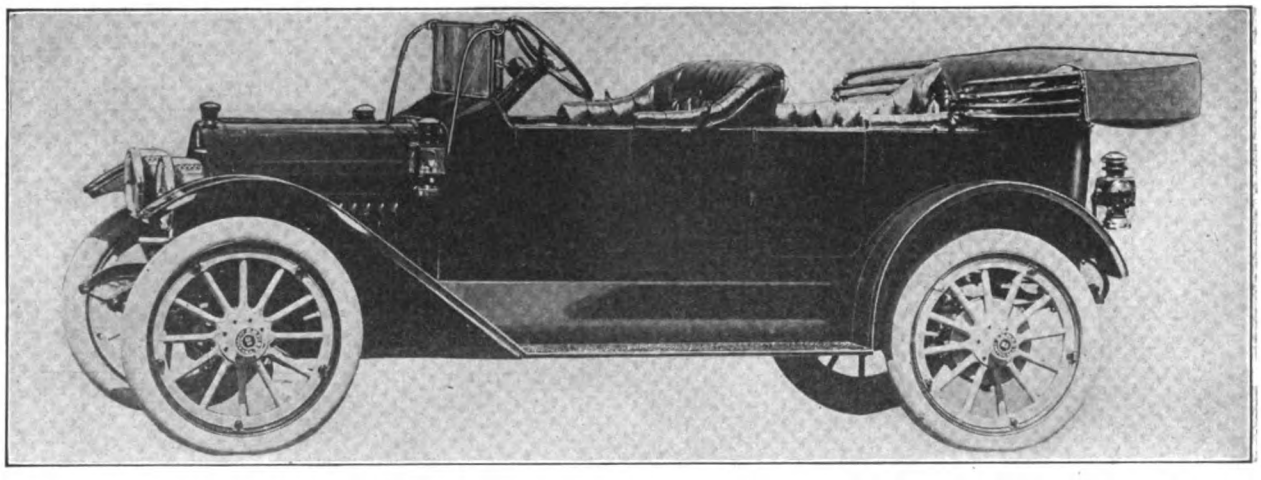
Chevrolet—Southwest Motor Company, Kansas City, Mo.; Nieburg Manufacturing Company, Wright City, Mo.; W. A. Oldfield, Des Moines, Ia.; F. F. Wentworth, Dover, N. H.; J. W. Ward, East Orange, N. J.; Watuppa Auto Company, Fall River, Mass.; James Parkhill, Flint, Mich.; Garden City Garage, Garden City, L. I., N. Y.; Metz Garage, Grand Rapids, Mich.; Ellis Car Company, Greenville, S. C.; West Side Motor Company, Hamilton, O.; G. Breckenbridge & Son, Heuvelton, N. Y.; William Small Company, Indianapolis, Ind.; F. E. Gilbert Company, Jacksonville, Fla.; E. M. Hottenstein, Lebanon, Penn.; Wade & Dunton, Lewiston, Me.; G. Caruso & Co., Logansport, Ind.; C. W. DuPre, Marietta, Ga.; Cloverland Auto Company, Marquette, Mich.; Minnesota Motor Car Company, Minneapolis, Minn.; Montgomery Carriage Works, Montgomery, Ala.; Frank Andrews, Monticello, Ind.; Johnston & Co., Morris Plains, N. J.; Cumberland Motor Company, Nashville, Tenn.; Knickerbocker Garage, New Bedford, Mass.; D. H. Brown, New Bloomfield, Mo.; J. P. Cook, New Castle, Penn.; Thompson & Edwards, New Orleans, La.; Republic Motor Company, New York City; Roethke-Carver Company, Norfolk, Va.; Doty & Hathaway, Omaha, Neb.; I. W. Phillips & Sons, Orlando, Fla.; Gem City Auto Exchange, Quincy, Ill.; T. J. Byrne, Rutland, Vt.; Knight Motor Car Company, San Antonio, Tex.; Morse & Carll, Sanford, Me.; Goodell & Kolberg, St. Joseph, Mich.; Kardell Motor Car Company, St. Louis, Mo.; Bunker & Reopelle, Springfield, Mass.; J. H. Shultz, Staunton, Va.; S. B. Grove, Stephens City, Va.; American Garage & Timer Company, Suffolk, Va.; West Coast Auto Company, Tampa, Fla.; Punnell Auto Sales Company, Toledo, O.; Henderson Motor Car Company, Washington, D. C.; R. W. Tyrell, Waterbury, Conn.; Miller Auto Company, Waterloo, Ia.; F. S. Howard, Worcester, Mass.; Wellman Motor Car Company, Ashland, Ky.; Johnson Motor Car Company, Atlanta, Ga.; W. E. Markle, Big Flats, N. Y.; O. W. Heatwole, Bristol, Tenn.; Lampher Carriage & Auto Company, Carthage, Mo.; G. B. Sprowls, Claysville, Penn.; Hamilton Motor Car Company, Cleveland, O.; C. T. Mains, Denver, Col.; Chevrolet Motor Company, Boston, Mass.; J. Rath, Buffalo, N. Y.; L. F. Wentzel, Batavia, Ill.; Reed & Johnson, Coldwater, Mich.; Southwestern Motor Sales Company, Dallas, Tex.; J. P. Sloterbeck & Son, Fayette City, Penn.

Colby—W. A. McCellum, 208 11th street, Des Moines, Ia.

Cole—Automobile Company of Philadelphia, Philadelphia, Penn.; C. H. Shubert & Son, Akron, O.; H. G. Butterfield, Ashland, Ore.; Nelson Zapf Auto Company, Astoria, Ore.; Adams & Son Gro. Company, Chillicothe, Mo.; G. H. Dean & Co., DeKalb, Ill.; Warren Ellis, Emporia, Kan.; Garner Automobile Company, Garner, Ia.; Gastonia Garage Company, Gastonia, N. C.; M. J. Bliss, Hartford, Conn.; W. T. Hutcheson, Hempstead, N. Y.; Walter Flessel, Huntington, N. Y.; Bingham Implement Company, Indian Head, Sask.; F. A. Bibly, Kingston, Ont.; Harry H. Perrin, Mankato, Minn.; J. Katzenstein, Marietta, O.; Nelson Iron Works, Marshfield, Ore.; A. S. Dixon, McMinnville, Ore.; James T. Berry, Medicine Hat, Alb.; Rosseau Bros., Montreal, Que.; W. H. Moore, Moro, Ore.; Rohrs & King, Napoleon, O.; Bradford Auto Sales Company, New Haven, Conn.; Oblong Auto Company, Oblong, Ill.; F. B. Parker, Ogdensburg, N. Y.; Sullivan Bros., Oregon City, Ore.; Elbert Tappan, Oyster Bay, L. I., N. Y.; Cole Motor Company, Peoria, Ill.; A. R. Hoover, Portage La Prairie, Man.; Tourist Taxi Garage, Port Arthur, Ont.; Owners Garage Company, Prince Albert, Sask.; Gardner Garage & Motor Car Company, Rockville Centre, L. I., N. Y.; H. W. Chubb, Schenectady, N. Y.; James A. Johnson, Shelby, Mont.; F. B. Porter, Silver Creek, N. Y.; J. G. Maxwell, Swift Current, Sask.; Dr. C. A. Taylor, Tacoma, Wash.; J. J. Wells, Uniontown, Wash.; Owens Auto Company, Albany, Ga.; C. E. Gates, Medford, Ore.; Brook Auto Company, Wellsburg, W. Va.; J. H. Marsh, Vancouver, Wash.

Detroiter—W. H. McIntyre, 307 Tenth street, Toledo, O.; M. D. Coate, Cleveland, O.; Henry Leigh & Co., Little Rock, Ark.; Harvey & Regan, Julialetta, Idaho, and Oakesdale, Wash.

Ford—J. P. Wise Mercantile Company, Hazlehurst, Miss.; Radsdale Auto Company, Russellville, Ark.; Johnson Automobile Company, St. Louis, Mo.; Daniel F. Sullivan, Manchester, N. H.; Spinner, Wolf & Evans, Waukesha, Wis.; D. C. Cain, Columbus, O.; Collingswood & Edwards, Findlay, O.; Bertrau & Fridely, Lima, O.; Boone-Skinner Auto Company, Portland, Ore.; Eastwick Motor Company, Baltimore, Md.



Five-Passenger Empire Touring Car, Model 31—Descriptive Data on Page 19.

Franklin—L. A. McKay, Minneapolis, Minn.; Herbert E. Seeley, Springfield, Mo.; Larson & Struble, New Hampton, Ia.; Akron Auto Garage Company, Akron, O.

Garford—Gapen Motor Company, St. Louis, Mo.

Grant—Frank Johnson, Eureka, Cal.; Mason Roth, Pulaski, Tenn.; Garcau Motor Company, Montreal, Que.

Havers—K. C. Pardee, 1860 Broadway, New York City.

Haynes—G. G. Alexander, Greenville, Miss.; Davis-Turney Automobile Company, Dallas, Tex.; Wilfred Sellers, Elwood, Ind.; H. E. Kepler, Akron, O.; Boyd & Kappler, Evansville, Ind.

Henderson—J. C. Ryan, Spokane, Wash.; William Dunn, Wapping River, Neb.

Herreshoff—Allshouse & MacDowell, Portland, Ore.; Eugene F. Wilcox, Albany, N. Y.; Athol Auto Station, Athol, Mass.

Hudson—Kroegel & Parsel, Crestline, O.; Leroy Dobyns, Hilliards, O.; Gage Auto Company, Logan, O.; C. C. Stoltz, Marion, O.; Southern Motors Company, Louisville, Ky.

Hupmobile—Greer-Robbins Company, 12th and Flower streets, San Francisco, Cal.; Balzer & Balzer, Wheeling, W. Va.

Imperial—Des Moines Imperial Company, Des Moines, Ia.

Jackson—Monk Implement Company, Bellville, Ill.; G. C. H. Bellmeir, Mayestown, Ill.; Ringe & Barklage, St. Charles, Mo.

Jeffery—Centaur Motor Company of Illinois, Chicago, Ill.; Reeke-Osmond Motor Car Company, Milwaukee, Wis.;

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Jeffery Auto Sales Company, San Francisco, Cal.

King—R. M. Allen Motor Sales Company, Cleveland, O.; Andrew H. Ekbergh, Oxford, Mass.

KisselKar—W. S. Mattox, Greenville, Tex.; Oliver-Nussbaum-Scarf Company, Grosbeck, Tex.; Dilley Engineering Company, Pine Bluff, Ark.; L. H. Church & Co., Rio Vista, Cal.; Davies-Leavitt Company, San Diego, Cal.; E. H. McMillan, Vacaville, Cal.; George A. Arnold, Aurora, Ill.; G. W. Koons, Clarinda, Ia.; C. S. Weston, Newton, Ia.; W. G. Murphy, Berlin, Md.; Benjamin C. Trip, New Bedford, Mass.; W. A. Berens, Litchfield, Minn.; J. H. Carey, Adams, Minn.; C. W. Eckman, Mankato, Minn.; Grogan & Ritschen, Lake City, Minn.; Harrington Auto Company, Slayton, Minn.; J. Maki, Hibbing, Minn.; Shanley Auto Company, Morris, Minn.; D. U. Weld, Windon, Minn.; Dickenson Auto Company, Brookfield, Mo.; A. H. Stephens, Boonville, Mo.; Buford Auto Company, Virginia City, Mont.; Edward S. Gregg, Nebraska City, Neb.; E. A. Hansen, Decatur, Neb.; Irving Kerl, Oakland, Neb.; Jewett's garage, Claremont, N. H.; Robertson & Bennett, Keene, N. H.; Tom Pizinger, Olmitz, Kan.; E. V. Hargies, Everist, Kan.; S. H. Knapp, Clyde, Kan.; Newton Auto Company, Newton, Kan.; E. H. Sudendorf, Salina, Kan.; John H. Ashton, Trenton, N. J.; H. Ross Clark, 9 Ridgeview avenue, White Plains, N. Y.; George W. Henschel, Broadway and Woodland avenue, Bayside, L. I., N. Y.; Aleck Zaves, Greenport, L. I., N. Y.; Delisle & Stack, Walhalla, N. D.; W. E. Brown, Sapulpa, Okla.; J. Lyons, Okmulgee, Okla.; Sid. O. Hanger, Yankton, S. D.; W. G. Goodman, Tyler, Tex.; Longwell Auto Sales Company, El Paso, Tex.; Oleander Sales Company, Galveston, Tex.; George A. Collison, 181 St. Paul street, Burlington, Vt.; C. E. Silsby, St. Johnsbury, Vt.; George Beichl, Beaver Dam, Wis.; Menasha Motor Car Company, Menasha, Wis.; Frank Schmied, Columbus, Wis.; R. C. Tarrant, Sheridan, Wyo.; Imperial Garage Company, Edmonton, B. C.; D. S. C. Cousins & Cousins, Auckland, New Zealand; A. H. Amazeen, 271 Groveland street, Haverhill, Mass.; White Bros., Front and Orange streets, Wilmington, Del.; Wickersheim Implement Company, Fullerton, Cal.; Cobb-Evans Auto Company, Fresno, Cal.; E. P. Handen, Herman, Neb.

Lozier—Cutting Sales Company, Washington, D. C.; W. H. Barger Company, Cleveland, O.

Lyons-Knight—Hamilton Auto Company, Seattle, Wash.

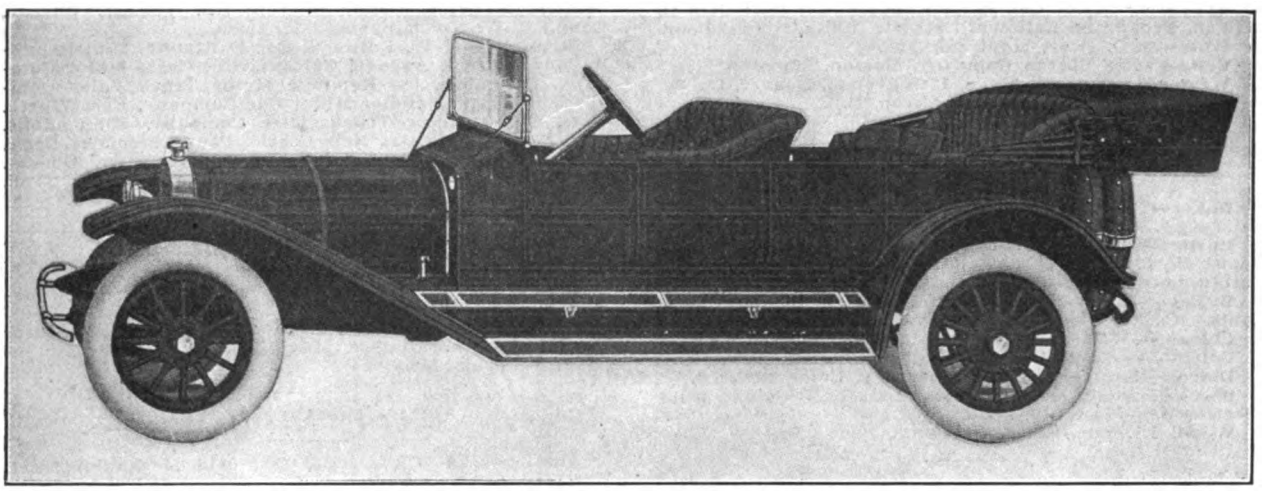
Marathon—Jesse A. Smith Auto Company, Milwaukee, Wis.; LaCrosse Auto Company, Minneapolis, Minn.

Marion—American Motors Company, Baltimore, Md.; American-Marion Sales Company, New York City; American Motors California Company, San Francisco, Cal.; Bowman & Libby, Minneapolis, Minn.; Pullman Auto Company, Pittsburg, Penn.; Central Auto Sales Company, Utica, N. Y.; B. F. Condon, Ocala, Fla.; L. C. Edelblut, Augusta, Ga.; Clarence B. Water, Mason, Ill.; Karl Mosbacher, Wichita, Kan.; Carroll Motor Car Company, Strasburg, Penn.; Van Brunt-Bleeg Company, Sioux Falls, S. D.

Maxwell—Pope-Hartford Company, Boston, Mass.; Lewis Conley Company, Green Bay, Wis.; Haney-Pastor Company, Kewaunee, Wis.; Bear & Jaberg Company, Monrow, Wis.; Otto & Newlands, Mauston, Wis.; A. E. Hamley, Oshkosh, Wis.; Leslie James, Portage, Wis.; W. A. Knaack Motor Company, Sheboygan, Wis.; Clavadatscher & Myers, Sauk City, Wis.; W. R. Childs, Wausau, Wis.

McFarlan—Howard Street garage, Lowell, Mass.; C. B. Swan, Oldtown, Me.; Middleboro Auto Exchange, Middleboro, Mass.; H. B. Pulcifer, 1147 Main street, Worcester, Mass.; S. M. Foote, Middletown, Conn.; Carthage Auto Company, 533 Conkey avenue, Rochester, N. Y.; Williams-Hasley Motor Car Company, Baum and Euclid streets, Pittsburg, Penn.; Wells Motor Car, 1312 Wick building, Youngstown, O.; Galion Motor Car Company, Galion, O.; H. D. Ammon, Potsdam, O.; H. E. Langdon, 3421 Montgomery road, Cincinnati, O.; O. R. Crutcher, Phoenix garage, Lexington, Ky.; J. J. Caffery, 304 West Breckenridge, Louisville, Ky.; J. D. Pellum, Brazil, Ind.; R. E. Stevenson, Muncie, Ind.; Hunter Auto Service Station, 321 South 4th street, Springfield, Ill.; D. Estaque, 210 West Court street, Jacksonville, Ill.; Meade McClatchey, 151 Main street, Canton, Ill.; R. E. Barrow, 758 North Edward street, Decatur, Ill.; J. L. Hoadley, Earlville, Ill.; Deibler Motor Car Company, 2637 Michigan avenue, Chicago, Ill.; Grand Avenue garage, 2713 Grand avenue, Milwaukee, Wis.; Buroff-Fuller Company, Watertown, Wis.; Green Bay Motor Car Company, Green Bay, Wis.; Waterloo Overland Company, 102 East Fifth street, Waterloo, Ia.; Jenkins & Co., 12th and Locust streets, Des Moines, Ia.; Hawkeye Motor Car Company, Burlington, Ia.; Hawkeye Motor Company, 114 Brady street, Davenport, Ia.; Electric Garage Company, 40th and Farnham streets, Omaha, Neb.; Mitchell Auto & Supply Company, Mitchell, S. D.; Collier-Reitz Motor Car Company, 3007 Arsenal street, St. Louis, Mo.; Louis F. Benton & Co., 1242 South Flower street, Los Angeles, Cal.; R. C. Merriam, First and Fir streets, San Diego, Cal.; J. C. Phelan, 1416 L street, Fresno, Cal.; J. W. Pike, 110 Inns of Court building, Vancouver, B. C.; Diamond Motor Company, 230 Sixth street, West, Calgary, Alb., Can.; Joseph Schwartz Company, 544 Baronne street, New Orleans, La.; T. Jefferson Fox, 110 Escolts street, Manila, P. I.; Roy W. Corbett, 126 Clay street, Jacksonville, Fla.; Catskill Auto Company, 106 Water street, Catskill, N. Y.; Hanby-Pullman Auto Company, Sodus, N. Y.; Central Machine Works, 613 Third street, Sioux City, Ia.; Fournier & Rodier, 724-726 St. Catherine street, West, Montreal, Can.; Dubuque Auto Supply Company, Sixth and Iowa streets, Dubuque, Ia.; L. D. McCall, 934 Equitable building, Denver, Col.; F. F. Engle, Spencer, Ia.; J. W. Pike, Vancouver, B. C.

Moon—H. L. Duncan, Columbus City, Ia.; Abadies garage, Austin, Tex.; Cherokee Motor Car Company, Bartlesville, Okla.; H. B. Patton & Son, Bloomington, Ill.; R. A. Winslow, Cedar Rapids, Ia.; F. G. Mohn, Leetsdale, Penn.



The Luverne Automobile Company's Big Brown Luverne Self-Starting Six—Described on Page 19.

Meteor—MacArthur-Zollars-Thompson Company, Minneapolis, Minn.

Metz—Milton Avenue garage, 1407 North Milton street. Baltimore, Md.

Oakland—J. T. J. Graves & Co., Salem, Ind.; Jacob Finkelstein, Bayshore, N. Y.; Miss Carrie E. Royce, Campton, N. H.; Premier Sales Company, Memphis, Tenn.; George B. Smith, Salem, N. J.; Stenger & Rohm, Sayville, L. I., N. Y.; Mechaley Auto Company, Stamford, Conn.; Frank B. Whitsen, Sycosset, L. I., N. Y.; Sampson Chauvin, Abbeville, La.; Hart Chinn, Beloxi, Miss.; Hiram Casseday, Brockhaven, Miss.; Broussard Hardware & Implement Company, Broussard, La.; C. K. Rafferty, Carrollton, Ill.; J. E. Haynes, Corinth, Miss.; J. B. Ratliff, Drew, Miss.; J. B. Williams, Fort Smith, Ark.; King & Miers, Grenada, Miss.; Riley Boykin, Hattiesburg, Miss.; Crawford & Shelton, Hot Springs, Ark.; Calcasieu Motor Car Company, Lake Charles, La.; L. E. Barr, Lexington, Miss.; W. W. Shannon, Macon, Miss.; W. H. Florentine, Meridian, Miss.; Denny-Bird Motor Company, New Orleans, La.; W. M. Scott, Jr., Tullula, La.; E. C. Hinds, Tupelo, Miss.; Ball Bros., Bushnell, Ill.; S. H. Tyler, Fountain Green, Ill.; Owen Sound garage, Owen Sound, Ont.; H. B. Harder, Owosso, Mich.; Phillips & Taylor, Pigeon, Mich.; Sumner Motor Car Company, Sumner, Miss.; W. T. Trusty, Water Valley, Miss.; C. England, Lapeer, Mich.; S. N. Shaffer, St. Johns, Mich.; Louis Koplin, Elizabeth, N. J.; Suffolk Electric Company, Huntington, N. Y.; J. R. Fanning, Port Jefferson, N. Y.; Heckerley & Vreeland, Pearl River, N. Y.; Laing Machine & Auto Repair Company, Plainfield, N. J.; Hewlett & Remsen, Roslyn, L. I., N. Y.; W. T. Trusty, Water Valley, Miss.; E. B. Smith, Winona, Miss.; Renzi Garage Company, Peabody, Mass.

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Oldsmobile—Mutual Auto Company, Duluth, Minn.
Overland—B. H. Wiethorn, Monona, Ia.; George Brown, Volga, S. D.; Harry L. Olive, Ephrata, Wash.; L. D. Moore, Walla Walla, Wash.
Packard—Southern Motors Company, Louisville, Ky.
Paige—J. E. Dougan, Iowa Falls, Ia.
Palmer-Singer—R. A. Partridge, Lewiston, Me.; R. T. McClain & Son, Springfield, Ill.; Avery Grain & Implement Company, Hale, Mo.; Peters Bros., Houston, Tex.; Klinger Company, Pittsburg, Penn.; C. W. Shields, Richmond, Va.; P. H. Booth, Petersburg, Va.; R. W. Goodrich, Rutland, Vt.; Consalus Auto Company, Albany, N. Y.; Gadbois, Ltd., Montreal, Que.
Premier—Hustis Bros., Milwaukee, Wis.
Pullman—H. E. Camp, Bradford, Penn.; Meyer Motor Car Company, Buffalo, N. Y.; J. L. Russell, Chicago, Ill.; M. D. Coate, Cleveland, O.; E. N. Hebert, Montreal, Can.; L. G. Osborne & Co., Oneonta, N. Y.; Johan Behrn, Orebro, Sweden; Genesee Motor Vehicle Company, Rochester, N. Y.; J. P. Fowler Manufacturing Company, Salt Lake City, Utah; Todd's garage, Toronto, Can.; Peter Welin, Worcester, Mass.; Interstate Automobile Company, Youngstown, O.
Read—Churchill & Schumacher, Minneapolis, Minn.
Regal—Burns & Houser, 342 Peachtree street, Atlanta, Ga.; Cairo Automobile Company, Cairo, Ill.; W. H. Barring, Sumner Hill, Ill.
Reo—Broad-Oak Auto Company, Columbus, O.; Brodie Electric & Auto Company, Manchester, N. H.; Palouse Hardware Company, Palouse, Wash.; Van Sleet-Schwartz Company, Pittsfield, Mass.; J. J. Wells, Uniontown, Wash.; Nieburg Manufacturing Company, Wright City, Mo.
Stearns-Knight—Argonaut Motors Company, San Francisco, Cal.
Stevens-Duryea—Pacific Motors Company, Portland, Ore.
Studebaker—J. W. Dwyer & Co., West Union, Ia.; Thorpe-Allen Motor Company, Kansas City, Mo.; Orin G. Wilson, Broad and Callowhill streets, Philadelphia, Penn.
Stutz—G. O. Desy, Montreal, Que.
Velie—Velie Boston Company, Boston, Mass.
Westcott—Frank P. Read, 12th avenue, Denver, Col.
White—West Hill garage, Akron, O.

ELECTRIC PLEASURE CARS.

Baker—Pioneer Automobile Company, San Francisco, Cal.
Borland—Borland Electric garage, Philadelphia, Penn.; Borland Electric Car Company, Los Angeles, Cal.; Totten Auto Company, Rock Island, Ill.
Buffalo—Electric Garage & Service Company, St. Louis, Mo.
Chicago—Wild Auto Company, Indianapolis, Ind.
Columbus—L. W. Pitcher, Minneapolis, Minn.
Detroit—Southern Motors Company, Louisville, Ky.
Ohio—Electric Auto Station, Hartford, Conn.; Ohio Electric Company, Louisville, Ky.
Woods Electric—W. E. Johnston, Peoria, Ill.

GASOLINE COMMERCIAL CARS.

Brown—Henry L. Hornberger, San Francisco, Cal.
Chase—Motor Sales & Service Company, Kansas City, Mo.; M. Morton, Columbus, O.; E. W. Gillespie, 606 Asylum street, Knoxville, Tenn.; C. L. Lade, Morristown, N. J.; H. P. Ford Machine Company, Crisfield, Md.; Bridges & Snow, Greenville, S. C.; Fred H. Haar & Son, Dale avenue and Bee road, Savannah, Ga.; H. D. Ewer, Ashland, Wis.; O. W. Halcher Company, Springfield, Ill.; E. L. Vineyard, Great Falls, Mont.; G. W. & J. J. Phillips, New London, Conn.; M. W. Bond Automobile Company, 4146 Olive street, St. Louis, Mo.; M. R. Adams, Meridian, Miss.; J. B. Magruder, Orlando, Fla.; Max Harff, Koln on Rhein, Germany; W. H. Allen, Jackson, Miss.; Robert Littrell, Beaver Lick, Ky.; Graham, Howe & Co., Lima, Peru; J. Sutton Brown, Kingston, Jamaica; Chase Motor Truck Sales Company, Charlotte, N. C.; R. L. Aspley, Denison, Tex.; H. H. Alvord, Sulphur Springs, Tex.; Bounds & Norsworthy, Waxahachie, Tex.; Barnes & Adams, Cleburne, Tex.; J. M. Booth, Mart, Tex.; W. W. Benson, Olney, Tex.; C. R. Coulter, Stephenville, Tex.; W. H. Childers, Abilene, Tex.; J. T. Dozier, Forney, Tex.; Claude Dowlen, Windon, Tex.; W. E. Dean, Richardson, Tex.; Blake Dellinger, Annona, Tex.; O. T. Engleman, Greenville, Tex.; Gray & Martin, Coleman, Tex.; W. L. Greenhill, Gainesville, Tex.; Griggers & Simpson, Grand Saline, Tex.; Hillsboro garage, Hillsboro, Tex.; Hooser & Colquitt, Corsicana, Tex.; L. W. Jones, Ferris, Tex.; E. L. Ladd, Vernon, Tex.; Jamison Hardware & Implement Company, Wichita Falls, Tex.; W. B. Man, Decatur, Tex.; R. L. Lucas, Grapevine, Tex.; C. L. Littlepage, Irving, Tex.; Lloyd Moore, Whitewright, Tex.; McClelland & Phillips, Marlin, Tex.; J. Morgan Automobile Company, Waco, Tex.; J. L. Newson, Jacksonville, Tex.; Peak & Loflin, Mineral Wells, Tex.; Quick Service garage, Weatherford, Tex.; O. J. Smith, McKinney, Tex.; G. C. Smith, Kaufman, Tex.; Sneed & Weidner, Wortham, Tex.; Taylor Hardware Company, Denton, Tex.; J. P. Walling, Thornton, Tex.
Commerce—Sparks Miller Motor Company, Los Angeles, Cal.
Dart—R. E. Fisher & C. E. Wilson, Columbus, O.
Federal—Coats Motor Car Company, Columbus, O.
Kelly—Neely & Ensor, Baltimore, Md.
Koehler—Robert Everett, Boston, Mass.; Norwich Auto Station, Norwich, Conn.; Sharon Inn garage, Sharon, Conn.; C. W. North, Springfield, Mass.
Republic—A. W. Fulton & Co., Baltimore, Md.; Republic Motor Truck Agency, Chicago, Ill.; Coats Motor Company, Columbus, O.; Republic Motor Truck Sales Company, Detroit; Chandler Motor Car Company, Fort Worth, Tex.; Chase Motor Truck Sales Company, Minneapolis, Minn.; E. E. Hileman, New Castle, Penn.; Mendoza Bros., New York City; Johnson-Danforth Company, Omaha, Neb.; Martin-Coulter Company, Pittsburg, Penn.; E. P. Bream, York, Penn.; A. J. Jackson, Syracuse, N. Y.
Selden—Jos. Schwartz & Co., New Orleans, La.
Stegeman—Gould Carriage Company, Albany, N. Y.; Ensign & Bates, Hudson, N. Y.; Stegeman Motor Truck Company, London, Ont.
Stewart—F. E. Avery & Son, Columbus, O.; R. A. McKee, Springfield, Mass.
Willys Utility—Groise Bros., Holyoke, Mass.; Motor Car Company, Baltimore, Md.; Missouri Motor Car Company, St. Louis, Mo.

STEAM PLEASURE CARS.

Stanley—James Pullar & Co., 5-13 Mechanic street, Hartford, Conn.

CYCLECARS.

Dayton—Harry Swensgaard Sales Company, Detroit.
Imp—E. P. Blake, Boston, Mass.; F. J. Berger, Eugene, Ore.; A. M. Beaver, Portland, Ore.
Volturette—H. J. Tucker, Vancouver, B. C.

NEW CONCERNS RECENTLY INCORPORATED.

CAR AND PARTS MANUFACTURERS.

Augustyn Rotary Valve Engine Company, Marshfield, Wis.; $10,000; to manufacture rotary valve engine; R. J. Strauss, G. E. Harrington, H. E. Hoerl.
Briskin-Wolsiffer Company, Indianapolis, Ind.; $10,000; to manufacture parts and accessories; J. H. Briskin, H. W. Bullock, C. C. Wolsiffer.
B. F. Wade Tire & Rubber Company, Los Angeles, Cal.; $50,000.
Sterling-Detroit Motor Company, Detroit; $105,000; to manufacture automobiles; H. Little, E. Finkensteadt.
Essex Motors Manufacturing Company, Newark, N. J.; to manufacture motors and supplies; W. H. Simpson, M. E. Huddeh, J. J. Coyle.
Sterling Spring Company, Cleveland, O.; $150,000; to manufacture automobile springs; F. C. Wood, E. D. Lindersmith, D. P. Osborne, H. F. Ehlert, J. A. Flajole.
Federal Rim Company, Detroit; $5000; to manufacture automobile wheels; A. H. Goss, H. W. Bailey.
Parker Carburetor Company, Boston, Mass.; $250,000.
Baxter-Frick Gear Cutting Manufacturing Company, Cleveland, O.; $25,000; gears; A. K. Baxter, William H. Frick, Vincent A. Taylor, Oswald M. Hoch, Mrs. Grace Barton.
Breese Motor Plow Company, Wapakoneta, O.; $100,000; manufacture motor driven vehicles; Robert A. Breese, G. R. Morris, David Lorbach, S. B. Everett, J. A. Hartford.
Boston Starter Company, Louisville, Ky.; $5000; H. W. Batson, G. A. Chrisman, G. Cary.
Tulite Auto Bulb Company, Detroit; $25,000; to manufacture automobile lamps; J. L. Lepper, James M. Richardson.
Freeport Tungsten Lamp Company, Hoboken, N. J.; $100,000; to manufacture lamps; H. J. Jaeger, R. H. Herschman, G. V. Williams.
Taximeter Register Company, Washington, D. C.; $300,000; registers.
Louisville Automobile Light Controlling Company, Louisville, Ky.; $10,000; to manufacture automobile headlights; B. D. Lake, N. G. Marks, James C. Stone, J. G. Harris.
Detroit Turbine Manufacturing Company, Detroit; $50,000; to manufacture gasoline engines, accessories, etc.; James F. Mylon, George E. Gowing, Peter H. F. Spies.
Rail & Auto Sundries Company, Chicago; $5000; to manufacture and sell motors of all kinds, railway and auto supplies and accessories; William W. Bishop, Raphael B. Jamison, William J. Anderson.

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Hawk Motor Car Company, Detroit; $50,000; to manufacture a cyclecar; F. S. Salter, Duane Tibbitts, W. W. McIntyre.

American Motor Wheel Company, Crawfordsville, Ind.; $600,000; to manufacture automobile wheels; W. H. Orren, S. C. Rowland, John V. Wilson.

Cameron Manufacturing Company, Orange, N. J.; $1,000,000; to manufacture and deal in motor vehicles and boats; F. S. Corlew, T. M. Steele, H. F. Parmelee.

Kalamazoo Motor Vehicle Company, Kalamazoo, Mich.; $35,000; Frank G. Clark and others.

S. S. Gay Company, Ottawa, Can.; $200,000; to manufacture motor vehicles, carriages, etc.; Simeon G. Gay, Chester T. Bangs, L. W. Nichols.

Oneida Motor Car Company, Oneida, N. Y.; $10,000; to manufacture auto trucks.

Oakbrook Motor Manufacturing Company, Wilmington, Del.; $250,000; W. F. Young, Perkiomen, Penn.; A. H. Yocum, Reading, Penn.; S. H. Kochel, East Greenville, Penn.; T. S. Doherty, Wilmington, Del.

The Auto-Ped Company, New York City; $1,000,000; to manufacture motor cars, trucks and boats; Joseph F. Curtin, Clarence E. Eaton.

Williams Self-Starter Manufacturing Company, Chicago, Ill.; $5000; automobile parts.

Woods Manufacturing Company, Fairfield, Conn.; to manufacture automobile lamps.

Reliance Buggy Company, St. Louis, Mo.; $200,000; Frank W. Edlin, A. T. Stevens, P. E. Ebreng.

DEALERS AND AGENTS.

Austin Safety Storage Company, Chicago, Ill.; $25,000; to deal in automobiles; George Delaney and others.

Palmer & Singer Motor Company of New England, Boston, Mass.; $25,000; president, E. A. McGrath, treasurer, Joseph M. Hurley, 60 Fenway; T. F. Hurley.

Clintwood Motor Company, Clintwood, Va.; $10,000; secretary, B. D. French.

Kauckey-Mysing Automobile Company, Laurel, Miss.; $10,000.

GARAGES AND REPAIR SHOPS.

L. P. C. Motor Company, Racine, Wis.; $250,000; Elbert B. Hand and others.

Coney Island Garage Company, Brooklyn, N. Y.; $500; to operate garage at Coney Island; Walter J. Kelsey, Arthur Fulder, Frederick Meyer.

Mystic Valley Garage, Winchester, Mass.; $25,000; Napoleon Goddu, William Goddu, George Goddu.

J. E. Newton Company, Fall River, Mass.; $50,000; garage; James E. Newton, Newton R. Gifford, Fred Cromley.

Parker Auto Repair Company, Dayton, O.; $5000.

Utility Garage Company, Brooklyn, N. Y.; $6000; to operate garage on Bedford avenue; Walter H. Rice, S. E. Miller, H. M. Rice.

Electric Garage Company, Fremont, Neb.; $5000; to operate a garage; Rudolph Schurman, Scott Wright, L. D. Wright, E. M. Schurman.

Suburban Garage Company, Wauwatosa, Wis.; $15,000; A. D. Warren, P. G. Warren, Delinda Krienitz.

North End Garage, Upper Montclair, N. J.; $50,000; C. R. Kobler, M. Kobler, E. Willis.

California Garage & Auto Brokerage Company, San Jose, Cal.; $25,000; W. E. Whitmore, N. E. Chirdaoine,

Factory of the Moon Motor Car Company, St. Louis, Mo., Maker of Moon Pleasure Automobiles.

Flannelly-Clarkson Auto Company, Louisville, Ky.; $2250; Charles C. Clarkson, T. P. Flannelly, E. J. Clarkson, M. H. Flannelly.

Pitts Motor Car Repair and Sales Company, Brooklyn, N. Y.; $24,000; Frank G. Pitts, George O. Walbridge and others.

Ohio Motor Company of Illinois, Chicago, Ill.; $5000; vehicles, parts and accessories; Joseph Slottow, Samuel C. Wood, Fred C. Churchill.

Dimond-Warren Motor Company, Quogue, N. Y.; $8000; to deal in automobiles and operate garage; James R. Dimond, Arthur C. Warren, Thomas Dimond.

National Auto Maintenance Company, Chicago, Ill.; $5000; to deal in motor cars; J. F. Kelley, R. G. Meicher, C. N. Addis.

Auto Tire Brokerage Company, Louisville, Ky.; $10,000; to buy and sell autos and tires.

Public Motor Car Company, Dayton, O.; $10,000; to buy and sell all kinds of automobiles; H. H. Williamson, R. J. Williamson, C. E. Borth, Brice Welsh, M. Kawen.

Tanner-Hower Manufacturing Company, Akron, O.; $50,000; to sell automobiles; Perry B. Tanner, M. Otis Hower, William T. Helfer, John Claude Stafford, John Johnsen.

Grand Center Motor Car Company, St. Joseph, Mo.; $5000; W. J. Hendler, H. R. Lewis, Louis Seigel.

Albertson Company of Philadelphia, Dover, Del.; $25,000; automobiles, etc.; George H. B. Martin, Camden, N. J.

Longwood Automobile Company, Chicago, Ill.; $12,000; to deal in automobiles.

Schildwachter Automobile Company, New York City; $30,000; automobiles and supplies; A. Sanderson, K. R. Norton, M. Schurman.

Imperial Motor Company, Boston, Mass.; $15,000; Frank P. Anthony, Henry U. Rogers, Roland Bailey.

Clare St. John, A. W. Morey, V. A. Scheller, board of directors for first year.

Los Robles Electric Garage Company, Pasadena, Cal.; $25,000.

Standard Garage Company, Great Falls, Mont.; $30,000.

Adolphus Auto Rent Company, Dallas, Tex.; $15,000; garage; T. B. Bower, C. L. Bower, T. A. Pitman.

Worthington Garage Company, Worthington, O.; $30,000; George W. Wing, Frank P. Welling, Madeline Wing, Lillian J. Welling, D. H. Welling.

Chicago Commercial Garage Company, Chicago, Ill.; $2000; H. F. Warner, R. H. Hodge, M. W. Joy, Raymond Fahs, V. A. Martin.

ACCESSORY AND SUPPLY HOUSES.

Artillery Auto Tire Protector Company, Wilmington, Del.; $100,000; A. J. Coppock, Indianapolis, Ind.; J. C. Wellington, H. C. May, Pittsburg, Penn.

Kero-Vapor Company, Baltimore, Md.; $40,000; kerosene fuel devices; Charles E. Trace, J. S. Strouse, A. S. Owens.

Private Motor Service Company, Chicago, Ill.; $10,000; parts and accessories; Charles S. Bougher, Walter H. Eckert, Warren B. Buckley.

Ampere Supply Company, Ampere, N. J.; $100,000; electrical appliances; A. K. Solden, Jr.; F. F. Townsend, R. R. Mitchell.

Ford Auto Supply Company, Chicago, Ill.; $10,000; supplies and accessories; Harry Okin, Thomas J. Bagley, James S. McClellan.

Yorkville Auto Supply Company, New York City; $10,000; tires, auto goods, etc.; Sydney Richman, William.

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Yates, A. E. Stacy, 125 Lexington avenue, New York City.

Quality Auto and Rubber Supply Company, Philadelphia, Penn.; $25,000; S. C. Seymour, Camden, N. J., and others.

Cook & Weckerlin, Chicago, Ill.; $1000; automobiles and accessories; Dexter Stocking, Thad M. Graves, Elmer E. Holmes.

Cotta Gear Company, Rockford, Ill.; $10,000; accessories and parts; Charles Cotta, L. P. Cotta, H. B. North.

Mutual Motors Stores Company, Cleveland, O.; $10,000; motor supplies.

UNCLASSIFIED.

San Angelo Motor Club, San Angelo, Tex.; C. R. Webb, H. E. Jackson, A. B. Sherwood.

American Motorists' Protective Corporation, New York City; $250,000; H. G. Reed, New York City; H. L. Sharp, Rutherford, N. J.; J. W. Reilly, Newark, N. J.

Taxicab Service Company, Springfield, Mass.; $25,000; president, John E. Costello; treasurer, Albert E. Williamson; clerk, Frank E. Nichols.

Gasolean Company, Detroit; $7000; Fred E. Holmes, Almon C. Holmes, John B. Whelan, William L. Wild, J. Edward Bland, Cecil R. Crary, William L. Carpenter, Flavius L. Brooke.

Pop's Auto and Taxi Service, Ltd., New Orleans, La.; $5000; William P. Johnston, M. R. Johnston, G. R. Guillemet.

Automobile and Cycle Trades Association, Chicago, Ill.; $5000; L. E. Osborne, J. Milton Tait, W. W. Love.

Carl Electric Vehicle Company, Toledo, O.; $300,000; L. M. Hinders, W. G. McAleeman, R. E. Robertson, David L. Johnston, M. C. Myers.

Metropolitan Appliance Company, Chicago, Ill.; $1000; George W. LeVin, W. F. Cummings, W. J. Maher.

The Marshall Morgan Co-Operative Rubber Tire Company, East Liverpool, O.; $500,000.

The Lewiston Manufacturing Company, Lewiston, Mont.; $40,000; compound for auto tires.

Autocrat Manufacturing Company, Buffalo, N. Y.; $50,000; motorcycles, sidecars, etc.; F. Maytham, Collins, N. Y.; F. S. Mott, A. W. Plumley.

Flexible Rim Tire Company, New York City; $25,000; tires and motor vehicles; C. E. Clark, E. G. Ofeldt, A. H. Favsur.

The National Tire & Rubber Company, East Palestine, O.; $150,000.

Miller Inner Tire Core Company, Washington, D. C.; $260,000; George B. Rose and others.

Buttola Manufacturing Company, New York City; $450,000; to manufacture and deal in all kinds of oils; Leo Mandelstamm, Fannie Mandelstamm, Samuel N. Freedman, 55 Liberty street.

Rio Grande Auto Company, Hidalgo, Tex.; $10,000; to operate auto livery business.

Glenbernie Transportation Company, New Bern, N. C.; $50,000; to carry passengers by boat and automobiles.

Red Diamond Auto Line, Paducah, Ky.; to buy, sell, own, operate, etc., automobiles and automobile accessories.

Marion Motor Car Company, Marion, O.; $10,000; to establish a line of motor cars.

Southern Motor Car Company, St. Louis, Mo.; $5000; general motor car and general motor accessories business; B. C. Quarles, J. D. Kerr and J. David Barth.

Peter H. Havey & Sons, Yonkers, N. Y.; $50,000; Ambrose S. Havey, Sylvester L. Havey, Sarah P. Havey, Nellie P. Havey, John Cullen, Edward Traub.

Automobile Sales Underwriting Company, Petaluma, Cal.; $100,000; Charles L. Clise, San Francisco, and others.

Progressive Cycle and Automobile Supply Company, New York City, $6000.

Motor Truck and Terminal Company, Los Angeles, Cal.; $500,000; C. O. Drake and others.

Zip Manufacturing Company, Huron, S. D.; automobile specialties.

Scripps Booth Company, Philadelphia, Penn.; $50,000; to manufacture cyclecars.

Gray Pneumatic System, Ltd., Toronto, Ont.; $500,000; automobile accessories; J. M. Duff and others.

Charles E. Riess & Co., New York City; $50,000; automobile business; C. E. Riess, G. L. Riess, B. H. Riess.

Houk Manufacturing Company, Buffalo, N. Y.; $800,000; G. W. Houk, Overbrook, Penn.; E. McMills, C. H. McCullough, Jr.

Southwestern International Combustion Engine Manufacturing Company, Wilmington, Del.; $100,000; R. C. Wilcox, J. Hamman, F. C. Riemann.

FIRES OF THE MONTH.

Charles H. Bronston, 1020 Olive street, Kansas City, Mo.; garage, $2100.

Castleton Stock Farm, Lexington, Ky.; garage, etc.; $100,000.

Cambridge Electric Light Company, Cambridge, Mass.; garage and cars, $8000.

Chickasha Garage, Chickasha, Okla.; garage and cars, $40,000.

Einspahr & Co., Odebolt, Ia.; garage.

Emma Hayden, 310 East Fourth street, Hamford, Cal.; garage.

Hudson & Coe, Bend, Ore.; garage.

Kenneth Lord, 515 North Saginaw street, Flint, Mich.; garage, $5000.

Robert McAllister, 6813 Greenway avenue, Philadelphia; garage, $5000.

Prather Bros., 132 West Main street, Georgetown, Ky.; garage, $1500.

Prospect Auto Company, 295 Prospect street, Cambridge, Mass.; garage.

Secenley Auto Accessories Company, Pittsburg, Penn.; supply store, $2500.

Harry Madden, Laurel street, South Manchester, Conn.; garage and three automobiles, $3000.

F. C. Flichtinger, 182 Irving avenue, Minneapolis, Minn.; garage and automobile, $5000.

G. Bracchi, Palo Alto, Cal.; garage and barn, $20,000.

Stutz Automobile Company and Knight Tire & Rubber Company, Dallas, Tex., leased building, $10,000.

Frank D. Schulter, Richmond, Va.; garage, $5000.

Giacomini Garage, Ferndale, Cal.; garage.

Cape Ann Tool Company, Rockport, Mass.; automobile supply workshop, $20,000.

J. H. Bailey, Harlinger, Tex.; garage, automobile, two buggies, total loss.

Buick Auto Company, Dallas, Tex.; plant, $1000.

Ohio Auto Carriage Company, Cleveland, O.; occupied building, $50,000.

Engel & Haas, Goodrich, N. D., garage and machine shop.

Yorkville Garage, 113 East 77th street, New York City, $5000.

Detroit Auto Specialty Company, Detroit, garage, $5000.

Ohio Automobile Carriage Company, Cleveland, O., factory, $50,000.

Riegel Auto Garage, Reading, Penn., garage, $20,000; automobiles, $4000.

H. Shannon, Virginia, Minn.; garage, $5000.

H. W. Hawley, Los Angeles, Cal., garage, automobile and two motorcycles, $4000.

Southern Automobile Company, Memphis, Tenn., garage with 11 automobiles, $20,000.

Superior Garage, Superior, Neb., garage and seven automobiles, $15,000.

Rev. W. C. Barber, Des Moines, Ia., garage and automobile, $1000.

Kenyon Bros., Wilmington, Del., garage and other buildings.

Goodyear Rubber Company, Milwaukee, Wis., store.

D. A. Russell, Barron, Wis., garage and warehouse, $5000.

R. B. Herr, Marshalltown, Ia., garage and barn.

G. A. Schnabel & Sons Auto and Wagon Repair Company, Pittsburg, Penn., building, $50,000.

BUSINESS DIFFICULTIES.

American Motors Company, Indianapolis, Ind., has been placed in the hands of Frank E. Smith as receiver.

Dayton Auto Truck Company, Dayton, O., has been placed in hands of David Dunwoodie, same city, as receiver.

Flanders Manufacturing Company, Pontiac, Mich. Factories are to be sold and another dividend paid to creditors.

Inter-State Automobile Company, Indianapolis, Ind., creditors filed petition asking that company be adjudged bankrupt.

Standard Roller Bearing Company, Philadelphia, Penn., placed in hands of receivers, who will continue production.

K-R-I-T Motor Car Company, Detroit, directors under reorganization are sending check for full amount of obligations held by small creditors, and larger claims are to be paid gradually.

The Foster Motor Company, New Haven, Conn., has filed its preliminary certificate of dissolution.

John T. Lennehan, Jr., Hartford, Conn., first temporary receiver of the Auto Owners' Supply Company, same city, has had his report accepted by the superior court. Mr. Lennehan had expenditures of $225.18 and receipts of $225.68, of which amount he advanced about $154 himself. Four months were allowed for the presentation of claims.

L. E. Ewing, Cleveland, O., automobile manufacturer, has filed a voluntary petition in bankruptcy giving liabilities of $590,540 and assets of $400. Liabilities include $190,000 due to creditors of the Findlay Motor Company.

Arthur A. Thomas has been appointed permanent receiver for the Invincible Tire Company of Providence, R. I.

Albert L. McAlpin, trustee, has received a judgment for $30,132 in foreclosure of trust deed proceedings against the Indiana Motor & Manufacturing Company, Franklin, Ind.

The Fischer Automobile Supply Company, Philadelphia, Penn., has been adjudged an involuntary bankrupt.

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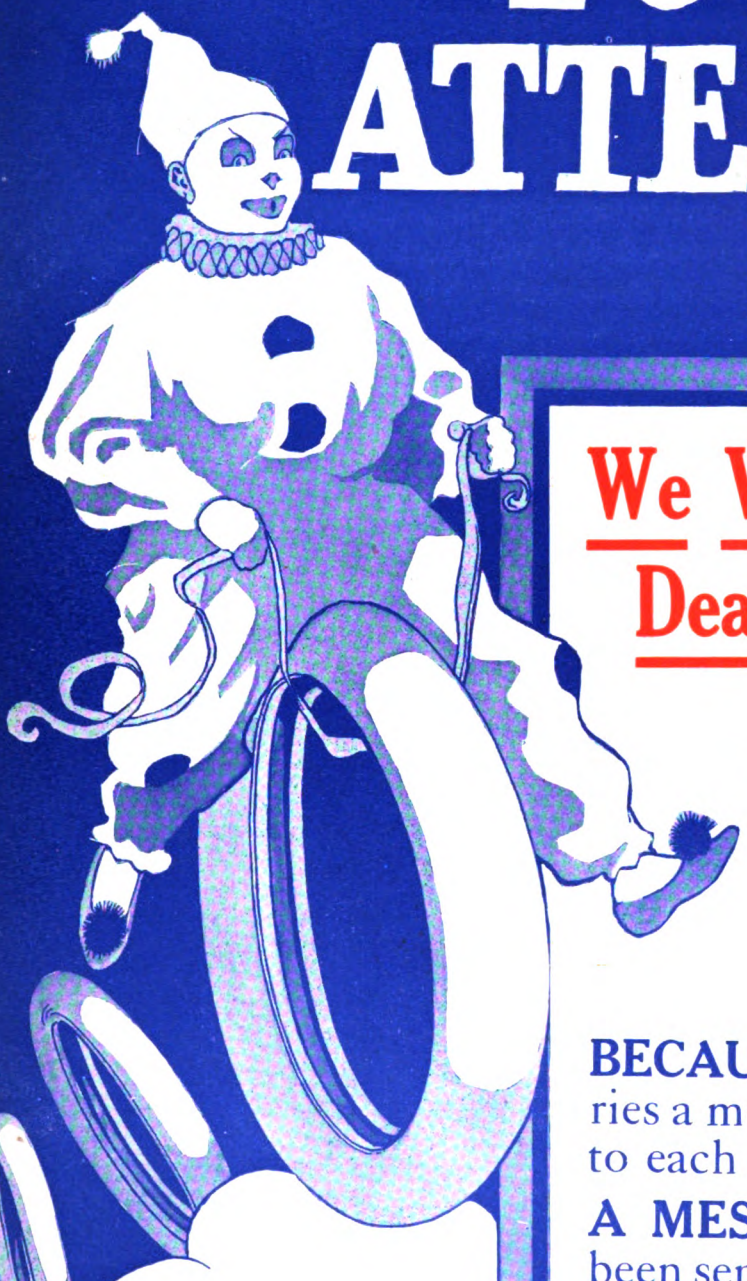
YOUR ATTENTION



We Want Every Dealer in the United States To Read This Ad

BECAUSE we feel that it carries a message that will appeal to each and every one—

A MESSAGE that has never been sent before—and one that means increased business, satisfied customers, with a rightful participation in the profits of your labor.

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Plain Talk—Right From the Shoulder—On Why We Are Here, Where We Came From, and What We Intend to Do.

To begin with, eighty per cent. of the tire business of the United States is handled by twenty manufacturers—that the number of cars manufactured each year has advanced tremendously, while the number of tire manufacturers has not increased in proportion. In order to meet this increased demand for tires there has, of course, been a sacrifice of quality for quantity. Result—an army of dissatisfied owners.

QUALITY DEMANDED

With these facts as a basis to work on and with the idea paramount in their mind that a tire made right, of right materials, and marketed right was what the touring public demanded, the Cataract Rubber Company for years have had the highest priced men in the industry at work designing and building a tire up to a supreme quality standard.

Necessarily this policy entailed a high degree of skill and workmanship, competent management and a high order of salesmanship to place this kind of a tire on the market. The company decided that the safest and surest method of successfully marketing the tire was to localize the business from a central point of a large market in a small area of territory. New England was selected as the territory and Boston the distributing center. *Unqualified success has met our efforts there.*

ABSOLUTE DEALER PROTECTION

Two years of conservative work has proven the success of our methods. With a fixed business in New England that testifies to every claim made, we are prepared with an additional output of 50,000 tires for 1914, to nationalize The Cataract Tire.

In making a bid for this additional business the keynote of our campaign is proper classification of the trade in each territory and an *absolute protection for Mr. Dealer on the business he creates.*

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WHY WE APPEAL TO YOU, MR. DEALER

We feel that your business demands a tire of the Cataract quality. But we further feel that your business demands a selling plan such as we offer. A co-operative policy that means a rightful participation in the result of your work. The Jobber and Dealer today are not handling standard tires on a marginal profit commensurate with the time, money and labor expended in handling a product for which there is such an unlimited demand.

CATARACT POLICY

On the strength of this condition, the Cataract Rubber Company has adopted a policy toward the Dealer similar to that used by other highly successful manufacturers of standard commodities; one that will insure a splendid margin of profit to the dealer year in and year out. The Company has decided that when a dealer or jobber has built up a certain percentage of total business in his territory in a year or two it is the duty of the Company to back up this dealer and jobber in the ensuing years of success and that he is entitled to the extreme margin of profit, the result of a protected price situation in the territory in which he is operating.

READ OUR OFFER

To the end of giving an opportunity to live dealers throughout the country of identifying themselves with the sale of Cataract Tires and taking advantage of this co-operative policy and signing up a long time Cataract service contract we are making the following offer to the trade.

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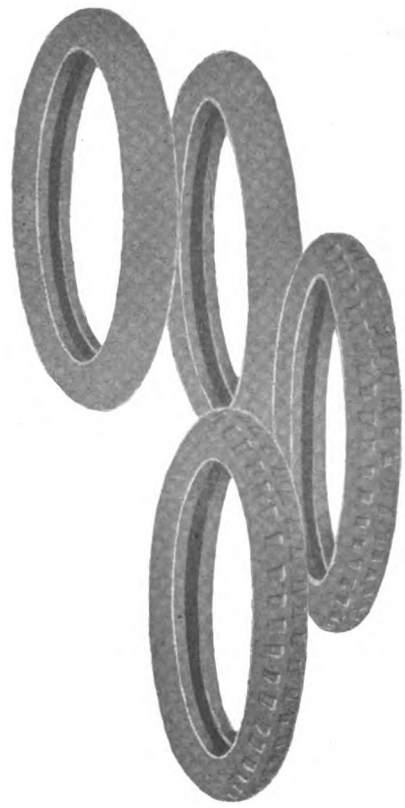
LET US SEND YOU FOUR TIRES ON APPROVAL



We want you to know Cataract *tires. We want you to realize from experience by using them that they are all that we claim. To this end we will fill a trial order of four tires, two plain and two break skid, guaranteed 4000 miles each and sell them to you at 30% off on any size included in our consumers' list. Orders for more or less than this number, or specifications calling for more than two plain treads and more than two break skids will not be filled at this price.*

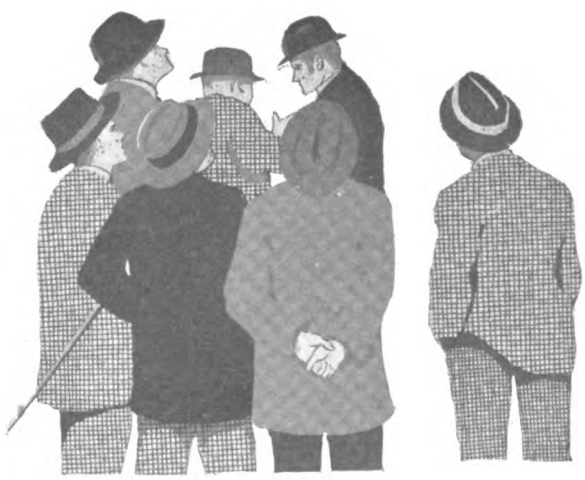
CATARACT GUARANTEE

Before ordering weigh well the following statements to which 6000 users in New England will testify to their absolute truth:

The Cataract Tire is built to fill the unfilled demand of quality trade.

The Cataract Tire construction was specified two years ago with this one object in view. *It has made good.*

The Cataract Tire represents the finished art of fabricating cotton and rubber into the toughest, most resilient, and most durable product ever offered the trade.



The Cataract Tire is being merchandized along lines different from standard and the Company manufacturing it has adopted a policy that insists upon the dealer receiving his *full percentage of profit.*

Reduced to a concrete policy this means co-operation with the jobber for the betterment of the consumer by the manufacturer of a high grade quality tire that is sold to the distributor, jobber, dealer and consumer on *price schedules* that are *absolutely maintained.*

As per your offer in Accessory and Garage Journal, kindly send me facts on your Trial Order.

Name.....

Street.....

City.....

State.....

Fill Out This Coupon and Mail Today

The Cataract Rubber Company

66 Hereford Street, Boston, Mass.

Factory: Wooster, Ohio.

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NEW LOCATIONS AND REMOVALS.

The American Motor Car Company has leased space at 11 North Brevard street, Charlotte, N. C., and will operate an establishment for automobile and carriage painting.

The M. J. Osborn Garage, St. Paul, Minn., recently remodelled, is open for business.

S. N. Stevens, Worcester, Mass., is to use the new garage of the Worcester Art Museum as a salesroom and service station for the Metz and Imperial cars.

The Miller Sales Company has opened a branch at 846 Main street, Buffalo, N. Y., where a complete line of Miller tires will be carried. R. J. Strong is manager.

The Star Tribune Motor Sales Company, Detroit, has moved into new quarters at Woodward and Bagg avenues.

The Alabama Auto Company, Montgomery, Ala., has taken possession of its new garage, recently completed.

The Kemble Garage, Greenwich, Conn., has moved to the corner of Arch street and Railroad avenue.

The Reinhold Belting & Supply Company, New York City, has moved to new quarters at 499 Atlantic avenue.

The Nashville Motor Car Company, Nashville, Tenn., has opened a repair shop.

The Lakewood Auto Supply Company, Lakewood, N. J., has opened a store at 128 Clinton avenue.

The Lehigh Valley Motor Company, Allentown, Penn., has moved to 635 Linden street.

The Donovan Motor Car Company, Boston, Mass., has taken over the entire second floor of the Oldsmobile building on Commonwealth avenue.

The Heald Garage, La Porte, Ind., has recently been improved and enlarged by the addition of more floor space and the installation of the latest garage appliances.

The Burd Auto Company, Waterloo, Ia., has leased the garage formerly occupied by the Iowa Auto Company on Fifth street and will use it as a salesroom and general office.

The Northland Rubber Company, Buffalo, N. Y., has opened salesrooms at 1239 Main street. J. Clark Milsom is general manager.

The Luttrell Company, Washington, D. C., has moved its offices and salesrooms to Dupont Circle.

Ernest W. Saunders, representing the Carbon Steel Company, Pittsburg, Penn., has opened an office at 617 Ford building, Detroit.

The Detroiter Philadelphia Automobile Company has moved to larger quarters at 41 Ranstead street, Philadelphia, Penn.

George A. Bloomfield, Frankfort, Penn., is to move his business to Salt Lake City, Utah.

The Chalmers Company, Los Angeles, Cal., is now located in new quarters on Hope street.

C. V. Lucius, Youngstown, O., has moved his business to the Viaduct garage, South Side.

The Alkire-Smith Automobile Company, Salt Lake City, Utah, will move to larger quarters on West Temple street, where a new modern building will be erected.

The Easyride Tire Filler Company, New Orleans, La., has moved to 123 Locust street, St. Louis, Mo.

The Connell & McKone Company, Boston, Mass., agent for Overland cars, has moved into a new building at 167 Massachusetts avenue.

The Sterling Auto Tire Company, Harrisburg, Penn., is now located at 1351 Zarker street.

Drouet & Page, Brooklyn, N. Y., has opened a branch at 1147 Bedford avenue.

Dillon & Goodwin, San Francisco, Cal., agent for the Westcott cars, has moved to its new building on Bush street. The new headquarters include service station and salesrooms fully equipped.

Louis Cella, St. Louis, Mo., has just had erected at 3030-3032 Locust street, an attractive new building. The structure is two stories high, 50 feet by 125 feet, and cost about $40,000. The front of the first floor is used as a display room and the rear as a garage. The second floor includes the offices and repair departments.

Fred Campbell, St. Louis, Mo., accessory dealer, has opened new quarters at 1109 Locust avenue.

The Pierce-Arrow Pacific Sales Company, San Francisco, Cal., is now located in its new quarters at Geary and Polk streets. The building is 82.5 feet by 120 feet, three stories and basement, and is constructed of reinforced concrete.

The Ford Motor Company, Kansas City, Mo., has discontinued the wholesale and retail branch at 1608 Grand avenue. The retail department has been moved to 1710 Grand avenue and the wholesale department to Sheffield, Mo., where the assembly plant is now located.

The Brockway Motor Sales Corporation has opened offices at 250 West 54th street, New York City.

The Aetna Garage Company, Hartford, Conn., has recently completed additions that doubled the capacity of the company.

The Bradley-Moore Auto Company, San Marcos, Tex., has moved into its new building.

The Central Motor Car Company, Reading, Penn., has opened new salesrooms at 522 Chestnut street.

The Howe Rubber Company, New Brunswick, N. J., has opened a state and local salesroom on Capitol avenue, Indianapolis, Ind.

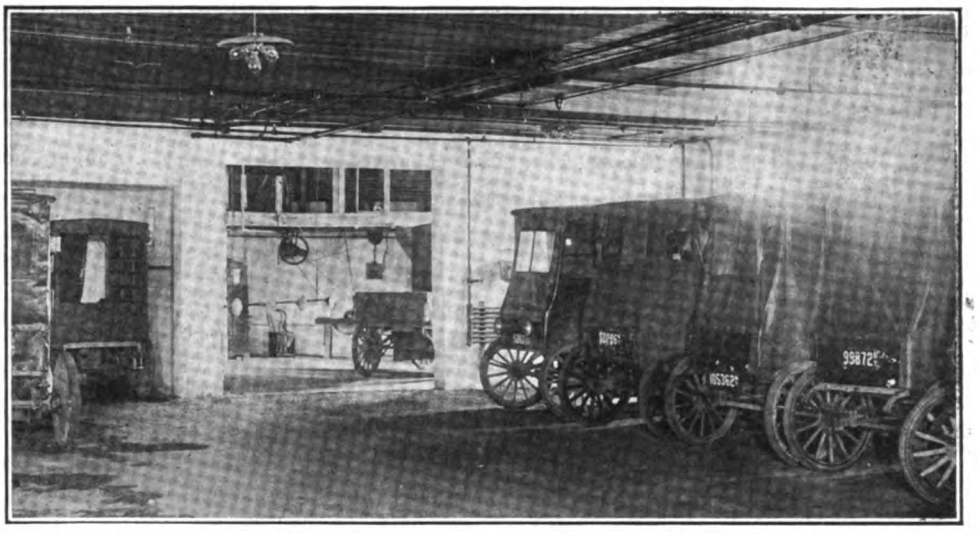
The Firestone Tire & Rubber Company of New York has opened a branch at 223 East avenue, Rochester, N. Y.

The Marathon Automobile Company, Boston, Mass., has opened new salesrooms at 823 Boylston street.

Charles E. Riess & Co., New York City, is now located in its new salesrooms at 1690 Broadway. The company is showing a complete line of 1914 model Hupmobiles.

Theodore Crossley, Riverside, Cal., has had work started on the erection of a new Overland station at 10th and Market streets.

The Frederick E. Murphy Automobile Company, Minneapolis, Minn., has erected and opened a new building at Thirteenth street and Hennepin avenue. It is modern in equipment and construction throughout.



Garage of Rochester Railway & Light Company, Rochester, N. Y., Used for Light Wagon Storage, and Connected with Machine Shop.

The Walpole Tire & Rubber Company, Cambridge, Mass., has moved its salesrooms to 1 State street.

The Franklin Motor Car Company, Boston, Mass., has moved into its new building at 616 Commonwealth avenue.

The Menshel Tire & Rubber Company, New York City, has leased new quarters at 1675 Broadway.

The Lake Auto Agency, Danbury, Conn., has moved to new and larger quarters in Crosby lane.

The Mercury Motor Truck Company, Chicago, Ill., has opened new salesrooms and service station at the corner of 43rd and Halstead streets.

Paul Wargny & Co., Chicago, Ill., has opened salesrooms and a service station for the Imp cyclecar at 1325 Michigan avenue.

Charles Fredricks, Denison, Ia., has leased a new building and will open a garage and repair business.

T. K. Julson, Dillon, Mont., has erected a 50 by 30 foot addition to his garage, which he will use as a repair shop.

The Eastern Motor Company, Atlantic, N. J., has removed to 2720 Atlantic avenue, where three floors are used.

Charles F. Fulmer, Plainfield, N. J., who has conducted a repair shop in Sycamore street, has removed to 535 North avenue.

Robert Hulse, eastern manager for the Harroun Carburetor Company, has opened sales and display rooms in the Longacre building, New York City.

The Haynes Motor Company, Birmingham, Ala., has just moved into the new service department at 619 South 20th street. The building has been entirely overhauled and modern equipment installed.

The Meeley Rubber Company, Washington, D. C., has

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moved into more commodious quarters located at 824 14th street.

The Regal Motor Sales Company, Baltimore, Md., has moved into the new office and service station at 1711-1715 McCulloh street.

The Fayette Motor Company, Lexington, Ky., has purchased property at 261 East Main street, which will be used to accommodate demand for increased space by the growing business of the company.

The A. Elliott Ranney Company, New York City, eastern agent for the Hudson cars, has taken the fifth floor of the old United States Motors Company building for a service station and offices.

Dorman & Sykes, Gary, Ind., has moved into its new garage, a three-story fireproof building, at 124-130 West Fifth avenue.

The Greenlease Motor Car Company, Kansas City, Mo., agent for the Cadillac, has opened a branch at Joplin, Mo., under the management of R. T. Moore.

The Cross & Brown Company, New York City, has leased the third floor of the building at the corner of Broadway and 62nd street to the Cadillac Motor Company, and the top floor of 531 to 537 West 21st street to the Goodyear Tire & Rubber Company.

The Neighbors Automobile Company, Cleveland, O., is now located at 2108 Euclid avenue.

The Ohio-Buick Company, Cleveland, O., has moved into new quarters at 1730 Euclid avenue.

The Peerless Motor Company has discontinued, for the winter, its rebuilt car salesrooms at 1710 Euclid avenue, Cleveland, O.

The Lozier Sales Company, Cleveland, O., located at 2336 Euclid avenue, has discontinued the Lozier line and is to concentrate on the Chandler light weight six.

AUTOMOBILE PATENTS GRANTED RECENTLY.

Automobile Truck, Dwight Gerber, Bellevue, Penn., assignor of one-half to William W. Keefer, Pittsburg, Penn., No. 1,075,779. Filed Aug. 22, 1912.

Cushion Tire, Charles M. Culp, South Bend, Ind., No. 1,076,024. Filed March 15, 1912.

Storage Battery Grid, Jasper N. Davis, Denver, Col., No. 1,076,027. Filed March 17, 1913.

Motor Vehicle, John W. Hamm, Higginsville, Mo., No. 1,076,033. Filed July 29, 1910.

Cushioning Device, Frederick O. Kilgore, Somerville, Mass., No. 1,076,042. Filed Jan. 10, 1910.

Worm Drive, Walter S. Morton, Harrisburg, Penn., No. 1,076,052. Filed Oct. 8, 1912.

Internal Combustion Engine, William J. Wright, Franklin, Penn., assignor to Wright Engine Company, Pittsburg, Penn., No. 1,076,090. Filed Sept. 5, 1912.

Brake Operating Apparatus, Edwin K. Conover, Paterson, N. J., assignor to Conover Motor Car Company, same place, No. 1,076,226. Filed March 19, 1913.

Radiator Cell Structure, Herbert Champion Harrison, Lockport, N. Y., assignor to Harrison Manufacturing Company, same place, No. 1,076,115. Filed Nov. 1, 1912.

Motor Starter, John O. Hobbs, Chicago, Ill., No. 1,076,120. Filed Dec. 27, 1911.

Tire, Charles Krikava, Burchard, Neb., No. 1,076,127. Filed May 20, 1913.

Lamp Support, James D. Stow, Springfield, Mass., No. 1,076,170. Filed Jan. 20, 1913.

Electric Horn, George M. Willis, Chicago, Ill., No. 1,076,181. Filed June 20, 1913.

Vacuum Brake, James T. Dickson, Los Angeles, Cal., No. 1,076,198. Filed Aug. 7, 1912.

Radiator, George E. Farlinger, Detroit, Mich., assignor to Anguish Manufacturing Company, same place, No. 1,076,203. Filed Feb. 23, 1912.

Dash Lock for Clocks, Wilson E. Porter, New Haven, Conn., assignor to New Haven Clock Company, same place, No. 1,076,226. Filed March 19, 1913.

Detachable Rim, Adolph Schick, Wheeling, W. Va., assignor to Schick Wheel & Tire Company, No. 1,076,238. Filed Aug. 27, 1912.

Carburetor, Ralph Shipman, Sunbury, Penn., No. 1,076,244. Filed July 2, 1910.

Carburetor Regulating Mechanism, John C. Carpenter, Houston Heights, Tex., No. 1,076,268. Filed Oct. 12, 1912.

Carburetor, William Patterson and Frank N. Percival, Chicago, Ill., No. 1,076,309. Filed July 8, 1912.

Tire Shoe, Arthur S. Bullock, Aitkin, Minn., No. 1,076,345. Filed April 13, 1912.

Jack, Charles A. Hart, Findlay, O., No. 1,076,365. Filed April 5, 1912.

Dirigible Headlight, Frank H. Aubeuf, Oneida, N. Y., assignor of one-half to Frank J. Aubeuf, same place, No. 1,076,402. Filed Sept. 3, 1913.

Demountable Rim, Wilton Ford Jenkins, Richmond, Va., No. 1,076,430. Filed Oct. 7, 1912.

Signalling Device, Harvey P. Noble, Philadelphia, Penn., assignor of one-half to Edwin G. Ott, same place, No. 1,076,443. Filed March 29, 1912.

Emergency Spindle, William Harvey Vanskiver, Leetonia, O., assignor to Auto Machine Company, same place, No. 1,076,471. Filed April 7, 1913.

Open Exhaust Silencer, Constand Francois Marie Galaine, Rennes, France, No. 1,076,494. Filed Jan. 27, 1913.

Spark Plug, Frank C. Walsh, Cleveland, O., assignor to the Sharp Spark Plug Company, same place, No. 1,076,535. Filed Oct. 28, 1911.

Jack, James T. Dillon, Greenwich, Conn., No. 1,076,555. Filed April 3, 1912.

Demountable Wheel, Thomas I. Duffy, Chicago, Ill., assignor to Ellsworth & Cross, same place, No. 1,076,557. Filed July 1, 1910.

Illuminated Sign, Peter Lee Ferguson and Joseph W. Wheelwright, Ogden, Utah, No. 1,076,566. Filed Sept. 13, 1912.

Motor Starter, George J. Burkhardt, Burlingame, Cal., No. 1,076,660. Filed Oct. 2, 1911.

Time Register, Louis H. Friedman, Norfolk, Va., No. 1,076,668. Filed Dec. 18, 1912.

Spark Plug, Albert Schmidt, Flint, Mich., assignor to Champion Ignition Company, same place, No. 1,077,002. Filed May 1, 1911.

Lamp Attachment, William Q. Pfahler, Toledo, O., No. 1,076,699. Filed March 29, 1913.

Emergency Tire, Luther M. Tichenor, Owensville, Ind., No. 1,076,719. Filed March 13, 1913.

Separable Rim, William M. Wirth, St. Louis, Mo., No. 1,076,730. Filed Aug. 19, 1912.

Demountable Rim, Coy Richard Cantrell, St. Louis, Mo., No. 1,076,744. Filed Nov. 23, 1912.

Primer, William J. Presley, Grand Haven, Mich., No. 1,076,783. Filed Jan. 13, 1913.

Carburetor, Arthur L. Haynes, Clyde, Kan., No. 1,076,827. Filed Feb. 6, 1912.

Resilient Wheel, Edward A. Schlairet, Mount Vernon, O., No. 1,076,914. Filed July 31, 1912.

Tire, Edwin J. Shaut and William A. Dunham, Jackson, Mich., No. 1,076,916. Filed Oct. 31, 1912.

Wheel and Tire, George M. Davenport, Keo, Ark., No. 1,077,044. Filed April 14, 1913.

Shock Absorber, George H. Dangleman, Philadelphia, Penn., No. 1,077,124. Filed March 28, 1913.

Tire, Henry J. Doughty, Edgewood, R. I., No. 1,077,128. Filed Sept. 25, 1912.

Lamp, Charles G. Myers, Cleveland, O., No. 1,077,153. Filed Nov. 15, 1911.

Lamp, Theodore P. Driver, Melrose, Mass., No. 1,077,192. Filed Nov. 7, 1912.

Carburetor, Alanson P. Brush, Detroit, No. 1,077,256. Filed March 21, 1912.

Shield for Pneumatic Tires, James E. Fawcett, Platteville, Wis., No. 1,077,267. Filed April 20, 1912.

Tire Protector, Ralph V. Hastings, Chicago, Ill., No. 1,077,275. Filed Jan. 19, 1912.

Tire Locking Ring, Walter L. Kelley, Pawtucket, R. I., No. 1,077,282. Filed July 14, 1911.

Motor Starter, John F. O'Bert, Los Angeles, Cal., No. 1,077,292. Filed Oct. 8, 1912.

Wrench, Gustaaf Adolph Rienks, Freeport, Ill., No. 1,077,303. Filed Dec. 18, 1912.

Electric Horn, Ralph R. Root, Cleveland, O., assignor to the Adams-Bagnall Electric Company, same city, No. 1,077,307. Filed March 31, 1913.

Tire, Benjamin Coplin Seaton, Detroit, No. 1,077,310. Filed Dec. 2, 1909.

Valve for Internal Combustion Engine, Carl E. Swenson, Rockford, Ill., No. 1,077,317. Filed July 8, 1912.

Spark Plug, William S. Witter, Toledo, Ia., No. 1,077,325. Filed Nov. 20, 1911.

Speed Control, Russell Huff, Detroit, assignor, by mesne assignments, to Packard Motor Car Company, same city, No. 1,077,348. Filed May 27, 1907.

Water Trap for Carbide Light Systems, James B. McDevitt, Chicago, Ill., No. 1,077,358. Filed Oct. 17, 1912.

Convertible Cycle Motor, Lawrence S. Nash, Detroit, assignor, by mesne assignments, to Oliver Motor Car Company, same city, No. 1,077,363. Filed Sept. 26, 1907.

Internal Combustion Engine, John Willoughby, New York City, assignor of one-half to George W. Bayley, Brooklyn, N. Y., No. 1,077,381. Filed Jan. 4, 1912.

Gas Engine Starter, Edwin D. Bangs, Milwaukee, Wis., No. 1,077,386. Filed Aug. 20, 1910.

Vehicle Wheel, Joseph Bray, Arlington Station, Cal., No. 1,077,388. Filed Oct. 23, 1911.

Anti-Skid Attachment, Joseph G. Florack, Rochester, N. Y., No. 1,077,401. Filed Oct. 14, 1912.

Tire, Albert B. Hollenbeck, Sidney, N. Y., No. 1,077,407. Filed June 8, 1910.

Spring Wheel, Peter M. Kling, Elizabeth, N. J., No. 1,077,410. Filed Oct. 20, 1909.

Cooling Device for Engine, George W. Marsh, Oakland, Cal., No. 1,077,414. Filed Jan. 6, 1913.

Nut Lock, William S. Old, Youngstown, O., No. 1,077,425. Filed Feb. 3, 1912.

Tire Protector, Varney K. Sturges, Oakland, Cal., No. 1,077,440. Filed Dec. 10, 1912.

Controllable Headlight, Francis G. Anspach, Deerfield, Mich., assignor of one-third to Vernon B. Cannon, same city, No. 1,077,450. Filed July 16, 1912.

Spring Wheel, Arthur D. Seibert and Burton R. And-

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rus, Pendleton, Ore., No. 1,077,434. Filed April 14, 1913.

Adjustable Reamer, Robert L. Ellery, Portsmouth, N. H., No. 1,077,463. Filed Aug. 17, 1912.

Tire, Gottlieb Anger, McKees Rock, Penn., assignor of one-half to Theodore A. Sprague, Bellevue, Penn., No. 1,077,504. Filed Oct. 28, 1912.

Battery Box, Charles A. Mahla, New York City, No. 1,077,539. Filed March 6, 1913.

Wrench, Samuel Moss, Waltham, Mass., No. 1,077,543. Filed Jan. 22, 1913.

Vehicle Brake, Stephen R. O'Brien, Pittsburg, Penn., No. 1,077,546. Filed March 24, 1913.

Auto Dumping Truck, Ernest Henry Vincent, Emeryville, Cal., No. 1,077,570. Filed June 20, 1911.

Wrench, Frank C. Wutke, Chicago, Ill., No. 1,077,575. Filed Feb. 25, 1913.

Resilient Wheel, Gilbert A. Leitzman, Clayton, Ind., No. 1,077,612. Filed July 25, 1912.

Car Motor, William F. Davis, Kansas City, Kan., assignor to McKeon Motor Car Company, No. 1,077,679. Filed Oct. 10, 1905.

Combustion Engine, Hugo Junkers, Aix-la-Chapelle, Germany, No. 1,077,718. Filed Oct. 7, 1907.

Motor Control System, Edwin J. Murphy and John E. Brobst, Schenectady, N. Y., assignors to General Electric Company, No. 1,077,737. Filed June 20, 1912.

Sidecar Attachment for Motorcycles, Oron Overton, Mobile, Ala., No. 1,077,743. Filed May 24, 1912.

Nut Lock, Alma P. Stark, Spanish Fork, Utah, No. 1,077,763. Filed Dec. 17, 1912.

Shock Absorber, Carl Yeager, Birdsboro, Penn., No. 1,077,781. Filed March 15, 1913.

Resilient Tire, David A. York, Northgrove, Ind., No. 1,077,782. Filed Dec. 7, 1912.

Lubricating System for Gas Engines, Julian P. Farnham, Minneapolis, Minn., assignor, by mesne assignments, to Emerson-Brantingham Company, Rockford, Ill., No 1,077,823. Filed Feb. 9, 1912.

Engine Starter, John Deam Kneedler, Sioux City, Ia., assignor of one-third to Buel Couch and one-third to N. T. Hanson, same city, No. 1,077,841. Filed Sept. 17, 1912.

Engine Starter, Gilson W. Roth, Jackson township, Brown county, Ind., assignor, by direct and mesne assignments, to George H. Evans, Evansville, Ind., No. 1,077,858. Filed June 10, 1910.

Muffler, Edward L. Dewey, Whiting, Ind., No. 1,077,905. Filed March 10, 1913.

Carburetor, William H. C. Higgins, Laporte, Ind., No. 1,077,910. Filed Oct. 14, 1910.

Stop Cock for Motor Vehicles, Jean Mazuel, Paris, France, No. 1,075,429. Filed Feb. 3, 1913.

Electrical Distributor, James L. Adams, Jr., Wilkinsburg, Penn., assignor to Westinghouse Electric & Manufacturing Company, No. 1,075,457. Filed Nov. 16, 1911.

Self-Propelled Sleigh, Andrew J. Denney, Cambridge, Idaho, No. 1,075,465. Filed Aug. 5, 1912.

Connecting Means for Springs, Jacques Minette de Saint Martin, Paris, France, No. 1,075,498. Filed Oct. 10, 1912.

Demountable Rim, Robert P. Scott, Cadiz, O., No. 1,075,501. Filed March 14, 1911.

Wrench, Robert W. Sturdy, Stephenson, Mich., assignor of one half to Cassius W. McEwan, Omaha, Neb., No. 1,075,516. Filed May 13, 1912.

Explosive Engine, Joseph F. Buhr, Detroit, assignor, by mesne assignment, to Herman B. Strate and Joseph F. Buhr, Detroit, No. 1,075,545. Filed Feb. 7, 1911.

Indicating Device, Mildred Felix, New York City, No. 1,075,555. Filed Feb. 23, 1907.

Battery, William H. Fenoughty, Belleville, Ill., assignor to American Carbon & Battery Company of Missouri, No. 1,075,556. Filed May 12, 1913.

Automobile Construction, Henry Ford, Detroit, No. 1,075,557. Filed July 21, 1909.

Internal Combustion Engine, Frederick O. Kilgore, Somerville, Mass., No. 1,075,578. Filed Dec. 28, 1911.

Ignition and Starting Mechanism, Loren E. Clark, Madville, Penn., No. 1,075,763. Filed Feb. 7, 1913.

Frame for Motor Bicycles, Edward Y. White, San Antonio, Tex., No. 1,075,886. Filed March 9, 1906.

Two-Cycle Engine, Ellis J. Woolf, Minneapolis, Minn., assignor to the Woolf Valve Gear Company, same place, No. 1,075,889. Filed Oct. 26, 1908.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

11,841. Automobile Supplies—An American consular officer in France reports that an agent in his district handling automobiles desires to get in touch with American automobile supply manufacturers. Catalogues, price lists, etc., are desired. Correspondence should be in French, if possible.

11,849. Low Priced Automobiles—A report from an American consul in Spain states that a local dealer in low priced automobiles wishes to handle, in addition to his present business, a line of heavier and more powerful cars which retail in the United States at from $1200 to $1900. Only manufacturers of landaulet cars are requested to reply, as there is no sale for touring cars. French landaulet cars only are on the market and it is thought that a good market can be created for American cars of a similar type. Models must approximate the European type of landaulet cars. Catalogues and correspondence should be in Spanish, if at all possible, and should be sent direct to the dealer referred to. References will be given and required.

11,879. Automobiles—A business firm in southern Europe requests an American consul to place it in touch with American manufacturers of low priced automobiles. The firm states that it desires to represent an American firm manufacturing low priced, light cycle, shaft driven motor vehicles, and also to carry such machines in stock. Catalogues, prices, terms and discounts are requested; correspondence may be in English. The firm furnishes as references a list of companies it already represents.

11,883. Automobiles, Motorcycles and Motor Boats—A European business man informs an American consulate that he desires to be placed in communication with American manufacturers of automobiles and parts of same, motorcycles and motor boats, with the object of importing the same. The inquirer states that he will represent such manufacturers as selling agent, or purchase direct on his own account. Catalogues, prices and terms of discount are requested. Correspondence should be in English. This man furnishes a list of English firms that he now represents, whose names are given as references.

11,885. Motor Fire Truck—A report from an American consul in Canada states that as a result of a trade opportunity from his office a local firm has purchased in the United States an automobile truck which is said to be cheaper and much better than the Canadian article. The possibilities of further sales are thought to be very favorable. The fire department of the city has under consideration the purchase of an automobile truck, and American manufacturers would do well to get in touch with the chief of the fire department.

11,969. Motor Boats—An American consul in a Latin-American country reports that a local government official desires catalogues and other information regarding motor boats suitable for arming and equipping for military service on rivers. Any language may be used, but Spanish is preferable.

11,990. Detachable Motors for Boats—A business firm in a European country informs an American consular officer that it wishes to import external motors for boats, similar to a cut furnished and which may be obtained from the bureau of foreign and domestic commerce. Manufacturers should communicate with this firm as soon as possible.

COMING EVENTS.

November.

Nov. 22-29—Show, Providence, R. I.

December.

Dec. 1-3—Annual meeting, American Automobile Association, Richmond, Va.
Dec. 9-12—Convention, American Road Builders' Association, Philadelphia, Penn.
Dec. 10-12—Convention, Retail Implement & Vehicle Dealers' Association, Milwaukee, Wis.
Dec. 11-20—International exposition of safety and sanitation, American Museum of Safety, New York City.

January.

Jan. 2-10—Importers' Salon, Hotel Astor, New York City.
Jan. 3-10—Pleasure car show, Grand Central Palace, New York City.
Jan. 4- 8—Winter meeting, Society of Automobile Engineers, New York City.
Jan. 10-16—Show, Milwaukee, Wis.
Jan. 10-17—Show, Cleveland, O.
Jan. 12-17—Show, Bridgeport, Conn.
Jan. 24-31—Show, Rochester, N. Y.
Jan. 24-31—Pleasure car show, Coliseum, Chicago, Ill.
Jan. 26-31—Show, Scranton, Penn.
Jan. 31-Feb. 7—Show, Minneapolis, Minn.

February.

Feb. 2- 7—Pleasure car show, Buffalo, N. Y.
Feb. 9-14—Truck show, Buffalo, N. Y.
Feb. 16-21—Show, Kansas City, Mo.
Feb. 18-21—Show, Bloomington, Ill.
Feb. 21-28—Show, First Regiment Armory, Newark, N. J.
Feb. 21-March 4—Show, Cincinnati, O.
Feb. 23-28—Show, Omaha, Neb.

March.

March 2- 6—Show, Fort Dodge, Ia.
March 7-14—Pleasure car show, Mechanics' Building, Boston, Mass.
March 9-14—Show, Des Moines, Ia.
March 17-21—Truck show, Mechanics' Building, Boston, Mass.

April.

April 9-15—Show, Manchester, N. H.

May.

May 30—500-mile race, Indianapolis, Ind.

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ACCESSORIES, SUPPLIES, AND FITTINGS.

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

Dayton License Holder.

The Dayton Malleable Iron Company, Dayton, O., is manufacturing two new designs of license plate holders. The front style comprises two right angle arms, also a clamping construction, fitting around the filler member of the radiator. The securing device differs from conventional design in that it is made to clamp around oblong or round filler members. It is locked by a bolt and nut. The rear design is made with a combination socket, permitting of its use with either a round or flat lamp iron, and assures proper illumination of the number plate. Both styles have adjustable means, thumb nuts and lock washers.

Pruden Auto Chair.

The W. E. Pruden Hardware Company, 260 West 52nd street, New York City, is marketing three styles of collapsible automobile chairs which may be folded very compactly and utilized when an extra passenger is to be carried. They are made in three sizes, that for a child being 12 inches, the medium 15 and the large 17. They have comfortable seats and backs, upholstered in maroon or black leather, and the entire construction is substantial as well as light.

Masco Air Gauge.

The service obtained from tires depends largely upon the owner. One of the most important rules for the motorist to observe is proper inflation of the shoes and every manufacturer recommends the use of a tire gauge when fitting a casing and in service. The Motorcycle Accessories Company, St. Paul, Minn., is marketing the Masco air gauge, which differs from usual design in that it is permanently attached to the valve stem by a lock nut. The dial is approximately the size of a 10-cent piece, calibrated, and a watch hand denotes the pressure. It makes for convenience in that the hand may be watched while inflating the tire. The dial is protected by a hinged lid. The device is very compact and as will be noted by the accompanying illustration, is fitted with a conventional type of valve cap. The Masco retails for $1.50.

XXX Spark Plug.

The XXX Auto Accessory Company, Springfield, Mass., is manufacturing a novel spark plug termed the XXX, which is sold under a money-back guarantee. The feature of the plug is the use of detachable electrodes, a design permitting of replacement of damaged or burned members at a very slight expense and without difficulty. The gap is double with this plug, and there are a number of interesting features which are explained in the booklet issued by the company. It will be mailed free on request. It sells for $1.

Ten Eyck Automatic Air Pump.

The Ten Eyck Pump Company, Auburn, N. Y., is producing the Ten Eyck automatic air pump, which is designed for service with motor starting systems and for inflating tires. When utilized on the motor car the gearshift is automatically controlled by a separate cylinder and piston, which is operated by the pressure in the storage tank or the tire. The back pressure from the air receiver slides the pump gear into mesh with the driving gear, the pump gear running idle until the two gears are partly meshed. The clutch is then engaged. Disconnecting the pump from the air receiver allows the pressure to escape from the automatic cylinder and the gears are disengaged by means of a spring. In this operation the clutch is first disengaged, permitting the pump gear to run idle while being drawn out of mesh. This arrangement makes easy engagement and disengagement of the gears without reducing the motor speed. When the pump is utilized in connection with a storage tank for starting purposes, a special air valve and pressure gauge is inserted in the pipe between the pump and the tank, and is usually mounted on the dash. The operation of this valve is automatic. The Ten Eyck pump is 10 by 4.5 inches, weighs 10 pounds and has a capacity of two cubic feet a minute. All parts are constructed of high grade material and the workmanship is first class in every respect. The equipment includes 15 feet of rubber tubing, pressure gauge and hose fittings. It is listed at $25.

Ka-Ha-Co Horn.

The Kales-Haskel Company, Detroit, announces the Ka-Ha-Co electric horn, with which it is stated a powerful note is obtained without harshness. The construction is simple, well known electrical engineering principles being utilized, and it is stated that its service cannot be impaired, except through injury. It comes finished in brass and black, also nickel and black, the latter type costing $1 more. The horn is moderately priced and with it is furnished suitable length of cable and push button.

Auto-Queen Wrench Set.

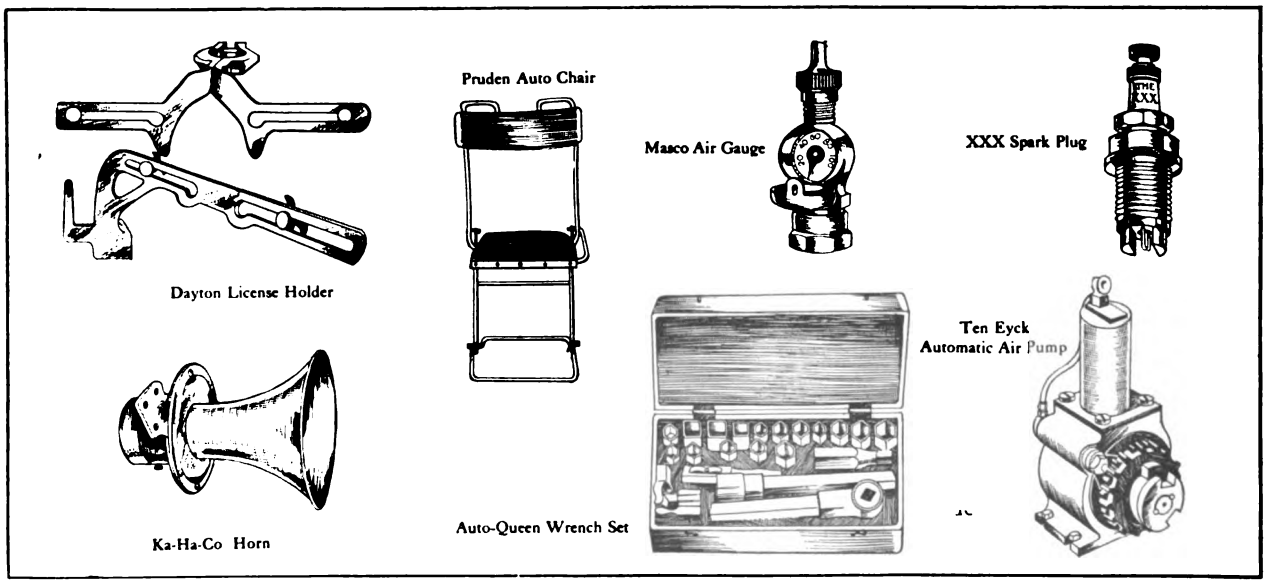
The C. M. B. Wrench Company, Garwood, N. J., is manufacturing the Auto-Queen wrench set, which is specially designed for motor car work. The No. 11 set includes a ratchet wrench, universal joint, long extension, screw driver, spark plug socket and 15 sockets. The last named members provide for hexagon parts from .25 to .625 inches, cap screws from .25 to .5625 inch and square from .25 to .375 inch. The outfit comes in a neat, substantial hard wood box. Its weight is seven pounds. The No. 12 set is less expensive and not as complete, but includes sufficient sockets, etc., to complete ordinary work. The company also manufactures wrench equipments for factories and for machinists. The No. 11 retails for $6.50; the No. 12 for $4.

Hans Ford Oil Gauge.

The American Auto Supply Company, 1741 Broadway, New York, is marketing the Hans Ford oil gauge, which differs from the usual lubricator indicators, in that it is placed on the dash in plain view of the operator, and it is stated that the height of the oil in the crankcase is accurately shown. A float chamber is connected to the crankcase of the motor by a close nipple or pipe, and the float with the indicating dial, so that any change in the float chamber is instantly shown on the dial. It is supplied complete with all fittings, etc., and instructions. It is designed for attachment to 1911, 1912 and 1913 model T Ford cars. It retails for $5.

Leader Gasoline Torch.

A torch is a valuable addition to the garage equipment, as it may be utilized for a number of useful purposes, such as heating soldering irons, starting frozen nuts, etc. The Leader Manufacturing Company, Cleveland, O., is producing a compact blow torch, which is equipped with a device for retaining the iron. Soldered joints or seams are eliminated by the construction and the torch is fitted with an Alaska wire coil handle, per-



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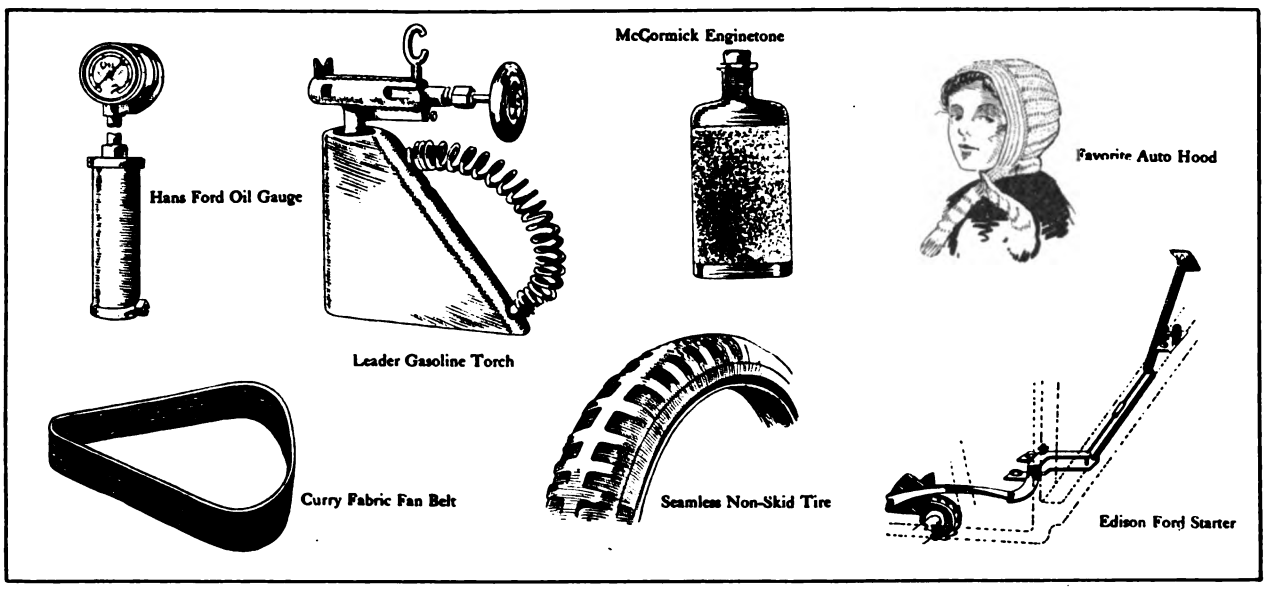

mitting of easy handling without danger of burning the hand. It sells for $7.

McCormick Enginetone.

The McCormick Manufacturing Company, Dayton, O., is offering a carbon destroyer called Enginetone, which is a chemical preparation, a fluid, supplied in a bottle. It is stated that it does not contain any oil, acid or explosive, or inflammable material. It is used in proportions of a teaspoonful to a cylinder and it is said that it will break up carbon without injury to the metal. Each bottle contains six ounces and retails for $1.

Favorite Auto Hood.

The Favorite Knitting Mills, successor to A. J. Mandel & Co., 1388 West Sixth street, Cleveland, O., is manufacturing a practical article for women and children who motor, termed the Favorite auto hood. The design is not only neat appearing, but it protects the head of the user and the shape and material makes for decided comfort. It is made in differing sizes, in all wool worsted, fibre silk and mercerized. A wide variety of shades is offered and the price is very moderate. One of the features of the Favorite auto hood is that it keeps the hair shapely when motoring.

Curry Fabric Fan Belt.

One of the objections to belt drive is that the material will stretch in service, due to atmospheric changes, oils, etc. The C. & B. Hinson Company, Grove and Liddell streets, Cincinnati, O., is manufacturing the Curry fabric automobile fan belt, which it is stated will withstand oils, greases, heat, etc., and it is also claimed that it will not stretch after service. The belts are woven by special machinery, of a high grade upland cotton and linen thread, then treated by a secret process which renders them proof against the troubles outlined above. The belts are made endless, to fit any design of fan pulley on the motor and are moderately priced. The company makes a specialty of belts for model T Ford cars, and is prepared to supply them in any lengths, furnishing a special belt fastener. The Curry belting is also made in rolls for the trade, and of standard dimensions. The retail price is 25 cents.

Seamless Non-Skid Tire.

The Seamless Rubber Company of New York City, with factories at New Haven, Conn., offers the Seamless non-skid tire, which is constructed of the same high grade material and workmanship as the other products of this concern. The company lays special emphasis on the fact that it employs only the pure Brazilian Para rubber and the finest of Sea Island cotton, which is specially woven and cut diagonally to obtain the maximum amount of flexibility and tensile strength. The company employs the single cure process and each casing is covered by the usual 3500-mile guarantee. The Waite Auto Supply Company, Providence, R. I., is Rhode Island distributor.

Edison Ford Starter.

The Consolidated Gas & Electric Company, 552 West Lake street, Chicago, is marketing the 1914 model Edison starter for model T Ford automobiles. It is a mechanical motor starter, operated from the seat, and it is stated that little exertion is required to spin the engine as the leverage is compounded. Energy is applied through suitable linkage to the ratchet wheel on the crankshaft, a pawl engaging with this gear, but provided with a device to compensate for any back fire of the motor. It is stated that the system can be applied without alterations and that no tools other than a wrench and hammer are necessary. It does not interfere with the use of the usual starting crank, which is retained. The company also manufactures a model for the K-R-I-T, Regal and Studebaker cars. The Ford starter sells for $27.50.

Motophone Horn.

The Automobile Supply Manufacturing Company, 220 Taaffe Place, Brooklyn, N. Y., is introducing a new horn known as the Motophone. It is mechanically operated, a slight pressure on a conveniently located lever resulting in a loud, steady, pleasant sound. The operating mechanism has been perfected by the maker after long experimentation and it is stated that in a test 5,000,000 signals were given without any adjustment being necessary. The maker calls attention to the convenience of the signal, in that its operation does not depend upon batteries. Throughout the workmanship and material is in keeping with the high grade product for which the concern is noted.

A. A. S. Priming Cup.

With the approach of cool weather more or less trouble will be experienced in starting a cold motor. While the majority of manufacturers make provision for priming, a large number of cars are not equipped with priming cups. The American Automobile Supply Company, 1741 Broadway, New York City, and 1408 Michigan avenue, Chicago, markets a number of inexpensive, high grade priming cups, one of which is shown in an accompanying illustration. The cup is constructed of the best quality brass, carefully machined and nicely finished. It is fitted with spring key and cotter pin and it is stated it will not jar loose or leak. This design is furnished nickel plated and has a fibre handle, enabling opening of the cock when the motor is hot. The priming cup is made in .125 and .25-inch threads and weighs about four ounces.

Lord Air Cleaner.

Analysis of deposits on the pistons and cylinder heads has disclosed the presence of more or less road dust and other foreign elements. That clean air aids in carburetion, in that a better mixture is obtained, is conceded, and the presence of dust and dirt does not improve the operation of the carburetor. Many devices have been offered for preventing the entrance of foreign elements into the carburetor, including screens, etc., but a variation is noted in the Lord air cleaner marketed by the Lord Manufacturing Company, Brooklyn, N. Y. It is screenless, oil being utilized to separate foreign elements from the air on its way to the carburetor. The air enters an umbrella shaped opening and, in passing through a chamber containing oil, the lubricant attracts the impurities by adhesion. The air then flows to an expansion chamber, thence through an opening to the air intake of the carburetor. Provision is made for replenishing the supply of oil as well as draining the old lubricant.

Arbeco Glass Lamp.

A novelty in lamp design is noted in the Arbeco, manufactured by the Reynolds-Browne Company, 1312 Michigan avenue, Chicago. It is an all glass lamp constructed both for headlight and side light use, weighs less than the usual metal electrical units and the material should make for easy cleaning as well as for efficiency. While it would appear that a glass lamp would invite easy breakage on a motor car, the maker claims that it is as durable as a metal unit, insofar as service is concerned. Between the reflector and the shell is a vacuum space which serves to prevent heat from within or without from creating undesirable temperatures, and the construction also protects the inner plating of metal that gives the lamp its finish. Inside of the shell or main

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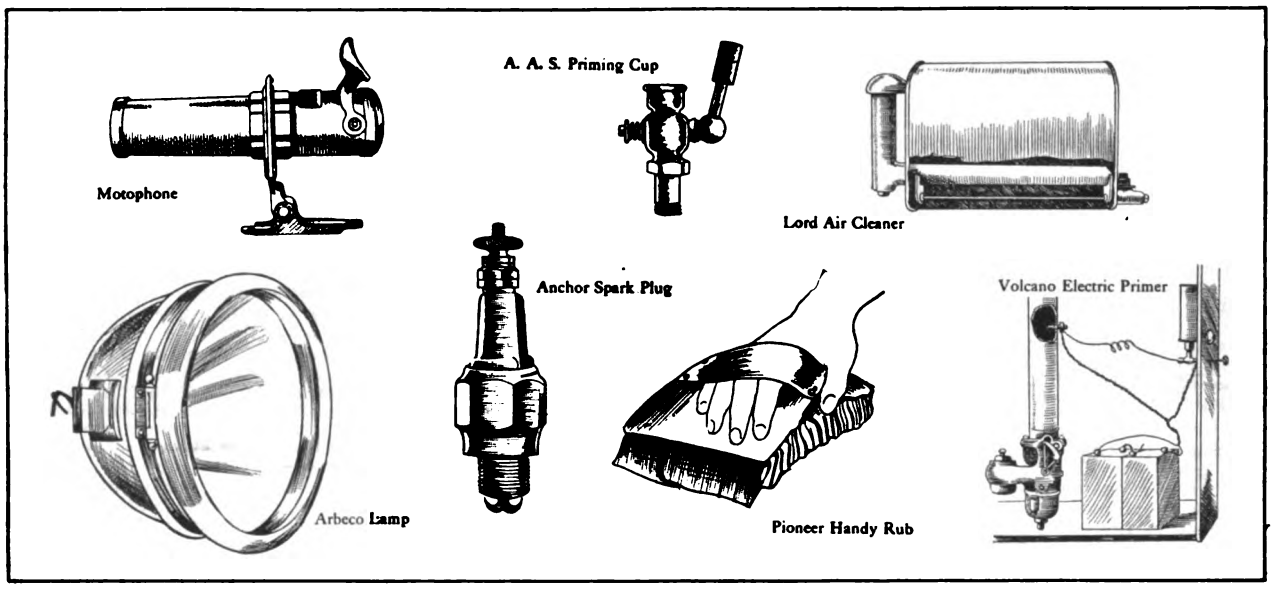
body is plated a layer of brass, nickel or copper, of a color to match the car. The reflector is a true parabola, this being silvered on the inside, where it is protected from atmospheric changes and not affected by cleaning. The only metal used is the door frame and the jamb. A focal adjustment is included, also a wired socket. The Arbeco lamp is made in different sizes to meet requirements.

Anchor Spark Plug.

The Szel Import & Export Company, 359 Broadway, New York City, is marketing the Anchor spark plug, so-called from the design of the central electrode which terminates in two arms, having much the appearance of the flukes of an anchor. Another radical departure from conventional spark plug construction is the method utilized to prevent oil being splashed onto the porcelain, thereby depositing soot and eventually creating a short circuit and faulty operation of the plug. A cap is utilized on the Anchor plug, through which extends the central electrode, but the cap is so designed and located that the high-tension current cannot jump from it to the base of the shell, owing to the high resistance encountered. It is pointed out by the maker that any oil splashing onto the cap would be consumed by the heat of combustion. The electrode is of nickel. The plug is listed at $1.

Pioneer Handy Rub.

In polishing brass with ordinary cloths and waste the hands are more or less soiled by the cleansing material. The Northwestern Chemical Company, Marietta, O., is marketing the Pioneer handy rub, which is a polishing device composed of strips of genuine oil tanned chamois sewed to a canvas back equipped with a practical retaining band for the hand. The maker states that it lightens the work of polishing brass, cleaning glass or the woodwork, and that the material is very durable and imparts a fine polish without danger of scratching the surface treated. It is inexpensive.



Volcano Electric Primer.

The Volcano Electric Primer Works, Virginia, Ill., is marketing a priming device called the Volcano electric primer, which utilizes electricity for vaporizing the fuel and which is easily operated. A small container is located inside the dash and has a line connecting with a small cup like device which is inserted in the intake pipe. Gasoline is supplied to a plate over the cup by the capillary process, a wick being employed to feed the fuel. The capacity of the cup member is very small and is suitably proportioned to make an easy starting mixture. Connected to the plate are two wires from a storage battery or dry cells, and by closing the circuit with the usual push button, the plate is heated, causing the fuel to vaporize. This makes for easy starting of the motor when cold, as not only is the mixture enriched, but it is vaporized by the rise in temperature. It is stated that the dash container has a capacity for about 150 starts without replenishing the supply of fuel. The device is easily installed and the connection may be made to the battery without interfering with the usual wiring plans. It retails for $10.

Springfield Tire Rest.

Tire manufacturers advise relieving the shoes of all weight when the machine is not to be used for any length of time. The Shawver Company, Springfield, O., is producing the Springfield tire rest, which is constructed especially for jacking up cars, although it may be employed for a number of useful purposes. One of the features of the Springfield is that the car may be raised to a height of six inches if desired, or fractions thereof. The rest is sturdily constructed, has a lifting capacity of 8000 pounds, and can be used under cars with wheel diameters of 28 to 48 inches. The adjustments are quickly made and the lever easily operated. The Springfield tire rest comes in sets of four, retailing at $12.50.

B'Co Spark Plug.

The Brown Company, Syracuse, N. Y., is producing a special spark plug for use with the Brown Impulse tire pump made by this concern. The Brown pump is inserted in the spark plug opening and operated by the impulse of the compression stroke. The early types produced were threaded for screwing into the cylinder opening, but with the new plug the work is greatly simplified. The B'Co spark plug has a removable core, which is displaced by a slight turn of a handle. The pump is then inserted in the base or shell member, to which it is secured by a bayonet type of lock, a slight twist fitting and releasing the components. The company makes an attractive offer to owners of the earlier types of Brown tire pumps not equipped with the quick acting device.

V Hot Air Valve.

The benefits accruing from the utilization of heated air in the carbureting of gasoline are well known, and many manufacturers equip their cars with a hot air device. A different application of the principle is noted in the V hot air valve produced by the V Air Valve & Manufacturing Company, 1648 Tremont street, Denver, Col. It comprises a hood like member, which is clamped onto the exhaust manifold; flexible metallic tubing for conveying the heated air, and the V valve. The last named member is screwed into the intake manifold above the carburetor and control of the valve is by a wire cable operated by a lever clamped to the steering column under the wheel. This permits the driver to regulate the amount of air admitted according to atmospheric conditions, etc., also to utilize the control for flushing out the cylinders with fresh air, as when coasting down a hill. The maker states that considerably more mileage is obtained to a gallon of fuel and that further economy is obtained in that at high piston speeds the emergence of fuel from the jet is restricted without affecting the output of the motor. The retail price is $7.

Breese Tank Valve.

The Breeze Carburetor Company, Newark, N. J., is marketing the Breeze 4 in 1 tank valve, which obtains the reserve capacity of fuel without the auxiliary tank in the fuel container. Two outlet levels are utilized in the tank, the service member being slightly higher than the reserve, and according to requirements. Two controls are provided, one for each outlet, also two off positions, connection between the indicating plate and valve proper being made by a rod arrangement. The valve is provided with a gauze strainer, also a screw plug member for cleaning and draining. One of the features of the valve is that it may be locked, preventing use of the car by others than those intended.

Tabor Pedal Lock.

The large number of cars reported stolen has led to the marketing of a number of locking devices, among which is the Tabor pedal lock, manufactured by the Loveley Sales Company, Detroit. It is a mechanical arrangement, which comprises a plate member having a lock and being fitted to the toeboard. Included in the mechanism is a hook which may be swung inward and locked, thereby retaining the clutch pedal, as shown in the illustration. With the clutch out and pedal locked, it is obvious that the car cannot be operated under its own power. The equipment includes a high grade lock with removable key and the construction is very compact. It

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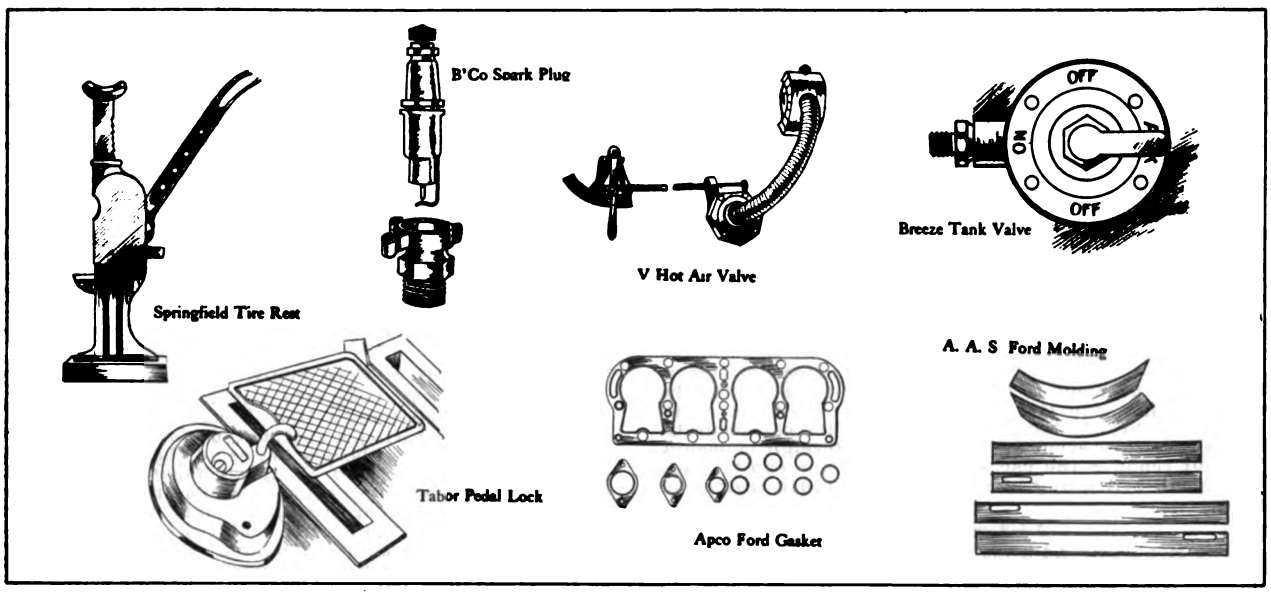


is stated that it does not interfere with the normal use of the clutch pedal.

Apco Ford Gaskets.

In fitting new gaskets to the intake, exhaust and water manifolds care should be taken to employ a high grade material and one that will resist the action of heat and water. While gaskets may be made, considerable time is saved by utilizing those designed for the motor. The Auto Parts Company, Providence, R. I., maker of Apco specialties, is marketing a complete set of gaskets for the model T Ford, including the cylinder head member, inlet, exhaust, cylinder head flange, inlet and exhaust water, and transmission drain plug. These gaskets are made of the very best material and carefully constructed. They are guaranteed to fit, and the complete set sells for 75 cents.

A. A. S. Ford Molding.

The American Auto Supply Company, 1741 Broadway, New York City, is marketing a molding assembly for model T Ford cars, which consists of a complete set of mahogany finish moldings for placing on the top edge and doors of the body. These pieces come cut to the exact length to fit and screws and washers are supplied with each set. It is pointed out that the moldings can be fitted in about 15 minutes and that they add materially to the appearance of the car, as well as protect the body material. The A. A. S. Ford molding is made for the 1912 and 1913 runabouts and touring models.

Parker Vaporizer.

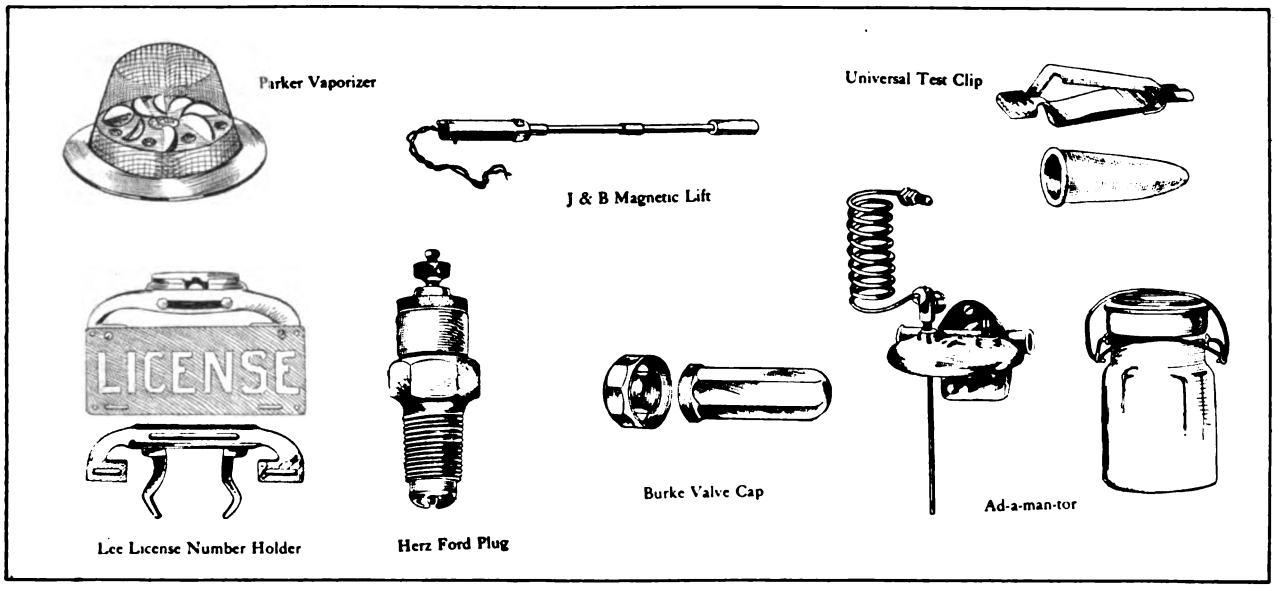
The Parker Manufacturing Company, Broad street and Ridge avenue, Philadelphia, is marketing the Parker vaporizer, which is inserted between the carburetor and the intake pipe, where it forms its own gasket. It is designed to break up any particles of raw fuel not vaporized by the carburetor, and convert these into a useful mixture. This is accomplished by means of a rotary motion imparted inside the conical mesh screens, and the maker states that in tests it has saved over 25 per cent. in fuel, and that it makes for a more flexible motor. It retails for $3.

J & B Magnetic Lift.

The J & B Manufacturing Company, Pittsfield, Mass., well known maker of ignition specialties, has brought out a useful as well as practical tool for removing parts, such as bolts, nuts, pins, etc., that are dropped into the engine pan or other places not easily accessible with the hands, etc. It comprises an electromagnet in sections, having a handle containing a switch for opening and closing the circuit between the device and the battery. These sections are so constructed as to carry the current from the handle to the magnet end without wires, and as the electromagnet is always at the end of the tool, maximum lifting power is provided at the service end. The device is designed both for the repair shop and owner and with it metal chips may be removed from the transmission, etc., and the maker states that it has sufficient power to lift valves from the cylinder heads. The tool weighs complete but 12 ounces, has a lifting power of 12 pounds, consumes but half an ampere of current, and may be utilized with any six-volt battery. It sells for $3.

Universal Test Clips.

R. S. Mueller & Co., 423 High avenue, Cleveland, O., is manufacturing the Universal test clip, which is designed for use with testing devices where a ready means of making a quick or test connection is desired. It is also of service in charging batteries and the maker states the clips will carry 10 to 12 amperes continuously without heating. The construction of the device is shown in an accompanying illustration and it will be noted that the nose is thin, making for convenience in tight places. It is stated that the "bite" is positive, that the clip will stand straight out wherever applied and that it will not sag down and make contact with adjacent lugs or terminals. The outer members are No. 20 gauge, semi-hard,



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cold rolled steel with inner construction of blued spring steel, with the point of application near the jaws. The wire is secured to the heel of the clip and soldered, after which the lips are compressed, making a tight connection. A rubber nipple is fitted, preventing shocks.

Lee License Number Holder.

The William O. Lee Company, Port Huron, Mich., is manufacturing the Lee license number holder, which is made adjustable to fit all sizes of filler caps, it being designed to be attached to the radiator. The retaining clamps slide in a slot and are locked by means of bolts and nuts. The holder is also adjustable to plates of varying dimensions. It weighs six ounces, comes polished and sells for 75 cents.

Burke Valve Cap.

The Burke Valve Cap Company, Cleveland, O., is manufacturing the Burke valve cap, which differs materially from the conventional device, in that it may be removed and replaced quickly. The cap proper, instead of screwing on to the body of the valve stem, threads into the retaining nut, the last named member having a small number of threads, but sufficient to hold the cap securely, as well as to prevent the entrance of foreign elements. The nut replaces the usual member and the cap is made hexagonal, permitting of the use of a wrench instead of pliers.

Ad-a-man-tor.

The Hendricks Ad-a-man-tor Company, Grand Rapids, Mich., is marketing the Ad-a-man-tor, which differs materially from other motor cleaning and priming devices, as will be noted by an accompanying illustration. In the first place the vessel containing the cleansing and priming fluids is of flint glass and resembles the preserve jar in shape and construction. It has the wire clamp for securing the top member, and the method of operation is similar to that of the fruit jar. The top part is secured on the hood side of the dash and an operating disc or button is located on the driver's side. Extending into the container is a small tube through which the fluids are drawn by the suction of the piston. Connecting with the tube is suitable piping, which is led to the intake manifold just above the carburetor. Two jars accompany each equipment, one being utilized for the cleansing material, which is said to effectually remove carbon and other deposits from the cylinders. The second jar is utilized for carrying a priming mixture. One of the features of the system emphasized is the ease with which the containers may be changed. The Ad-a-man-tor retails for $10.

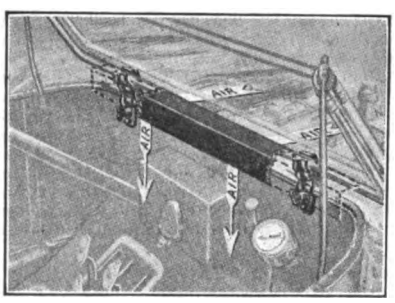
Herz Ford Spark Plug.

Herz & Co., 295 Lafayette street, New York City, maker of the well known Herz Bougie Mercedes spark plugs, is manufacturing a special type for model T Ford automobiles, which embodies the same characteristics of the other plugs produced by this company. The Herz plug has a double, unbreakable stone insulation, blue enamelled, and the four sparking points are of a platinum alloy. One of the several features of the new plug is that it is held to be self-cleaning. It carries a year's guarantee. It is stated by the maker that excellent results are obtained with this plug in the Ford motor.

EXCELSIOR VENTILATOR.

C. B. Wattles, Providence, R. I., Manufacturing Adjustable Type for Model T Ford Cars.

C. B. Wattles, 441 Butler Exchange, Providence, R. I., is introducing the Excelsior adjustable ventilator for model T Ford cars, this being shown in an accompanying illustration. It is secured to the dash and admits fresh air to the forward compartment, where more or less heat is present when the motor is operating. The ventilator may be adjusted to an open or closed position in a few seconds and from the seat. All air entering is deflected away from the occupants of the front seat as shown in the illustration by the arrows. The ventilator is constructed of high grade material, finished in black enamel and can be attached in a few minutes. The retail price is $3. The maker has an interesting proposition for dealers, particulars of which will be forwarded upon request.



Excelsior Adjustable Ventilator.

APCO FORD SPECIALTIES.

Compound for Leaky Radiators and Hood Cover Included in New Price List Issued to the Trade.

The Auto Parts Company, Providence, R. I., well known manufacturer of Apco specialties for model T Ford cars, is issuing a new price list to the trade, and included among the accessories listed are the Apco radiator compound and Apco hood cover shown herewith. The first named is a chemical preparation especially put up for the company and is employed for stopping leaks in the cooler. It is mixed with the water and when the solution is circulated, upon coming into contact with the air it hardens, forming a durable cement. There is nothing in the compound to injure the components of the cooling system and it is easily and quickly used. Each can contains enough to treat two Ford radiators and retails for $1.

Apco Radiator Compound and Ford Hood Cover.

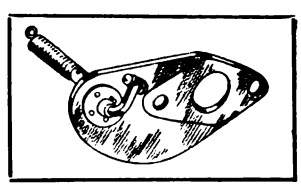
The Apco hood cover is a high grade construction, fitting over the hood and radiator and being retained by catches. It is made of a high grade dull finished rubber cloth, and being padded by three thicknesses of felt, retains the heat for a considerable period, preventing freezing of the water when the car is exposed to temperatures of 32 degrees Fahrenheit and below. It also serves to protect the motor and spark plugs from water, etc. The cover is provided with a curtain which rolls up and is held in place by curtain catches. This permits of proper cooling on mild days. The Apco hood cover retails for $5.

The company is also marketing a priming plug which is the standard Apco plug with a petcock threaded into the shell, permitting of the admission of gasoline or other priming fluids without removing the plug. This member sells for $1.

NYCO ACCELERATOR AND POWER ADDER.

New York Coil Company Brings Out Attachment for Model T Ford Motors.

The New York Coil Company, 338 Pearl street, New York City, well known maker of ignition devices, announces a new attachment for model T Ford cars which is stated to bring larger returns than with any other accessory designed for this type of machine. It consists of a hollow chamber made of nickel steel, which is .25 inch in thickness, registering with the opening in the inlet pipe and carburetor, as well as the two flange bolts of these parts. One end of the device conforms to the shape of the carburetor flange, but the other extends a distance beyond the flange and contains a peculiarly arranged valve of approximately the same area as the intake pipe opening.



Nyco Accelerator and Power Adder.

Air passages are formed in this valve in such manner that when the valve is unseated by means of a steel wire running to a pedal located in the rear footboard, air is admitted to the inlet pipe, as no obstructed passage is provided between the valve and the intake pipe connections. The valve is supported on a rod, which is carried by a valve guide on the opposite side of the instrument.

Two springs of different sizes are employed, the first a light member, its function being to keep the valve normally seated; the second a heavier spring, which comes into action only when the pedal is depressed more than normally when a hill is to be descended, during which time the device allows the cylinders to be completely filled with pure air, and also serves to effectively hold the car in check. The main object of the device is to supply pure air to the ever present over rich mixture supplied by carburetors at speeds ranging from 10 to 30 miles an hour.

The maker states that the Nyco will save 25 per cent. gasoline and add vim, snap and quick getaway to the Ford motor, due to its preventing an over rich mixture; and that the formation of carbon is prevented and a cool engine is assured even when the car is operated under

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the most strenuous conditions. The device has been given a thorough testing and was designed expressly for the Ford motor by automobile engineers of long experience. It is stated that it is the only device of this nature which can be attached without drilling, tapping or even removing the inlet pipe. The list price with pedal is $5, and it is sold with a positive guarantee that the purchase price will be refunded if not satisfactory. The maker, the New York Coil Company, will be pleased to forward instructive literature to all readers of the Accessory and Garage Journal.

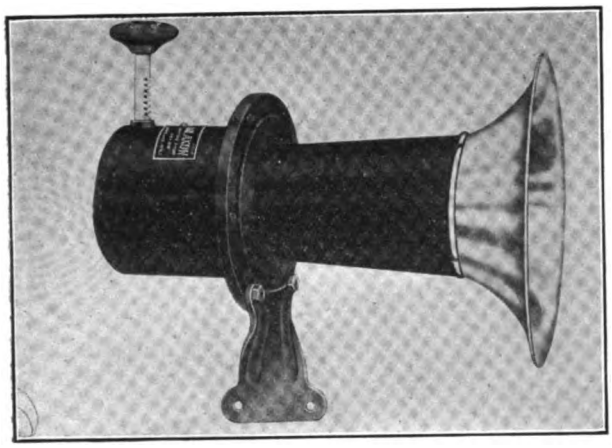
ADDITION TO KLAXON FAMILY.

New Horn Is Operated by Hand and Has Similar Note to Well Known Signal.

The Lovell-McConnell Manufacturing Company, Newark, N. J., maker of the well known Klaxon horn, announces a new signal which is manually operated. It is not entirely new, however, being a development of the original hand Klaxon, which was manufactured in 1909, and since then gradually discontinued, owing to the enormous demand for Klaxons operated by electricity.

The new member of the family is operated on the Klaxon principle of a vanadium steel diaphragm vibrated by a rotor or ratchet wheel. In the case of the electric horn this ratchet wheel is rotated by an electric motor; in the new horn, by a train of gears that attain a high speed under pressure on the pushrod. The hand signal has a true Klaxon note and is sold under the Klaxon guarantee of permanent satisfaction. It retails for $10.

Deliveries will begin Dec. 1. The same high grade material and workmanship characteristic of the products



Showing the Latest Member of the Klaxon Family, a Hand-Operated Horn, Embodying Klaxon Principles.

of the Lovell-McConnell Manufacturing Company are incorporated in the new product.

ISSUES PREFERRED STOCK.

United States Rubber Company Offers Stockholders Opportunity to Purchase $9,422,000 at Par.

The directors of the United States Rubber Company, New York City, have voted to issue to the stockholders at par $9,422,000 of the preferred stock, which is equal to 10 per cent. of the present outstanding issue of capital stock. Samuel P. Colt, president of the company, said that the recent outlays in the enlargement of the company's plant have made necessary the raising of new capital. He added that the business of the company for the fiscal year ending Oct. 1, both in amount and profits, was fully equal to the returns for the corresponding period of 1912, which exceeded that of any previous year. At the same meeting Nicholas F. Brady was elected a member of the executive committee.

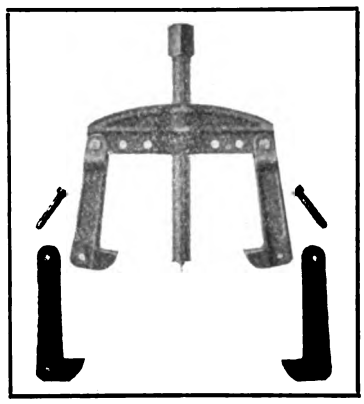
TO REMOVE TO BENTON HARBOR.

Fred G. Bremer has become president of the Universal Manufacturing Company, Racine, Wis., and the concern has been merged with the Bremer-Wilson Company of Chicago, Ill. This transaction gives to the Wilson-Bremer interests a factory in which to produce its engine starters, locks, pliers, etc. A site has been secured in Benton Harbor, Mich., and as soon as arrangements are completed the Universal company will be removed to that place.

CRANE WHEEL PULLER.

An Improved Tool for Removing Car or Flywheels, Gears, Sprockets, Etc., Constructed from High Carbon Steel.

One of the most useful tools in the garage and repair shop is a wheel puller that can be adapted to any type of machine. The Crane Puller Company, 54 Lake street, Arlington, Mass., maker of the Crane wheel puller, is now producing an improved combination wheel and gear puller, illustration of which is shown. The tool is drop forged from a high carbon steel and the screw is cut by special machinery and completely case hardened. The arms are constructed of a high grade material and, as will be noted, the puller may be adjusted to remove flywheels, gears, transmission shafts, camshafts, sprockets, collars, pulleys, couplings, etc. Descriptive matter and price list of the Crane wheel pullers will be forwarded on request.



Crane Patent Wheel Puller.

WILL REPRESENT WILLYS.

Claire L. Barnes to Assume Responsible Position with Overland Concern in January.

Claire L. Barnes will on the first of the new year become the personal representative of John N. Willys, head of the Willys-Overland Company, Toledo, O., and prominently interested in a number of other automobile concerns. Mr. Barnes is well and favorably known in the trade, and attained distinction as founder and head of the firm of Claire L. Barnes & Co., Detroit, direct factory representative of a number of concerns making automobile parts.

EXCEL AUTO JACK.

Crane Puller Company's Quick Acting Tool That Is Mounted on Rollers and Operated by a Lever.

Any tool or equipment saving time and labor means economy in the garage and repair shop. The Crane Puller Company, Arlington, Mass., is building the Excel auto jack, a very practical tool that can be easily and quickly operated without stooping, as is necessary with conventional types. As shown in an accompanying illustration, the Excel jack is operated by a lever, the length of which makes for easy and convenient operation.

One of the qualities of the jack is that it can be adjusted instantly to any work. It may be said to be a double jack in that one adjustment permits of its being placed under anything not more than five inches above a level, while another position will give a lift from a height of 20 inches. The lifting capacity is four inches in two seconds. The smaller illustration shows the jack adjusted for use where the clearance is small, while the larger illustrates the maximum. It may be operated at any angle, and a toe or extension is used where the clearance is small. The Excel jack has a capacity of 8000 pounds. It is constructed of low carbon steel with case hardened pins. It is built for hard work and is fully guaranteed. Being mounted on wheels it is moved easily. The maker claims it will save its cost in a week on the washstand alone.

The Excel Auto Jack.

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PRODUCING MULTIBESTOS BRAKE LINING.

How Asbestos Is Woven into a Homogeneous Mass and Treated to Withstand Friction Stresses at New Factory of Standard Woven Fabric Company.

(By C. P. Shattuck.)

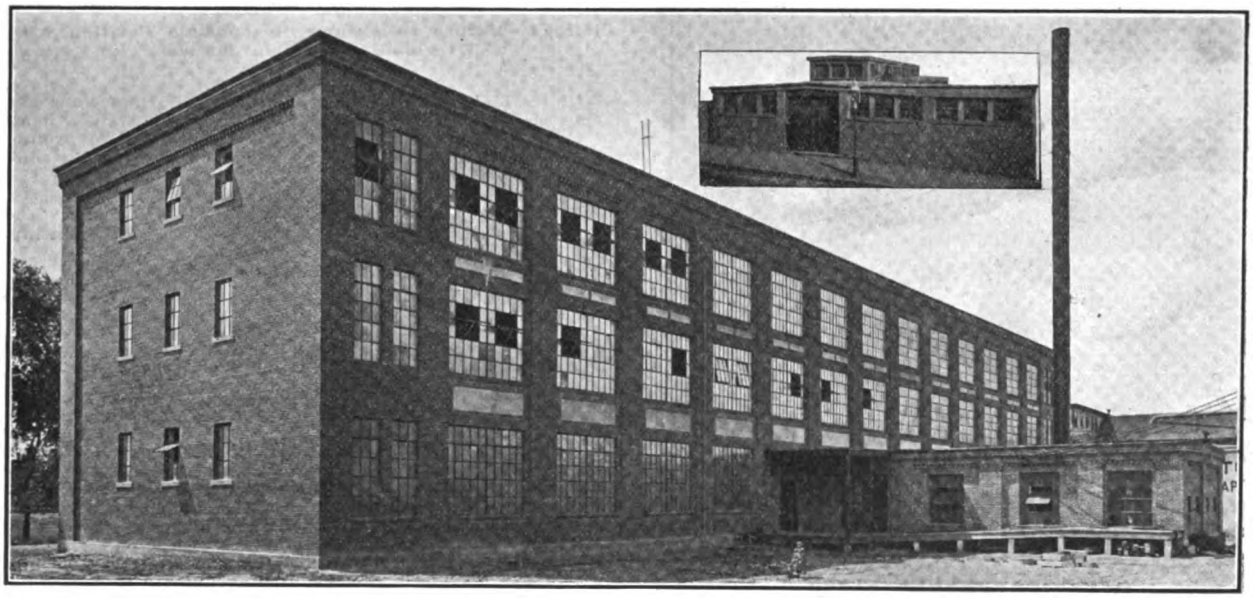
THERE is no component part of the motor car, unless it be the steering mechanism, that is more necessary to its safe operation than the brakes. That designers attach considerable importance to these members is emphasized by the fact that at least two independent sets of brakes are provided, either of which when properly constructed and adjusted is capable of locking the wheels. The efficiency and dependability of modern brakes—which may be said to receive too little attention from the average user—are due to the careful and scientific study and development of the friction material, or brake lining.

Few motorists realize the energy which must be absorbed before a machine is brought to rest after being in motion. If a car be set in motion by the power of its motor and the energy be cut off, it will not come to a stop until this momentum is overcome by the friction of its bearings, the rolling friction and air resistance.

The capacity of a brake is dependent upon the total area of the surfaces in contact, the pressure per square inch with which they are held, the velocity of the rubbing surfaces and the coefficient of friction. The durability of the material depends to a great extent upon the temperature it attains, and this in turn is influenced by the pressure required to resist the motion of the rubbing surfaces.

The early designs of brakes were of the metal-to-metal type, but this construction is not favored, because a certain amount of lubricant is necessary to prevent cutting of the surfaces and heating, and the oil causes a decided loss in efficiency.

The very high heat resistance of asbestos early attracted the attention of engineers as a possibility for a friction material, but difficulties were experienced in producing a homogeneous mass; one that would not disintegrate, glaze or present uneven surfaces. Among those who gave these problems serious consideration was the Multiple Woven Hose and Rubber Company, Worcester, Mass., which concern was engaged in the manufacture of solid multiple fire hose fabrics and solid cotton belting. The difficulties were ultimately overcome by the construction of special looms and the treating of the asbestos fabric with a compound, resulting in the production of Multibestos, a trade name well known throughout the automobile industry.



New Factory of Standard Woven Fabric Company, Framingham, Mass., Maker of Multibestos Brake Lining—Some Idea of the Enormous Growth of Business May Be Obtained by Comparison with Worcester Plant, Seen in Insert.

In March, 1911, the Standard Woven Fabric Company was incorporated under Massachusetts laws and in April of the same year took over by purchase the business of the old concern.

The company began operations in a brick building at 7 Summer street, Worcester, Mass., the two floors and a basement providing about 12,000 square feet of floor space. Shortly after, Multibestos brake lining was offered to the trade. Technical tests and actual service demonstrated its efficiency and durability and in 1912 the demand for the material assumed such proportions that it was necessary to add a second plant, this being located on Arch street and being known as the brake lining factory. In it was the machine shop, where the special looms for

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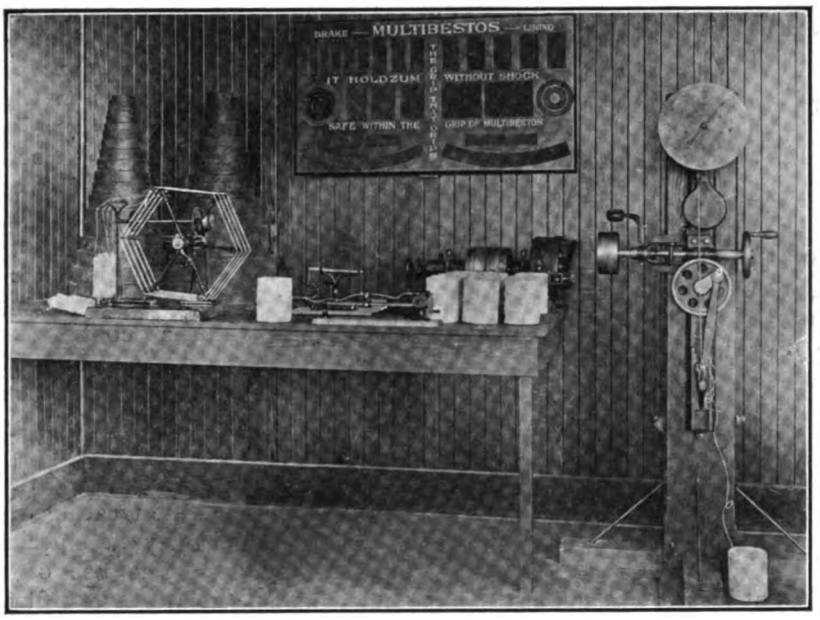


Section of Testing Room Where the Asbestos Yarn Is Tested for Tensile Strength, Weight, Twists, Etc.

weaving the yarn were made and assembled.

The business grew rapidly, showing an increase of fully 400 per cent. in two years, and the capacity of the Arch street plant proving inadequate, it was found necessary to provide for increased facilities and a new factory. After a thorough investigation it was decided to locate at Framingham, Mass., on the Boston & Albany railroad. The new building was started about Dec. 1, 1912, and the removal of machinery from the two Worcester factories was completed Aug. 1. The manufacture of Multibestos brake lining, multiple woven fabrics and solid woven cotton belting was resumed shortly after.

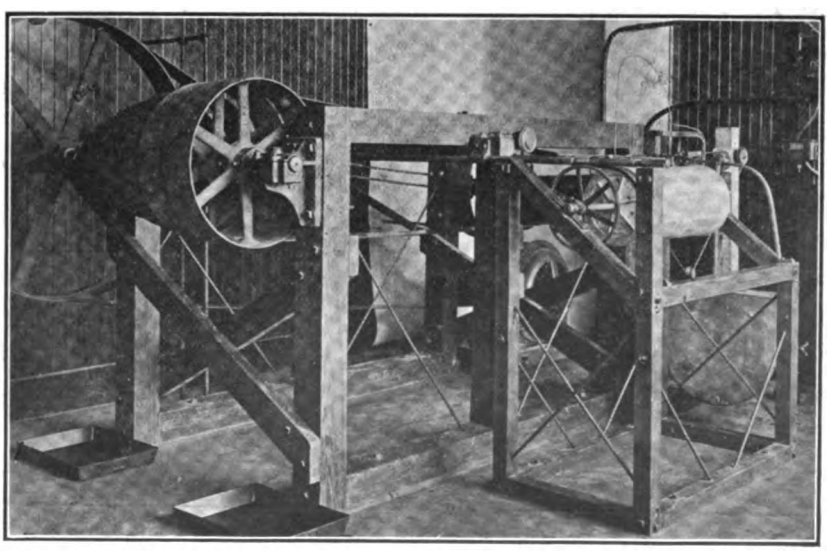
The new factory provides 50,000 square feet of floor space, is pleasantly located, and is designed and equipped to overcome the many problems of quality production. It exemplifies the value of scientific methods of manufacturing and it is a structure in which the efficiency of the manual worker is developed to a high degree, in that ample light and pure air are provided in the rooms. No matter how warm the day, the difference in the temperature and quality of the air upon entering the building is very noticeable. A certain temperature and humidity are maintained, summer and winter, throughout the plant, by the Sturtevant Carrier Air system, which may be termed an air laundry, in that the atmosphere is washed of all impurities, saturated with moisture, forced to each room, drawn from each department, and again washed. By this method any predetermined temperature may be maintained.

The building itself is of reenforced concrete and brick construction, fitted with sprinklers throughout. The ground floor is divided, one-half being utilized for the offices, laboratories, testing rooms, etc., and the remainder for the stock and shipping departments, and winding rooms. The other floors are devoted to the weaving and treating departments and machine shop. Steam is supplied by a Robb-Brady marine type boiler of 150 horsepower capacity. As all of the units are driven by direct connected electric motors, and the building throughout is lighted by electricity, a large generating set will soon be installed.

The process of making the 90 to 95 per cent. asbestos yarn into a homogeneous mass and treating it without injuring the original vitality of the material is an interesting one. The asbestos is mined in Canada and spun into a three-ply yarn having two strands of brass wire and wound onto reels or spools, according to specifications of the Standard Woven Fabric Company, which hopes soon to manufacture its own material from the raw products.

The yarn is tested for tensile strength, weight and number of twists, by machines designed for this work and shown in an accompanying illustration. After testing for tensile strength, the material is placed in the twisting machine, which determines accurately the number of twists to a three-inch strand, a factor making for strength of the material. It is next wound onto a reel, which mechanically indicates on a dial the number of yards of the material to be weighed. These tests are conducted carefully and the limits are very close.

From the testing room the yarn goes to the winding room, where a special machine is employed for winding it onto tubes. This machine may be said to handle the delicate material with



Machine Designed by Chief Engineer E. E. Waite for Testing Brake Linings —The Same Conditions to Which Linings Are Subjected in Service Can Be Produced Accurately.

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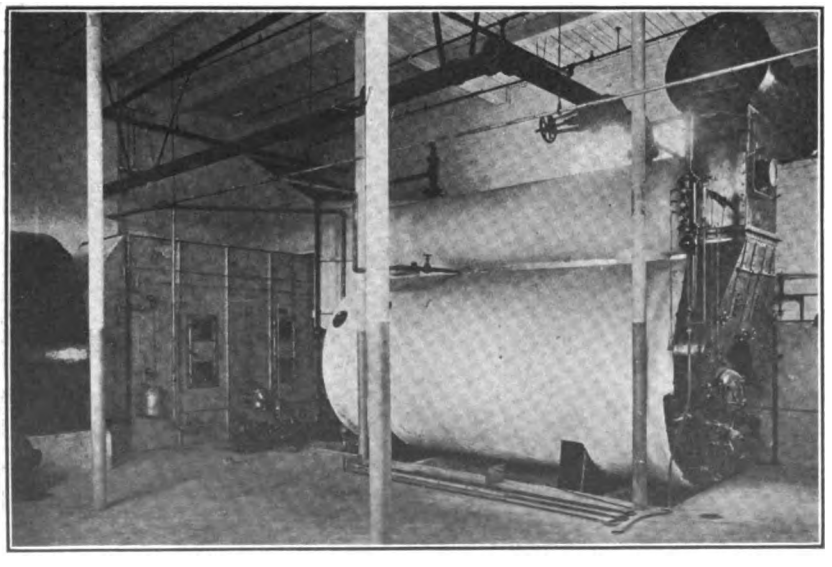
A Corner of the Shipping Room, Showing Various Sizes of Multibestos Brake Lining Awaiting Shipment.

gloves, in that the yarn is wound without loss of the fluffy asbestos.

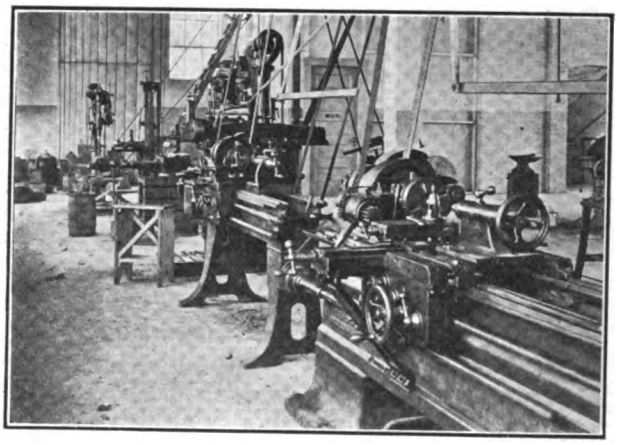
One entire floor is devoted to the looms which weave the yarn into compact form and into the shapes and thicknesses shown in an accompanying illustration. The weaving rooms are accessible only to the officials of the company and certain employees, as the machines embody valuable features not found in other looms, which produce a brake lining retaining non-glazing, non-granulating qualities under the most severe conditions of service. The efficiency of these looms is such that the yarn is woven with slight loss of material, and production is aided by maintaining the proper moisture and temperature. Some idea of the capacity of the machines may be obtained from the dimensions of the material, Multibestos being produced in thicknesses of .125, .15625, .1875, .25, .3125, .375 and .5 inch, and in widths varying by quarters from one inch to eight. It will not be long before looms will be operating, producing these goods in the solid weave up to 20 inches width.



Power Is Supplied by a Marine Type of Boiler of 150 Horsepower Capacity—A Certain Temperature and Humidity Are Maintained Throughout the Plant by the Sturtevant Carrier Air System (Shown at the Left), Which May Be Termed an Air Laundry.

The yarn fed from the tubes into the looms presents an appearance similar to a maze of white wires, and emerges in the form of a white tape, which is wound on special reels. Each machine has a capacity of over 1000 feet daily, and some idea of the annual output of the company may be gained by the statement that if the brake lining were made into a continuous length, it would reach over 1000 miles, or approximately from New York City to Chicago by the shortest road route.

From the weaving room the lining is taken to the treating department, where by a special process, involving the use of a chemical compound which permeates every fibre of the fabric, the material is rendered heat, dust,



A Portion of the Machine Shop Where the Components of the Special Weaving Looms Are Constructed.

water, oil and grease proof. After passing through the various processes, the lining is fed through what is termed a gravity elevator, each length passing through a sized compartment to the floor below, where the trade mark of the company, Multibestos, is stencilled with aluminum letters. The machine was designed and constructed in the machine shop of the company, and in addition to marking the material, measures and reels it into 100-foot lengths. These rolls are next taken to the stock room and made ready for shipment, a spur track leading to the factory providing excellent facilities.

In addition to producing standard sizes of Multibestos brake lining, the company manufactures special sizes to order. One of the specialties produced is a special lining for Ford cars, the Ford Motor Company specifying a material having

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the same qualities as Multibestos, but without the brass wire. Another feature is that this lining must not be affected by oil, and the chemical treatment of Multibestos Ford Special fully meets this requirement.

The Standard Woven Fabric Company has in the process of construction machinery for producing Multibestos facing for the various forms of clutches employing a dry friction material, and the plans include the manufacture of standard and special sizes. The flexible qualities of Multibestos make it adaptable for other than service with motor cars, it being utilized for clutches in mill transmission equipment, mining machinery, cranes, hoists, elevators, presses, etc., where a material having a high coefficient of friction is desirable.

One of the most interesting departments in the factory is the testing room, in which is located the machine utilized for testing brake lining, and which is shown for the first time in an accompanying illustration. It is the creation of

The Offices of the Standard Woven Fabric Company Are Spacious and Well Lighted.

E. E. Waite, the chief engineer of the company, and on it can be produced exactly the same conditions to which brake lining would be subjected in actual service.

These include, as previously pointed out, the coefficient of friction, the pressure required to resist motion of the contacting surfaces, speed, temperature, chatter, etc.; in fact, those factors entering into the efficiency and durability of the friction material. The action of water, oils and greases is noted by immersing the band carrying the lining in these liquids. Any desired speed may be produced, equalling that of an automobile travelling at a few miles an hour to the maximum, and the action resulting from the gradual application or locking of the brakes is charted on a revolving drum.

Throughout the factory is noted every modern convenience tending to promote the quality of Multibestos brake lining and other products of the concern, and a large force of machinists is employed in executing new designs of looms and

George D. Moore, President, at Left, and Arthur H. Burdick, Treasurer and General Manager, at Right.

machinery by which the output may be augmented, as the business is steadily increasing.

The Standard Woven Fabric Company has prospered to such an extent that since its incorporation the annual dividend of six per cent. has always been paid on its outstanding preferred stock. The capital consists of $200,000 preferred and $200,000 common stock, both carrying a par value of $100 a share. The stock is closely held, largely by those directly connected with the management of the affairs of the company. At no time has the stock been placed in the hands of underwriters, but has always been disposed of by the directors and officials. Quite a block of the common stock still remains unissued, and this will be held in reserve to provide additional working capital or further extensions, if required. The success of the company is attributed to the use of the highest grade of material and the most rigid inspection of it, and the workmanship entering into the construction of Multibestos and the other products.

The officers of the Standard Woven Fabric Company elected at the time of the organization are the same as today and are as follows: President, George D. Moore, Worcester, Mass.; vice

Edwin E. Waite, Factory Manager, at Left, and T. J. Daley, Secretary, at Right.

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president, W. B. McSkimmon, Boston; treasurer and general manager, A. H. Burdick, Framingham, Mass.; secretary, T. J. Daley, Worcester, Mass.; factory manager, E. E. Waite, Framingham, Mass. The board of directors comprises the above-named officers and William Lowell Putnam, J. H. Drury, Stoughton Bell and Ashton L. Carr, all of Boston.

PROF. HOSFORD IS REAPPOINTED.

Well Known Instructor Will Head Boston Y. M. C. A. Automobile School for Another Year.

It does not come exactly as a surprise to the many friends of Prof. Winthrop C. Hosford, manager of the Boston, Y. M. C. A. automobile school, to learn that he has been appointed for another year. This school, which enjoys the distinction of being the first of its kind to be established in this country, has a reputation which places it in the very front rank among institutions of this character, and a large measure of credit is due Prof. Hosford.

Prof. W. C. Hosford, Manager, Boston Y. M. C. A. Automobile School.

Born in New Britain, Conn., he entered a machine shop at the age of 16. During the next few years he studied machine drawing and designing evenings. He became identified with the New England Motor Carriage Company in 1898, thus assuming a place among the pioneers of the industry, and has been connected with the automobile field in some capacity or other ever since that time.

For several years he served as chief instructor of the Boston Y. M. Y. C. automobile school, previous to his promotion to become manager early in 1912. Several thousand men—chauffeurs, operators and others connected with the industry in many different capacities—can testify to his skill as a teacher and to his genial personality.

Prof. Hosford is not only a hard worker, but studies continuously, keeping abreast of the improvements and developments of the modern motor vehicle, no matter what the type. In the school he is assisted by 16 instructors, each of whom is trained and experienced in his respective branch. In this manner the highest possible standard is maintained at all times.

DESIGNING NEW ELECTRIC WAGON.

Neracher Now with Chicago Electric Car Company, Which Will Be Removed to Toledo.

Carl A. Neracher, who has been chief engineer of the Willys-Overland Company, Toledo, O., has acquired an interest in the Chicago Electric Car Company, Chicago, Ill., and is to become identified therewith. Control of the Chicago concern has been acquired by strong financial interests and it is believed that the name will soon be changed and the business removed to Toledo.

An office has already been opened in the Ohio building, Toledo, and Mr. Neracher has commenced work on a new model light delivery wagon which will sell at a price well below $2000. The body work will be done at the plant of the Milburn Wagon Works, Toledo, and it is reported that the new car will be on the market in January.

The auction sale of the personal property, equipment, materials and real estate of the Schacht Motor Car Company, Cincinnati, O., brought a little over $60,000 out of an appraised value of $175,000.

MILLER'S ADVANCE CATALOGUE.

Pioneer Accessory Dealer Plans to Distribute 100,000 Copies at the Various Automobile Shows.

Dealers and agents throughout the country have come to realize the importance of Chas. E. Miller as a representative accessory house. Most of them are acquainted with the history of this pioneer concern, since Miller was selling accessories for automobiles almost as soon as there were any automobiles in this country. He graduated from the bicycle field in somewhat the same manner as many of the manufacturers and dealers.

The business has grown rapidly, the head of the concern anticipating the demand in every line, first as a dealer, then as manufacturer, jobber, exporter and importer. The headquarters are located at 97-103 Reade street, New York City, where all the details of the business, which now includes 14 branches in 13 cities and nine states, is supervised personally by Mr. Miller.

These branches are located as follows: New York City, 924 Eighth avenue and 2782 Broadway; Brooklyn, N. Y., 1421 Bedford avenue; Buffalo, N. Y., 824 Main street; Albany, N. Y., 135 Central avenue; Boston, Mass., 202-204 Columbus avenue; Springfield, Mass., Bridge and Dwight streets; Hartford, Conn., 274 Trumbull street; Detroit, Mich., 227-229 Jefferson avenue; Cleveland, O., 1829 Euclid avenue; Philadelphia, Penn., 318 North Broad street; Atlanta, Ga., 259 Peachtree street; New Orleans, La., 601-603 Baronne street; Newark, N. J., 274 Halsey street.

Particular attention is drawn to this concern at this time through the appearance of the 1914 advance catalogue, No. 27, 100,000 copies of which have been printed for distribution at the forthcoming automobile shows. The cover treatment is especially indicative of the extent of the business, automobiles, motorcycles, aeroplanes and motor boats occupying a prominent place in the design. Several new lines are presented in the latest catalogue, and, inasmuch as the Miller service is available in every section of the country through the use of the parcel post, no dealer will feel that his supply of information concerning the accessories, supplies and fittings now in the market is complete without securing a copy.

J. A. Vail, who for the past eight years has been general manager of the Fairbanks-Morse Manufacturing Company, Beloit, Wis., has been elected chairman of the executive board of the Maxwell Motor Company, and has gone to New York to assume his new duties. He succeeds J. C. Brady, son of the late Anthony N. Brady.

ABSOLUTE TIRE PROTECTION
GIVEN ONLY BY THE
Hopewell Tire Case
It prevents any water entering the spare tire either from rain or hose used in washing). Water rots the fabric and causes blowouts.
$3.00 to $4.00 according to size.
Hopewell Brothers, Newton, Mass.

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Automobile Garage and Machine Repair Shops of seven thousand square feet floor space for sale; running at full capacity; great opportunity for live automobile man. Write Peninsula Automobile and Garage Co., 3208 Washington Ave., Newport News, Va.

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13,191 Automobile Dealers.....$25.00
9,627 Automobile Garages..... 20.00
5,681 Automobile Repairs..... 12.50
3,541 Automobile Supplies..... 10.00
150,000 Ford owners.....$3.00 per thousand
Neatly typewritten, showing Financial Rating in Dollars of each one, alphabetically by States and Towns, 1913 compilation.
Ask for certain States if you do not want all.
877,000 Automobile Owners by States. Price on application.
Ask for our "Silent Salesman" showing 2000 other lists, etc.
Send check with order.
TRADE CIRCULAR ADDRESSING COMPANY,
166 West Adams Street, Chicago.
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WRIGHT RADIATORS

FORD T and all BUICK models carried in stock. Delivery on receipt of order. Get our prices for the best value ever offered. THE WRIGHT MFG. CO., Muskegon, Mich. 10-11

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THE GREATEST CAR VALUE FOR 1914

See all others—but examine the KING before you buy

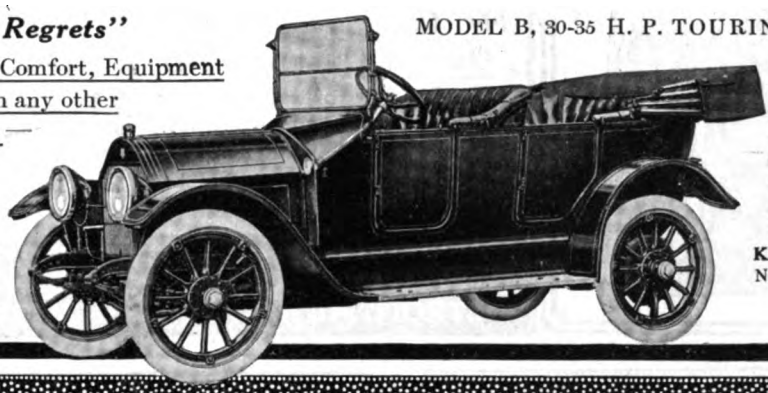
"The Car of No Regrets"

MORE Service, Economy, Comfort, Equipment and Style than can be had in any other car near the KING'S price—

$1095

WITH EQUIPMENT

Ward Leonard Starter and Generator, $100 net additional.



MODEL B, 30-35 H. P. TOURING CAR AND ROADSTER

"None So Easy Riding"

The KING'S patent cantilever rear springs make all auxiliary shock-absorbers unnecessary; prevent "side swing" and assure long life to car and tires.

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KING MOTOR CAR CO., Detroit, Mich.

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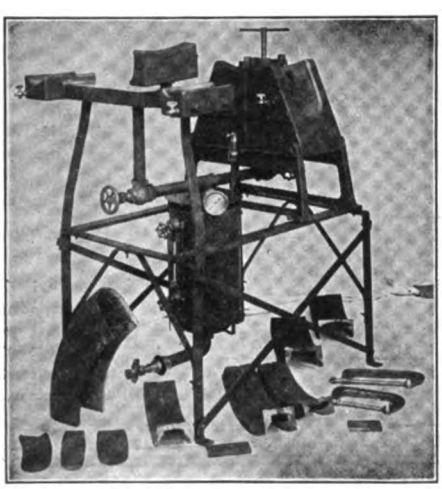
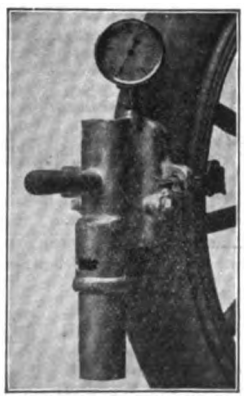


Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit. Ask for Catalogue C. Tells how to do the work.



Van Steam Portable

$5.75 for Sample

and we pay the postage. Made to repair tires on the rim, a great tire saver. Also repairs tubes.

VANDERPOOL CO.

Springfield, Ohio

The Atwater Kent Ford Ignition

does more than eliminate the frequent and troublesome adjustment of the Ford coils.

The Atwater Kent Ignition assures perfect synchronization at all speeds, eliminating preignition and overheating—starts easily with a quarter turn of the crank and frequently without cranking by means of the starting button on the coil.

Effects a saving in gas, wear and vibration by enabling the motor to run slowly while the car is standing and run as smoothly "on high" at four miles an hour as at thirty or fifty.

The Atwater Kent will, in addition, wonderfully increase the power, speed, flexibility and hill-climbing ability of the Ford car, and gives superior results and costs less than half that of the high tension magneto.

It consists of the Unisparker or distributor elevated to a convenient and accessible position which takes the place of the Ford timer and a single non-vibrating coil is installed in place of the four vibrating coils.

It is easily installed by any one who can time a motor—no holes to bore—a screw driver and wrench are the only tools required.

Price complete with hand-operated switch $28.00—foot-operated switch $2.00 extra.

Write at once for Circular "L" and trade prices.

ATWATER KENT MFG. WORKS 4932 STENTON AVENUE PHILADELPHIA

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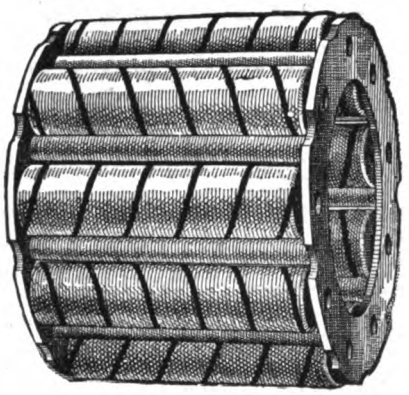

HYATT QUIET BEARINGS

For Convenience of Car Owners A Small Stock of the Popular Sizes of Hyatt Roller Bearings as used in Motor Cars is maintained in each of the Cities indicated.

Address SERVICE DEPARTMENT

SERVICE STATIONS

756 Woodward Ave., Detroit Michigan
(Telephone Grand 4130);
1120 Michigan Ave., Chicago, Illinois
(Telephone Wabash 3790)
4th and Middlesex Streets, Harrison,
(Newark) N. J.
(Telephone Harrison 2190)

HYATT ROLLER BEARING CO.
DETROIT, MICH. WORKS: NEWARK, N. J.

"PASS THEM ALL"

Knox
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX AUTO CO., Springfield, Mass.

APCO

Ford Specialties

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Is Free and Ready Now

Dealers: Get in on Our Line

AUTO PARTS CO., PROVIDENCE, R. I.

AKRON-WILLIAMS

Proved-By-Test Equipment

MEN, the first essential in the Tire Repair Business is first quality, proved-in-practice Equipment.

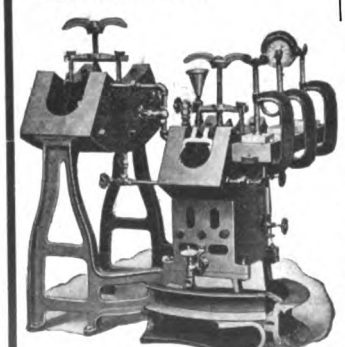
You can't afford to experiment with uncertain Equipment. That is apt to ruin your business, ruin your customers' tires and tubes, and cost you a new Equipment.

You take no chance when you buy Akron-Williams—you are not experimenting. Akron-Williams Repair Equipment and Tools are all "Proved-By-Test," before we offer them to the trade.

Some Akron-Williams Users

Firestone, Goodyear, Diamond, Hartford, Republic, Pennsylvania, Revere, Consolidated, Empire, U. S. and Hood are some of the 27 leading Tire Makers using our equipment.

You are safe in using what these makers use.



One of a dozen styles

Localized Steam

The three distinct and separate steam chambers of Akron-Williams Repair Outfits is an important feature. That insures heat just where wanted, prevents over-curing, and insures efficient work.

Let's Talk It Over

If you are going to enter this profitable business—Tire Repairing—write us and let's talk it over. There are many reasons why you should buy Akron-Williams equipment, and we'll be glad to show you why.

Get our valuable book—Catalog No. 12. It's full of expert information. Write for it now.

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The Waterhouse & Lester Co., San Francisco, exclusive California Distributors.

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TRADE MARK REG. U.S. PAT. OFF.

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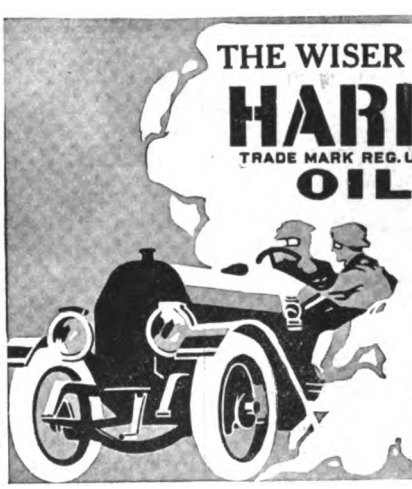

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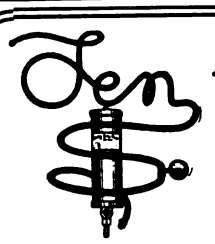

A DEWEY POWER TIRE PUMP

Saves Both Money and Labor

Costs Only $10 Complete

No other power tire pump is sold without extras at the price of the Dewey

A comfort in the Summer season, the Dewey is a real luxury for the Winter motorist.

The Dewey saves more than hard work; it is the cheapest sort of tire insurance. With it you will always keep your tires at the correct pressure, upon which their guaranty is based.

It is the only power tire pump that is never oiled.

With high grade dial and all connections, including 12 ft. of special fabric covered hose, tested to 1,000 lbs., sold everywhere under a year's rigid guaranty for $10

See your dealer—insist upon the Dewey.

THE DEWEY-ANDERSON CO. 450 Woodruff Avenue, TOLEDO, OHIO

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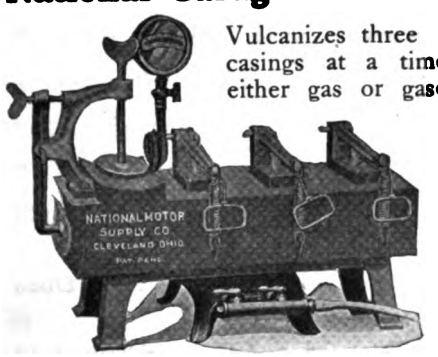
National Garage Steam Vulcanizer

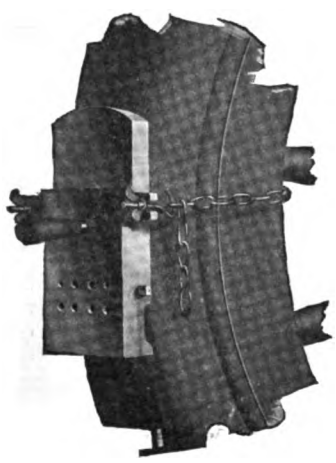


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

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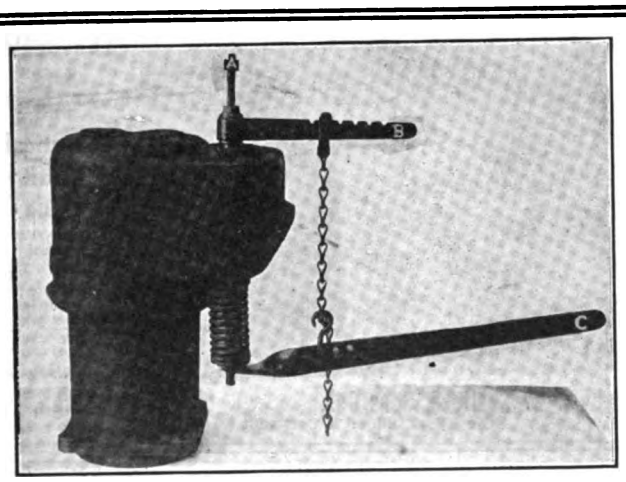
THE NATIONAL MOTOR SUPPLY CO.

5004 Euclid Ave., Cleveland, O.



WINSOR PATENT ADJUSTABLE MOTOR VALVE REMOVER.

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous everage obtained, will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug

LIST PRICE—Enameled black, each $2.50. Nickel plated, each 5.00

Extra barrels, each $1.50.

Dealers, Write Today for discounts. Manufactured by

Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

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THE MOTOR TRUCK

12 Issues **$2.00 the Year**

Cold Weather Increases Carbon Deposits!

Winter Driving Facilitated

Cold weather calls for thin engine oils. Thin oils frequently cause imperfect or over-lubrication—and it is over-lubrication with incomplete combustion, that produces carbon deposits in cylinders.

Carbon deposits cause a lot of trouble which is hard to trace. You can rarely tell, without dismantling your engine, when it is carbon that is responsible for engine faults. Thus it is decidedly important that cylinders should be cleaned of carbon at regular intervals to assure maximum of efficiency with minimum of trouble.

And the most complete and thorough, while least expensive method for doing this is by use of a

Cox Oxygen Carbon Remover

No taking down engine! No half-finished scraping of cylinders and pistons! No tieing up the car for a day or more!

The work is done quickly—within 6 to 10 minutes per cylinder. It is done completely. The oxygen removes the carbon, to the smallest detail and from every nook and corner—even to the pores of the metal.

Taxicab, Motor Truck and Large Private Owners will find this a means of not only saving money, but also of easily and constantly keeping the cylinders of their cars in excellent condition. For them, one Cox Oxygen Carbon Remover will pay for itself many times over.

GARAGE OWNERS can make it pay a handsome dividend—while doing the work for their customers in much less time and with far better results. Owners can afford and will have you clean their engine cylinders frequently when they know it costs little, takes only a short time and will do the work right. *The Cox Oxygen Carbon Remover has paid for itself twice over in one week—and can do the same for you!*

Send for full information.

Outfit complete (without tank) only $25.00.

Cox Brass Mfg. Co.

ALBANY, N. Y.

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Cox Brass Mfg. Co.,
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Gentlemen—Please send me full information about the Cox Oxygen Carbon Cleaner.
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A. & G. J. 11-13.

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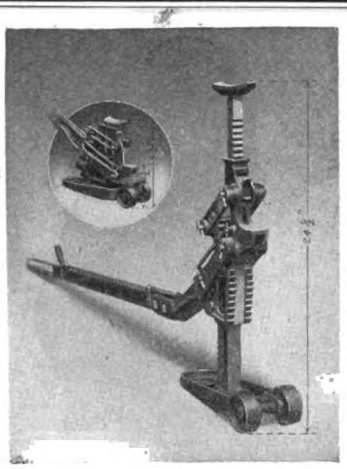

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EXCEL AUTO JACK

The Quickest Acting Lifting Device Ever Built

Will Raise Machines Weighing Up to 8000 Pounds Four Inches in Two Seconds, to Heights from Five to 20 Inches.

Instantly Adjustable—One Downward Movement of the Lever Does the Work.

Built of Low Carbon Steel, With Casehardened Pins, Mounted on Wheels and Fully Guaranteed.

Crane's Improved Patent Wheel and Gear Puller

A Shop Tool That Is Without an Equal and Fitted for Any Work.

Built for Hard Service of High Carbon Steel, Screws Cut by Special Machinery and All Casehardened.

Quickest Tool Made for Removing Vehicle Wheels, Flywheels, Transmission and Camshaft Gears, Commutators, Sprockets, Collars, Pulleys, Couplings, etc.

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DIXON'S

Flake Graphite

Auto Lubricants

ARE

THE HIGHEST PRICED

BECAUSE THEY ARE

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And the Best For You, Even Though

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Send For Book "Lubricating The Motor," No. 49

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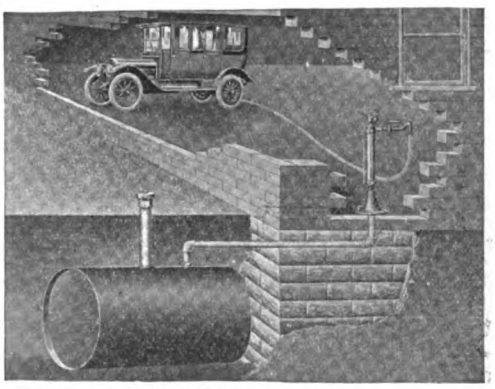
JOSEPH DIXON CRUCIBLE CO.

Established 1827



Cheapest Thoroughly Safe and Practical Outfit Made

Every part of this apparatus is listed by the Underwriters' Laboratories.

Send for Catalogue

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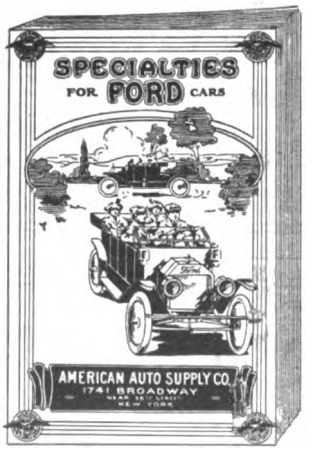

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This book is absolutely essential for the convenience, comfort and economy of every Ford owner. It shows all the latest and best Ford accessories and parts, with prices and descriptions—a dictionary of Ford information.

Don't delay—Write today

American Auto Supply Co.

1741 Broadway (near 56th St.)
NEW YORK

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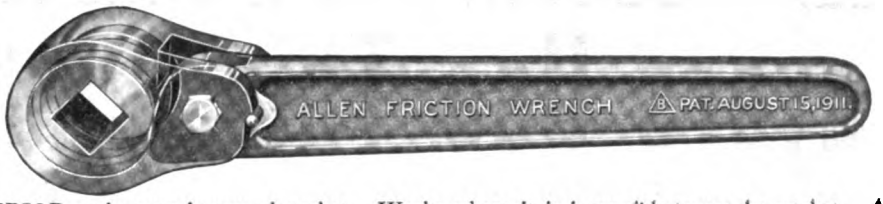
You Will Never Use a Ratchet If You Once Use the ALLEN-FRICTION SOCKET WRENCH---"The Wrench with the Instant Grip"

Best Drop Forged, High Carbon Steel



Pack-Hardened Ground

Acknowledged SUPERIOR to the most improved ratchet. Works where it is impossible to use the ratchet. A simple FRICTION device, without teeth, springs, pawls, balls or rolls. The **ALLEN-FRICTION SOCKET WRENCH** is used in all Repair Shops, Service Stations and Garages. **NO DEALER OR GARAGE SHOULD BE WITHOUT ONE.**

Standard No. 31 wrench set or No. 21, for the Repair Shop, Garage and Service Station. Ford Special, Adapted to Ford Cars—A BIG SELLER. No. 9, for small Runabouts, Motor Boats, Etc.—Another BIG SELLER.

Write for Circulars and Discounts

ALLEN WRENCH & TOOL CO., Providence, R. I., U. S. A.

M. A. BRYTE representative at San Francisco, Cal.

THE HEINZE ELECTRIC COMPANY

MANUFACTURERS OF

Ignition and Generating Apparatus

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Factory and Main Office: LOWELL, MASS.

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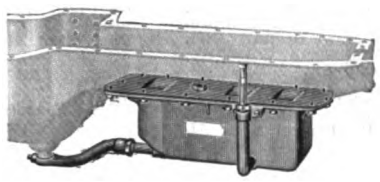
BIG PROFITS FOR THE FORD DEALER AND REPAIRMAN.



The DANVER OILER produces more lubricating capacity, provides constant circulation, is automatic and prevents smoking and fouled plugs. The only perfect oiler for Ford motors. Its principle is right. Easily fitted. A BIG SELLER. Write for our **special offer** to Ford agencies, dealers and repairmen.

DANVER ACCESSORY COMPANY

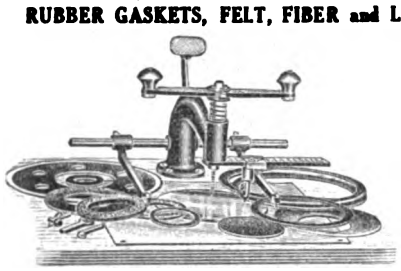
Manufacturers of DACO Accessories

18 Broadway, Pawtucket, R. I.

The Springfield Circle Cutter

FOR CUTTING

LAMP GLASS, SHEET COPPER, PAPER, CARD BOARD and RUBBER GASKETS, FELT, FIBER and LEATHER WASHERS.



Capacity any size from 0 to 14" diameter, and any thickness from 0 to 1-2". Positive Measuring Scale to determine sizes.

Price Complete, $12.00 net. **Shipping Weight, 30 lb.**

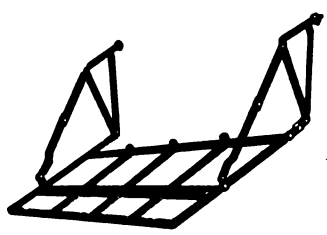
THE SHAWVER MFG. CO., Springfield, Ohio

"SPECIAL" 1913 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



1913 Ford Rack

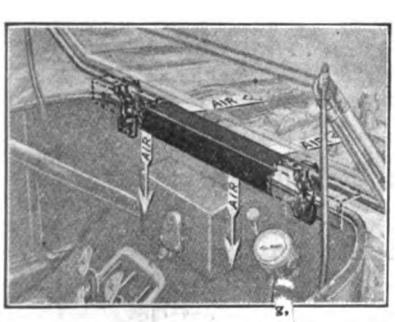
This Rack Will Fit Any 1913 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

EXCELSIOR ADJUSTABLE VENTILATOR FOR MODEL T FORD



Admits Fresh Air No Draughts

Excelsior Adjustable Ventilator provides proper ventilation of the front compartment of automobiles, where the excessive heat is unbearable. The ventilator admits fresh air but prevents draughts. The opening is adjustable and can be closed. Can be installed in a few minutes.

Black Enamel Finish.

Retail Price $3.00

Write for Discounts and Particulars.

C. B. WATTLES

441 BUTLER EXCHANGE PROVIDENCE, R. I.

New Departure "TWO-IN-ONE" Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.

Bristol, Connecticut

EDWARDS FIREPROOF STEEL

GARAGES

For Automobiles and Motorcycles

$30 and Up

Easy to put up. Portable. All sizes. Postal brings latest illustrated catalog.

The Edwards Mfg. Co., 416-466 Eggleston Ave., Cincinnati, Ohio

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Auto Parts Co., Providence, R. I.

Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight Sts., Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree St., Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.

Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.

Northwestern Chemical Co., Marietta, O.

Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 908 Boylston St., Boston. (R. I. V.)

Hyatt Roller Bearing Co., Detroit.

Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

Rhineland Machine Works Co., 140 W. 42d St., New York City.
Branches: 1254 Michigan Ave., Chicago; 650 Woodward Ave., Detroit 1424 Vine St., Philadelphia; 220 Motor Mart, Boston.

R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)

Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)

Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 908 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CABLES. (See Wires.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Austin Automobile Co., Grand Rapids, Mich. (Austin.)

Cameron Mfg. Co., West Haven, Conn. (Cameron.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Cole Motor Car Co., Indianapolis, Ind. (Cole.)

Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)

Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)

Herreshoff Motor Co., Detroit. (Herreshoff.)

Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)

Keeton Motor Co., Detroit. (Keeton.)

Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)

Knox Automobile Co., Springfield, Mass. (Knox.)

Maxwell Motor Co., Inc., Detroit. (Maxwell.)

Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)

Moline Automobile Co., E. Moline, Ill. (Moline.)

National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Stuts Motor Car Co., Indianapolis. (Stuts.)

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 188-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.

Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Blair Mfg. Co., Newark, O. (Blair.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Dart Manufacturing Co., Waterloo, Ia. (Dart.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

Garford Co., Elyria, O. (Garford.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)

Owen & Co., R. M., 19 W. 62nd St., New York City. (Reo.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Studebaker Corp, Detroit, Mich. (Studebaker.)

Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)

Willet Engine & Truck Co., Inc., 8-10 Lock St., Buffalo. (Willet.)

Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)

Atlantic Vehicle Co., Factory, Newark, N. J.; 1600 Broadway, New York City; 10 Postoffice Sq., Boston. (Atlantic.)

Baker Motor Vehicle Co., Cleveland. (Baker.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.

General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.

Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., The, Marietta, O. (Se-men-tol Radiator.)

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is the apparatus without the fancy superfluous parts that only add to the cost and complicate the operation.

Self-regulating—you can't use too much or too little oxygen. It has no gauges, no adjustments.

A simple, practical apparatus of the highest efficiency.

Substantially made of materials to last. Guaranteed to do the work as well as any apparatus regardless of price.

WHY PAY MORE

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FOR FORD CARS Proves a revelation on any Model "T" Ford car and will give a great increase in speed, a marked saving in gasolene, and a perfectly cool motor at all times. Prevents the formation of carbon in the cylinders and spark plugs, and gives to the Ford a smoothness and quick acceleration hitherto unknown.

Installed between the carburettor and inlet manifold without drilling or tapping in fifteen minutes.

Price Complete $5.00 **Liberal Discount to the Trade**

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All Trade—No Owner Distribution

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The only strictly automobile trade paper published in America.

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AUTOMOBILE JOURNAL MOTOR TRUCK
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The Motor Truck

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BUYERS' GUIDE---Continued

CHAINS. TIRE AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

Miller, Chas. E.; 97-103 Reade St., New York. (Brampton.)

Branches: See Accessory Manufacturers and Jobbers.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

FIRE EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GARAGES, PORTABLE. (See Houses, Portable Steel.)

GASKETS AND GASKET CUTTERS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)

HOUSES, PORTABLE STEEL.

Kolb Sales Co., 1790 Broadway, New York. (Ruby.)

IGNITION APPARATUS.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)

Branch: 1974 Broadway, New York.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Aplco.)

Dean Electric Co., Elyria, O. (Duplex.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Remy Electric Co., Anderson, Ind. (Remy.)

LUBRICANTS.

Borne, Scrymser Co., 80 South St., New York. (Colonial.)

Branches: Boston, Fall River, Philadelphia.

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)

Branch: 143 No. Wabash Ave., Chicago.

Haws, Geo. A., 148 Front St., New York. (Panhard.)

Branch: 899 Boylston St., Boston.

Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)

Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.

Refineries: Georgetown, Ky.; Lawrenceville, Ill.

Invader Oil Co., 80 Broad St., New York. (Invader.)

Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 512 Kenois Bldg., 11th and G Sts., N. W., Washington, D. C.

Miller, Chas. E., 97-103 Reade St., New York. (Pan-American.)

Branches: See Accessory Manufacturers and Jobbers.

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)

Northwestern Chemical Co., Marietta, O. (Gear-Silence.)

Standard Oil Co., New York. (Polarine.)

Branches: In all cities.

Texas Company, The, 7 West St., New York.

Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.

Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)

Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.

Eisemann Magneto Co., 225-227 W. 57th St., New York City. (Eisemann.)

Branches: 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.

Heinze Electric Co., Lowell, Mass. (Heco.)

Marburg Bros., 1790 Broadway, New York. (Mea.)

Remy Electric Co., Anderson, Ind. (Remy.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol)

METERS, ETC.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Kent Pocket.)

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTORCYCLES AND SUPPLIES.

Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Aplco.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Remy Electric Co., Anderson, Ind. (Remy.)

PACKING, FIRE.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O.

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PULLERS, WHEEL AND GEAR.

Crane Puller Co., Arlington, Mass.

PUMPS, OILS AND GREASE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Dewey-Anderson Co., Toledo, O. (Dewey Power.)

Shawver Co., Springfield, O.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)

United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)

Branches: New York, Chicago, San Francisco.

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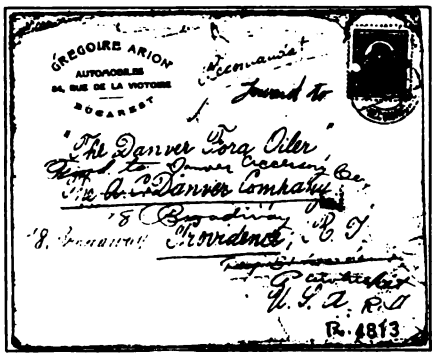
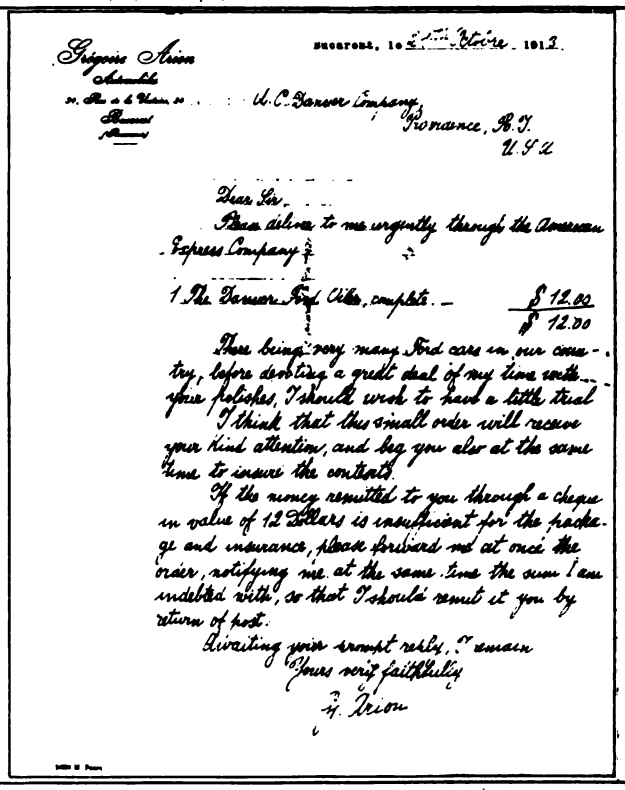
A Certain Producer Because It Reaches the Men That Constitute Your Market





DANVER ACCESSORY CO.

Maker of Ford Specialties

Factory and Office,
18 Broadway

Pawtucket, R. I., Nov. 20, 1913.

Gentlemen:---I am enclosing a letter which came to hand several days ago as well as draft that was enclosed.

We know you will be pleased to note the correspondence, also to learn that page taken from the Accessory and Garage Journal was attached to this letter. Our copy appeared in your magazine before we moved to our new factory and the issue was several months old.

It is needless to say that we are much pleased with the results obtained through the use of your medium and while we receive many queries from all sources, it is noticeable that practically all replies from our advertising in the Accessory and Garage Journal either contain money or orders.

Demands for our lines have constantly increased and our output, until increased manufacturing facilities are obtained, is taken care of. Just as soon as our production permits, you can count on the Danver Accessory Company as one of your best patrons.

Kindly return letter and check at your early convenience.

Yours very truly,
Danver Accessory Co.
C. A. Danver, Treas.

Why It Pays to Advertise and Give Service to Patrons

H. C. KROMER

Locksmith and Bell Hanger

412 FEDERAL STREET

Camden, N. J., Nov. 20, 1913

Automobile Journal
Pawtucket, R. I.

Dear Sirs:---

When a firm---one of your advertisers---does a thing promptly, I think it no more than right it should be told. When I received your last Journal I was in need of a chain. I wrote to Mr. F. Shirley Boyd, who sent the letter to the Baldwin Chain and Manufacturing Company. They sent me a couple of links to see if it would answer, and on *Nov.* '8 I sent the Baldwin Chain and Manufacturing Company an order with my check enclosed and on *Nov. 12* I had the chain on the machine. I had been trying to get a chain in Philadelphia, but not a dealer had any that would fit the sprocket—all would ride off. The Baldwin fits exactly, showing their measurements must be accurate.

Yours truly, H. C. KROMER.

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BUYERS' GUIDE---Continued

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

SELF-STARTERS. (See Motor Starters.)

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHIMS, ETC.

Rhineland Machine Works Co., 140 W. 42nd St., New York City. (Lindhe Laminated.)
Branches: See Balls and Ball Bearings.

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.
Hudson Export and Import Co., 140 W. 42nd St., New York City. (A. V.)
J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Hopewell Brothers, Newton, Mass. (Paos.)
Branch: 1974 Broadway, New York.
Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUGS AND IGNITERS.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.
Heinze Electric Co., Lowell, Mass. (Heco Priming.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Mosler, A. R. & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)
Rhineland Machine Works Co., 140 W. 42nd St., New York City.
Branches: See Balls and Ball Bearings.
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.
Standard Co., The, Torrington, Conn. (Black Eagle.)

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

SPEEDOMETERS, RECORDERS, ETC.

Hoffecker Co., The, Motor Mart, Boston. (Hoffecker.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Electric.)
Jones Speedometer, New Rochelle, N. Y.
Branches: Broadway and 76th St., New York; 109 Massachusetts Ave., Boston; 1416 Vine St., Philadelphia; 1430 Michigan Ave., Chicago; 852 Main St., Buffalo; 253-255 Jefferson Ave., Detroit; 580 Golden Gate Ave., San Francisco; 1229 So. Olive St., Los Angeles, Cal.; 329 Ankeny St., Portland, Ore.; 917 E. Pike St., Seattle, Wash.
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)
Service Recorder Co., 2245 East 105th St., Cleveland. (Servis.)
Stewart-Warner Speedometer Corp., Chicago. (Auto-Meter.)
Branches: 116 Edgewood Ave., Atlanta, Ga.; 925 Boylston St., Boston; 720 Main St., Buffalo; 2420 Michigan Ave., Chicago; 807 Main St., Cincinnati; 2062 Euclid Ave., Cleveland; 1518 Broadway, Denver; 870 Woodward Ave., Detroit; 330½ North Illinois St., Indianapolis; 1613 Grand Ave., Kansas City; 748 S. Olive St., Los Angeles, Cal.; 1902 Broadway, New York; 302 N. Broad St., Philadelphia; 5940 Kirkwood Ave., Pittsburg; 14 N. Seventh St., Portland, Ore.; 36-38 Van Ness Ave., San Francisco; 611 E. Pike St., Seattle, Wash.; 3923 Olive St., St. Louis; 559 Yonge St., Toronto, Can.

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)
Perfection Spring Co., No. 1 Plant, 2414 Superior Ave., N. W.; No. 2 Plant, East 65th and Central Ave., Cleveland.

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

STORAGE SYSTEMS—GASOLINE AND OIL.

Scaife & Sons Co., Wm. B., Pittsburg, Penn.
Branch: New York City.

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS FOR FUEL AND WATER.

Scaife & Sons Co., Wm. B., Pittsburg, Penn.
Branch: New York City.

TANKS, TIRE INFLATING.

Prest-O-Lite Co., 271 East South St., Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)
Shawver Co., Springfield, O. (Tools.)

TIRE CASES.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)
Gaulois Tire Corp., 1926 Broadway, New York. (Gaulois.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

TIRES—CUSHION.

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)
Polack Tyre & Rubber Co., 246 W. 59th St., New York City. (Polack.)
United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TROUBLE FINDERS.

Hopewell Brothers, Newton, Mass. (Vibrator.)
Branch: 1974 Broadway, New York.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

VALVE GRINDERS.

Wall, J. H., 290 Hope St., Bristol, R. I. (Ford.)

VALVE LIFTERS.

Winsor Mfg. Co., Providence, R. I.

VENTILATORS.

Wattles, C. B., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

Vanderpool Co., Springfield, O.
Williams Foundry & Machine Co., Akron, O.

WELDING, AUTOGENOUS.

Autogenous Welding Equipment Co., Springfield, Mass.

WELDING OUTFITS.

Prest-O-Lite Co., 309 W. South St., Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WRENCHES AND COMBINATION OUTFITS.

Allen Wrench & Tool Co., Providence, R. I. (Allen Friction Socket Sets.)
Coes Wrench Co., Worcester, Mass.
Cutter, George A., Taunton, Mass.
Walworth Manufacturing Co., Boston. (Stillson.)

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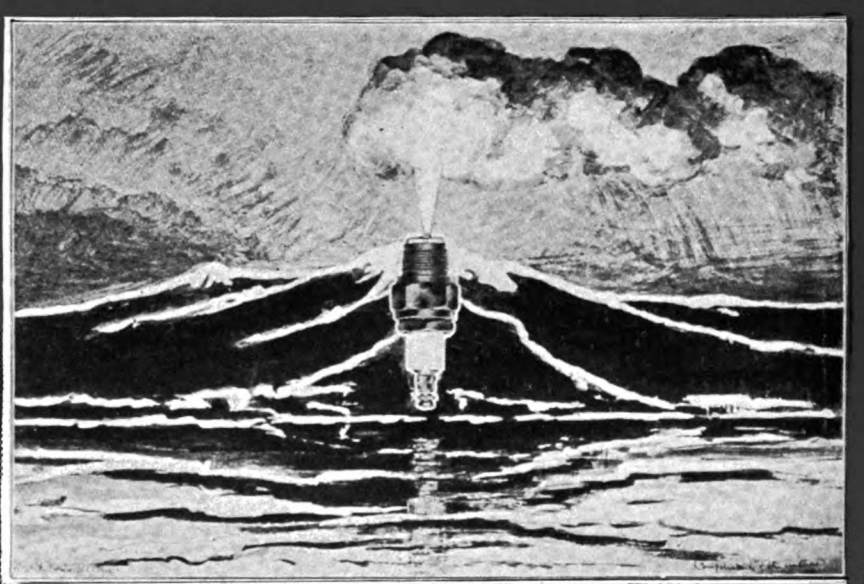
Mosler Vesuvius Plugs

Insist Upon Mosler Spit Fire RED TAG Plugs



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PACKED IN THIS BOX & TAGGED FOR YOUR PROTECTION

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Will Outlast Your Motor

WE CARRY IN STOCK A PLUG FOR EVERY INTERNAL COMBUSTION ENGINE BUILT.

Made to fit any Engine, any Thread

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MT. VERNON, N.Y.

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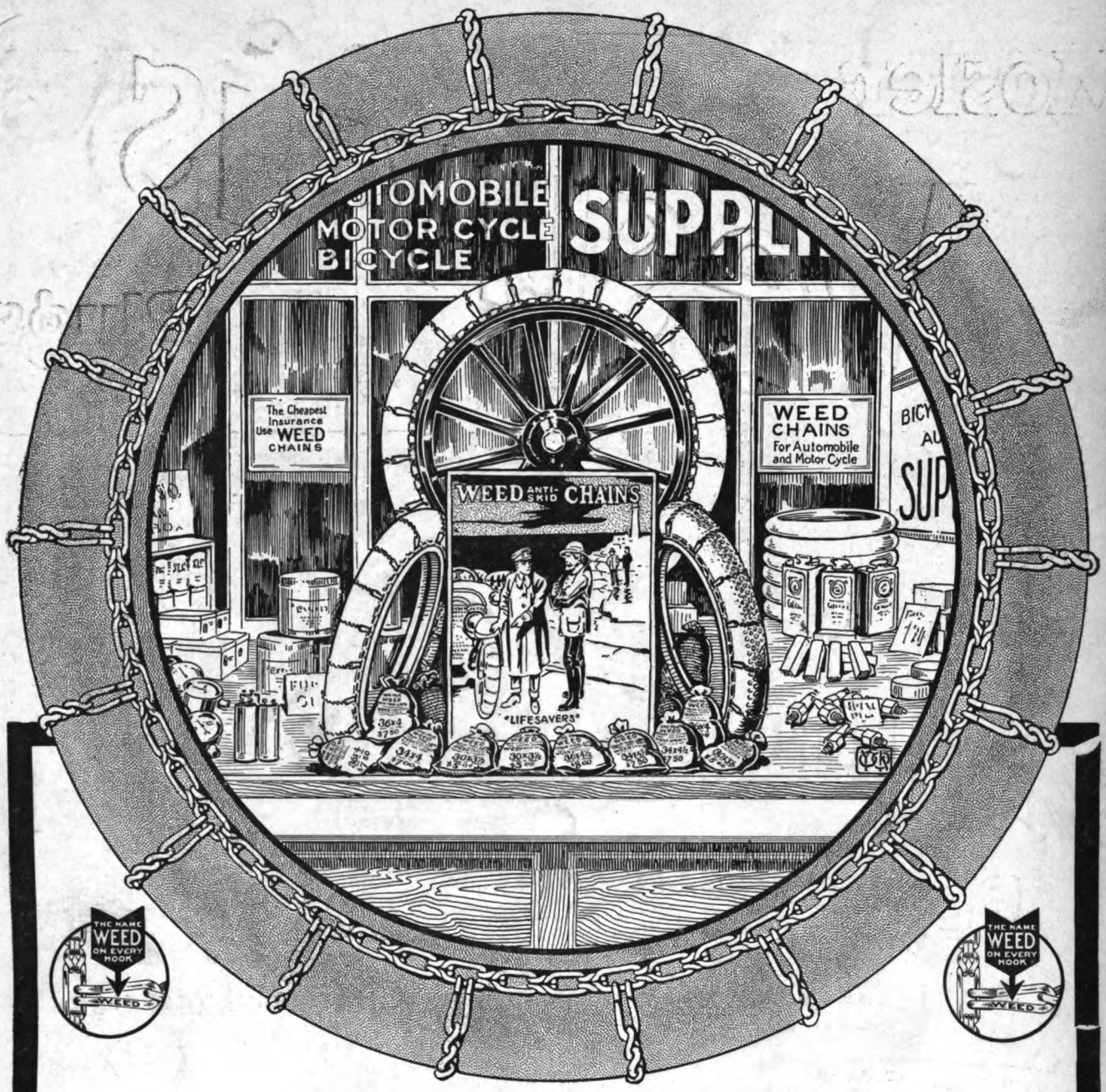

YOU SHOULD DISPLAY

Weed Anti-Skid Chains

IN YOUR WINDOW *NOW.*

If you stock assorted sizes of **Weed Chains,** we will furnish free a 30x3½ tire with the understanding that you are to equip it with **Weed Chains** and display it in your window.

In making out the requisition for your tire it is absolutely necessary that you mail us the following coupon properly filled out.

WEED CHAIN TIRE GRIP CO., 28 Moore Street, New York

Dear Sirs:—

We buy **Weed Chains** from .....

.....

and regularly carry assorted sizes in stock.

Please send us free one 30x3½ tire as advertised. We agree to equip it with **Weed Chains** for display in our window.

Name ..... Address .....

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III PAWTUCKET, R. I., DECEMBER, 1913. NO. 8

PANHARD OIL

Dealers: Think This Over!

The prestige of Panhard Oil for the lubrication of all types of gas-engines, is not merely the result of a loud noise in the advertising columns of trade papers and general magazines. It is due to real quality.

Panhard Oil was first sold in 1904, when automobiles were a novelty. It took its place at once as the best for the purpose. While other brands have come and gone, Panhard has more than held its own; always the same, always the best.

No oil is "fool proof". Panhard is as nearly so as oil can be made. It is first of all a lubricant. It will help the cars you sell and the jobs you repair to make good and satisfy your customers. This is your main object.

Think this over now, while you are making your plans for the New Year. In addition we help you advertise Panhard Oil among your own trade, where it will do you the most good. Write now for details, or see us at the New York Show.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK CITY

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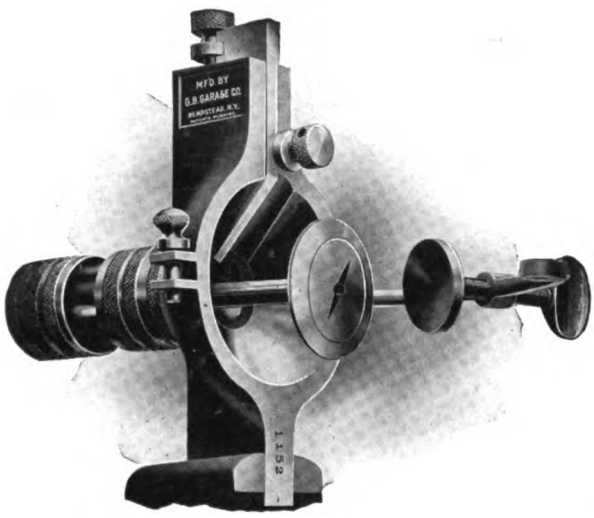
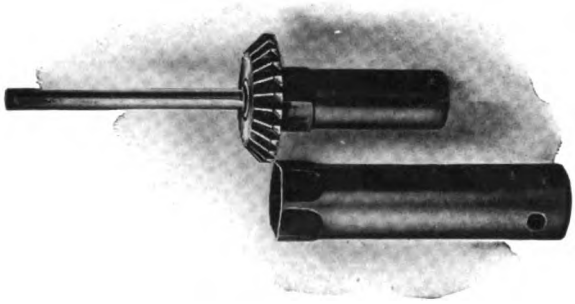
G. B. Valve Tool

The only practical tool for dressing valves and reseating valve seats without grinding



G. B. Valve Tool



Valve Seat Reseating Tool

THE G. B. VALVE TOOL dresses valves and reseats the valve seats at a perfect 45 degree angle and completes the work in one operation, it being unnecessary to use any emery or compound to obtain a perfect seat after the valve has been dressed.

¶ The only tool on the market which is so constructed that the knives and cutters may be re-sharpened at will.

¶ Made of drop forged case hardened steel, and the knives of high speed oil tempered tool steel, guaranteeing the highest efficiency.

SEND FOR DESCRIPTIVE BOOKLET

G. B. SALES CORPORATION

1790 Broadway, New York

WAITE AUTO SUPPLY CO., - - Providence, R. I.

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MOTOR OIL
THE TEXAS COMPANY

Intensive Sales Helps

EVERY DEALER who handles Texaco Motor Oil knows that he doesn't have to "go it alone". He knows, by actual experience, that Texaco advertising and Texaco dealer service are two very real and helpful factors in the sale of motor oil. Texaco advertising has created an unusually broad and consistent demand for Texaco Motor Oil. The Texaco Sign tells the car owner where he can get it.

TEXACO
MOTOR OIL

once used becomes its own salesman. The car owner who tries it at once sees and feels its effect both on car and pocketbook. It speeds the former up. It helps to keep the latter full—by reducing expenses.

Texaco Motor Oil meets every demand that man or car can put upon it. It will not form a hard carbon crust, has a zero cold test, insures perfect lubrication.

If you are not carrying Texaco write us for prices and delivery facilities. Address:

THE TEXAS COMPANY
WHITEHALL ANNEX NEW YORK

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HOUSTON NEW YORK

WORKS:
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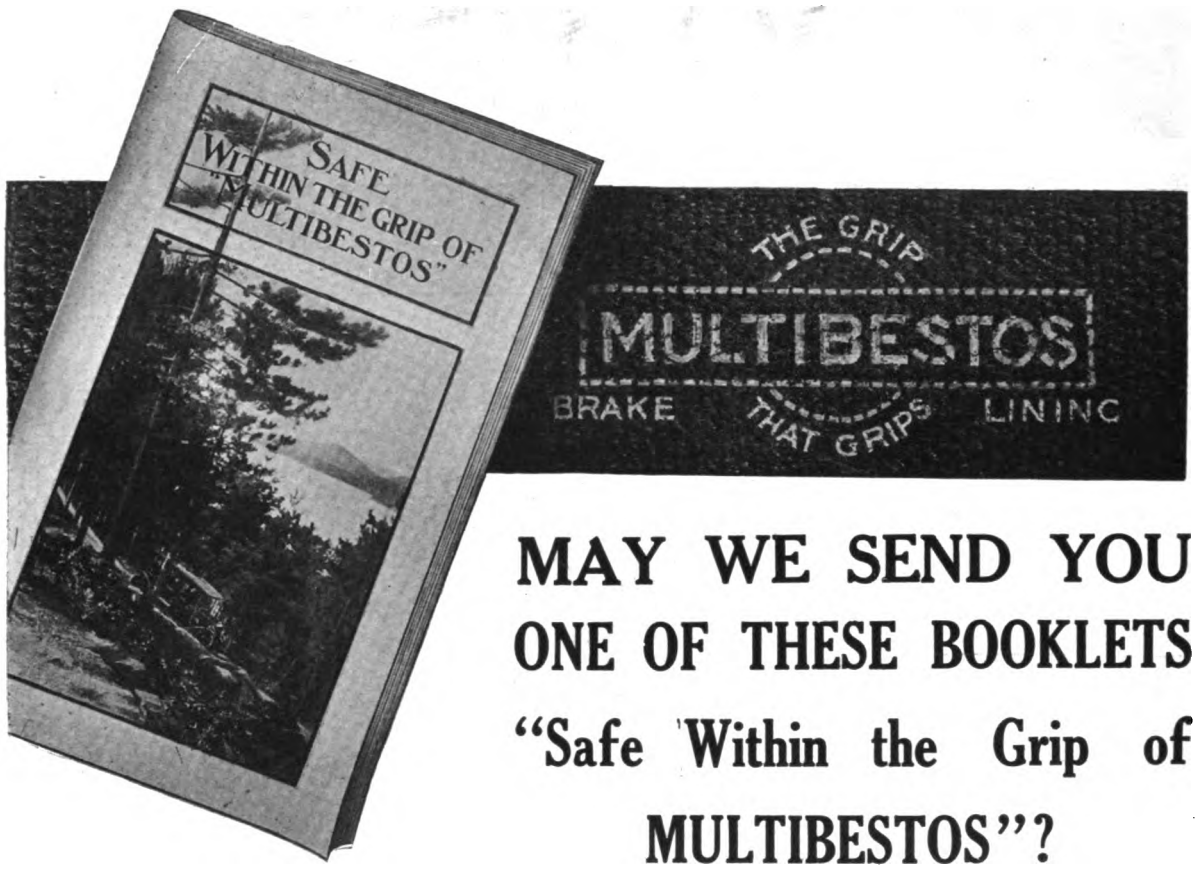

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It is a booklet that every user of automobile brakes should read and it will be particularly interesting to the man who is engaged in the repair or supply business.

In this booklet we tell something of the story of Multibestos—of the way it is manufactured—of why we consider it to be the best brake lining made.

But the beauty of the booklet is that it is not merely a collection of bald statements of our own opinion; it gives the statements of numerous enthusiastic "car-wise" men who insist that Multibestos be used on their brakes—and they give their reasons for so insisting.

Then there is the report of a test made by one of the best known engineers in the industry in which he shows a picture of the five leading brake linings after they have all been through the same trial.

Yes, there are many things in this little booklet that are bound to interest you. Tear off the coupon in the corner and mail it to us—it will pay you.

Standard Woven Fabric Co.
Framingham, Mass.

Please send a copy of "Safe Within the Grip of Multibestos" to me at the following address.....

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STANDARD WOVEN FABRIC COMPANY

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NEW YORK—C. D. Schmidt, 276 Canal St.
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PHILADELPHIA—N. A. Petry Co., Inc., 1427 Vine St.
SAN FRANCISCO—Fred Ward & Son, Inc., Cor. First & Howard Sts.

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., DECEMBER, 1913. No. 8

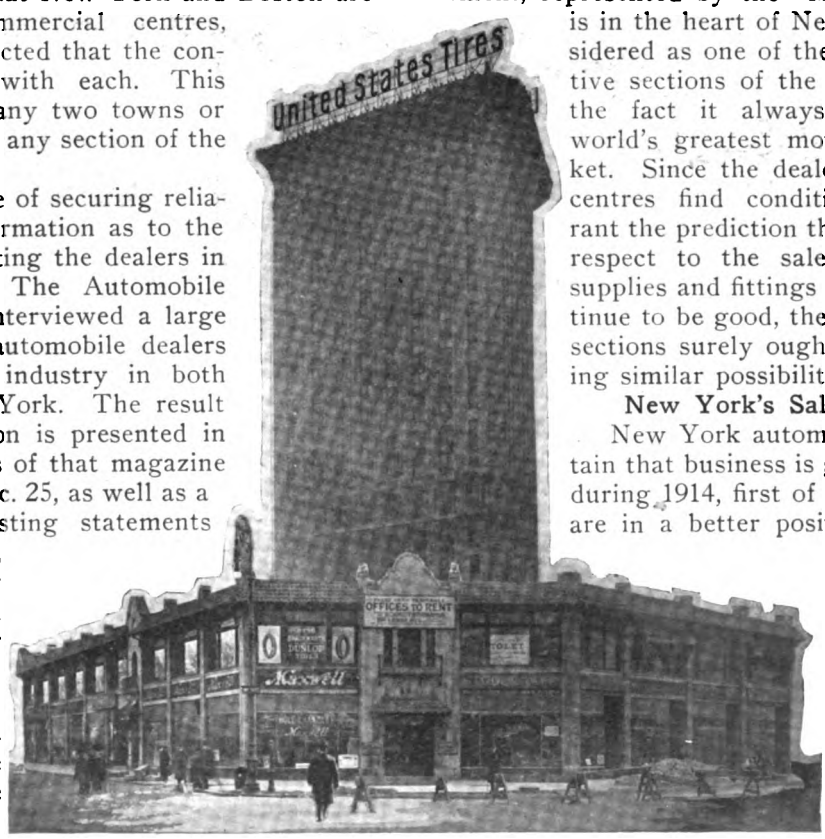
BUSINESS SITUATION IN EASTERN CENTRES.

Some of the Reasons Why Dealers in New York and Boston Feel Optimistic Concerning the Immediate Future---Conditions Which Have Engaged Their Special Attention---How the Different Problems Are Being Met.

ASIDE from the effect which they may have upon the opportunities for business in the immediate future, the exact conditions which must be met in any large centre will prove of decided interest to those in the trade. It will be assumed that New York and Boston are representative commercial centres, and it will be expected that the conditions will vary with each. This would be true of any two towns or cities in practically any section of the country.

For the purpose of securing reliable, first hand information as to the conditions confronting the dealers in these two cities, The Automobile Journal recently interviewed a large number of retail automobile dealers and others in the industry in both Boston and New York. The result of this investigation is presented in detail in the issues of that magazine for Nov. 25 and Dec. 25, as well as a number of interesting statements from the dealers, expressing their full confidence in the possibilities for excellent business during 1914.

The uniform optimism of those engaged in the sale of pleasure and commercial cars, accessories, supplies and fittings in these two cities is of timely interest to others in the trade. New York is regarded by many as being in a position to reflect, at least in a measure, the influence of Wall street upon the business of the country, no matter what the line, and it must be admitted that some of the dealers in that city have opportunity to come in close touch with those who help to make up the so-called financial element, represented by the "Market". Boston is in the heart of New England, considered as one of the most conservative sections of the country, despite the fact it always has been the world's greatest motor vehicle market. Since the dealers in these two centres find conditions which warrant the prediction that business with respect to the sale of automobiles, supplies and fittings is and must continue to be good, the dealers in other sections surely ought also to be facing similar possibilities.



Group of Car Agencies at Broadway and 59th Street, and the United States Rubber Building—The Heart of New York City's Automobile District.

New York's Sales Methods.

New York automobile men maintain that business is going to be good during 1914, first of all, because they are in a better position to take advantage of the opportunities that will be afforded. In amplification of this statement, it may be explained that many of the dealers along Automobile Row, which extends from 46th to 63rd streets, on Broadway, have been engaged during the past year in a reorganization of their sales methods. This has been deemed nec-

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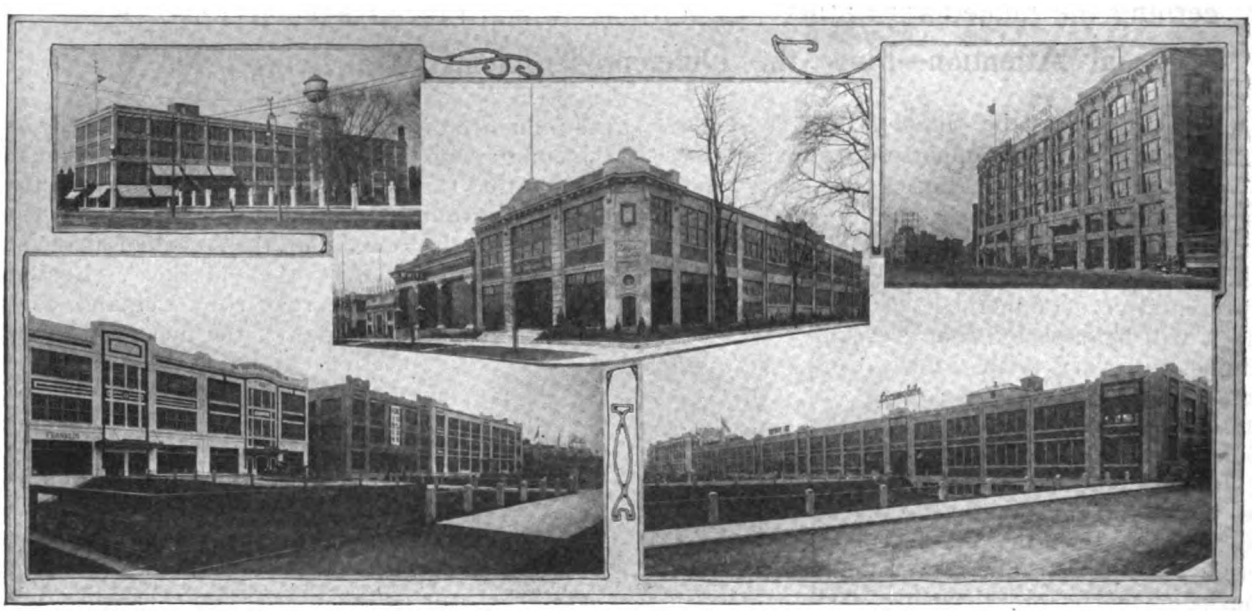
essary by reason of the fact that, although the business done during the previous year was of such volume as to indicate a large profit, investigation of the situation at the end of a given period revealed a loss instead.

Adopting Systematic Methods.

It has been the custom in that city to pay the salesmen a stated salary, plus a commission on each sale, this commission being based upon the amount of cash received. Having become convinced that efficiency in salesmanship was capable of being measured, several of the dealers, each working independently, resolved to adopt systematic methods of determining the value of each salesman, with somewhat surprising results. In one instance, which will serve to illustrate the point, it was found that the salesman with the best showing with respect to number of sales during a given period had cost the firm some $750 in losses on those sales, while the man who had sold the fewest cars had netted a profit to his employers that amounted to nearly as much. which outweighs the salesman's better judgment which accounts for the grand total of losses against the outwardly appearing good record of the individual. In order to overcome this particular feature, the plan most generally in vogue today among those who still continue to trade, is that of asking the superintendent of the service department to place a valuation on the used car offered for sale and limiting the salesman to that figure. Of course there are men in New York, as there are in other cities, who do not strictly adhere to this rule, although professing to do so, but there are few who do not appreciate that a definite course with respect to this problem is necessary if the business is to be established on a permanent and stable basis.

Weekly Meetings for Men.

In connection with these systems, which vary according to the ideas of the individual sales managers, for there does not appear to have been any conference between them upon the subject, it may be added that there has been no disposi-



Glimpses of Boston's New Automobile Row on Commonwealth Avenue: Upper Left, Packard Plant; Upper Centre, Group of Buildings Near Allston Line; Upper Right, Square at Beacon Street; Lower Views Present Both Ends of the Long Block of Buildings Near the Beacon Street Corner.

The second hand car problem, which is one of the most serious confronting the dealers in New York, enters very largely into this situation. Some dealers maintain that from 80 to 90 per cent. of their sales involve the used car. A large majority hold that it is absolutely impossible to do business without trading. A few declare that they positively will not trade, and practically all of these avoid the necessity for this practise, by maintaining a used car department as a separate institution, by which the second hand machine is sold for the customer without charge.

Solving Second Hand Problem.

It is the question of allowance on the old machine which enters so largely into that of salesmanship. It is beginning to be realized that the man who enters a salesroom with a second hand car proposition often is a much better salesman than the man with whom he seeks to do business. Apparently, it is the temptation to make a sale tion to dispense with the services of salesmen unless it has been found that it was entirely impossible to train them to fit into the new order of things. On the contrary it has been deemed advisable to retain the men who are familiar with the product and assist them to realize the efficiency desired. To this end weekly meetings are held, at which specific details of the business are discussed from every aspect.

Shopping a Distinctive Feature.

There also has arisen a disposition to eliminate overhead expenses so far as this may be practical. By this is meant that wherever it is possible to secure a suitable location at a cheaper rent, this has been done. Palatial establishments—Tiffany fronts as they are termed by New York dealers—are rapidly becoming a thing of the past. In considering this phase of the situation, it must be added that the custom of shopping for automobiles probably applies more largely in the

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Metropolis than in any other city in the country. This is due in part to the large transient population, as well as to the habit of those who may be regarded as residents of the city or its suburbs. A general estimate, by the dealers themselves, indicates that 75 to 80 per cent. of the prospects are secured in this manner. It readily will be appreciated that the question of location is important, but, at the other hand, the dealers have found that as a class, purchasers of automobiles with whom they come in contact are keen to appreciate the matter of overhead expenses and their effect upon the price which they must pay for the car of their choice.

The Garage Difficulty.

One other condition enters very largely into the situation—the absence of satisfactory garage accommodations. This should not be taken to mean that the garages in New York are not carefully managed, but they do not afford the desired opportunity for the man who feels he must work upon his own machine. Of course the possibilities for maintaining a private garage are limited, and there is held to be great need for some form of substitute. The dealers are now engaged upon the consideration of a plan for the establishment of a co-operative garage, in which none but those who work upon their own cars will be permitted to house their machines. It is expected that this will result in the ability to interest many men who have not previously owned cars, because they did not feel able to employ the services of a chauffeur or to pay for the ordinary care and maintenance which can be bestowed upon the machine by its owner.

Situation in Boston.

Some of these conditions apply as well to the dealers in Boston, although in an entirely different manner. The same spirit of optimism is manifest in that city, and for much the same reasons. Boston dealers also have been reorganizing their sales departments, although they have not carried the systematic study of the proposition to the same length. Perhaps it might be held that it is not necessary, but it cannot be contended that anything which will make for closer supervision of details is unworthy of thoughtful consideration.

The second hand problem is by no means so prominent in Boston, despite its importance. The percentage of sales in which this question arises is far below that expressed by the New York dealers. The same conditions apply as to the manner in which it is being met. That is, there are some dealers who are willing to trade, others who accept only cars of the same make as that carried by the house, and still others—a comparative few—who will not trade. The last named avoid the proposition in the same manner as those in New York—by selling the car in a separate used car department without charge to the customer.

Canvassing Methods Necessary.

There is almost no shopping for cars in Boston. Instead, each agent is compelled to adopt every available method of securing new prospects. With many it has become necessary to consider plans bordering very closely upon those of the canvasser. The salesman is therefore called upon to take advantage of every opportunity to present the merits of his car, and, in the case of a busy business man, he must be able to so formulate his statement that he is able to interest his prospect to the point of securing a demonstration in the very few minutes allowed to him. Because of this situation some dealers have thought of the advisability of securing limited display space in a small store, say at the lower end of Washington street, where it would be possible for business men to drop in during the lunch hour. It cannot be said, however, that this propositon has been given anything like serious consideration.

The New Automobile Row.

Heretofore, Boston's Automobile Row has been located along Boylston street, from Copley square and Massachusetts avenue, and on the latter street, both sides of Boylston street. Now Boston has a new Automobile Row, extending for a distance of practically two miles, along Commonwealth avenue, from Beacon street to Brighton avenue, the latter being over the Allston line. It should not be understood that there is one continuous line of buildings from one point to the other. There is a group of buildings at the Beacon street corner; another, about a quarter-mile long, a short distance further up the street; a third half a mile distant, and still another at the Brighton street corner.

Especially Designed Buildings.

In some respects this Automobile Row is unlike any other in the world. Each of the buildings was designed and constructed solely for automobile purposes. Many of them are small factories in themselves. This feature is alone sufficient indication of the wonderful growth of the industry of New England's business centre. In practically every instance the salesroom and service station have been combined, and generally this has been from the desire to reduce the rent expense.

If the same conditions prevailed, with respect to shopping, as in New York, it would be impossible for the Boston dealers to thus abandon their old locations nearer the business district. And it should not be understood that all dealers have abandoned Boylston street or Massachusetts avenue. Some have erected large service stations in that section of the city.

Reducing Overhead Expense.

In both Boston and New York there has been a tendency toward the reduction of overhead expense, and the reorganization of sales methods. The dealers in both cities regard the immediate future as possessing greater promise than the past. This is largely due in both instances to the feeling that they are better able to cope with existing conditions and that they will receive the co-operation of their clientele in building up a business that shall be permanent and satisfactory from every viewpoint, both to the dealer and customer.

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WILL SELL REO DIRECT.

Maker Severs Connection with R. M. Owen & Co., and Takes Over Sales Organization.

Announcement is made that the Reo Motor Car Company, Lansing, Mich., will market the Reo car direct in the future, the selling arrangement with R. M. Owen & Co., New York City, having been discontinued. It is explained, however, that the change is not quite as radical as might be assumed from the foregoing statement, inasmuch as it is added that the entire sales organization of the Owen concern is to be taken over by the Reo company and continued in charge of R. C. Rueschaw as head of the sales department.

In connection with the above report, it is added that R. M. Owen has severed his connection with the Reo Motor Car Company, of which he was vice president. Mr. Owen, and R. E. Olds, the designer of the Reo car, have been associated in a business way since the days of the curved dash Oldsmobile, when Mr. Olds was at the head of the Olds Motor Works. When the latter retired from the Olds Motor Works to form the Reo Motor Car Company, Mr. Owen assumed the responsibility of marketing the product of the new concern.

CHANGES SELLING PLANS.

Peerless Motor Car Company Disposes of Its Branches in New York and Chicago.

Announcement is made by the Peerless Motor Car Company, Cleveland, O., maker of Peerless cars and trucks, that, in order to reduce the overhead expense incident to using a large building exclusively for the sale of one line, an arrangement has been made whereby the C. T. Silver Motor Company in New York and the McDuffee Automobile Company in Chicago will take over the entire business and equipment of the Peerless branches in those cities. It is understood that the men connected with the branches in each city will become identified with the new agencies.

E. J. Klaus, general manager of sales for the Peerless company, explains that it is the aim of the company in taking this step to readjust the proportions between selling and manufacturing expense in Peerless cars. He adds that because of the high quality and necessarily high price the sale of this line is naturally somewhat limited, and when the cost of operating and maintaining a large sales and service building in a desirable location falls on those sales it is a very considerable item, but it is felt that if many other cars are sold with the same equipment the overhead cost is much reduced.

The new arrangement will afford the buyer an opportunity to select from a larger stock of automobiles the one most desirable for his purpose, as each of the companies will carry in stock gasoline cars of lower price, and the Chicago house also has a line of electrics. It is pointed out that conditions have changed in the motor car business, and it is believed by the Peerless company that this plan is a step in the right direction and one which will be copied by others.

CANFIELD PATENT IS VALID.

A. R. Mosler & Co. Obtains Injunction Prohibiting Sale of Infringements.

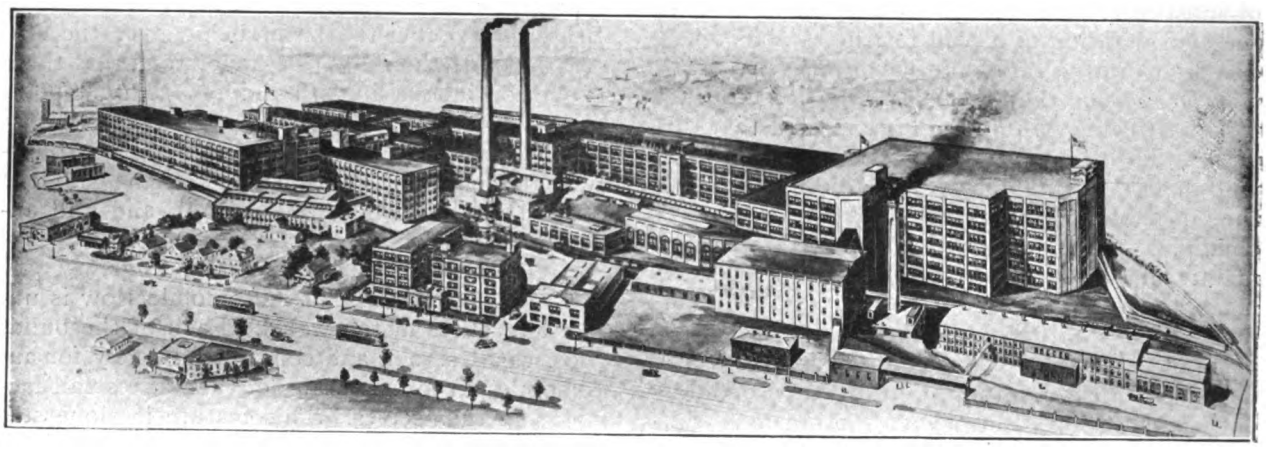
A decision by the United States district court of appeals in New York City, made by Judge Lacombe and concurred in by Judge Ward and Judge Rogers, in the suit of A. R. Mosler & Co., against John Lurie, maintains that the Canfield patent, owned by the complainant, is valid and the defendant is enjoined from selling the six different makes of spark plugs named in the bill of complaint. A. R. Mosler, president of A. R. Mosler & Co., states that the policy of his company will be broad and unselfish, but the co-operation of every legitimate spark plug manufacturer is expected. On the other hand, the rights of the company under the recent decision will be vigorously protected.

The licensees under the Canfield patent now include the following: Jeffery-DeWitt Company, Detroit; Champion Spark Plug Company, Toledo, O.; C. A. Mezger, Inc., New York City; Rajah Auto Supply Company, Bloomfield, N. J.; Hartford Machine Screw Company, Hartford, Conn.; Benford Manufacturing Company, Mount Vernon, N. Y.; Silvex Company, New York City; Frontier Specialty Company, Buffalo, N. Y.; New York Mica & Manufacturing Company, Auburn, N. Y.; Emil Grossman Manufacturing Company, Brooklyn, N. Y.; Auburn Ignition Company, Auburn, N. Y.; Splitdorf Electrical Company, Newark, N. J.; Standard Company, Torrington, Conn., and Bosch Magneto Company, New York City.

GOODYEAR RUBBER FACTORY.

Said to Be One of the Largest and Most Modern Plants of Its Kind in the World.

Herewith is presented the latest picture of one of the largest and most modern rubber factories in the world—that of the Goodyear Tire & Rubber Company, Akron, O. The complete plant covers 50 acres, and has a floor space of 1,550,605 square feet, or 35 acres. It gives employment to 6500 people. The power plant has a turbo-generator capacity of 8500 horsepower, steam boiler capacity of 12,000 horsepower and an engine capacity of 7250 horsepower.



General View of the Entire Plant of the Goodyear Tire & Rubber Company, Akron, O.

It is possible for this Goodyear factory to produce 10,000 automobile tires a day, in addition to the immense quantity of motor truck, motorcycle, bicycle and carriage tires that are regularly turned out. The mechanical rubber goods department, which was started less than a year ago, is growing rapidly, and the products of this department—such as belting, hose, packing, etc.—are fast becoming recognized throughout the trade as equal in quality to the other goods manufactured by the Goodyear company.

FORD'S ANNUAL REPORT.

Officials of the Company Make Public Statement of Financial Condition.

The Ford Motor Company, Detroit, Mich., maker of Ford cars, has made public its annual statement of its financial condition at the close of the fiscal year, Sept. 30, as follows:

Assets—	1913	1912
Real estate and machinery	$10,669,968	$5,815,787
Merchandise	9,183,370	6,387,541
Cash and debts receivable	15,180,581	8,226,842
Total	$35,033,919	$20,430,171
Liabilities—		
Capital stock	$2,000,000	$2,000,000
Accounts payable	4,774,746	2,136,507
Floating debt	.....	1,426,297
Surplus and profit and loss	28,259,173	.....
Surplus	.....	14,867,366
Total	$35,033,919	$20,430,171

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SECURES BIG CONTRACT.

Continental Motor Manufacturing Company to Produce 10,000 Engines for Saxon Cars.

The Continental Motor Manufacturing Company of Detroit and Muskegon, Mich., announces that it has been awarded the contract to produce 10,000 small four-cylinder motors for the Saxon Motor Company, Detroit, the organization of which to produce a light car was announced recently. These engines will be manufactured in the Muskegon plant, which is particularly well adapted for handling four-cylinder motors in large quantities.

The new motor is of the water-cooled type, with bore of 2.625 inches and stroke of four, giving an S. A. E. rating of 11 horsepower, although it will develop 14.7 horsepower on brake test at 2000 revolutions a minute. This will give a ratio of approximately one horsepower to each 50 pounds, as against a minimum of one horsepower to 75 for the larger cars. All material and workmanship entering into its manufacture will be strictly up to the Continental standard in every respect.

POPE PROPERTY IS APPRAISED.

Report Filed with Superior Court in Connecticut Shows Assets of $2,034,899.90.

The appraisers appointed to inventory the property of the Pope Manufacturing Company, Hartford, Conn., now in the hands of Col. George Pope, as receiver, have filed their report with the clerk of the superior court for Hartford county. It is explained that the inventory on raw materials and supplies, finished parts, etc., was cut exactly in half, while, with respect to the accounts receivable, it is explained that there are on the books 797 outstanding claims, aggregating $224,519, but as some are old and doubtful, these have been deducted. The appraisal follows:

Land on Capitol avenue	$84,750.00
Buildings on this property	634,375.00
West works lot	47,200.00
Buildings on this property	62,800.00
Equipment at main plant	107,000.00
Machinery for manufacturing	369,877.71
Standard small tools	46,822.00
Patterns for automobile parts	2,600.00
Main office furniture, etc	3,500.00
Equipment of West works	14,875.50
Machinery, tools, etc	11,795.50
Fifty-five second hand cars	40,000.00
Forty-three cars in process	81,300.00
Raw material, finished parts, etc	331,542.85
Accounts collectible	181,461.34
Total	$2,034,899.90

SILENT AMERICAN MOTOR.

Company Bearing That Name Is Organized in Toledo for Experimental Work on New Engine.

A number of men prominent in the automobile industry in Toledo, O., have organized the Silent American Motor Company, with initial capital of $10,000. Among those interested are the following: President, Charles Turner of the Morton Truck Company; vice president, Thomas J. Kehoe, Kinsey Manufacturing Company; secretary, J. R. Ford, Ford Realty Company; treasurer, J. W. Hawk, Kinsey Manufacturing Company; general manager, S. F. Sawyer; directors, the above and S. L. Kelly, Electric Auto-Lite Company, and B. C. Gamble, Gamble Motor Car Company.

It is understood that the original capital will supply the necessary finances for experimental work on a new type of patented noiseless automobile engine. If these tests should bear out the claims of the inventor, as is expected, the capital will be increased to $300,000.

EMPLOYEES SHARE IN PROFITS.

King Motor Car Company Makes Christmas Presents Equal to One-Tenth of Salary.

Employees of the King Motor Car Company, Detroit, maker of the King car, were very pleasantly surprised Dec. 20, when each received, as a Christmas present, a check amounting to one-tenth of his salary as his share of this year's profits. This gift was in fulfillment of the policy adopted by the officers and stockholders, who believe that all those engaged in the production of King cars should share in its success.

At noon the employees were assembled in one of the large rooms of the factory, where one of the officers made the presentation, announcing that the company had passed through an unusually successful year and was now shipping 10 cars a day. The rapid development of the business was one of the surprises of the year. After the checks had been distributed a lunch was served to all.

ADDS CARTER CARBURETOR.

H. W. Johns-Manville Company Will Act as Selling Agent for This Make in the Future.

The Carter Carburetor Company, St. Louis, Mo., maker of the Carter multiple-jet carburetor, announces that it has entered into an agreement with the H. W. Johns-Manville Company, New York City, whereby the latter concern acquires the exclusive sale of all models of this product. Vice President Hugh H. C. Weed of the Carter company has become manager of the carburetor department of the New York concern.

The many branches of the H. W. Johns-Manville Company throughout the country afford it an exceptional opportunity to represent the manufacturer in this manner, and the Carter carburetor is still another addition to the long list of automobile accessories, the sale of which it has acquired during the past few weeks.

R-C-H BID IS CONFIRMED.

Reported That Business Will Finally Be Disposed of as a Going Concern.

At a hearing Dec. 20, Lee Joslyn, referee in bankruptcy, confirmed the guaranteed bid of $295,000, made by the Todd-Frank-Friedeberg Company, for the assets of the R-C-H Corporation of Detroit. Creditors presented an offer for $300,000, but the referee explained that the increase was not sufficient to warrant his reopening the bids.

It is understood that an attempt will be made to dispose of the plant as a going concern, and that the company may be reorganized. It is the intention of the purchaser to utilize all the parts now in stock for the production of cars, during which time an effort will be made to interest eastern capital. Through these methods, and by the liquidation of the real estate, it is expected that a substantial sum will be netted for the creditors.

WAVERLEY HAS GOOD YEAR.

Annual Report Shows Surplus and Undivided Profits Aggregating $950,000.

The report of the Waverley Company, Indianapolis, Ind., maker of Waverley electric cars and trucks, issued to the stockholders, shows that the business for the past year has been very satisfying. The gross business for the year was $1,312,815.94 on a capital of $190,000. The surplus and undivided profits for the period amounted to $950,000.

The officers and directors elected at the annual meeting are: President, William B. Cooley; vice president, Herbert H. Rice; secretary, Wilbur C. Johnson; treasurer, William Kothe; directors, Hugh Daugherty, Joseph C. Schaf, Alexander C. Ayres, Hugh M. Love.

REMOVES TO DOWNINGTOWN.

Rowe Motor Manufacturing Company Leaves Its Rented Building in Coatesville, Penn.

The Rowe Motor Manufacturing Company, formerly of Coatesville, Penn., has removed to Downingtown, same state, where it has purchased 14 acres of land and buildings, which are being improved to meet the requirements of the company. The concern manufactures Rowe motor trucks, and has been occupying rented quarters in Coatesville for some little time.

President Samuel J. Rowe states that the plant will be first class and thoroughly modern in every respect, and that the location is far superior to the old one for handling the rapidly increasing business of the company.

STUDEBAKER HEAD RETIRES.

Clarence H. Booth Resigns as General Manager of Studebaker Corporation.

Frederick S. Fish, president of the Studebaker Corporation, Detroit and South Bend, Ind., announces the retirement of Clarence H. Booth, who was general manager of the automobile division of that concern. It is understood that Mr. Booth will leave early in the new year for an extended trip abroad, after which he will devote his time to other interests.

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ANNOUNCES ELECTRIC BRAKE.

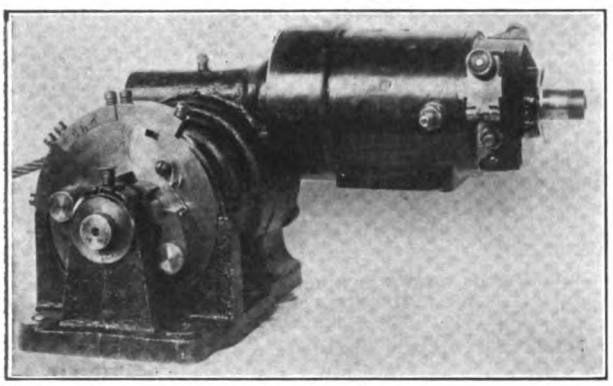
E. V. Hartford of Hartford Suspension Company Carries Electric Equipment One Step Further.

E. V. Hartford of the Hartford Suspension Company, Jersey City, N. J., has made public the details of the E. V. Hartford electric brake, which he states is the result of three years of study and experimentation. The device is manually controlled, the hand controller being so mounted under the steering wheel that it can be operated by the driver without removing the hands from the wheel. It is stated that the lever may be actuated to obtain any desired friction effect and that a pressure several times that possible with ordinary methods is obtainable.

The system comprises a small, high speed electric motor mounted on a suitable base, bolted to the frame and preferably under the rear seat. A non-reversible worm on the end of the armature shaft actuates a spiral gear mounted on a shaft carried transversely to the motor shaft. This transverse shaft carries a steel drum upon which a steel cable is wound, one end of the cable being secured to the drum, while the other is connected with the emergency brake lever. The cable, in other words, replaces the usual rod connecting the brake lever with the equalizer or brake rods.

Between the drum and the worm gear drive, inside of the case enclosing the mechanism, is an adjustable friction clutch which provides sufficient pressure to transmit the maximum braking efficiency. Beyond a certain point, however, the clutch will slip. This eliminates undesirable stresses upon the cable, etc., preventing breakage.

Upon a slight movement of the control lever forward, the electric motor is energized and movement imparted to the drum, winding the cable, etc. By a maximum



Hartford Electric Brake, Comprising Drum Actuated by Electric Motor, and Controlled by Lever Under Steering Wheel—It Is Stated That Any Desired Braking Effect Can Be Obtained with Movement of Finger.

movement of the control lever the brakes may be locked instantly. It is claimed that as nice a braking effect may be obtained as by manual application. Two releases are provided, one being progressive, similar to the braking effect obtained on the first contact, and the other a full release, which acts instantly.

Current for operating the device is obtained from the storage battery of the lighting and starting system, and the braking motor is wound for six, 12 or 24-volt batteries. It is stated that the controller may be operated by one finger; that it may be installed so as to be used by both the driver and occupants of the rear seats, and that the friction clutch may be adjusted to any predetermined pressure. It is also held that the clutch prevents excessive stresses being placed upon the braking mechanism.

EDISON BATTERY DISPLAY.

Special Attention Will Be Drawn to the New A-5 Type for Vehicle Service.

The Edison Storage Battery Company, Orange, N. J., will exhibit the Edison alkaline nickel-iron storage battery for ignition, lighting and traction, at the forthcoming New York show. During the past year a new size has been added to the line of vehicle batteries, to which special attention will be drawn. This is known as the A-5, having a rated capacity of 187.5 ampere-hours. It is intermediate between the A-4 (150 ampere-hours) and the A-6 (225 ampere-hours), and is used in passenger vehicles, in 1000-pound delivery wagons, in baggage, freight and industrial trucks and for other services where the A-6 would be more than ample. Batteries for ignition and lighting of gasoline cars will be shown in two capacities, 40 and 80 ampere-hours. They are made up in 6.5-volt sets, assembled in steel boxes or wooden trays.

The Fall River Chauffeurs' Association, Fall River, Mass., held its second annual ball earlier in the month, at which some 200 couples took part in the grand march, which was led by Frank O'Neil and Miss Hazel Springer in an electric runabout. Music hall, which was the scene of the festivities, was beautifully decorated to present a Japanese setting, with Japanese lanterns, flowers and American flags. The event was in charge of the following: Floor director, Frank Halligan; assistant, M. Edward Vera; aids, Arthur C. Springer, Eugene J. Pontiff, Stanley Mott and Harry P. Kenshaw. The officers of the association are: President, Patrick J. Halligan; vice president, Emile J. Fisher; treasurer, Frank O'Neil; secretary, James Cooney; recording secretary, Arthur C. Springer; sergeant-at-arms, Arthur Prevost; trustees, M. Edward Vera, Charles St. George and Patrick O'Brien.

Francis R. Hoyt, Cleveland, O., consulting engineer, has removed his offices from that city to Staunton, Va., in order to be in intimate touch with the early production of the Falcon cyclecar, of which he is designer. The Falcon Cyclecar Company is now erecting machinery in its new plant at Staunton and expects to be under quantity production by Feb. 15.

DIVIDENDS DECLARED.

F. B. Stearns Company, Cleveland, O.; 10 per cent.

Peerless Motor Car Company, Cleveland, O.; quarterly, one per cent., preferred, payable Jan. 1.

Hendee Manufacturing Company, Springfield, Mass.; quarterly, 1½ per cent., preferred, payable Jan. 1.

Westinghouse Electric & Manufacturing Company, East Pittsburg, Penn.; quarterly, one per cent., common, payable Jan. 31; quarterly, 1¾ per cent., preferred, payable Jan. 15.

American-La France Fire Engine Company, Elmira, N. Y.; quarterly, 1¾ per cent., preferred, payable Jan. 2.

Chalmers Motor Company, Detroit; quarterly, 1¾ per cent., preferred, payable Jan. 2; quarterly, 2½ per cent., common, payable Jan. 2.

Gray & Davis, Boston, Mass.; quarterly, 1¾ per cent., preferred, payable Jan. 1.

Goodyear Tire & Rubber Company, Akron, O.; quarterly, 1¾ per cent., preferred, payable Jan. 1.

Texas Company, New York City; quarterly, 1¾ per cent., payable Dec. 31.

B. F. Goodrich Company, Akron, O.; quarterly, 1¾ per cent., preferred, payable Jan. 1.

J. I. Case Threshing Machine Company, Racine, Wis.; quarterly, 1¾ per cent., preferred, transfer certificates, payable Jan. 1.

National Carbon Company, Cleveland, O.; quarterly, 1½ per cent., payable Jan. 15.

Batavia Rubber Company, Batavia, N. Y.; quarterly, one per cent., and one-half extra, common, payable Jan. 1; quarterly, 1½ per cent., preferred, payable Jan. 1.

Willys-Overland Company, Toledo, O.; quarterly, 1¾ per cent., preferred, payable Jan. 2.

BUSINESS DIFFICULTIES.

Atlantic Vehicle Company, Newark, N. J. Receivers will sell office furniture, etc., at 539 Broadway, New York City, Jan. 5, at 10:30 in the morning.

Planhard Manufacturing Company, Kokomo, Ind. Receiver will sell all personal property at the factory, Dec. 30, at 10 in the morning.

Thomas W. Burr, Newton, Mass., repairman, has been petitioned into bankruptcy. Liabilities given as $1805; assets, $900.

Codman Square Garage, Dorchester, Mass., has assigned for the benefit of creditors to William L. Pullen.

Disco Company, Detroit, has been declared a bankrupt by Judge Tuttle. Security Trust Company, Detroit, is receiver.

Blue Hill Avenue Garage, Boston, Mass., has assigned for the benefit of creditors to William E. Ludden.

Northern Motor Car Company, Albany, N. Y., has filed a petition in bankruptcy, with liabilities reported at $9000 and assets at $2000.

Wahl Motor Car Company, Detroit. Judge Tuttle has dismissed the proceedings in bankruptcy and lifted the receivership. All creditors have declared they are satisfied the firm is solvent and should be permitted to resume management of its own affairs.

The United Auto Supply Company, New York City, has been petitioned into bankruptcy and F. H. Bangs has been appointed receiver. Liabilities are said to be $15,000 and assets $1000.

The American Marion Sales Company, New York City, distributor of automobiles at 1896 Broadway; creditors have filed a petition in bankruptcy.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

PLEASURE CAR AGENCIES WANTED.

9703—Tennessee House is interested in securing the agency for pleasure cars selling between $500 and $5000.

9705—New York Concern would represent a line of pleasure cars selling between $500 and $2300.

9706—Virginia Dealer seeks the agency for cars selling between $900 and $1500.

9714—Missouri House would consider an agency proposition involving cars selling between $500 and $3000.

9718—New Jersey Company is in the market to represent pleasure car lines selling between $1000 and $3000.

9727—New York Dealer seeks the agency for cars selling between $1050 and $1300.

9715—Pennsylvania Firm would take the agency for cars listing between $400 and $1500.

9720—Illinois House would represent makers of pleasure cars listing between $800 and $3000.

9724—Texas Concern is interested in the agency for pleasure cars selling between $500 and $2000.

9731—Minnesota House would consider an agency proposition for cars listing between $400 and $1500.

9734—Iowa Company seeks connection with a manufacturer of pleasure cars selling between $500 and $2000.

9739—Connecticut Dealer would add a line of cars selling anywhere between $350 and $5000.

9746—Utah House is in the market to represent a line of pleasure cars listing between $700 and $2500.

9747—Indiana Firm would consider an agency for pleasure cars selling between $750 and $2500.

COMMERCIAL CAR AGENCIES WANTED.

5464—Pennsylvania Dealer is interested in securing the agency for power wagons listing at $800 to $1500.

5439—Connecticut Concern would consider an agency proposition for power wagons selling between $500 and $5000.

5468—New Jersey House is in the market to represent manufacturers of commercial vehicles selling at $900 to $2000.

5478—Indiana Dealer is open for an agency proposition involving power wagons selling between $200 and $5000.

5472—Illinois House would take the agency for commercial vehicles selling between $700 and $3500.

5479—Minnesota Firm is in the market for an agency for commercial vehicles listing between $350 and $800.

5484—Missouri Concern wants agency for commercial vehicles selling between $1500 and $2000.

5487—Tennessee Firm is anxious to secure the agency for power wagons selling at $750 to $2500.

CYCLECAR AGENCIES WANTED.

1712—California Dealer would take the agency for some good cyclecar.

ACCESSORY AGENCIES WANTED.

7512—Ohio Concern is in the market to represent any satisfactory line of automobile accessories, equipment or supplies.

7524—Connecticut House is interested in securing the agency for pleasure car and power wagon accessories, equipment and supplies.

7531—California Garage would handle a line of pleasure car accessories and supplies.

7534—Utah Company seeks an opportunity to handle good selling line of pleasure car accessories, supplies and fittings.

7544—Iowa House is interested in handling a line of pleasure car accessories and supplies.

7548—Texas Company will take exclusive distributing proposition for anything that is good in the line of pleasure car equipment, accessories and supplies.

7551—Illinois Dealer wants agency for pleasure car accessories and supplies.

7560—New Jersey Concern will consider an agency proposition for a good line of pleasure car accessories and supplies.

7561—Iowa Dealer is seeking the agency for pleasure car accessories and supplies.

7567—Minnesota Company is interested in a line of automobile accessories and supplies.

7570—Pennsylvania House will take agency for all kinds of automobile accessories and supplies.

7575—New York Dealer wants agency for automobile accessories and supplies.

7578—Wisconsin Concern, recently incorporated, is interested in all lines of automobile accessories.

7581—New Hampshire House is seeking the agency for the latest improved accessories for gasoline cars, as well as pleasure car supplies of all kinds.

7584—Missouri Dealer wants agency for automobile accessories and supplies.

7587—Tennessee Concern is in the market for all kinds of pleasure car and power wagon accessories and supplies.

7590—New York House desires the agency for automobile equipment, accessories and supplies.

7593—Virginia Dealer is in the market for automobile accessories and supplies.

GARAGE EQUIPMENT WANTED.

8618—New Jersey House is in the market for garage supplies.

8621—Illinois Concern seeks information respecting garage equipment and supplies.

8630—Texas Company is desirous of securing garage supplies.

8631—New York Concern is in need of garage equipment and supplies.

8633—Missouri Dealer seeks information concerning garage equipment and supplies.

8637—New York House is in the market for garage equipment.

8639—Pennsylvania Firm is interested in garage supplies of all kinds.

8641—Minnesota Concern seeks information relative to garage equipment and supplies.

8643—Iowa House is in the market for garage equipment and supplies.

8644—Tennessee Firm is interested in garage equipment and supplies.

8645—Utah Company wants information relative to garage equipment and supplies.

8647—Iowa Concern requests information relative to garage supplies.

8650—California House is in the market for garage supplies.

8651—Connecticut Garage will consider the purchase of garage equipment and supplies.

8654—Ohio Dealer is considering the purchase of garage equipment and supplies.

REPAIR SHOP AND MACHINE TOOLS.

6301—Pennsylvania Concern is in the market for machine tools of all kinds.

6302—New York House seeks information relative to machine tools.

6305—Iowa Garage is in the market for an alternating current electric drill.

6309—California Garage will purchase repair shop supplies.

6311—Iowa Company seeks information relative to repair shop supplies and equipment, including machine tools.

6313—Minnesota House is in the market for repair shop supplies and machine tools.

6315—Utah Concern is ready to purchase repair shop supplies.

6318—Tennessee House wants information respecting machine tools and repair shop equipment and supplies.

6319—Connecticut Garage is ready to consider the purchase of repair shop supplies and equipment, including machine tools.

6321—Virginia Dealer wants information relative to repair shop supplies.

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6323—Iowa Concern is desirous of purchasing repair shop equipment and supplies.

6325—Missouri Garage is in the market for repair shop supplies and equipment, including machine tools.

6331—Illinois House would purchase repair shop supplies and equipment, including machine tools.

6333—New Jersey Garage wants information relative to repair shop supplies.

6334—Tennessee Firm is in the market for repair shop supplies.

6337—Ohio House desires information concerning repair shop supplies and equipment.

6343—New York Company seeks information relative to repair shop supplies and machine tools.

6345—Texas House is in the market for repair shop supplies and equipment, including machine tools.

AGENCY TERRITORY OPEN.

2100—Texas Concern wants sub-agents all over the state.

2101—New York Company is anxious to place sub-agents for the Crow Elk-Hart line.

2104—Tennessee House has territory open throughout Tennessee, northern Alabama, northern Mississippi and southern Kentucky.

SPECIAL OPPORTUNITIES.

1814—Alabama Man wants tires and accessories of all kinds particularly adaptable for a Hudson 33, five-passenger touring car, 1912 model, as well as parts.

GENERAL NEWS OF THE MANUFACTURERS.

The McFarlan Motor Company, Connersville, Ind., has announced that its six-cylinder model will carry the Gray pneumatic gearshifting and engine starting system as standard equipment. So far as is known this is the first motor car manufacturer to adopt this innovation.

The Hupp Motor Car Company, Detroit, has increased its capital stock from $750,000 to $1,000,000, the increase representing a 33.3 per cent. stock dividend taken from the surplus.

The Grant Motor Car Company, Detroit, organized some months ago to produce a small car, has purchased the factory of the Findlay Motor Company at Findlay, O. The plant has floor space of some 50,000 square feet, sufficient to warrant plans for the production of 5000 cars a year.

The Electric Renovator Manufacturing Company, Pittsburg, Penn., has purchased the Harroun Company, Indianapolis, Ind., maker of the kerosene carburetor, invented by Ray Harroun. The factory will remain in Indianapolis for the present, and will be operated in conjunction with the Pittsburg plant.

The H. W. Johns-Manville Company, New York City, has purchased all manufacturing and selling rights for the Long horn, formerly made by the G. Piel Company, Long Island City, N. Y.

The Empire Automobile Company, Indianapolis, Ind., is occupying its new headquarters at Capital avenue and Michigan street, shown in an accompanying illustration. The building is of concrete and steel, three stories in height, and will house the service and parts stock departments as well as the various executives.

New Headquarters and Executive Offices of the Empire Automobile Company in Indianapolis, Ind.

The Muncie Gear Company, Muncie, Ind., has arranged to continue business under new management. Thomas W. Warner of Toledo, O., becomes president and the capital stock is increased from $300,000 to $500,000. It is understood that creditors of the company will receive both cash and preferred stock, and that about $230,000 of the stock has been distributed in this manner. The other officers are: Vice president, Dr. W. A. Spurgeon; secretary and treasurer, J. Roy Goethus.

The Kissell Motor Car Company, Hartford, Wis., announces that early in January it will place in the market two entirely new KisselKars, one a four and the other a six. Both will be sold at a reduced price, as compared with previous KisselKars, and the six is to be marketed for less than $2000.

The Edison Storage Battery Company, Orange, N. J., has completed its new plant, and only awaits the installation of new machinery before removing thereto. Sales Manager R. A. Bachman denies a rumor that a new type of Edison battery is soon to make its appearance, and explains that this may have arisen from the fact that the company is soon to market a new type of miner's lamp, for which the Edison nickel-iron battery is particularly well adapted.

The Maccarr Automobile Company, Allentown, Penn., is planning to remove its factory to Scranton, Penn., locating in the old Cliff works building.

The Westinghouse Air Spring Company, Pittsburg, Penn., maker of a new air spring for automobiles, has opened factory branches at 244 West 48th street, New York City; 98 Massachusetts avenue, Boston, Mass.; 380 Elliott street, Cleveland, O., and other cities.

The Meteor Motor Car Company, Shelbyville, Ind., is planning to remove its factory to Piqua, O., and reincorporate under the laws of Ohio with capital of $50,000.

Phineas Jones & Co., Newark, N. J., will locate a branch factory for the production of automobile wheels on South Los Angeles street, Los Angeles, Cal., and will incorporate in that state under the name of Phineas Jones & Co. of California. Latest machinery will be installed.

The Saxon Motor Company, Detroit, has placed an order with the Continental Motor Manufacturing Company of that city and Muskegon, Mich., for 10,000 four-cylinder motors to be used in its new light Saxon car. The engines will be produced in the factory at Muskegon.

The Black Manufacturing Company, Milford, Mich., has sold its plant to the Detroit Auto Sash Company, and the building is to be remodelled to meet the requirements of the purchaser.

The White Company, Cleveland, O., is erecting an addition to its plant in that city at a cost of $10,000.

The Cox Brass Manufacturing Company, Albany, N. Y., has opened a factory branch at 1216 Van Ness avenue, San Francisco, Cal., where a complete line of its products will be carried. The branch is under the charge of Charles M. Weaver as manager.

The H. H. Babcock Company, Watertown, N. Y., announces that it has withdrawn entirely from the manufacture of automobiles.

The Lord Motor Car Company of Los Angeles and Pasadena, Cal., through its president, P. A. Lord, writes that there is absolutely nothing in the rumor that it is preparing to locate an automobile plant in Los Angeles.

The Woods Mobilette Company, Chicago, Ill., maker of a cyclecar bearing that name, plans to erect an assembling plant in the East and another in the West, if business conditions prove to be such as to warrant such action.

The Invader Oil Company, New York City, announces that it has concluded arrangements with the Electric Appliance Company, New Orleans, La., to handle its complete line of Invader oils and greases, and I-O-C gear oils for the territory embracing Louisiana, Mississippi, the southern part of Alabama, the western coast of Florida and a small part of Arkansas and Georgia.

The Frontier Specialty Company, 728 Main street, Buffalo, N. Y., is issuing a patent warning to the trade, calling attention to the fact that it has secured the control of all rights under letters patent No. 642,167, granted Jan. 30, 1900, to F. R. Simms, for spark plugs for explosive engines. It is maintained that this patent covers the construction of the All-in-One spark plug, made by this concern.

The Emil Grossman Manufacturing Company, Bush Terminal, Brooklyn, N. Y., has secured a license to manufacture Red Head spark plugs under patents No. 642,167, granted to Simms, Jan. 30, 1900, and No. 915,896, to Shea, March 23, 1909.

The Chevrolet Motor Company, Flint, Mich., has erected a branch factory in New York City, where assembling work will be undertaken, as well as the preparation of cars for exportation.

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The Weed Chain Tire Grip Company, New York City, has purchased the rights for the Lyons grips, designed for use on motor trucks.

The Green & Swett Company, Boston, Mass., has been organized for the production of the Tri-Phoon tire pump. The factory will be located in that city.

The General Vehicle Company, Long Island City, N. Y., maker of G. V. electric and G. V. Mercedes gasoline trucks, has removed to its new five-story factory. The new building is one of four which are to be erected by the company, and when these are finished the concern will have one of the largest motor truck plants in the country.

The Universal Winding Company, Cranston, R. I., has asked for tax exemption for 10 years, and if the request is granted, it plans to utilize the old Maxwell-Briscoe Motor Company's plant in that city.

The Moore Motor Truck Company, formerly of Philadelphia, has leased the Mineral Products Company's building at Buttonwood and C streets, Wilmington, Del., and it is understood that Moore trucks will be constructed therein.

The Dirigible Headlight Company, Salt Lake City, Utah, recently incorporated with capital of $10,000, has acquired a factory site at 325 South West Temple street, and it is expected that manufacturing will be begun with about 50 men in the near future. The officers of the company are: President, Charles Dale; vice president, L. P. Amtoft; treasurer, E. R. Madsen; secretary, Frank Dale.

The Bridgeport Automobile Company, Bridgeport, W. Va., has begun the erection of a building on the site of the old Crystal glass works, in which it will manufacture automobiles, airships, motor boats and parts. It is understood that a large eastern motor car company is to be united with this concern in the near future. J. Bernard Handlan of Wheeling, W. Va., is at the head of the Bridgeport company.

William F. Duhimeier, Cincinnati, O., has purchased the former plant of the Schacht Motor Car Company in that city, and it is stated that J. F. Dietz & Co., maker of desks, etc., will occupy at least a portion of the factory.

The Ford Motor Company, Detroit, has purchased a plot of ground on Third street, Louisville, Ky., where it will erect a branch assembling plant at an approximate cost of $200,000.

The Firestone Tire & Rubber Company, Akron, O., is erecting a branch and service station building in Seattle, Wash., which will have a floor area of more than 20,000 square feet.

The H. E. Wilcox Motor Car Company, Minneapolis, Minn., maker of Wilcox trucks, has increased its capital to $3,500,000. The factory will be enlarged and improved.

The L. P. C. Motor Company, recently formed in Racine Junction, Wis., has elected the following officers: President, Capt. William Mitchell Lewis; vice president and engineer, Rene M. Petard; secretary and sales manager, James M. Cram; treasurer, F. S. Cordon; general counsel, E. B. Hand; superintendent, O. R. Delamater; purchasing agent, C. B. Chamberlain.

The H. W. Johns-Manville Company, New York City, has removed its Toronto branch to 19 Front street, East, where it will have a store and warehouse with floor area of approximately 35,000 square feet. A larger stock of J-M automobile specialties and the other products manufactured by this concern will be carried than heretofore was possible.

The Chase Motor Truck Company, Syracuse, N. Y., has placed on the market a kerosene motor roller farm tractor, designed for the severe condition of soil and topography existing throughout the eastern United States. This tractor furnishes all traction and belt work required by the farmer.

The Detroit Wagon Works, Detroit, is making a new type tractor, which will be announced soon.

The Detroit Steering Wheel & Windshield Company, Detroit, has changed its name to the Metalwood Manufacturing Company. The change affects the name only.

The Monahan Vehicle Company, Providence, R. I., has installed in its painting department a new compressed vapor cleaning system for cleaning cars before painting.

The Dudley Tool Company, Menominee, Mich., will produce a cyclecar along conventional lines with seats arranged tandem style.

The Lee Tire & Rubber Company, Conshohocken, Penn., has placed agencies for its tires with the Lee Tires Sales Company, Newark, N. J., and the Lee Tire & Rubber Company, Brooklyn, N. Y.

The Pullman Motor Car Company is making arrangements for the establishment of an agency in Boston, Mass.

The Briggs-Detroiter Company, Detroit, maker of the Detroiter cars, will be represented in New York State, New Jersey and all of New England, by a new company that has been formed under the name of the Detroiter Motor Sales Company. Julius Lichtenstein is head of the new company.

The Lord Motor Car Company is to establish a new automobile plant at Los Angeles, Cal.

The Front Wheel Drive Company, Hoboken, N. J., maker of Christie automobile fire trucks, contemplates establishing its plant in Erie, Penn.

The Champion Spark Plug Company, Toledo, O., is now operating in its new four-story addition. The building gives the company 40,000 square feet more of floor space and increases the minimum capacity to 75,000 a year.

The Dayton-Dick Company, Quincy, Ill., maker of the "Da-Lite" generator and ignition and the Dayton-Dick starter, has moved into a new factory that affords ample floor space of 80,000 square feet. This plant is equipped with the latest design of machinery in all departments.

The Firestone Tire & Rubber Company, Akron, O., has established a service station at Des Moines, Ia. A building has been secured on Walnut street and machinery for repairing wheels and tires will be installed.

The Allyne Brass Foundry, Detroit, has awarded a contract for the erection of a one-story addition, 30 by 47 feet, to its plant on Crawford avenue.

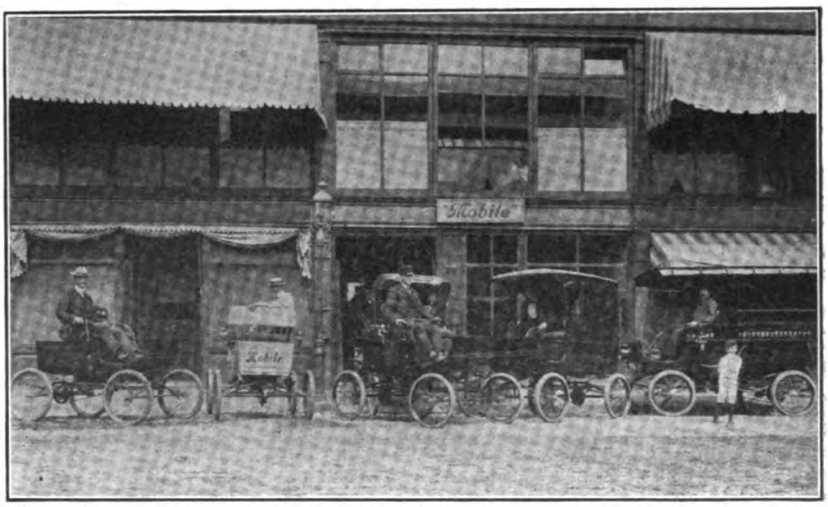
The Oregon Top Company, Portland, Ore., has moved to larger quarters on East Eighth street.

The Motor & Manufacturing Company, Dunkirk, N. Y., has erected a new plant on East Second street.

The Flyer Automobile Company is to erect a plant in Mt. Clemens, Mich.

The Gibson Motor Car Company, Pittsburg, Penn., has purchased a building at Monaca and will remodel it for the manufacture of automobiles.

The General Motors Company, Detroit, has declared a semi-annual dividend of 3.5 per cent. on the preferred stock.



The First Salesroom in America Devoted Exclusively to the Exploitation of Automobiles—The Mobile Factory Branch, Opened at 346 Boylston Street, Boston, in the Fall of 1898.

The Goodyear Tire & Rubber Company, Akron, O., has declared a dividend of 12 per cent. on the common stock.

The Merchant & Evans Company, Philadelphia, Penn., is said to be about ready to place the Devon two-wheel tractor on the market. This is a front drive machine in which the power plant is mounted directly on the front axle.

The Empire Tire Company and the Empire Rubber Company, both of Trenton, N. J., have filed notice of their dissolution. This action was necessary because of the merging of the two concerns under the name of the Empire Tire & Rubber Company.

The Packard Motor Car Company, Detroit, announces that the sales of Packard pleasure cars increased 22.6 per cent. between Aug. 1 and Nov. 1, over those of the same period in 1912.

The Parish & Bingham Company, Cleveland, O., maker of steel stampings and automobile frames, has filed notice of an increase in capital from $244,000 to $1,000,000.

The Poughkeepsie Utilities Corporation, Poughkeepsie, N. Y., is said to have closed a deal for a factory in Milwaukee, Wis., where it is expected that the production of automobile rims will be begun in the near future.

H. B. Willower has gone to Tacoma, Wash., as assistant manager of the Northwest branch of the Gramm-Bernstein Company, Lima, O., maker of B. A. Gramm's trucks. He later will have charge of the branch in Seattle, Wash.

The Hoover-Parsons Spring Co., Fresno, Cal., has opened a factory at 823 Merced street for the production of springs, etc.

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MARKET QUOTATIONS FOR THE MONTH.

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of December were as follows:

Pennsylvania dark	$2.50	Ragland	$ .70
Second sand	2.50	Illinois above 30°	1.45
Tiona	2.50	Illinois below 30°	1.45
Mercer black	2.00	Kan. & Okla.	1.03
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.80
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.49	Caddo, La., 38°	1.05
South Lima	1.44	Caddo, La., heavy	.78
Indiana	1.34	Spindletop	1.06
Princeton	1.40	Canadian oil	1.89
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	31½	31	21½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-62°	20¼	20	19¾
73 a 76°	29½	29¼	29
Stove	23	22¾	22½
Auto, 68-72°	26½	26¼	26

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon		a	16½
Refined, barrels	13	a	13½
Tank wagon delivery		a	9
Fuel, 31°	9¼	a	
Fuel, 34°	10¼	a	

Naphtha.

Auto in wood		a	20
Auto in garages, steel bbls.		a	16
V. M. & P. deod., in steel		a	14
V. M. & P. deod., in wood		a	16

Gasoline

86°		a	29½
74-76°		a	25¼
67-70°		a	22¼
Stove		a	21

COMPARATIVE QUOTATIONS ON AUTOMOBILE SECURITIES.

Several new names appear in the stock market quotations respecting automobile securities this month. Among these may be mentioned the following: Borne, Scrymser Company, Kelly-Springfield Motor Truck Company, New Departure Manufacturing Company, Palmer & Singer Manufacturing Company, Russell Motor Car Company, Splitdorf Electrical Company and Vacuum Oil Company. The accompanying table indicates the state of the market during each week of the past month and in comparison with last year at this time.

Week of	Nov. 24		Dec. 1		Dec. 8		Dec. 15		1912	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com	200	215	200	225	200	205	195	220	155	190
Ajax-Grieb Rubber, pfd	98	105	97	102	97	102	97	102	97	102
Aluminum Castings, pfd	98	101	98	101	98	100	98	100	97	100
Borne, Scrymser	..	..	..	..	..	..	280	290	..	..
Chalmers Motors, com	..	95	..	95	90	94	..	94	..	..
Chalmers Motor, pfd	92	96	..	96	..	96	90	95	..	..
Consolidated Rubber Tire, com	30	35	30	33	31	35	32	36	11	14
Consolidated Rubber Tire, pfd	90	94	89	95	95	100	100	110	54	60
Firestone Tire & Rubber, com	245	254	..	250	235	245	235	242	300	307
Firestone Tire & Rubber, pfd	102	104	102	104	100	101½	100	101	105½	107
Garford Co., pfd	80	90	80	90	85	90	78	90	100	102
General Motors, com	36	37	36	37	35	36	35¾	37	32	34
General Motors, pfd	72	76	73	74½	74	76	75	76	76	78
B. F. Goodrich, com	18	20	16	16½	16	17	17	18	63	65
B. F. Goodrich, pfd	80	83	77	78	78¼	78½	75½	76	105	106½
Goodyear Tire & Rubber, com	..	245	200	210	200	210	185	192	402	411
Goodyear Tire & Rubber, pfd	96	96¼	93	95	92½	93½	90	92	105	106
Gray & Davis, pfd	96	102	95	100	96	102	94	101	..	..
Hayes Mfg. Co	..	..	..	..	..	..	..	..	..	90
International Motor, com	..	5	..	5	..	5	..	5	10	20
International Motor, pfd	..	15	..	15	..	15	..	14	40	60
Kelly-Springfield Motor Truck, com	50	60	50	60	50	60	40	60	..	..
Kelly-Springfield Motor Truck, pfd	90	101	90	101	90	101	90	105	..	..
Lozier Motor, com	..	16	..	16	..	16	..	16	..	..
Lozier Motor, pfd	..	92	..	90	..	90	..	90	..	..
Maxwell Motor, com	2¼	2¾	2	2½	2½	3	2½	3	..	..
Maxwell Motor, 1st pfd	17	19	18½	19½	19	20	18¼	18¾	..	..
Maxwell Motor, 2nd pfd	5½	6½	5½	6	6¼	7	6½	7	..	..
Miller Rubber	120	130	120	130	120	130	115	121	160	170
New Departure Mfg., com	168	171	145	160	140	160	140	150	..	..
New Departure Mfg., pfd	103	107	100	102	100	102	100	102	..	..
Packard Motor Car, pfd	90	94	91	94	90	95	90	95	104	106
Palmer & Singer Mfg., pfd	..	65	..	65	..	65	..	65	..	..
Peerless Motor Car, com	15	25	15	25	15	25	15	25	..	..
Peerless Motor Car, pfd	75	85	75	85	75	85	75	80	..	..
Pope Mfg. Co., com	1	3	..	3	1	3	1	3	26	28
Pope Mfg. Co., pfd	10	20	10	15	10	14	10	15	69	70½
Portage Rubber, com	..	35	..	35	..	30	..	30	..	..
Portage Rubber, pfd	..	90	..	90	..	90	..	85	..	..
Reo Motor Truck	6⅛	7⅛	..	7	5	6	5	7	9¼	9¾
Reo Motor Car	..	15¼	..	15½	13¾	15	13½	14½	20	21
Rubber Goods Mfg., pfd	100	106	100	106	105	115	105	115	103	107
Russell Motor Car, com	..	40	..	40	..	40	..	40	..	..
Russell Motor Car, pfd	..	70	..	70	..	70	..	70	..	..
Splitdorf Electrical	50	55	40	45	40	45	40	45	..	..
Stewart-Warner Corp., com	55	60	50	55	55	61	55	57	..	..
Stewart-Warner Corp., pfd	94	98	96	97	96	97½	95½	97½	..	..
Studebaker Corp., com	16	18	15	16	16	17	17	18	35	37
Studebaker Corp., pfd	66¼	69	66	69	64¾	68	65	67½	90	93
Swinehart Tire & Rubber	78	80	78	80	70	76	65	70	100	105
U. S. Rubber, com	53	55	52½	54½	54½	55½	54	55	..	..
U. S. Rubber, 1st pfd	99	99¼	98½	99	99	99¼	100	100¼	..	..
Vacuum Oil	184	187	191	193	192	195	191	194	..	..
White Co., pfd	104	110	104	110	105	110	105	110	104	109
Willys-Overland, com	60	63	60	63	58	62	58	62	68¼	68¾
Willys-Overland, pfd	82	88	82	88	81	83	81	85	99¼	99¾

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PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison:

Material	Nov. 24		Dec. 1		Dec. 8		Dec. 15			
	High	Low	High	Low	High	Low	High	Low	Nov. 22	Dec. 20
Antimony, lb	.06⅛	.06⅛	.06⅛	.06	.06	.06	.06	.06	.06⅛	.06
Beams and chan., 100 lbs	1.41½	1.36½	1.36½	1.36½	1.36½	1.36½	1.36½	1.36½	1.41½	1.36½
Bessemer steel, ton	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Copper, elec., lb	.14¾	.14⅝	.14⅝	.14⅝	.14⅝	.14¼	.14¼	.14¼	.14¾	.14¼
Copper, lake, lb	.15	.14⅝	.14⅝	.14⅝	.14⅝	.14⅝	.14⅝	.14½	.15⅛	.14½
Cottonseed oil, bbl	7.10	7.00	7.06	7.00	7.00	6.83	6.81	6.65	7.10	6.65
Cyanide potash, lb	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
Fish oil, Menhaden, br	.38	.38	.38	.38	.38	.38	.39	.38	.38	.39
Gasoline, auto., 200 gals	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼
Lard oil, prime	.93	.93	.93	.93	.93	.92	.92	.92	.93	.92
Lead, 100 lbs	4.25½	4.20	4.20	4.10	4.10	3.85	4.00	4.00	4.30	4.00
Linseed oil	.50	.48	.50	.50	.52	.50	.52	.52	.48	.52
Open hearth steel, ton	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Petroleum, Kan., cr., bbl	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Petroleum, Penn., cr., bbl	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Rapeseed oil, refined	.62	.62	.62	.62	.62	.62	.62	.62	.62	.62
Rubber, fine up-river Para	.75	.73	.73	.73	.76	.73	.73	.73	.76	.73
Sulphuric acid, 60	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Tin, 100 lbs	39.50	39.00	39.00	38.15	38.00	37.38	37.85	37.10	39.50	37.10
Tire, scrap	.05½	.05½	.05½	.05	.05	.05	.05	.05	.05½	.05

NEW CONCERNS AND BUSINESS CHANGES.

NEW GARAGE AND REPAIR SHOPS.

J. M. Frederick of the Frederick Auto Company, Elkhart, Ia., has opened a garage and agency on Walnut street, Des Moines, Ia.

R. L. Brewster, formerly foreman of the service department of the Independent Auto Company, has opened a service and repair station at 916 Walnut street, Des Moines, Ia.

H. D. Gorby, Pasadena, Cal., has opened a garage and repair shop at 29 South Lake avenue.

The Bockelman Garage, Beecher, Ill., has recently been opened.

The Agency & Repair Store, Three Rivers, Mich., has been opened by A. P. Yorrton and L. A. Yorrton of Jackson, Mich.

Erickson & Bastedo, New Brunswick, N. J., has opened a garage at 127 Church street.

T. J. Walton, St. Louis, Mo., formerly superintendent of the police garage, will open a repair shop at 2007 Locust street.

Herbert Downing, Ann Arbor, Mich., is interested in a new company that will open a garage at Littleton, N. H. Mr. Downing will come East to look after the business.

Henry Dean Bourne and John Stone, Manchester, N. H., will open a new garage on Hanover street. It will be fitted with modern equipment and Chevrolet cars will be handled.

The Art Auto Repair Company, Toledo, O., has been opened on Madison street by Frank Schwind and Harold Stout.

Elmer Denmab, Bakersfield, Cal., is to open a garage at Yuba City, Cal.

Mabel E. Hubbard, Buffalo, N. Y., has petitioned the common council for permission to conduct a public garage at 486 Cornwall avenue.

William E. Coleman, Marlboro, Mass., has opened an automobile repair shop at 390 Maple street.

John E. Braley, Leominster, Mass., has opened a garage at 12 Manning street.

Hunt & Magee, Glendora, Cal., has established a new garage business under the name of the Central garage and will carry a full line of accessories and handle the Reo cars.

Harry E. Blodgett, Pasadena, Cal., is now operating the Park garage at 48 Orange place.

Kratochville & Nehring, Houston, Tex., has opened a garage on West Fourth street.

A. E. Oliver, Oneonta, N. Y., has leased the shop formerly owned by John A. Dowsett, and will open a garage and repair shop.

Clifford Cadron, De Witt, Ia., has leased quarters and will open a repair shop.

Boudinot & Cuthbert, New Brunswick, N. J., has opened a garage at 3 Schuyler street, and will have the agency for the Studebaker, Hupmobile, Marion and American cars.

The Dana Oil Cushion Spring Insert Company, Chicago, Ill., has opened a service and spring repair department at 2246 South Indiana avenue.

Dillon Stallcup, Alliance, O., is to open a garage.

Michael Buckley, New York City, has leased property at 152 West 56th street and will open a garage.

C. R. Yanington is planning to enter the garage business at Stockdale, Tex.

R. F. Fishburn, Tucson, Ariz., local agent for the Velie line, has opened a garage.

Millhouse Bros., Scranton, Penn., has opened a new garage in that town.

A. A. Linfor, Clarion, Ia., has rented property in that town and will open a garage.

Eugene Ball and Don Leary, Carthage, N. Y., have formed a partnership and opened the Elmhurst garage. They will also operate a repair shop.

Charles F. Knuth, Palmyra, N. Y., will open a garage at 10 Broad street in the near future.

The Niles Auto & Machine Company, Niles, O., recently formed, has opened a garage and repair shop and will eventually construct automobiles.

The Columbus Welding Company, Columbus, O., has been opened at 294 West 3rd street.

NEW CAR DEALERS.

Louis Bleick, Appleton, Wis., has opened a salesroom at the corner of Washington and Morrison streets. He will handle the Mitchell and Detroiter cars.

The Iowa Motor Sales Company, Des Moines, Ia., has been formed to act as distributor for the Velie cars in central Iowa. N. A. Cruzan, formerly a dealer, is manager of the new company, which has located at 909 Walnut street.

Joseph Judge, who was formerly with the Pope-Hartford company and for the past three years manager of the Mogul Auto Company at Newburg, N. Y., has re-entered the trade for himself. He has secured the distribution of the Ford and Reo cars and will maintain headquarters in Spring Valley, with a branch at Haverstraw.

The Athens Automobile Company, Athens, Wis., has been formed by F. F. Chesak, Fred Lonsdorf and Frank Hubing.

J. S. & E. C. Morrison, El Paso, Tex., has taken over the agency for Hupmobile cars in that city. O. H. Baum, former agent, will confine his activities to the Chalmers and Peerless lines in the future.

The Pittsburg Motorcycle & Supply Company has opened an establishment for the sale of Excelsior motorcycles and a complete line of accessories at 6274 Frankstown avenue, Pittsburg, Penn. The business will be managed by George A. Black, W. J. Black and Robert S. Lee.

E. S. DeTamble and Carl H. Pine, Los Angeles, Cal., have opened a salesroom at 825-827 South Olive street, where they will handle the Partin-Palmer cars.

The Symonds Motor Car Company, Los Angeles, Cal., has been reorganized and L. E. Crowe has become one of the new partners. The business will be conducted at the same location, 1228-1230 South Flower street, under the name of C. & S. Company.

S. M. Bulkley & Co., San Diego, Cal., has opened salesrooms for the Perfex and Autocar products in the Standard garage at 821 Second street.

The Auto Sales & Supply Company, San Marcos, Tex., has been formed by W. E. Anderson and Joseph Green.

GARAGE TRANSFERS.

Archie Mink, manager of the Joseph garage, Columbus, O., has taken over the business and will operate under the name of Champion garage. The building is located on Champion avenue and Oak street.

The Props-Brooker Motor Company, Muncie, Ind., has purchased the Muncie garage on South Walnut street and will remove to that location.

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M. Hurto of the Hurto & Berggren Machine Shop, Marshalltown, Ia., has taken over the Johnson Auto company's garage in that city.

C. E. Tait, Concord Township, O., has purchased a garage on West Water street, Springfield, O., and will operate under the name of the Auto Inn.

Eugene Avery has taken over the Globe garage at Kalamazoo, Mich., and will operate the same.

The Mozach Garage, Eugene, Ore., has been purchased by Mahlon Sweet and Rollo Drain, who have taken possession of the property to operate it.

Claude Redwine has purchased the garage of W. A. Platt in Mountain View, Cal.

R. P. Ewing, Spencer, Ia., has sold his garage to William Peterson, formerly of Hartley.

Fred Patterson, Madera, Cal., formerly with Freeman & Wootton, has taken over the Yosemite garage and will operate it.

The Cushman Garage, Adiar, Ia., has been purchased by E. G. Kading and C. O. Dutro, who will operate the same.

Charles Hathorn, Mason City, Ia., has sold his interest in the Hathorn garage at Fifth street to his brother, W. H. Hathorn.

Herbert Baldwin, Meriden, Conn., is hereafter to operate the business of the Central garage that was formerly conducted under the partnership of Mr. Baldwin and Russell H. Erskine.

Henry Neverman has purchased the garage of H. G. Nicholas at Waverly, Ia.

The Range Motor Company, Biwabik, Minn., has purchased the garage and repair shop of C. J. Verrill and will install new tools and machinery.

The Overland Garage, Chico, Cal., has been taken over by W. F. Gage and associates, who will operate it under the name of the "Mission".

Ellis Shoner, Morristown, N. J., has purchased the garage business of John A. Finnessey on Pine street.

George Ashcraft and Perry Ashcraft, Medford, Ore., have formed a partnership and taken over the Medford garage.

Christy Bros. has purchased the garage of Toburen Bros., at Champaign, Ill.

The Roscoe Garage, Monticello, N. Y., has been purchased by Roscoe Branch of Port Jervis. He will conduct an agency for Ford cars.

The Hanover Street Garage, Manchester, N. H., has been leased by Henry Dean and John Stone, who will install modern machinery for automobile repair work.

The Pierson & Hewitt garage and supply business at Malta, Mont., has been purchased by John Shady and William Culberts.

The Sterling Auto Company, Schenectady, N. Y., has started a general automobile supply and repair business at 412 Union street and will also handle the Imperial, Pullman and Abbott-Detroit lines.

The Frostburg Garage, Frostburg, Md., has been taken over by James Martin of the Martin garage, and it is proposed to merge the two.

The Shelor-Morris Company has been formed in Fort Worth, Tex., and will be located at 219 Commerce street. It will have the agency for Velie cars.

O. L. Unkefer, Fillmore, Cal., has purchased the garage business heretofore conducted by John Opashal, and will take charge immediately.

Charles A. Gage has purchased the interests of F. S. Bloodgood and Frank Taylor in the Owego garage, Central avenue, Waverly, N. Y.

NEW ACCESSORY HOUSES.

John J. Molloy, Manchester, N. H., formerly located in the Motor Mart at Boston, has opened an accessory and supply store at 133 Amherst street.

Charles A. McKinley, Pasadena, Cal., is operating the Pasadena Spring Works at 15 West Green street.

V. F. Hoffman, Frank Lang and Edward Nelson, Havelock, Neb., have patented a device for automobile wheels and it is expected that a company will be formed to market the product.

Harry W. Cooper, 33rd street and South Park avenue, Chicago, Ill., has taken the agency for the Batavia tires.

C. F. Rizer and C. B. Rizer, Olar, S. C., have entered the business and will sell automobiles and accessories.

MISCELLANEOUS BUSINESS CHANGES.

The S. T. Stilkey & Son Company, Augusta, Me., has changed its name to the Augusta Garage & Livery Company.

The Kelly Automobile Company, Oak Park, Ill., has increased its capital stock to $25,000 and the number of directors from three to five.

Vautrot Bros., Durand, Wis., has sold its hardware and implement business and will devote its time to garage and agencies. The concern handles the Ford, Buick and Cadillac cars.

Howard P. Sears, Rome, N. Y., will conduct business under the name of the H. P. Sears Cycle Company.

Charles E. Lair, Gloversville, N. Y., has withdrawn from the Gloversville Garage Company and will enter the garage business himself.

Peters & Gresslin, Ackley, Ia., garage and dealer, has dissolved partnership. Peters has assumed Gresslin's share and will continue the business.

The Lucia Bros. Motor Car Company, Green Bay, Wis., has sold its branch at Oconto to Sophus Nelson, who will continue the business.

Paul Clement, LaPorte City, Ia., has bought the Kossuth Motor Car Company of Algona, Ia.

The Texas Motor Sales & Supply Company, Corpus Christi, Tex., has been purchased by T. M. Barnhill of Uvaide and F. D. Woods of Sabinal.

E. R. Jones, Hutchinson, Kan., has sold his interest in the Eaton Auto Company to his partner.

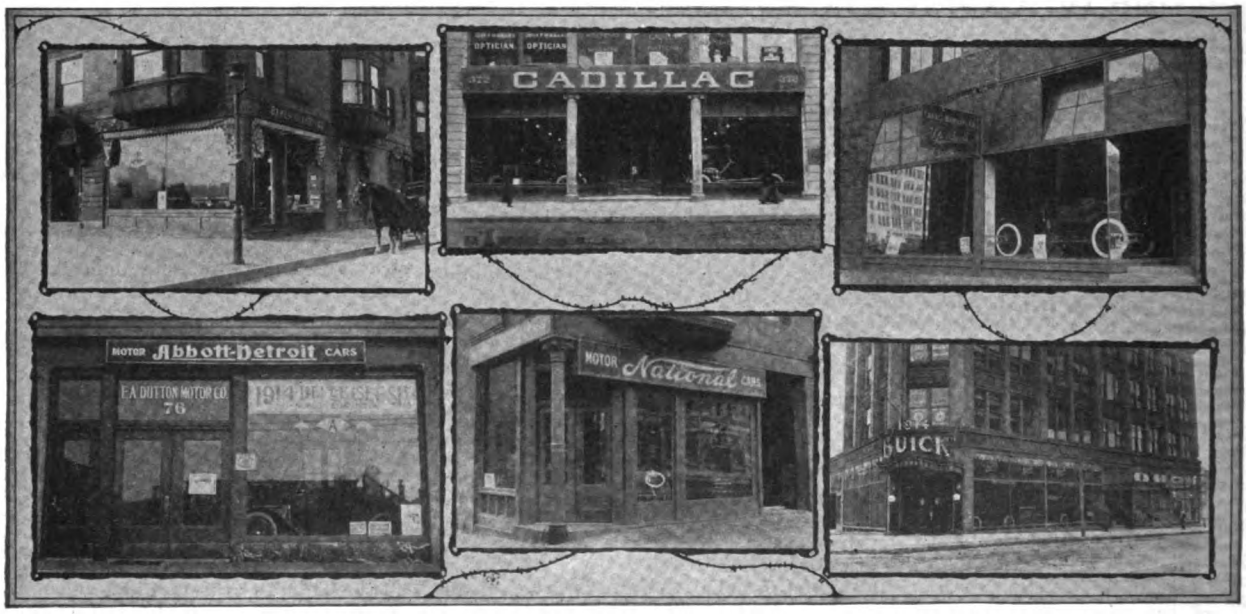
The Hazelton Vulcanizing Works, Hazelton, Penn., has been purchased by Vith Bros. of West Hazelton.

William C. Thomas, Jacksonville, Fla., of the Thomas-Williamson Company, has taken over the interest of E. C. Williamson and will conduct the business alone.

The Fleming & Brown Automobile Sales Agency, Kankakee, Ill., has been purchased by A. E. Gray and Fred Swanell, who will operate it.

Nelson H. Dickey, Derry, N. H., has purchased the Dustin Motor Company's business on Central street and will conduct it in the future.

The Donovan Motor Company, Boston, Mass., agent for Studebaker cars, has taken a lease of the store next door on Boylston street.



A Few of Boston's Retail Automobile Houses: Upper Row, Left to Right: Baker Electric and Cadillac, Boylston Street, and Speedwell, Columbus Avenue—Lower Row, Abbott-Detroit, Huntington Avenue; National, Boylston Street, and Buick and Stevens-Duryea on Massachusetts Avenue.

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Charles E. Reiss & Co., New York City, has purchased at auction all the parts for American and Marion cars held by the American-Marion Sales Company in that city, and will supply owners of these machines with such parts in the future.

Carl Peterson and Arthur Wessman have purchased the interests of Burnell and Clark in the Marathon Motor Company, Marathon, Ia.

John Cogan, New York City, has leased the building at 216 West 65th street and will open a general automobile business, including a used car department and tire depot. He will specialize in the construction of bodies of all types.

Nick Depeder, El Paso, Tex., has purchased the interest of C. B. Aber in the Aber-Clements Auto Supply Store and the name has been changed to the Borderland Auto Supply Company.

W. C. Riley, Charles City, Ia., has disposed of his interests in the firm of Riley & Russell to his partner, who will conduct the business in the future.

PERSONAL NEWS OF THE INDUSTRY.

A. L. Longton, who for the past 11 years has been in the employ of the Knox Automobile Company, Springfield, Mass., in various capacities from timekeeper to assistant superintendent, foundry superintendent, and latterly as manager of production and costs, has resigned.

Kingston Forbes, engineer for the Palmer & Singer Manufacturing Company, New York City, has resigned his connection with the company.

A. J. Interrieden, sales manager for the Jones Speedometer Company, has resigned and is to join his old associate, A. P. Warner, in the latter's mining interests in New Mexico.

S. D. Waldon, vice president of the Packard Motor Car Company, Detroit, left a short time ago for Europe to study the trend of design among the foreign builders of cars.

Ralph B. Sykes, of the Dorman & Sykes Company, Gary, Ind., was married recently to Miss Alice Blodgett of Somerville, Mass.

James Rohde is in charge of the service station of the Eisemann Magneto Company, 225 West 57th street, New York City, as manager. The general and sales offices of the company have been removed from the West 57th street address to Bush Terminal building No. 8, 32 33rd street, Brooklyn, N. Y., in which structure the factory is located.

H. B. Pruden, who has been manager of the Kissel-Kar New England branch, Boston, Mass., has resigned and will return to Chicago, where he will make his future home. Since taking charge of the New England business Mr. Pruden has erected at 940 Commonwealth avenue, one of the largest and most fully equipped automobile buildings for the sale of cars in this section of the country, besides adding materially to the business of this company in both pleasure cars and trucks.

W. H. Davis, Gonzales, Tex., has established a record for the number of automobiles sold in one day in southwest Texas. His sales for the day totalled six cars, the transactions including four Buicks and two Hudsons.

Jules Haltenberger, of the engineering department of the Lyons-Atlas Company, Indianapolis, Ind., has just returned from an extensive trip to Europe. While abroad he attended both the London and Paris shows and made visits to all the factories in Europe that produce motor cars using the silent Knight engine.

A. C. Banker, Boston, Mass., has bought an interest in the Cole Motor Company of that city and is now general manager of the firm.

W. O. Kennington of the engineering department of the Remy Electric Company, Anderson, Ind., maker of the Remy starting, lighting and ignition apparatus, is in Europe for a two months' visit.

F. W. Deckirade has been elected vice president of the Holt-Chandler Company at 1808 Broadway, New York City.

A. T. Smith of the Chicago branch of the Firestone Tire & Rubber Company, has been made manager of the branch of the company at Los Angeles, Cal.

W. V. Logan, a salesman in the St. Louis branch of the Goodyear Tire & Rubber Company for some years, has been promoted to become manager of the sales promotion department at the Goodyear factory, Akron, O.

L. C. Burnett, with headquarters at Minneapolis, Minn., has been made district sales manager in the northwest for the Haynes Automobile Company, Kokomo, Ind. F. A. Fisher has assumed the same duties in eastern Canada, with headquarters at Toronto, and J. S. Stark, formerly with the Michigan Buggy Company, takes the territory in Indiana and will have headquarters at Elkhart.

Percy D. Stubbs, who has been assistant sales manager of the Hudson Motor Car Company, Detroit, is to take complete charge of the Hudson sales west of Salt Lake City.

George Wright, formerly with the Gomery-Schwartz Motor Car Company as manager, and more recently secretary of the Cole Motor Company at Philadelphia, Penn., has been appointed branch manager for the Chevrolet Motor Company with headquarters at 332 North Broad street, Philadelphia, Penn.

Charles Fisher has been appointed district manager for the Mogul Motor Truck Company, St. Louis, Mo. His headquarters will be in New York City and he will cover the territory east of Chicago.

William H. Stillwell, who has been with the J. S. Bretz Company, New York City, has become sales manager for Joseph Schaeffers, Cleveland, O.

H. E. Harding is now city salesman in New York for the Motz Tire & Rubber Company.

E. W. Weaver, who was designer for the Peerless Motor Car Company, Cleveland, O., is now mechanical engineer for Gray & Davis, Boston, Mass.

H. M. Jerome, now connected with the Disco Company, Detroit, was formerly with the Babcock Electric Carriage Company, Buffalo, N. Y.

H. L. Warner, formerly of Muncie, Ind., is now connected with the Standard Gear Company, Detroit.

E. G. Soward, formerly sales manager in the southwest for the Thomas B. Jeffery Company, Kenosha, Wis., is now assistant sales manager for the Velie Motor Vehicle Company, Moline, Ill.

E. R. Mertens, who recently became shop superintendent for the Detroit-Cadillac Motor Car Company, New York City, was formerly with the Brightwood Motor Car Company at Springfield, Mass.

E. S. Rickel has been appointed manager for the Swinehart Tire & Rubber Company in Detroit. He succeeds J. W. Cully.

L. R. McKenzie is assistant sales manager of the Haynes Automobile Company, Kokomo, Ind. He is thoroughly acquainted with all the mechanical details of the automobile and can drive, sell, demonstrate or repair a machine, as well as handle with equal efficiency both men and correspondence. He formerly was connected with the Studebaker Corporation in Detroit and South Bend, Ind. T. L. Tincher is special field representative

Two Prominent Haynes Officials: At Left, L. R. McKenzie, Assistant Sales Manager; at Right, T. L. Tincher, Special Representative.

for the company, and like Mr. McKenzie, is thoroughly conversant with every phase of the automobile business. He formerly was engaged in the manufacture of Tincher cars in Chicago.

W. S. Hovey, formerly superintendent of the Smithfield Car Company, Three Rivers, Mich., is now general manager for the Fairbanks Morse Company, Beloit, Wis.

Henry C. Biggan, formerly with the Lozier agency at New York, and Leslie F. Smith, who was identified with the Studebaker and Oakland interests, have joined the sales force of the Locomobile Company of America.

William J. Reuger, now with the Oscar C. Olt Company, Dayton, O., was recently assistant to the superintendent of production for the Chalmers Motor Company, Detroit.

E. A. Williams, formerly connected with the Castle Lamp Company, Battle Creek, Mich., has become assistant manager of the Gramm Motor Truck Company, Lima, O.

Cecil M. Brownlow, who was manager for the American Locomotive Company in western Canada, has become associated with Chalmers-Syracuse Company, Syracuse, N. Y.

A. L. Pope, Hartford, Conn., president of the Pope Manufacturing Company, has resigned, to take effect immediately. Mr. Pope is planning an extended foreign trip for rest and pleasure.

Ezra E. Kirk has resigned as travelling representative of the Badger Brass Manufacturing Company, Kenosha, Wis.

P. C. Rubush, president of the Hoosier Motor Club, Indianapolis, Ind., is enjoying a trip to the Philippine Islands, Japan and China.

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B. T. Kinsman, manager of the Chicago branch of the Studebaker Corporation, Detroit, and formerly connected in a similar capacity with the Boston and Buffalo branches, died recently in Buffalo, N. Y., as the result of an attack of acute indigestion.

W. T. Kincaid, Special Representative, National Refining Company.

William T. Kincaid, well known in the East as an oil salesman of exceptional ability, has been appointed special travelling representative for the National Refining Company, Cleveland, O.

Fred M. Randall, who has been associated with Gleeson Murphy in managing the Detroit office of the H. K. McCann Company, has gone with the Taylor-Crichfield advertising agency in Chicago. Mr. Murphy will continue with the McCann company as manager of its advertising business in Detroit and contiguous territory.

Frank L. Powell, Willimantic, Conn., who operates a garage in that city, has received notification of his appointment as prosecuting agent for Windham county.

Fred W. Wood, Brookline, Mass., New England distributor for Cunningham cars, made by James Cunningham, Son & Co., Rochester, N. Y., died very suddenly in Boston Dec. 11.

G. O. Bristol, formerly salesman for the Motz Tire & Rubber Company, Chicago, Ill., is now manager of the commercial tire department of this concern, with headquarters at the factory in Akron, O.

James Couzens, who takes enough time from his duties as general manager of the Ford Motor Company, Detroit, to fill the office of president of the Detroit Board of Commerce, recently entertained members of the boards of commerce in Chicago, Cleveland, Pittsburg, Buffalo and Toledo, at the big Ford plant in that city.

M. E. Brackett has succeded J. L. Morris as New England branch manager for the General Motors Truck Company, Pontiac, Mich. Mr. Brackett has been prominently identified with the motor truck industry for the past eight years, and before coming to Boston he was a travelling representative for the G. M. C. line.

Norris N. Mason, for 2.5 years sales manager of the Renault Freres Selling Branch, New York City, has resigned to become president of the Henderson Eastern Motor Company, 1662 Broadway, New York City.

C. W. Matheson, formerly western manager of the Palmer & Singer Manufacturing Company, Long Island City, N. Y., with headquarters at Chicago, has accepted the appointment as general sales and advertising manager for the company with headquarters at the factory. By this agreement, S. P. Woodard, formerly secretary and sales manager, will be able to devote his entire time to the duties of the former office. Mr. Matheson is well known as the former president of the Matheson Automobile Company, Wilkesbarre, Penn.

Louis Sackett, one of the best known automobile salesmen in New England, has accepted the position of sales manager for R. A. McKee, Springfield, Mass., distributor for Lozier, Chandler and Reo cars, and Stewart trucks.

George J. Dunham, one of the pioneer dealers in Boston, Mass., and who was for a time president of the Royal Tourist Company, Cleveland, O., has returned to Boston to become assistant to J. H. MacAlman, distributor for Stearns-Knight cars.

A. F. Marshall of Coventry, England, has been appointed chief inspector of the Moline Automobile Company, East Moline, Ill., in charge of the production of Moline-Knight motors. He represented the Daimler company during the famous Daimler-Knight motor test conducted in 1911 by the Royal Automobile Club of Great Britain, and is thoroughly familiar with the Knight engine.

A. Kurtl, who was designer for the American Locomotive Company at Providence, R. I., has recently become associated with the Erwin D. Groak Engineering Company, Chicago.

J. Thomas Rhamstine, Washington, D. C., is now acting manager of the Motor Service Company of that city.

Albert W. Morris, formerly factory manager for the Doehler Die Castings Company, Brooklyn, N. Y., is now representing the E. B. Van Wagner Manufacturing Company, Syracuse, N. Y.

J. W. Collins is now connected with the Buick agency at San Antonio, Tex.

C. W. Bayne, efficiency man and cost expert for the Timken-Detroit Axle Company, Detroit, has tendered his resignation to take effect on Jan. 1. He will then enter business for himself.

Chester S. Ricker, Indianapolis, Ind., consulting engineer and designer for the Henderson interests, has been appointed American representative and buyer for the United Motor Industries, Ltd., London, England.

W. F. McCaughey, Racine, Wis., vice president of the Racine Manufacturing Company, maker of motor car bodies, has been elected president of the Racine Commercial Club.

E. B. Armhaus, formerly of New York City, is now one of the partners of the Auto Body Repair Company, Houston, Tex.

J. S. Keown, Boston, Mass., has been made assistant manager of the Ford branch to succeed Forest H. Peabody, who was recently transferred to Louisville, Ky.

J. Fred Walsh of the Boston branch of the Oakland Motor Car Company has been transferred to the plant of the company at Pontiac, Mich.

W. P. Taylor, formerly with the Lewis Spring & Axle Company, has become general manager of the Hess Spring & Axle Company, Carthage, O.

H. A. Waterman has resigned as general manager of the Milwaukee branch of the International Harvester Company and will become general manager of operations for the M. Rumley Company, Laporte, Ind.

R. E. Gerspacher, district manager for the Michelin Tire Company, has been elected secretary and treasurer of the Stoddard-Dayton-Maxwell Repair Company, Dayton, O.

G. H. Bowler has re-entered the automobile industry and will be advertising manager for the Apple Electric Company, Dayton, O.

H. E. Jencks has been appointed manager of the Locomobile branch at Washington, D. C.

C. Wilderman, Marietta, O., has been appointed subagent for the Firestone tires in Marietta and Parkersburg.

H. C. Gentry, formerly with the Thermoid Rubber Company, Trenton, N. J., has been appointed special factory representative of the Cataract Rubber Company, Wooster, O., in New York City and vicinity. His headquarters will be with Meyers & Grayson, 1608 Broadway, New York City, which firm has been appointed distributor for Cataract tires.

A. E. Schaefer and L. B. Sanders, president and sales manager, respectively of the Abbott Motor Company, Detroit, have resigned, and it is stated that a number of the sales force have severed their relations with the concern.

William J. Mills, Watertown, N. Y., has resigned as vice president and treasurer of the H. H. Babcock Company, and will sail shortly for the Isle of Pines, where he has large interests.

R. M. Bean, who for some time past has been secretary of Claire L. Barnes & Co., Chicago, Detroit and Cleveland, now discontinued, has become sales manager for the Lefever Arms Company, Syracuse, N. Y., maker of transmissions for touring cars and transmissions and jackshafts for commercial vehicles.

F. W. Thatcher, formerly with the Detroit branch of the Firestone Tire & Rubber Company, Akron, O., has been appointed manager of the Firestone branch in Memphis, Tenn.

J. B. Bray, formerly with the Continental Motor Manufacturing Company, Detroit, has joined the forces of the Atterbury Motor Car Company, Buffalo, N. Y., as service engineer.

C. P. Henderson has resigned his position with the Henderson Motor Car Company, Indianapolis, Ind., to become general sales manager for the Regal Motor Car Company, Detroit. He will retain his financial interest in the Henderson concern, but leaves the active management to his brother, R. P. Henderson.

The Hendersons of Indianapolis: C. P. at the Left; R. P. at the Right.

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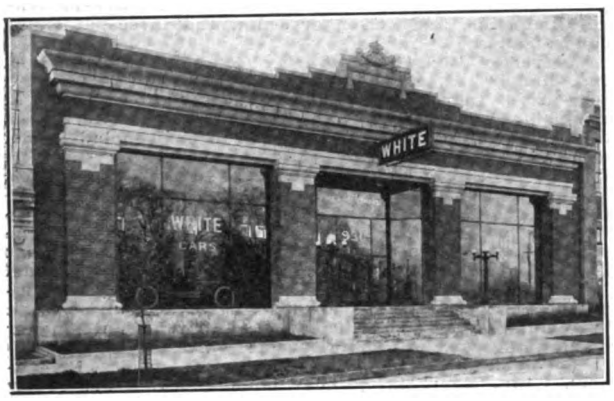
NEW LOCATIONS AND REMOVALS.

The White Company, Boston, Mass., factory branch, is now housed in its new home at 930 Commonwealth avenue, Boston's new new Automobile Row. Accompanying illustrations present exterior and interior views of the



Exterior of the White Company's Boston Branch at 930 Commonwealth Avenue.

structure, but convey only a partial idea of the extensive arrangement of the building to accommodate the salesrooms and service station for White pleasure cars and trucks. The garage on Newbury street, further down town, has been retained.

O. E. Bickford, Fitchburg, Mass., has opened a new automobile building at 100 Main street, which is 130 by 66 feet and has convenient accommodations for 40 cars.

The Dorris Automobile Shop, Nashville, Tenn., is now located at 528 Broadway.

The Jandorf Automobile Company, New York City, now located on West 61st street, contemplates removing to a new location.

The Niles Auto & Machine Company, Niles, O., has leased the building on Robbins avenue and will locate there.

The Alpine Motor Company, Pittsburg, Penn., at 5915 Center avenue, is to move to larger quarters.

The Alhambra Auto Company, Montgomery, Ala., has enlarged its business by the erection of an addition to its plant.

The Kelly-Springfield Tire Company, New York City, has leased the building to be erected at 551 West 47th street, and will use it as a warehouse and service station.

R. Buchanan, Silver City, N. M., agent for the Ford car, has opened headquarters on Bullard street. He will also carry a line of Ford accessories and parts.

The Metropolitan Motor Car Company, Spokane, Wash., has opened a branch at Kalispell, Mont.

The Cole Motor Company, Des Moines, Ia., has moved from 12th street to Locust street.

The Howard Automobile Company, San Francisco, Cal., has moved into its new and spacious home at the corner of Van Ness avenue and California street.

The Abbott Automobile Company, New Orleans, La., has erected a new large building on Baronne street.

The Automobile Tire Company, New York, has opened a branch at 1026 14th street, Washington, D. C.

The Packard Motor Car Company, Newark, N. J., has leased the building at 20-24 Branford place.

The Braender Rubber & Tire Company, New York City, has moved to 1978 Broadway.

The G. R. Green Motor Car Company, Tacoma, Wash., has opened a branch at 705 Pacific street.

The Moline Automobile Company, Chicago, Ill., has moved to new salesrooms at 2538 Michigan avenue.

The Chesapeake Motor Car Company, Baltimore, Md., has opened a new office and service station at the corner of Charles and 20th streets.

The Lenox Motor Car Company, Boston, Mass., is now located in new quarters at 18 Columbus avenue.

The Portage Rubber Company has moved its Cleveland, O., branch to larger quarters at 1816 Euclid avenue.

The Southern California Tire Works, San Diego, Cal., formerly located at 1210 Third street, has moved to a new location at Second and B streets.

The Cincinnati Automobile Company, Cincinnati, O., will remove to its new building at 114 West Court street, which was erected at a cost of $72,000.

Drennen & Co., Birmingham, Ala., has moved into new quarters at the corner of Avenue C and 21st street.

The Bantam Anti-Friction Company, Bantam, Conn., has moved its Detroit headquarters to 525 Dime Savings Bank building. John W. Hill will continue in charge.

The Chicago Grant Motor Company, Chicago, Ill., has opened salesrooms at 2021 Michigan avenue.

The Auto Exhibit & Supply Company, San Francisco, Cal., has moved into the quarters recently vacated by the Howard Automobile Company.

A. F. Nelson, Benson, Minn., has opened his new garage, which was recently erected at Kansas and Pacific avenues. The building is 126 by 50 feet.

The Franklin Motor Car Company, Rochester, N. Y., has opened new salesrooms and garage at 298-300 East avenue.

The Ford Auto Garage Company, Middleport, O., has moved to its new repair shop located on Third street in that city.

The Automobile Tire Company, New York City, has opened a branch at 14th and L streets, N. W., Washington, D. C.

S. E. Knaupp, owner of the West End garage, Somerset, Penn., has leased the fireproof garage building heretofore operated by the Central Auto Company, and will remove to that location.

The Hahn Motor Truck & Wagon Company, recently incorporated in Reading, Penn., has opened a plant on South Fourth street, where it will conduct the business of repairing and rebuilding automobiles, etc.

J. M. Deatrich, Wilkesbarre, Penn., is about ready to occupy his new fireproof garage at 178 South Washington street.

The General Auto Repair Company, Cincinnati, O., has leased quarters near the Reading road in Avondale and will locate there.

The Frank O. Ronstrom Company, San Francisco, Cal., distributor for Regal and Kline-Kar lines, will remove in the near future to new quarters on Van Ness avenue.

The Siebrands-Falken Auto Company, Sioux City, S. D., has leased a building on North Phillip avenue and will locate there.

The Howard Automobile Company, Los Angeles, Cal., Pacific Coast distributor for Buick cars, will remove to new quarters at 1328 South Flower street.

W. W. Whitten, Providence, R. I., has removed to larger quarters on Washington street. He handles several well known makes of cars.

John Garris, New York City, has leased the building at 538 West 49th street for use as a garage.

The Gray Motor Company, Newark, N. J., has leased the building at 229 Halsey street.

The International Motor Company, Philadelphia, Penn., has removed from 635 North Broad street to larger quarters at 23rd and Chestnut streets.

The Motors Owners Supply Company, Columbus, O., will remove shortly to North Third street.

The McAlpine Company, Cincinnati, O., has leased a building on Elsinore street and will remove to that location.

The Overland Sales Company, Toledo, O., is now located in its new building on 22nd street.

The Eureka Sales Company, Indianapolis, Ind., formerly at 332 North Illinois street, has removed to its new home at 237 East Ohio street.

Fred J. Barr, Davenport, Ia., dealer in Flying Merkel and Harley-Davidson motorcycles, has removed to 125 East Third street.

The Seventeenth Street Garage Company, Parkersburg, W. Va., is occupying its new building, where it will handle King cars in addition to its other lines.

The Goodyear Tire & Rubber Company, New England branch, Boston, Mass., has taken possession of its new building on Brookline avenue, a short distance from the corner of Beacon street and Commonwealth avenue.

The Capitol Garage Company, Montpelier, Vt., has removed to larger quarters on Court street, back of the Pavilion hotel.

The Paige Motor Car Company and the Chandler Motor Car Company, Boston, Mass., which are virtually the

Interior of White Pleasure Car and Truck Salesroom in Boston.

same concern with the same officers in each, have removed from the Fenway garage on Ipswich street to the show rooms formerly occupied by the M. B. M. Motor Company, 1118 Boylston street.

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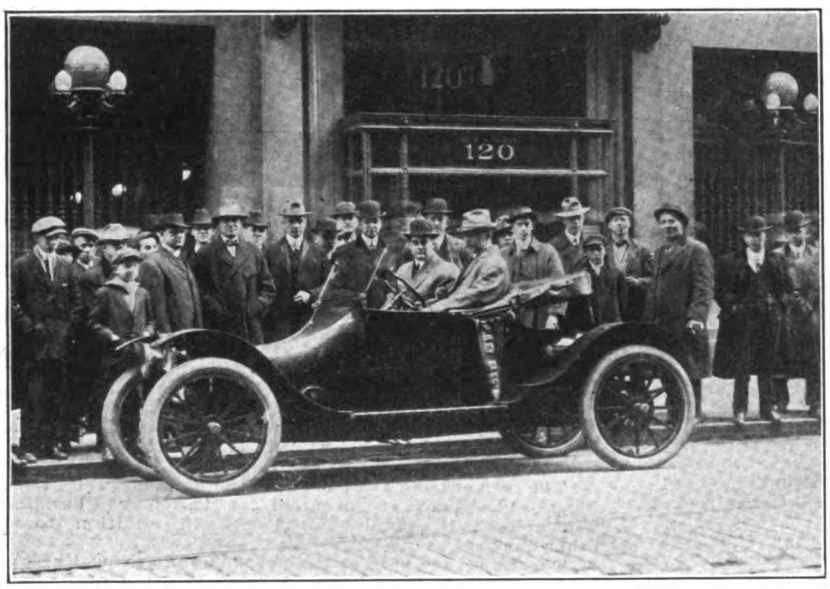
RECENTLY ANNOUNCED 1914 MODELS.

Lozier—Lozier Motor Company, Detroit. New series six-cylinder model and a new four. Four-cylinder motor, L head type, cast en bloc, with bore of 4.25 inches and stroke of 6.5. Enclosed valves, easily accessible. Cooling, centrifugal pump, lubrication, pressure feed; ignition, Bosch high-tension magneto. Unit power plant. Multiple disc clutch. Selective transmission, four speeds forward and reverse. Full floating rear axle. Front springs, semi-elliptic; rear, Lozier platform. Left hand drive, centre control with ball type lever. Wheelbase, 120 inches; tread, 56. Tires, 36 by 4.5 inches. Equipment includes: One-man top, Kellogg four-cylinder tire pump, Gray & Davis electric lighting and starting system, electric headlight dimmers, etc. Six-cylinder chassis is a continuation of last season's model with the addition of refinements, and with the same equipment as the four. Two body designs on the four; seven-passenger touring car, convertible into five-passenger by disappearing seats folding into back of front seat, and two-passenger roadster.

De Soto—De Soto Motor Car Company, Auburn, Ind. De Soto Six. Motor, six cylinders cast in pairs with bore of four inches and stroke of five. Lubrication, positive pump and level splash; cooling, centrifugal pump; ignition, lighting unit; carburetor, Schebler. Clutch, multiple disc, Raybestos lined. Transmission, selective, three speeds forward and reverse. Full floating rear axle. Front springs, semi-elliptic; rear, three-quarter elliptic. Wheelbase, 130 inches. Tires, 35 by four inches. Equipment includes: Electric lighting, pneumatic starter, top, curtains, windshield, either electric or exhaust horn, etc. Body seats five, with provision for two extra seats.



Col. E. W. M. Bailey Leaving Boston in the Bailey Electric Roadster on His Recent Boston-Chicago Trip.

Paterson—W. A. Paterson Company, Flint, Mich. Models 32 and 33. One chassis, two-passenger roadster and five-passenger touring car. Motor, four-cylinder, L head; bore 3.5 inches, stroke five. Lubrication, constant level splash; cooling, centrifugal pump. Unit power plant. Cone clutch. Selective transmission, three forward speeds and reverse. Front springs, semi-elliptic; rear, three-quarter elliptic. Wheelbase, 112 inches. Tires, 32 by 3.5 inches. Equipment includes: Top with envelope, windshield, electric lighting and starting, electric horn, demountable rims, etc.

Haynes—Haynes Automobile Company, Kokomo, Ind. Three enclosed body designs added to regular line, previously announced; two coupes and a limousine, the product of the Biddle & Smart Company, Amesbury, Mass. Limousine is a seven-passenger body with oval type full aluminum roof, dipped in front, extremely wide doors, sashless windows and upholstered in broadcloth of French design and manufacture. Fitted to six-cylinder chassis with 136-inch wheelbase. Coupes also are distinctive in design and treatment, and are fitted to four-cylinder chassis with 118-inch wheelbase and six-cylinder chassis with 130-inch wheelbase.

Chandler—Chandler Motor Car Company, Cleveland, O. Light weight six. Motor with cylinders cast in blocks of three; L head type; bore 3.375 inches, stroke five. Lubrication, force feed and splash; cooling, centrifugal pump; ignition, Bosch high-tension magneto; carburetor, Stromberg double-jet type. Multiple disc clutch. Three-speed, selective transmission. Tires, 36 by four inches, on Firestone demountable rims. Equipment includes: Westinghouse electric lighting and starting system, top, Jiffy curtains, Blair top holders, windshield, etc. Five-passenger touring, two-passenger roadster, five-passenger limousine, five-passenger sedan and three-passenger coupe bodies.

Waverley Electric—Waverley Company, Indianapolis, Ind. Models 104, 105, 106, 107 and 108; front-drive four, rear-drive four, brougham, four-chair brougham and limousine-five. Motors, 80-volt Waverley. Batteries, 42 cells, 11 or 13 plate, standard; Edison or Ironclad-Exide, extra. Tires, 34 by four-inch forward, 34 by 4.5 rear. Chassis continued with all standard Waverley features. Model 106 gives owner option of front or rear drive. In model 107 each passenger is provided with a separate Pullman chair, three of which take the place of the usual rear seat running the full width of the car, that in the centre being slightly back of the other two. Model 108 is distinctly new. Three passengers are accommodated on the rear seat, while the driver not only has an individual seat, but also a separate door for entering or leaving the car. All seats face forward.

Locomobile—Locomobile Company of America, Bridgeport, Conn. Four six-cylinder models, which are really only two, rated at 38 and 48 horsepower respectively, each fitted with right and left hand drive and known as 38LD, 38RD, 48LD and 48 RD. Four-cylinder chassis has been dropped. Chassis show few changes, except in the left hand drive models, which have been altered to conform to the new placing of the operator. Improved carburetor design and new body lines. Gray & Davis electric system continued. Addition of six-cylinder air compressor.

Austin—Austin Automobile Company, Grand Rapids, Mich. Model 55. Motor, six-cylinder, T head type, cast in blocks of threes, replaces L head of last season. Exhaust on right, inlet on left. Bore four inches, stroke 5.5. Lubrication, force feed and splash; ignition, Bosch magneto. Two-speed rear axle retained. Left hand drive, centre control. Remy two-unit starting and lighting system, with LBA battery. Seven-passenger body, with disappearing seats, and with rear seat wide enough to hold four with comfort, it is maintained. Line also includes: Model 66, with motor of 4.5-inch bore and 5.5-inch stroke and model 77, with motor of 4.5-inch bore and seven-inch stroke. Both are six-cylinder engines and the construction is practically the same as model 55.

Fal—Fal Motor Car Company, Chicago, Ill. Greyhound model. New roadster, designed to be converted readily into a sleeping car if desired. Motor is a Buda, four-cylinder, en bloc, 4.25 inch bore, 5.5-inch stroke. Chassis design is standard throughout. By pushing the seat cushion forward upon the floorboards there is exposed sufficient room in the rear deck to admit a six-foot person, whose head is supposed to rest on the seat cushion. Body design is streamline throughout, and a feature is the installation of a single headlight in the centre of the hood extension, the radiator being about four inches behind the light.

Bailey Electric—S. R. Bailey & Co., Inc., Amesbury, Mass. Roadster. Continued from last season. Motor, specially designed General Electric. Battery, 60 cells Edison A-5. Mileage, 75 to 100. Speed, standard maximum, 25 miles an hour. Motor is connected to countershaft by Morse silent chain, final drive by double roller chain. Wheelbase, 112 inches. Tires, special electric pneumatic, 33 by four inches, on quick detachable rims. This is the type of car utilized by Col. E. W. M. Bailey on his recent Boston-Chicago tour. Company is also producing a special four-passenger roadster or touring car.

Arbenz—Arbenz Car Company, Chillicothe, O. Models show no radical changes, except such as to make for increased efficiency and ease of operation. Electric lighting and starting system, with dimming arrangement for headlights. Electric horn mounted under the hood. Fuel tank in cowl dash. Improved carburetor. Larger rear axle of full floating type. Heavier wheels, fitted with quick detachable, demountable rims carrying 36 by four-inch tires. Spare rim. Wire wheels optional.

Vaughan—Vaughan Car Company, Inc., Kingston, N. Y. One six-cylinder chassis and five body styles; roadster, four-passenger, touring, limousine and convertible inside drive. Motor, L head type, six cylinders cast en bloc with bore of 3.75 inches and stroke of 5.25. Lubrication, force feed and splash; ignition, Mea magneto; carburetor, Rayfield model D. Multiple disc clutch, Ray-

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bestos lined. Four-speed transmission. Rear springs, floating cantilever type, resembling three-quarter elliptic in appearance. Wheelbase, 138 inches. Tires, 35 by four inches. Equipment includes: Bijur electric lighting and starting system with LBA storage battery, Waltham clock in centre of steering wheel, etc. Wire wheels optional.

Lambert—Buckeye Manufacturing Company, Anderson, Ind. Models 46 and 60, series C. Innovation is found in the choice of Continental or Rutenber motor. With model 60 the choice may be between four-cylinder units having a bore of 4.125 inches and stroke of 5.25 or 4.25 by 5.25. With model 46 the bore and stroke is the same with four-cylinder motors—3.75 by 5.25 inches. Model 60 is fitted with five-passenger and roadster bodies. Model 46 has been designed to give ample seating accommodations for five persons in a lighter car. Aside from the motors there has been no important change from former Lambert practise, the construction including the well known Lambert friction transmission and other features of this line.

Mercer—Mercer Automobile Company, Trenton, N. J. Type 35, series M and O; five-passenger touring car and roadster. Models H and J continued. Practically the only change is in the matter of wheelbase, series M having 124 inches and series O 118. Motor, T head, four-cylinder, cast in pairs, 4.5-inch bore, five-inch stroke. Flechter carburetor. Bosch magneto. Multiple disc clutch. Selective transmission, three forward speeds and reverse. Tires, 34 by four inches forward on both new models, while series M has 34 by 4.5-inch tires on the rear. Quick detachable, demountable rims standard. Equipment of the Mercer line is very complete, including electric lighting and starting system, etc.

AGENCIES APPOINTED DURING THE MONTH.

Abbott-Detroit—H. J. Tucker, Vancouver, B. C.

Allen—Johnson & Zimmerman, Indianapolis, Ind.

Buick—W. T. Thornhill, Wentachee, Wash.; A. K. Richardson, Harney County, Ore.

Chandler—B. A. Blenner, Richmond, Va.

Chevrolet—Cynthiana Carriage Company, Cynthiana, Ky.

Cole—Prather, Miller & Alcorn, Corvallis, Ore.; Ely Garage & Supply Company, Ely, Nev.; J. J. Wirtz and L. H. Watkins, Forest Grove, Ore.; Emil Schleyer, Gonzales, Tex.; F. S. Dewey, Jr., Marlboro, Mass.; W. J. Geiger, Milwaukee, Wis.; C. H. Bergstrom, Neenah, Wis.; W. T. Embree, Portville, N. Y.; A. D. Zachary, San Francisco, Cal.; Chamberlain Bros., Salem, Ore.; West Coast Automobile Company, Terre Haute, Ind.; Stanley Filler, Urbana, O.; E. E. Pickering, Victoria, Tex.; F. W. Douglas, Warren, Penn.; Sanders, Phillipi & Co., Aguadilla, P. R.; Kane Supply Company, Kane, Penn.; W. G. Wismeth, St. Marys, Penn.

Crow Elk-Hart—C. W. Rodrick, Akron, O.; Wicks & Donley, Ashland, O.; B. P. Sigler, Bethany, Mo.; Blackburn Bros., Bloomingdale, O.; O. H. Mathison, Boscobel, Wis.; G. Schuster Garage & Sales Company, Buffalo, N. Y.; William Umphrey, Coloma, Mich.; L. S. Nock, Crisfield, Md.; W. D. Spence, Fairbury, Ill.; T. R. Purnell, Georgetown, Del.; J. A. Strimple, Janesville, Wis.; Thomas Watson, LeRoy, N. Y.; A. R. Curtis, Minneapolis, Minn.; Leichtman Motor Car Company, New Hampton, Ia.; Dyke Davis, Pawnee, Ill.; Princeton Auto Supply Company, Princeton, Ky.; W. F. Lester, Quincy, Fla.; G. W. Henner, Rochester, N. Y.; Western Minnesota Auto Comuany, Roscoe, Minn.; Charles Bowen, Sheldon, Ill.; J. J. Schrock, Smithville, O.; H. E. Coil, South Bend, Ind.; W. Bowdy & Son, South Whitley, Ind.; Zener Bros., Tiffin, Mo.; F. E. Cole, Toulon, Ill.; G. E. Kelly, Van, Penn.; Edward Gilbertson, Velva, N. D.; Frakes & Ashenhurst, Viola, Ill.; F. N. Nelson, Winthrop, Minn.; Kerner Bros., Wyaconda, Mo.; Burnette & Chapman, Rocky Mount, N. C.; H. I. Sears, La Plate, Ill.; Rushville Auto Sales Company, Rushville, Ill.

Diamond T—Meyer Motor Company, St. Louis, Mo.

Empire—Frank Caha, Hemingford, Neb.; C. B. Boles, Malvern, Ia.; Tucker Bros., Oshkosh, Neb.; Stallver Hanson, Wahoo, Neb.

Ford—Fox River Valley Motor Car Company, Green Bay, Wis.; Brazos Ford Company, Bryan, Tex.

Franklin—Raleigh Motor Car Company, Raleigh, N. C.; E. O. Hall, Bangor, Me.; W. W. Garabrant, Utica, N. Y.; T. D. Van Matre, Lena, Ill.; Charles H. Wiltsie, Sharon, Penn.

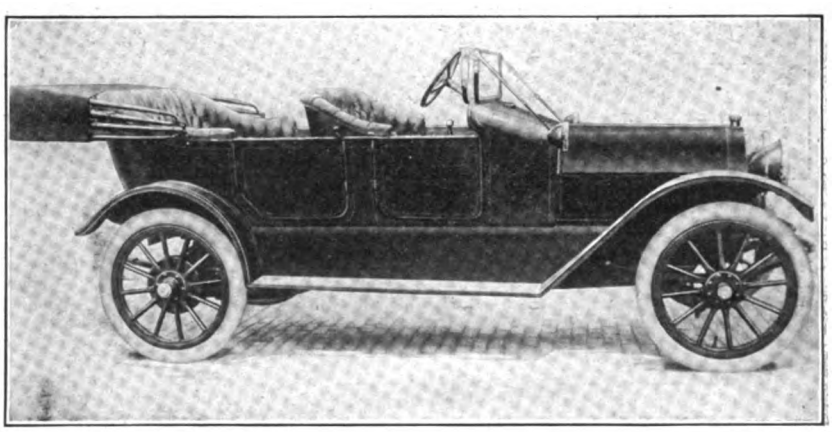
Haynes—Haynes Motor Sales Company, Albuquerque, N. M.; Caldwell Motor Car Company, Bainbridge, Ga.; W. L. Russell Company, Boston, Mass.; Haynes Motor Car Company, Chicago, Ill.; Colorado Haynes Auto Company, Denver, Col.; W. F. Payne, El Paso, Tex.; George R. Napier, Macon, Ga.; Haynes Auto Sales Company, Sanford, Fla.; C. F. Nierheiser, St. Clair, Mo.; O. Reausseau, Upper Alton, Ill.; L. G. Kreisle, Victoria, Tex.; James Bennett, Waterloo, Ia.; Kimbrough Auto Company, Greenwood, Miss.; Manley Hardware Company, Harvard, Ill.; J. J. Wacker, Jersey City, N. J.; Hancock & Meyer, LeMoore, Cal.; W. H. Main, Los Agtos, Cal.; Lawrence R. Howieshield, New Haven, Conn.; Aapello Auto Company, Ottumwa, Ia.; Hubbs & Brisac, Santa Cruz, Cal.; H. F. Gausner, San Bernardino, Cal.; E. H. Stover, Souderton, Penn.; Harry Foster & Son, Table Grove, Ill.; S. J. Murphy & Co., Toronto, Ont.; G. F. Spence, New Orleans, La.; L. A. Randolph Company, Greenville, N. C.; Central Motor Car Company, Petersburg, Va.; Harry L. Archey, Indianapolis, Ind.; Fourteenth Street garage, Edmonton, Alb.; T. T. Bergh, LaCrosse, Wis.; Springfield Automobile Company, Springfield, Mass.; P. H. Rogers, Columbus, O.; Harrisburg Auto Company, Harrisburg, Penn.; Vaughn & Smith Motor Car Company, Oklahoma City, Okla.

Henderson—F. J. Rogers, Nashville, Wis.

Hupmobile—Twitchell & Schmidt, Spokane, Wash.; Kaiser Motor Car Company, Columbus, O.

Jackson—Jackson Motor Company, Montreal, Que.; Frank LePage, Millinocket, Me.; Rosey Bros., Houlton, Me.; E. D. Hartwell, Brockton, Mass.

Jeffery—Sibley & Hawkins, Antioch, Ill.; A. H. McCormick, Asheville, N. C.; P. E. Severance, Bangor, Me.; Edward Chase, Baring, Me.; Herman Bockelman, Beecher, Ill.; Edward James, Beloit, Kan.; A. H. Patch, Bloomington, Wis.; Bisett Bros., Bradford, Penn.; J. A. Cramer, Buffalo, N. Y.; E. Zweibel & Bro., Burlington, Wis.; Herring Bros., Bushnell, Ill.; Harris Bros., Galva, Ill.; W. R. Smith, Caribou, Me.; Wright Bros., Carrollton, Mo.; T. V. Grieb, Carthage, Mo.; Wallace K. Harley, Charleston, S. C.; H. G. Nicholson, Charleston, W. Va.; Thompson & Steffer, Chilton, Wis.; Chippewa Valley Auto Company, Chippewa Falls, Wis.; H. A. Arnold, Colfax, Ill.; Dupree Auto Company, Columbia, S. C.; Norris A. Dunklee, Concord, N. H.; Wilcox & Burnside, Concordia, Kan.; Tenney & Co., Decatur, Ill.; Goo & Hopkins, Delavan, N. Y.; E. D. Blaisdell, Dexter, Me.; Dillon Novelty Works, Dillon, Mont.; L. C. Bishop, Edwardsburg, Mich.; Rivers Bros. Company, Elgin, Tex.; H. L. Dwelle, Emporia, Kan.; Sherland & Williams, Evanston, Ill.; Earl Grimm, Fairview, Ill.; Ford & Lyon, Fitchburg, Mass.; Main Street garage, Forsythe, Mont.; Rambler Motor Company of Texas, Fort Worth, Tex.; G. H. Burnham, Fond du Lac Auto & Tire Repair Company, Fond du Lac, Wis.; Rambler Auto Company, Galesburg, Ill.; B. F. Kenyon, Grand Rapids, Mich.; Rambler Motor Car Company, Haverhill, Mass.; J. B. Lang Eng. & Garage Company, Ithaca, N. Y.; J. L. Frick, Jamestown, N. Y.; A. J. Gurney, Joliet, Ill.; F. W. Kanley & Son, Kalamazoo, Mich.; A. E. Cook, Kankakee, Ill.; F. C. Palmer, Kezar Falls, Me.; Morhan & Torrenga Auto Company, Lafayette, Ind.; Rambler Motor Company, LaGrange, Ind.; George E. Wirt, Lima, O.; N. A. York, Lisbon, Ia.; Auto Garage Company, Manistee, Mich.; Larson & Lund, Manhattan, Kan.; Maxton Auto Company, Maxton, N. C.; H. E. Rupp, Meadville, Penn.; Wright Motor Car Company, Memphis, Tenn.; Reeke-Osmond Motor Car Company, Michigan City, Ind.; Simeon Gagnon, Montreal, Que.; Jay R. Clutter, Mt. Vernon, O.; Charles Grovert & Son, Newhall, Ia.; D. E. Currie, New Haven, Conn.; F. J. Pannwitt & Son, Nokomis, Ill.; Percy W. Dawley, Ogdensburg, N. Y.; C. R. Young Auto Company, Plattsburg, Mo.; George C. Leibhold, Pittsfield, Mass.; J. H. Fairchild & Son, Pittsburg, Kan.; A. E. Anderson, Princeton, Ill.; Knebel Auto Company, Pueblo, Col.;



Model 46, Series C, the Latest Addition to the Lambert Line, a Five-Passenger Touring Car, Fully Equipped.

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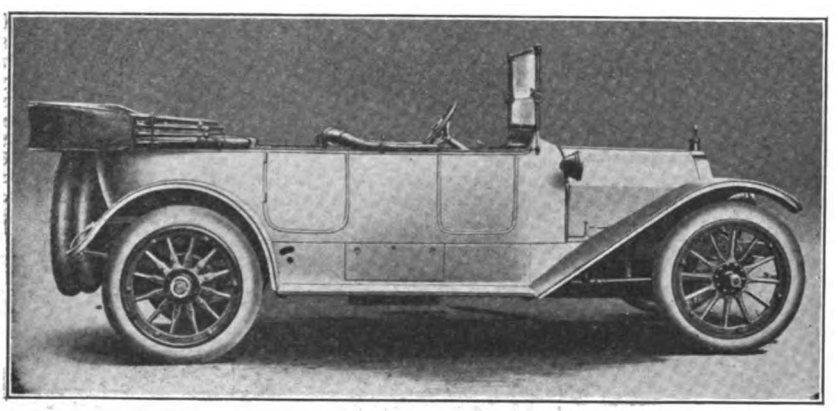
Draper Bros., Red Lodge, Mont.; J. H. Shirer & Co., Ridgeway, Mo.; F. R. Luescher, Rochester, N. Y.; G. T. Bradford, Rock Island, Ill.; Burnett-Chapman Supply Company, Rocky Mount, N. C.; Joslyn Auto Company, Rockford, Ill.; Dexter Stocking Company, Rochelle, Ill.; Snow Garage Company, Rockville, Conn.; Rutland Motor Company, Rutland, Ill.; Fred F. Nies, Salamanca, N. Y.; Witch City Auto Company, Salem, Mass.; Ollinger Auto Company, Salina, Kan.; Woodward Carriage Company, San Antonio, Tex.; W. E. Fellows, Somersworth, N. H.; Frazier & Frazier, South Bend, Ind.; Charles S. Russell, Springfield, Vt.; L. F. Hayes & Co., Tampa, Fla.; Fiedler Bros., Thomasboro, Ill.; Standard Motors, Toronto, Ont.; Newmaker & Reed, Warren, Penn.; H. M. Tyrrell, Waterbury, Conn.; Weston Auto Company, Weston, Mo.; H. C. Barber, Westerly, R. I.; Frank L. Emery, What Cheer, Ia.; Wollaston Centre garage, Wollaston, Mass.; F. S. Howard, Worcester, Mass.; Conrad Bros., Cresson, Penn.; Andres Diaz Pairo, Havana, Cuba; A. J. Cuminskey Motor Car Company, Lowell, Mass.; E. C. Morrison, Poplar Bluff, Mo.; George W. Smart, Aurora, Ill.; West & Vanatta, Columbia, Mo.; E. F. Dilenbeck, Geneseo, Ill.; W. C. Bradley & Son, Hurlock, Md.; George Wendell & Son, LaMoile, Ill.; Snow Automobile Company, Salbia, Ia.; Leon S. Hurley, Seaford, Del.; Thackaberry & Son, Sterling, Ill.; Sparks Supply Company, Vancouver, Wash.; E. O. Gulbronson, Winnebago, Minn.

King—G. R. Green Motor Car Company, Tacoma, Wash.

KisselKar—Opper-Van Fleet Auto Company, Omaha, Neb.; Edward Rudolph, Phoenix, Ariz.; Lowe & Feist, 114 Milam St., Shreveport, La.; Nock Auto Co., 486 Broad St., Providence, R. I.; Metropolitan Car Co., Seattle, Wash.; Victor Garage, Atlantic City, N. J.; Lester & Thomas. Olean, N. Y.; Park Garage Co., Albany, N. Y.; T. E. Dye & Son, Cortland, N. Y.; Haart-McKinley & Co., Valparaiso, Chili; W. P. Hilliard & Sons, West Sunbury, Penn.; Buell & Co., Webster City, Iowa.

K-R-I-T—Opper-Van Fleet Auto Company, Omaha, Neb.; Cornelius Hohly Auto Company, Toledo, O.



Mercer Type 35, Series M, Five-Passenger Touring Car with Electric Lighting and Starting Equipment—See Page 19.

Little—Daniel Motor Company, Columbus, O.

Locomobile—Mutual Motor & Truck Company, Montreal, Que.

Lyons-Atlas—George C. Brinkman Motor Car Company, St. Louis, Mo.

Marathon—J. R. Croot, Ackley, Ia.; Buckeye Auto Sales Co., Ada, O.; Roeger Bros., Akron, O.; W. A. Gridley, Brook, Ind.; F. A. Whisler & Son, Brookville, O.; G. H. Poppenburg, Buffalo, N. Y.; Burlington Motor Car Company, Burlington, N. C.; Asa Cline, Camden, Ind.; Roberts Motor Car Company, Chapman Quarries, Penn.; H. D. Kenneman & Son, Clarence, Ia.; Goss Auto Supply Company, Cleveland, O.; Bittle & Reber, Cressona, Penn.; Tri-State Sales Company, Dallas, Tex.; C. W. Long, Dayton, O.; Means Auto Company, Des Moines, Ia.; H. C. Wallace, Dolores, Col.; Andrew J. Mormon, Dyersville, Ia.; William Pletcher, Eagle Grove, Ia.; E. B. Cobble, Elizabethtown, Penn.; Ditmer & Stallbaum, Elkdale, Ia.; George E. Benentt, Fall River, Mass.; Flatonia Automobile Company, Flatonia, Tex.; Auburn Auto Company, Ft. Wayne, Ind.; Glendale garage, Glendale, O.; Johnson Auto Company, Johnson City, Tenn.; LaCrosse Plow Company, La Crosse, Wis.; S. E. McCumber & Co., Lamartine, Wis.; Ketcher & Co., Little Rock, Ark.; Armory garage, Lynn, Mass.; Manchester Auto Supply Company, Manchester, Mo.; H. L. Lamphrey, Manchester, N. H.; J. Ralph Gordy, Mappsville, Va.; Marathon Sales Company, Markel, Ind.; Jesse A. Smith, Milwaukee, Wis.; Jacob Habben, Montmorenci, Ind.; A. M. Keller, Montpelier, Ind.; State Motor Car Company, Nashville, Tenn.; Herman Zinn & Co., Newell, Ia.; Burt Beal, New Sharon, Ia.; C. L. Thurston, New York City; Richardson, Orr & Co., New York City; F. Rosenstern, New York City; Ocheyedan Auto Company, Ocheyedan, Ia.; J. H. McClarren, Pittsburg, Penn.; Whitten Motor Car Company, Providence, R. I.; Adams Auto Company, Sioux City, Ia.; Clarence E. Gowing, Springfield, Vt.; Butler & Berry, Springvale, Me.; Lindell Auto Sales Company, St. Louis, Mo.; Casper Roeder, Summit Station, Penn.; Garage Company, Tarboro, N. C.; Norris & Co., Tipton, Ind.; I. M. Thornburg & Co., Union City, Ind.; D. F. Hendrickson, Walton, Ind.; D. P. Hart, Washington, Penn.; W. P. Kent, Waukee, Ia.; W. W. Price, Wheeling, W. Va.; Johnson Motor Car Company, Wilkesbarre, Penn.; Peebles Motor Car Company, Wilmington, O.; Woodstock Implement Company, Woodstock, Ill.

Marion—Wright Motor Car Company, Ashland, Ky.; J. M. Dunn, Bakersfield, Cal.; Sacksteder-Potter Company, Dallas, Tex.; Jones garage, Danville, Ill.; F. D. Parker, Decatur, Ill.; Clemens Auto Company, Des Moines, Ia.; J. C. Burkett, Emporia, Kan.; Roemer-Gibson Company, Hampton, Ia.; Runcie Motor Car Company, Kansas City, Mo.; Symonds Motor Car Company, Los Angeles, Cal.; M. V. Bartlett, Muncie, Ind.; O. H. Bradway, Newcastle, Ind.

Maxwell—G. R. Green Motor Car Company, Tacoma, Wash.; Leslie James, Richland Center, Wis.; Lewis E. Conley Company, Green Bay, Wis.; W. A. Knaack Motor Company, Sheboygan, Wis.; H. C. Siegel, Capac, Mich.; J. Maynard, Colton, Wash.; Ballard Automobile Company, Minneapolis, Minn.

Meteor—McArthur, Thompson, Zollers Company, Minneapolis, Minn.

Metz—Crouch & Most, Lagrange, Mo.; W. H. Pelton, Salem, Mo.; O. Reausseau, Upper Alton, Ill.; James Bennett, Waterloo, Ill.; Dugan Lubricating Company, Herculaneum, Mo.

Mitchell—Wauning-Paxton Motor Company, Philadelphia, Penn.

Moon—Putnam Motor Car Company, Brooklyn, N. Y.; Ross Motor Car Company, Hickory, Penn.; Moorhead Motor Car Company, Kittanning, Penn.; A. Koyen, Fremont, Neb.; Monessen Plumbing & Electric Company Monessen, Penn.; B. Ashby, Rosedale, Tex.; Pruitt Auto Company, Taylor, Tex.

Oakland—Mountain City Motor Company, Altoona, Penn.; S. C. Brady, Bartlesville, Okla.; Ray Thornberg, Bentonville, Ind.; J. K. Dorn, Miami, Fla.; W. L. Schupp & Sons, Albany, N. Y.; S. T. Zelley, Atlantic City, N. J.; Lawrence Ryckman, Brocton, N. Y.; Dover Garage Company, Dover, Del.; Herndon Motor Company, Herndon, Penn.; Choate Auto Repair Company, Minneapolis, Minn.; R. M. Hallowell, North Wales, Penn.; W. F. Kruger, Olcott, N. Y.; M. Eltiste, Orange, Cal.; N. G. Adams, Paximos, Penn.; B. Paul Sheeder, Pottsdam, Penn.; B. H. Berger Company, Bradgate, Ia.; Burnquist Hardware Co., Dayton, Ia.; Gowrie Auto Co., Gowrie, Ia.; J. O. Kaasa, Hanlontown, Ia.; C. G. Bigge, Manistee, Mich.; W. E. Davis, Martinton, Ill.; B. & Mc. Auto Company, Allerton, Ia.; O'Brien Motor Company, Ames, Ia.; Peninsula Auto & Garage Company, Newport News, Va.; William Mullen, Washington, D. C.; Hopkins Bros., Fort Fairfield, Me.; Roberts & Herweh, Garden Grove, Ia.; Easterbrook & Stephens, Pawhuska, Okla.; Yost-Huff Company, Roanoke, Va.; H. W. Haynie, Kemp, Tex.; Lagle Auto Company, Mason, Tex.; R. H. Reaves, Trent, Tex.

Oldsmobile—Gratiot Cabanne, St. Louis, Mo.

Overland—Hudson Garage Company, Hudson, Wis.; G. A. Haddeb, Alviston, Que.

Paige—Reid Auto Company, Louisville, Ky.

Partin-Palmer—Louis Engle, Jr., Buffalo, N. Y.; Foss & Worsley, Crown Point, Ind.; Partin-Palmer-Iowa Company, Des Moines, Ia.; John M. Puckett, Elgin, Ill.; F. R. Aukes, German Valley, Ill.; David Estaque, Jacksonville, Ill.; Golden State Motor Car Company, Los Angeles, Cal.; C. H. Shappell, Lima, O.; J. P. McGuire, Minneapolis, Minn.; Charles R. G. Schimpf, Mobile, Ala.; George Ziegler, McNabb, Ill.; Lewis Brinker, Mt. Morris, Ill.; Harris & Herr, Normal, Ill.; Traynor Auto Company, Omaha, Neb.; Alfred Johnson & Son, Ohio, Ill.; Roof & Gray Auto Company, Parnell, Mo.; D. B. King, Pontiac, Ill.; Lundstrom Bros., Rockford, Ill.; C. W. Gunkel, Sheffield, Ill.; Martin Bros., Stetsonville, Wis.; E. S. Werneke, Sterling, Ill.; Wingert & Miller, Tiffin, O.; Smith & Blake, West Frankfort, Ill.; M. C. Eckbohm, Warsaw, Ill.; Wagner & Root, Gardner, Ill.; Nicholas Stromer, Gillett, O.; A. A. Marvin & Co., Maple Park, Ill.; Piepenburg & Reichert, Reedsville, Wis.; H. E. Richmond, Taylorville, Ill.; C. R. Heiserman, Assumption, Ill.; John Rempe & Co., Cincinnati, O.; William Seggebruch, Crete, Ill.; De Pere Motor Car Company, De Pere, Wis.; J. L. Clayton, Leaksville, Ill.; J. P. McGuire Regal Sales Company, Minneapolis, Minn.; Western Auto Company, Mitchell, S. D.; Smith, Stecher & Feeder Company, Ontario, Can.; C. F. Tinnin, San Antonio, Tex.; United Motor Charlotte Company, Charlotte, N. C.

Premier—Edward Miller, Columbus, O.

Pullman—W. H. Fox, Cobleskill, N. Y.; Hampden Auto Company, Springfield, Mass.; Bacon Bros., Toledo, O.; H. L. Lamprey, Manchester, N. H.; Parker Bros. Motor Car Company, Seattle, Wash.

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Regal—Griffith & Cone, Delaware, O.; E. Emelhainze, Grove City, O.; O. A. Hicks, London, O.; W. H. Hoskins, Wilmington, O.

Reo—Willett Bros., Colville, Wash.; Lutz & Jones, Newport, Wash.

Republic—Eastern Motor Company, Atlantic, N. J.; Binghamton Motor Car Company, Binghamton, N. Y.; C. F. Knuth, Palmyra, N. Y.

Speedwell—Meyer Motor Company, St. Louis, Mo.

Studebaker—Harry L. Haight, Columbus, O.; Glasgow Motor Car Company, Glasgow, Ky.; P. B. Hall, Kent, O.; T. M. Estes, Lebanon, Ky.; Court Motor Car Company, Marietta, O.; C. A. Dawson, Mundordville, Ky.

Stutz—F. Fleppner, Buffalo, N. Y.

Velie—M. A. Hines, Birmingham, Ala.; Burts garage, Dublin, Ga.

ELECTRIC PLEASURE CARS.

Waverley—Reid Auto Company, Louisville, Ky.

GASOLINE COMMERCIAL CARS.

Best—H. Darwin Howell, Baltimore, Md.

Brown—Meyer Motor Company, St. Louis, Mo.

Gramm—Legare Gadbois Automobile Company, Montreal, Que.; Gramm-Bernstein Motor Truck Company, Tacoma, Wash.

Krebs—Miller & Summers, Tiffin, O.

Lippard-Stewart—B. A. Bienner, Richmond, Va.

Standard—F & F garage, Aberdeen, Wash.; Barrett Bros., Albany, Ore.; George H. Wright, Deerfield, Mass.; J. S. Airheart, Eugene, Ore.; Loveland Sales Company, Grand Rapids, Mich.; Ed. Weiser, Hamilton, O.; H. E. Love, Huntington, W. Va.; Smith Motor Car Company, Lawrence, Mass.; Kirk Bros.; Maysville, Ky.; E. B. Shetter, Middletown, O.; Commercial Auto Company, Milwaukee, Wis.; Robert M. Lockwood, New York City; Saginaw Auto Company, Saginaw, Mich.; S. G. Chapman, San Francisco, Cal.; Hickler Bros., Sault Ste. Marie, Mich.; G. B. Hall Motor Company, W. New Brighton, S. I., N. Y.

CONTEMPLATED BUILDING OPERATIONS.

NEW PUBLIC GARAGES.

The Wellien Garage is to be built at Grand Rapids, Mich. It will be of brick construction, 50 by 100 feet, and modern in all respects.

John H. Erion, Rochester, N. Y., contemplates the erection of a public garage on St. Paul street to cost $4000.

The Caldwell Motor Car Company, Bainbridge, Ga., is erecting a two-story fireproof garage and service station; 60 by 80 feet.

The Reed Realty Trust Company, Springfield, Mass., has awarded a contract for the erection of a new large garage on Highland street.

C. H. Guelich, Phillipsburg, Penn., will have a new garage erected at a cost of $12,000. The building will be 66 by 166 feet, modern and fireproof throughout.

C. L. Burright and W. O. Truax, Calexio, Cal., will have a new modern garage erected on Second street.

James Hilliard and Catherine Hilliard, Philadelphia, Penn., have awarded a contract for the erection of a two-story brick garage, 24 by 115 feet, to cost $4700.

Fred C. Massnick, Detroit, Mich., will erect a large garage at a cost of $10,000.

G. Devine, Newark, N. J., will erect a new modern garage at a cost of $10,000.

Ansel W. Brown, Pulaki, N. Y., will erect a large garage in the spring.

W. C. Brown, Beloit, Kan., will occupy a new large garage building which will be erected on Campbell avenue.

W. J. Holbrook, St. Louis, Mo., president of the Holbrook-Blackwelder Real Estate Trust Company, will erect a 12-story garage at a cost of $250,000.

Robert Diehl, Norfolk, Va., has prepared plans for a one-story garage, 48 by 60 feet, to cost $3200.

DePue & Metcalf, Moville, Ia., will erect a new garage to cost $6000.

Benoist Cartan, St. Louis, Mo., is planning to erect a 1.5-story garage, 86 by 150 feet.

J. J. Fleischer, Cincinnati, O., has awarded the contract for the building of a one-story garage to cost $15,000.

Whittak Bros., Philadelphia, Penn., will have a garage, 40 by 90 feet, erected at a cost of $2800.

Jenkins & Rutledge, Herman, Neb., is to build a one-story garage, 48 by 60 feet, to cost $3200.

William F. Blake, Detroit, is planning to build a one-story garage, 38 by 108 feet.

Harry Owens, Philadelphia, Penn., is preparing plans and specifications for a storage and repair garage, to cost about $6000.

Edward McAleer, Washington, D. C., is planning to build a one-story garage, 20 by 40 feet, to cost $2000.

Hall & Edbleman, Duquoin, Ill., has awarded the contract for the erection of a garage at a cost of $3500.

William P. Kats, Yonkers, N. Y., has prepared plans and specifications for a two-story garage to cost $10,000.

The Edwardsville Garage & Auto Supply Company, Edwardsville, Ill., has awarded the contract for the erection of a garage to cost $6000.

The Germantown Garage & Storage Company, Philadelphia, Penn., will have a one-story brick garage erected at Osceola and Rittenhouse streets. The building will cost about $30,000.

James Taylor, Philadelphia, Penn., is to have a one-story brick garage, 69 by 104 feet, erected at 61st street and Osage avenue.

James R. MacFarland, Pittsburg, Penn., has awarded the contract for the erection of a one-story garage to cost $1500.

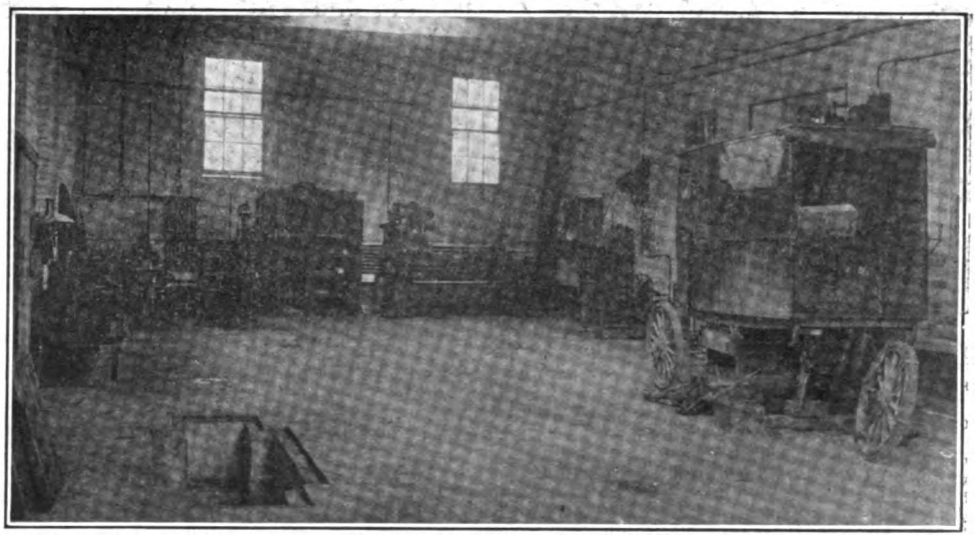
George Laskey, Philadelphia, Penn., is contemplating the erection of a two-story garage, 22 by 53 feet.

William Stellway, Philadelphia, Penn., is having plans prepared for a one-story brick garage, 140 by 180 feet, to be erected at 33rd and Jefferson streets.

Doyle & Co., Philadelphia, Penn., has been awarded the contract for the erection of a two-story garage at 11th and Kimball streets, to cost about $35,000.

L. Pfeiffenberger, East St. Louis, Ill., has prepared plans for a one-story garage, 60 by 120 feet.

James Bonner, Philadelphia, Penn., has been awarded the contract for the erection of a one-story brick garage, 30 by 60 feet, at 4221-4223 Ludlow street, to cost $2500.



Machine Shop of the Rochester Railway & Lighting Company, Rochester, N. Y.

Mather & Burner, Minneapolis, Minn., is preparing plans and specifications for a large garage to be erected in the near future.

C. W. Cammack and H. E. Matthews, Huntington, W. Va., are planning to build a two-story garage and salesroom, 23 by 70 feet, to cost $7500.

Snider Ward, Duquoin, Ill., contemplates building a one-story garage to cost $3000.

D. R. Howe, Brookline, Mass., has had plans prepared for a one-story garage, 35 by 31 feet.

Bennett Bros., Muskegon, Mich., is planning to build a one-story garage, 50 by 100 feet, to cost $6000.

Frank Rinker, Philadelphia, Penn., has been granted a permit to erect a garage in the rear of 416 West Coulter street, Germantown. The building will cost $2100.

Charles Kurz, 707 East Broadway, Louisville, Ky., has awarded a contract for the erection of a one-story garage to cost $4000.

Minnie Hildebrandt, Chicago, Ill., has had plans prepared for a one-story garage, 52 by 63 feet.

Carleton A. Chase, Syracuse, N. Y., has awarded the contract for the building of a one-story garage to cost $2000.

James G. Doak & Co., Philadelphia, Penn., has been

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granted a permit for a one-story brick garage, 50.1 by 54.6 feet, to be erected at the corner of Watts and Manning streets for the W. L. Elkins estate. The building will cost $8000.

J. A. Craig, Pittsburg, Penn., has been awarded the contract to erect a two-story garage, 22 by 26 feet, for John Woodwell. The building will cost $3000.

M. Bruder, 2145 Dayton street, Chicago, Ill., intends to build a one-story garage, 33.6 by 45 feet.

The Diamond Auto Company, Pittsburg, Penn., has awarded the contract for the erection of a one-story garage, 65 by 85 feet, to cost $10,000.

NEW PRIVATE GARAGES.

George Harris, Cincinnati, O., will build a small private garage.

The Uncle Sam Motorcycle Company, Philadelphia, Penn., is having plans and specifications prepared for a one-story garage.

Dr. T. J. Dunn, Philadelphia, Penn., has awarded the contract for a one-story brick garage, 16 by 50 feet.

J. A. Jones, Columbus, O., is to build a brick garage on East Town street.

A. B. Groves, St. Louis, Mo., has prepared plans for a modern private garage.

A. Stern, Kalamazoo, Mich., has had plans prepared for a small garage to be built in the near future.

J. H. deSibon, Washington, D. C., has prepared plans for a two-story garage to cost $500.

Dr. J. W. Rooks, Harrisburg, Ark., will erect a new garage at Court square.

Charles D. Dicks, Philadelphia, Penn., has awarded the contract for a garage, 22.4 by 29.4 feet, to cost $2500.

Albert Steil, Chestnut Hill, Penn., is having plans and specifications prepared for a one-story stone garage.

William Hoffman, Schenectady, N. Y., will build a one-story garage, 18 by 24 feet, at a cost of $1000.

Charles H. Casper, Philadelphia, Penn., is preparing plans for a garage for the Class & Nachod Brewing Company, at Ninth street and Montgomery avenue. The building will be one story of brick and concrete construction.

Edward B. McCall, Philadelphia, Penn., has been granted a permit to erect a stone garage, 12 by 18 feet, on 12th street, for E. D. Ackley. The building will cost $500.

Irwin Bensdorff, Memphis, Tenn., has awarded the contract for a garage to be built at 810 Adams street.

Charles Day, Philadelphia, Penn., will have a one-story brick garage, 14 by 18 feet, erected at the corner of West Clapier and Schuyler streets. The work will be done by George Armstrong and it will cost $500.

J. Munday, Philadelphia, Penn., has been awarded the contract for the erection of a one-story brick and stone garage, 23 by 22 feet, to be erected at the corner of Wayne avenue and Pastorius street.

T. B. Carson, Davenport, Ia., is to build a 1.5-story garage, 26 by 30 feet.

G. M. Sherman, Brookline, Mass., has awarded contract for the erection of a one-story garage, 25 by 31 feet.

Frank Kerr, Philadelphia, Penn., will have a one-story brick garage erected.

W. C. Reitz, Pittsburg, Penn., will have a private garage erected.

F. G. Eberhart, Mishawaka, Ind., will build a one-story garage, 22 by 24 feet.

William H. Sheehan, Philadelphia, Penn., is to have a brick garage, 18 by 20 feet, erected at the corner of 50th and Larchwood streets. The building will cost $400.

M. Olson, Pillsbury Point, Ia., has had plans prepared for a modern private garage.

J. O. Hegge, Chicago, Ill., is planning to build a one-story garage, 25 by 32 feet.

Benjamin Alexander, Philadelphia, Penn., is having plans and specifications prepared for a one-story brick garage to be erected at 243 North Juniper street.

Peter Thorpe, Trenton, N. J., has prepared sketches for a one-story garage, 20 by 20 feet, to cost $1500.

Ralph Pallaleone, Trenton, N. J., is to build a one-story garage, 12 by 22 feet.

H. J. Guilfoyle, Philadelphia, Penn., will have a garage built on Sanson street at a cost of $800.

H. J. Kenline, Dubuque, Ia., will build a one-story brick garage, 14 by 25 feet.

ADDITIONS AND IMPROVEMENTS.

The Forest Park Garage Company, Baltimore, Md., has awarded the contract for the erection of an addition to its garage. The improvements will cost $3000.

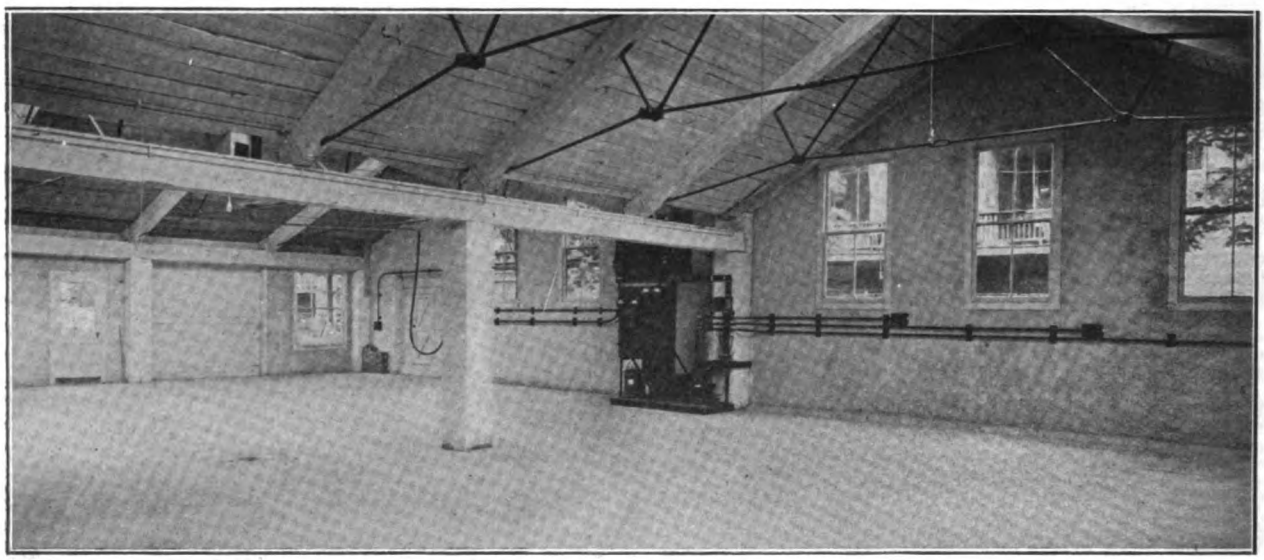
G. Westcott, Bridgeton, N. J., is having his garage on Washington street altered.

The Steenrof Automobile Supply Company, Wheeling, W. Va., is to enlarge its garage.

C. C. Zantsinger, Chestnut Hill, Penn., is having plans and specifications estimated on for additions to his garage. H. H. Burrell, Philadelphia, Penn., is doing the estimating.

Alfred Shaw, Philadelphia, Penn., will have alterations made to a two-story garage on Girard avenue. The building will be brought up to date in all particulars.

G. Y. Lansing, Albany, N. Y., has awarded contract for the erection of an addition to his garage to cost about $3500.



Main Floor of Main Street Station of the Hartford Electric Light Company, Hartford, Conn.

Charles C. Pace, Philadelphia, Penn., has received a permit for an iron addition, 14 by 9 feet, and a one-story side addition to a garage, 17.10 by 20 feet, at 2103 North 63rd street for John V. Ramsden. The improvements will cost $550.

C. B. & S. H. Mason, New York City, has awarded the contract for extensive alterations to its garage.

Edward A. Weber, Albany, N. Y., has had plans prepared for remodelling his carriage shop into a one-story garage, 33 by 44 feet, to cost $1500.

The Hilford Automobile Company, Coffeyville, Kan., is to enlarge its present garage.

The Northern Auto Company, Minot, N. D., is to enlarge its garage buildings.

Albert Burger, Philadelphia, Penn., will build an addition to his garage at 1522 North Marston street. The improvement will cost $1800.

B. B. Cohen, Indianapolis, Ind., has had his plans for a garage revised.

MISCELLANEOUS OPERATIONS.

I. A. Canfield, 208 Siegel street, Chicago, Ill., will have a two-story flat and garage erected at a cost of $16,000.

Mrs. Bertha M. Swift, Atlanta, Ga., will erect an additional story to the present two-story building on Peachtree street that is occupied by the Ford Motor Company.

Ambler Bros., Germantown, Penn., will rebuild the factory at Trenton Junction, N. J., which will be used as a taxicab and automobile repair station.

The National Auto Maintenance Company, Chicago, Ill., is to build an addition to its building at 2511 South

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State street, that will give 40,000 more square feet of floor space.

Joseph Fowler, Memphis, Tenn., chairman of the Business Men's Club, is interested in a plan that the city is considering to build a municipal garage.

E. H. Rau, Wheeling, W. Va., has had plans prepared for a one-story garage and laundry building, 20 by 40 feet, to cost $4000.

The Buick Auto Company, Seattle, Wash., is erecting a large automobile building on Harvard avenue at a cost of $125,000.

The Gas Power Engine Company, Milwaukee, Wis., will erect a large garage on Second street.

John P. Snyder, Minneapolis, Minn., has had plans prepared for a two-story private garage, with an apartment above, 34 by 43 feet, to cost $6000. The garage will afford accommodations for three machines.

The Elmira Motor Company, Elmira, N. Y., will occupy a new garage that will be built for the Arnot Realty Company.

Painter & Olyphant Company, Hutchinson, Kan., is to locate in a new garage that will be erected on East First avenue.

Benjamin F. Measey, Avalon, N. J., is having plans and specifications prepared for a residence and garage to cost about $6000.

Charles G. Keenan, Philadelphia, Penn., has awarded the contract for the erection of a one-story brick stable and garage, 44 by 137 feet, to cost $9000.

W. A. Stephenson, Mt. Vernon, N. Y., has had plans prepared for the remodelling and rebuilding of property into a modern three and four-story garage and office building.

Edward Bausch, Rochester, N. Y., has awarded the contract for a two-story garage and flat building, 26 by 43 feet, to cost $4000.

John F. Breslin, Albany, N. Y., is planning to build a 2.5-story garage and apartment building, 60 by 60 feet, to cost $7000.

The Hooven Mercantile Company, Reading, Penn., will have a one-story garage and boiler house, 60 by 30 feet, erected at a cost of $10,000.

J. B. Townsend, Radnor, Penn., is having plans and specifications estimated on for a 1.5-story garage and cottage.

Dr. W. Scott Morrison, St. Joseph, Mo., has had plans prepared for a one-story private garage and warehouse to cost $2000.

Mrs. James Rawle, Haverford, Penn., has awarded the contract for the construction of a residence and garage.

The Tolman Laundry Company, Washington, D. C., is planning to build a three-story garage and stable, 70 by 80 feet, to cost $25,000.

Paul Thusen, Rock Island, Ill., has had plans and specifications prepared for a two-story garage and wagon shop, 50 by 80 feet, to cost $8000.

D. C. Ledford, Carbondale, Ill., will build a three-story garage, store and office building at a cost of $18,000.

Reymond Bros., Waterbury, Conn., has had plans completed for a two-story garage and bakery.

Mrs. P. D. Curtis, Lambs Tavern, Penn., is having plans and specifications prepared for a two-story garage and stable.

W. S. Miller, Elyria, O., president of the Elyria Iron & Steel Company, will have a two-story, 30 by 40 feet, garage and chauffeur's residence erected at a cost of $5000.

C. W. Morse, Bangor, Me., has had plans prepared for a three-story garage and sales stable. The building will cost $100,000.

The Pence Automobile Company, Minneapolis, Minn., has been granted a permit for the erection of a garage at 801 North Washington avenue. The building will cost $50,000.

C. C. Stevens, New Haven, Conn., will have a new brick garage erected at a cost of $7000.

Sriver & Trimble, Pittsburg, Penn., will have a new one-story garage erected at a cost of $4500 on East street.

The Pedneau Garage & Machine Works, Raleigh, N. C., will build a new garage and machine shop.

Thomas W. Cohoon, Suffolk, Va., has purchased land on East Washington street and will build a new garage to cost $3000.

Fry Bros., Columbia, Tenn., is building a new fireproof garage on South Garden street which will be completed about the first of the new year. The company will handle automobiles and supplies.

W. Leroy, St. Louis, Mo., is preparing specifications for a one-story garage, 86 by 150 feet.

Patrick Driscoll, Harrisburg, Penn., is to erect a new one-story garage at a cost of $8500.

Bobb Bros., St. Louis, Mo., will erect a garage, 50 by 95 feet, to cost $3000.

Parker, Thomas & Rice, Baltimore, Md., is preparing plans for a large commercial car garage to be erected on St. Paul street, that city, at a cost of about $100,000.

Jones & Harris, Miami, Fla., will occupy a new large garage that will be erected on Avenue E by John Frohock. The building will also be used as a repair shop.

NEW CONCERNS RECENTLY INCORPORATED.

Wheeler Elam Company, Valparaiso, Ind.; $15,000; to deal in automobiles; W. G. Elam, R. W. Elam, R. S. Wheeler.

American Motor Truck Company, Detroit; $10,000; A. H. Reinhold, W. K. Ackerman, John D. MacKay.

Tri-City Motor Car Company, Charleston, W. Va.; $10,000.

Heck-Smith Company, Camden, N. J.; $5000; George L. Heck, David E. Smith and others.

Dart Motor Truck Company, Boston, Mass.; $5000; Walter F. Magill, Gertrude A. Magill, Stephen J. Richards.

Arlington Motor Car Company, Kearney, N. J.; $100,000; general automobile business.

F. R. Boice & Co., Red Bank, N. J.; $25,000; automobiles; L. S. Thompson, F. R. Boice.

Utah-Idaho Auto Company, Logan, Utah; $25,000.

Bristol Motor Car Company, Attleboro, Mass.; $3000; John H. Nerney, Dolly B. Nerney, Carlton H. Nerney, Paul H. Nerney.

Aero Motor Vehicle Company, Brooklyn, N. Y.; $10,000; Herbert Lovinger, 789 Elsnmere place.

Patch, Griffen & Caulfield Company, Boston, Mass.; $15,000; E. A. Patch, A. A. Caulfield, C. B. Jackson.

Coast Four Wheel Drive Auto Company, Everitt, Wash.; $10,000; E. J. Kennedy, M. A. Kennedy, L. A. Frazier, C. R. Frazier.

Ferguson Auto Springs Manufacturing Company, Spokane, Wash.; $1,000,000; A. B. Ferguson, F. W. Stephans.

Sagamore Motors Corporation, Syracuse, N, Y.; $75,000; J. S. Brown, C. G. Hanna, E. W. Lawton.

Roberts Gas & Gasoline Engine & Car Company, Nashville, Tenn.; $50,000; to manufacture engines.

Ohio Tractor Sales Company, Marion, O.; $50,000; W. W. Williams, H. A. Stevens, N. M. Miller, W. H. Schaeffer, C. Lee.

Northwestern Motor Company, Eau Claire, Wis.; $25,000; to manufacture motors; K. Roshold, T. W. Roshold, R. P. Roshold.

Automobile Machine Company, Canisteo, N. Y.; $3000; springs and other parts; C. B. Schaumberg, W. E. McGreevy, C. L. Thomas.

Taylor Motor Cut-Out Block Company, Columbus, O.; to manufacture device for finding trouble in motors.

Eastport Garage & Supply Company, Eastport, Me.; $10,000; Sidney S. Frost, Eugene E. McCluskey, Jennie H. Frost.

South Chicago Garage, Chicago, Ill.; $2500; Fred Poulecke, Fred M. Koch, Adam Poulecke.

Market Garage, Martinsburg, W. Va.; $25,000; garage and repair shop; Elderus McCoy, Norma V. McCoy, O. D. Strader, J. H. Knapp.

Auto Specialty Company, Joliet, Ill.; $2500; repairing.

Modern Garage Company, New York City; $10,000; Henry W. Biggs, 201 West 108th street, and others.

Motor Storage Company, St. Louis, Mo.; $250,000; H. B. Graham, H. S. Gotshall, W. J. Holbrook.

H. J. Cochrel Service Company, Tiffin, O.; $10,000; H. J. Cochrel, E. K. McMorris, J. D. McMorris, H. L. Cleveland, J. D. Watson.

Evinrude Motor Company, Milwaukee, Wis.; $350,000; A. Zinn, John F. Koch, C. J. Meyer, Walter A. Zinn.

Goodwin-Gallivan Motor Company, Newcastle, O.; $10,000; to retail automobiles; William M. Goodwin, John C. Goodwin, James P. Gallivan.

Maxwell Motor Sales Corporation, Wilmington, Del.; $10,000; James J. Butterly.

Breese Motor Plow Company, Wapakoneta, O.; $100,000; Robert A. Breese, G. D. Norris, David Lerbach.

Parsons Motor Car Company, Windsor, Can.; $500,000; to manufacture motor vehicles; Thomas G. Ellis, A. J. Denomy and others.

Archibald Wheel Company, Lawrence, Mass.; $800,000; vehicle wheels; F. N. Andrews, E. H. Archibald, I. M. Archibald.

Robinson Auto Heater Company, Milwaukee, Wis.; $25,000; to manufacture heating devices; J. K. Robinson, E. W. Robinson, H. L. Kellogg.

H. L. F. Trebert Company, Rochester, N. Y.; $150,000; motors; H. L. F. Trebert, L. Gergoine Ogden and others.

Motor Carette Company, Buffalo, N. Y.; $30,000; H. J. Cardigan, C. J. Kerm, A. M. Pearsall.

Memphis Overland Company, Memphis, Tenn.; $5000; T. H. Smart, F. D. Graham, Roy Moyston, Earl King, Caruthers Ewing.

New Jersey Auto Exchange, Union, N. J.; $10,000; George Rich, Jr., Henry E. Forscutt and others.

H. M. Kinsman Company, Norwood, N. Y.; $25,000; H. M. Kinsman, H. L. Farmer, E. E. Wright.

Paige-Detroit Company of New York, New York City; $50,000; E. M. Dalley, S. J. Wise, F. W. Kolb.

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Feilboch Motor Company, Milwaukee, Wis.; $100,000.

Clemens Motor Sales Company, Buffalo, N. Y.; $50,000; W. J. Clemens, J. G. Lesswing, R. B. Metro.

Leather Tire Goods Company, New York City; $7000; tires and specialties; Hans Gurlitt, Dodge Loebmann, William Loebmann.

St. Joseph Automobile Show Association, St. Joseph, Mo.; $2000; E. T. Rhodus, M. N. Hall, H. C. Davis.

Indian Taxicab Company, Rochester, N. Y.; $5000; Henry F. Lucas, Anna B. Lucas, William S. Lucas.

E. H. Garcin & Co., New York City; $25,000; asbestos and rubber goods; E. H. Garcin, George E. Richards, George S. Fulton.

Michelin Tire Company, Montreal, Can.; $40,000; A. E. Woodworth, A. B. Wright and others.

C. A. Martin Manufacturing Company, Chicago, Ill.; $2000; C. A. Martin, George T. Glover, William Schulze.

Luxmore Differential Company, Chicago, Ill.; $7500; accessories and machinery; Edbert Robertson, Lazarus Krinsky, John L. Anderson.

Wisconsin State Rubber Company, Milwaukee, Wis.; $10,000; tires and accessories; Harold D. Detienne, Mrs. Wallis, Mrs. Detienne.

Dreadnought Tire & Rubber Company, Orangeville, Md.; $1,000,000; to manufacture tires.

Lock Robe-Rail Company, New York City; $5000; accessories; C. W. Crow, W. G. Grichton, R. W. Johnson.

Xardell Bros. Company, Utica, N. Y.; $20,000; supplies.

Blowers-Rheubottom Rubber Company, Wilmington, Del.; $500,000; to manufacture tires; W. R. Blowers, Toronto, Can.; A. Rheubottom, Pittsburg, Penn.; G. D. Hopkins, Wilmington.

Vaughn-Harris Company, Vermillion, S. D.; $25,000; manufacture an automobile truss.

Merchants Motor Sales Company, New York City; $120,000; B. Cukor, H. V. Radonitz, C. J. Quinn.

Knight Motor Repair & Sales Company, Cleveland, O.; $5000; A. House, F. R. Kyle, F. X. Schuat, C. L. Allen, W. H. Buckins.

Silent Eyler Motor Company, Chicago, Ill.; $15,000; to deal in motorcycles and accessories; W. M. Melling, A. H. Doorfler, F. Doorfler.

Detroit, Barton Auto Top Company, Lansing, Mich.; $10,000; manufacture accessories; Albert Barton, George S. Field, Ida M. Willis.

Tacoma Transit Company, Tacoma, Wash.; $30,000.

Missouri Southern Route Association, Washington, Mo.; $25,000; J. H. Dickbrader.

Commercial Auto Body Company of Richmond, New York City; $12,000; William Herz, Casper A. Scheiper, Arthur W. Owen, 208 West 69th street.

E. O. Proctor Company, Ayer, Mass.; $50,000; president and treasurer, Edw. O. Proctor; G. L. Donahue, W. L. Preble.

United States Auto Supply Company, Detroit, Mich.; $10,000; to deal in automobiles; Daniel Alpert, Robert Washman and others.

Ontario Motor Company, Detroit, Mich.; $10,000; to deal in automobiles; E. F. Garber, Charles L. Mann and others.

Convertible Automobile Body Corporation, New York City; $250,000; L. Lewkowitz, E. I. Gottlieb, M. Kaplan.

Ross Motors Company, Muncie, Ind.; $25,000; accessories; H. V. Hancock, V. H. Hancock, E. T. Ross.

Automobile Remodelling Works, Birmingham, Ala.; president, Charles S. Sibley; vice president, Kenneth Underwood; secretary-treasurer, Frank Brown Cornell.

Interstate Accessories Corporation, Brooklyn, N. Y.; $10,000; Leon Kauffman, Stuart M. Kohn, Albert Strauss.

Wm. Wiese & Co., New York City; $25,000; to produce top and upholstery materials; W. Wiese, C. Wiese, A. Maertone.

Louisville Motor Company, Louisville, Ky.; $5000; R. T. Durrett, W. P. Gray, C. M. Logan.

Woods Electric Motor Vehicle Company, Nashville, Tenn.; $3000; Leonard H. Dodd, W. H. Frost, Felix C. Dodd, Robert F. Dodd, A. Cooney, Jr.

Stutz Motor Car Company of Boston, Boston, Mass.; $30,000; M. F. Chase, M. P. Chase, G. E. Kimball.

Feakes Garage Company, Hackensack, N. J.; $25,000; H. E. Feakes, L. N. Blair, J. Schneider.

Liberty Machine & Motor Company, Liberty, Randolph county, Va.; $25,000; C. R. Curtis and others.

Auto-Coach Company, Wilmington, Del.; $300,000; H. E. Latter, W. J. Mahoney, O. J. Reichard.

Weldon Garage, Greenfield, Mass.; $3000; George W. Wilcox, William A. Davenport, William H. Gould.

Hanover Rubber Company, Hanover, Mass.; $25,000; George J. J. Clark, Calvin J. Ellis, Albert O. Sellman.

Mystic Motor Company, Groton, Conn.; $1000; Harry M. Hoxie, J. D. Miller, George McDowell, all of Brooklyn, N. Y.

Fort Wayne Auto Supply Company, Fort Wayne, Ind.; $50,000; J. M. Carmer, J. A. Brewer, H. H. Criswell.

Edisto Automobile & Machinery Company, Orangeburg, S. C.; $8000; president, H. C. Huggins; vice president, C. L. Sykes; secretary and treasurer, H. C. Huggins.

Mack Motor Truck Company, Albany, N. Y.; $10,000; Arthur J. Cook, Mae C. Fitzgerald, William A. Hamilton, 206 State street, New York City.

Carr Motor Company, Houston, Tex.; $10,000.

Mackey-Culehen Motor Company, Chicago, Ill.; $5000; N. W. Mackey, J. Maxculehen, F. De Young.

Newton Motor Company, Newton, N. C.; $10,000; R. Lee Hewitt, G. A. Warlick. R. W. Cline.

Toledo Auto Cycle Company, Toledo, O.; $20,000; A. L. Meyer, T. S. Powell, J. J. Kail, C. W. Neilson, Nat Smalley.

Reo Motor Sales Company, Wheeling, W. Va.; $10,000; T. H. Backman, W. A. Gullette, L. H. Backman, C. F. Backman, G. W. Yeago.

Henderson Tire Company, Buffalo, N. Y.; $400,000; C. O. Henderson, R. R. Hillman, A. L. Lyth.

Tulite Auto Bulb Company, Detroit, Mich.; $25,000; L. J. Lepper, J. M. Richardson, W. F. Adams.

Sav-Air Company, Mayfield, Ky.; to manufacture preparations to prevent punctures; J. T. Lochridge, W. F. Smity, J. W. Christy.

Motor Cooling Company, New York City; $10,000; to manufacture compounds for cleaning radiators; C. R. Allison, J. F. Clarke, W. J. F. Lammar.

Auto Supplies Company, Norfolk, Va.; $15,000; M. A. Brandt, H. M. Brandt and others.

Pneumatic Devices Company, St. Louis, Mo.; $50,000; to manufacture door opening and closing devices; Nelson S. Goftshall, Henry B. Graham, John F. Bishop.

Automatic Safety Signal Company, New York City; $25,000; to manufacture and deal in lamp appliances; H. Siegler, M. M. Becker, P. R. Feign.

Warm-Hand Steel Wheel Corporation, Poughkeepsie, N. Y.; $150,000; to manufacture steering wheels; G. E. Smith, W. S. Barton, J. C. Barton.

De Luxe Garage Company, Brooklyn, N. Y.; $5000; Frank Staendel, Katherine Staendel, Harry B. Potter.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

12,044, Motor Cars—A report from an American consul states that an official in a foreign country desires to be furnished with catalogues and prices of high-class American motor cars. Correspondence may be in English.

12,064, Automobiles—An American consular officer in a European country reports that the proprietor of an automobile agency in his district would like to secure the agency of a good American automobile firm not now represented in the country in question. The inquirer has been established in business since 1905 and is said to possess a very important establishment.

12,080, Agricultural Machinery and Tractor Plows—A report from an American consul in a European country states that a business firm in his district has requested him to put it in touch with American manufacturers of agricultural machinery of all kinds and steam or gasoline tractor plows. References are furnished and correspondence may be in English.

12,142, Motorcycles and Motor Trucks—An American consul reports that a Swedish machinery firm which already has the agency for an American automobile firm, desires to secure the agency for an American motorcycle and also for an American motor truck.

12,153, Automobiles—A well known South African firm of sporting goods dealers is seriously considering the establishment of an automobile branch of the business. An American consul states that as the firm has been very successful so far, it is probable that it would do well with automobiles. Reasonable territory would be required for a car retailing at $1400 to $2000, both runabout and five-passenger touring, with good clearance and right hand drive. The last is essential as left hand drive cars are not salable. Full details should be submitted, including catalogues, prices, discounts, shipping dimensions, freight to New York, etc. Correspondence may be in English.

FIRES OF THE MONTH.

Schmidt Bros. Company, Davenport, Ia.; entire plant and stock, $150,000.

Pipper Garage, Netcong, N. J.; garage, $4000.

Central Transfer & Storage Company, Indianapolis, Ind.; garage, $13,000.

Theodore Kinstre, St. Louis, Mo.; garage at 6211 Plymouth avenue, $2000.

Security Motor Car Exchange, Los Angeles, Cal.; garage and 12 automobiles, $15,000.

Sandruck & Sons, Baltimore, Md.; automobile building, $100,000.

United States Motor Sales Company, Johnstown, Penn.; garage, $1500.

H. F. Blerkamp, Durant, Ia.; garage and property, $12,000.

Preston B. Lee, Chadds Ford, Del.; garage and other buildings, $10,000.

John E. Fleming, Watertown, Mass.; garage, $20,000.

H. M. Corkran, 12 South Maryland avenue, Atlantic City, N. J.; garage.

F. H. Rummer, Hamilton street, Jamestown, Penn.; garage.

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REPORTED CHANGES IN TRADE ADDRESSES.

Rambler Motor Car Company, Providence, R. I., from 355 Angell street to 28 Mathewson street.

California Cycle Car Company, Los Angeles, Cal., from 818 South Main street to 612 South Olive street.

Admiral Manufacturing Company, Kansas City, Mo., from 715 Lydia avenue to 1331 Walnut street.

Edw. G. Budd Manufacturing Company, Philadelphia, Penn., from 807 North American building to Station E.

Roy E. Warner, Louisville, Ky., from 542 South Third street to 928, same street.

E. S. Dimmock, Tacoma, Wash., from Seventh street and Pacific avenue to box 989.

Chandler & Hightower, Fort Worth, Tex., to Stock Yards station.

Boas Garage, Fort Worth, Tex., from 109 East 14th street to box 174.

West Haven Motor Company, West Haven, Conn., from 26 Elm street to 152 Lute street.

C. E. Whitcomb Auto Company, Kansas City, Mo., from 3015-17 East 12th street to Y. M. C. A., station B.

Fifty-Second Street Auto Repair Company, New York City, from 351 West 52nd street to 325 Ames avenue.

Michigan Wheel Company, New York City, from 69 Cortlandt street to Grand Rapids, Mich.

East Side Auto Repair Company, Kansas City, Mo., from 3619 Independence street to 3825 Independence avenue.

Myranda Motor Car Company, St. Louis, Mo., from 1012 West Grand avenue to 302 Dolph street.

West End Garage, New York City, from 574 West 130th street to 3-5 Lawrence street.

J. M. Doom Motor Car Company, Bowling Green, Ky., to Knoxville, Tenn.

Square Motor Horn Company, New York City, from 495 East 134th street to 314 Adams street, Newark, N. J.

Schug Electric Manufacturing Company, Detroit, Mich., from 311 Jefferson avenue to 254 Larned street, East.

White Manufacturing Company, Pottstown, Penn., to Fourth and Lime streets, Waterloo, Ia.

Diamond Manufacturing Company, Des Moines, Ia., from 2-3 Equitable building to 1007 Locust street.

Rub-On Varnish Company, Buffalo, N. Y., from 368 Elm street to 97 Brayton street.

Niagara Sales Company, Buffalo, N. Y., from 704 Main street to 329 Elmwood avenue.

Drake & Promenchenkel, Detroit, Mich., from 200 King street to 206 Marston street.

Angiada Company, Detroit, Mich., from 650 Woodward avenue to Free Press building.

Motorcycle Co-Operative Supply Company, Detroit, Mich., from 656 Woodward avenue to 471, same street.

Pla-Tina Company, Los Angeles, Cal., from 1103 Trust & Savings building to 1129 Mohawk street.

California Novelty Art Company, Los Angeles, Cal., from 618 South Olive street to 629 Story building.

R. Schmidt & Son Company, Jersey City, N. J., from 3193 Boulevard to 466 Amsterdam avenue.

Stoddard Motor Company, New York City, from Broadway and 57th street to 1932 Broadway.

Washington Bridge Auto Company, New York City, from 187th street and Amsterdam avenue to 249 West 130th street.

Auto Lighting Exchange Company, New York City, from 2236 Broadway to 206 West 76th street.

Cook Motor Vehicle Company, St. Louis, Mo., from 2725 Olive street to 5187 Delmar street.

American Sales Company, Louisville, Ky., from 524 South Fourth street to Fourth and York avenues.

Rowe Motor Manufacturing Company, Coatesville, Penn., to Downingtown, Penn.

Ganahl Auto Shop, St. Louis, Mo., from 2741 Gravois avenue to 1512 Locust street.

Missouri Motor Car Company, St. Louis, Mo., from 1131 Olive street to 3007 Locust street.

Public Service Motor, New York City, from 32 William street to 1790 Broadway.

General Vehicle Company, New York City, from 505 Fifth avenue to 30 East 42nd street.

Royal Equipment Company, Chicago, Ill., from 343 South Dearborn street to 748 Webster building.

J. C. McIntyre, Chicago, Ill., from 33rd street and South Park avenue to 563 East 34th place, Armour station.

Moline Automobile Company, Chicago, Ill., from 1508 Michigan avenue to 2538 same street.

Ford Motor Company, Kansas City, Mo., from 1608 Grand avenue to 11th and Winchester avenues.

H. E. Halbert, Chicago, Ill., from 1408 Michigan avenue to 606 Independence building.

Handy Auto Supply Store, Chicago, Ill., from 4134 Irving Park boulevard to 3233 West Lake street, Garfield Park station.

Tebeau Motor Car Company, Kansas City, Mo., from 710 Grand avenue to 20th and Olive streets.

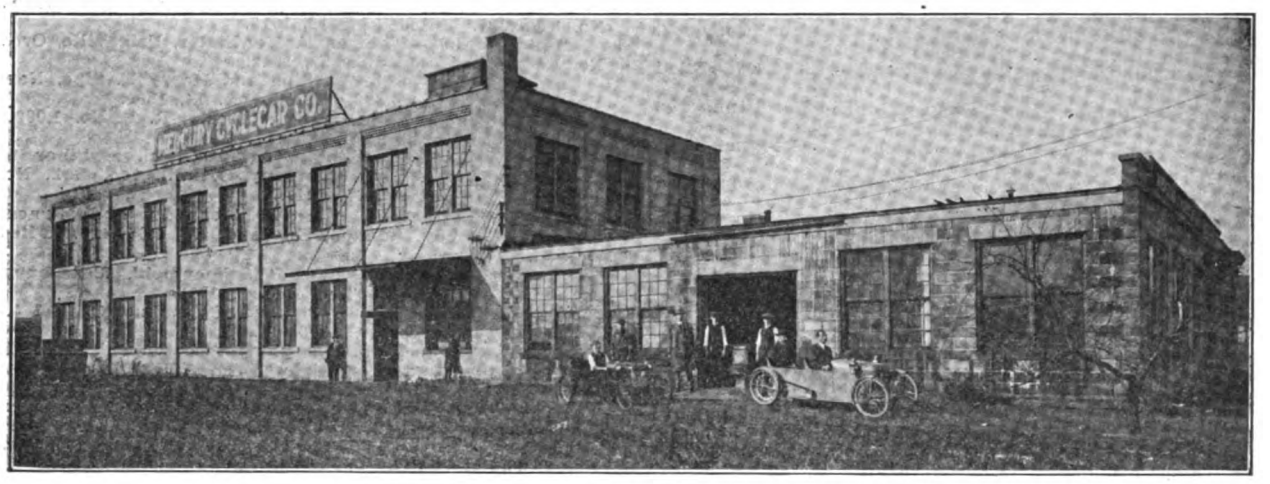
Motor Delivery Company, New York City, from 3 Lawrence street to 42 Downing street.

Volkmar Auto Starter Company, New York City, from 712 Mail building to 1218 Union avenue.

American Manufacturing & Distributing Company, Louisville, Ky., to 1790 Broadway, New York City.

Chicago Pneumatic Tool Company, Chicago, Ill., from 1337 Michigan avenue to Fisher building.

Ivan W. Olsson, Chicago, Ill., from 3324 North Clark street to 4637 North Clark street, Ravenswood station.



Plant at 807-815 Scotten Avenue, Detroit, Where the Mercury Cyclecar Company Produces Mercury Cyclecars.

Werner Radiator Company, Chicago. Ill., from 2642 Michigan avenue to 850 South Canal street.

Ray W. Watkins, Delaware, O., to Radner, O.

Lake Avenue Automobile Company, Cleveland, O., from 8500 Lake avenue to 2033 North 89th street.

Lakewood Auto Sales & Garage Company, Cleveland, O., from Detroit avenue to 1412 Riverside road.

Queen City Auto Company, Cincinnati, O., from 810 Race street to 73 East McMillan street.

Imperial Motor Car Company, Cincinnati, O., from 960 East McMillan street to 1609 Madison road, Station D.

Hudson River Garage Company, New York City, from 2 West 90th street to 133 Amsterdam avenue.

M-Z Tire Company, New York City, from 28 Warren street to 75 Chambers street.

Majors Auto Repair Company, St. Louis, Mo., from 1117 West Cardinal street to 3332 Taunton street.

Winton Motor Carriage Company, Detroit, Mich., from 736 Woodward avenue to 998, same street.

Security Auto Company, Detroit, Mich., from 1581 Woodward avenue to 2128, same street.

Lambert Ignition Company, New York City, from 527 Fifth avenue to 66 Nassau street, Princeton, N. J.

What Cheer Auto Company, Providence, R. I., from Sabin and Cope streets to 322 Broad street.

Fisk Rubber Company, San Francisco, Cal., from 418 Golden Gate avenue to 1431 Van Ness avenue.

Indian Garage & Sales Company, Kansas City, Mo., from 3316 East 15th street to 2201 Brooklyn street.

Stephens Motor Tire Company, Kansas City, Mo., from 818 Walnut street to 1707 Grand avenue.

Babcock Electric Garage & Sales Company, Kansas City, Mo., from 3356 Main street to 3901 Forest street.

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AUTOMOBILE PATENTS GRANTED RECENTLY.

Spring Wheel—Vincenzo Mancini, Schenectady, N. Y., No. 1,078,632. Filed Aug. 26, 1912.

Rotary Valve for Motors—Frederick G. Schehr, Detroit, Mich., No. 1,078,699. Filed June 10, 1912.

Atomising and Mixing Valve—Wilson D. Craig Wright, Philadelphia, Penn., assignor of one-half to Joseph Wright, same city, No. 1,078,816. Filed June 3, 1912.

Combined Friction and Positive Clutch—Henry Druschel, Columbia, Penn., No. 1,078,840. Filed Aug. 6, 1912.

Metallic Wheel Tire—Charles Quintus, Garner, Ia., No. 1,078,876. Filed Jan. 6, 1913.

Shock Absorber—John B. Thomas, Lakewood, N. J., No. 1,078,885. Filed Aug. 9, 1912.

Spring Wheel—Joseph R. Gerard, Parsons, Kan., No. 1,078,916. Filed Nov. 30, 1910.

Valve Structure for Internal Combustion Motors—Marshall E. Morel, Sheridan, Ill., No. 1,078,942. Filed March 14, 1912.

Wheel Brake—Rollin H. White, Cleveland, O., assignor to the White Company, same city, No. 1,078,976. Filed Oct. 9, 1908.

Pneumatic Wheel—Joseph U. Wells, Fallen Leaf, Cal., No. 1,079,082. Filed July 12, 1913.

Rotary Engine—Ernest G. Jones and Thomas T. Patchel, Cape May, N. J., No. 1,079,177. Filed April 11, 1913.

Shock Absorber—Charles N. Sowden, Guantanamo, Cuba, No. 1,079,191. Filed Dec. 13, 1912.

Motor—William R. McKeen, Jr., Omaha, Neb., assignor to McKeen Motor Car Company, same city, No. 1,079,255. Filed Aug. 13, 1907.

Timing Device—James P. Middleton, Pittsfield, Mass., No. 1,079,256. Filed May 21, 1912.

Motor—Norris C. Ward, Chicago, Ill., No. 1,079,307. Filed May 27, 1912.

Automobile—Henry A. Baker, St. Louis, Mo., No. 1,079,320. Filed Jan. 26, 1912.

Gaseous Fuel Mixer—John T. Hazelton, Somerville, N. J., No. 1,079,338. Filed Sept. 21, 1912.

Motor—Frank W. Ruggles, Springfield, Mass., assignor of one-half to Emerson G. Gaylord, Chicopee, Mass., No. 1,079,364. Filed Sept. 2, 1909.

Tire—John G. Clark, Provo, Utah, No. 1,079,397. Filed June 7, 1913.

Motor—Adolphe C. Peterson, Minneapolis, Minn., No. 1,079,578. Filed Jan. 13, 1909.

Carburetor—John Gustav Burchartz, Cologne, Germany, No. 1,079,634. Filed July 26, 1912.

Motor—Fred D. Calkins and Alfred C. Johnson, Sunnyvale, Cal., No. 1,079,741. Filed Feb. 15, 1912.

Tire—John J. Fields, New York City, No. 1,079,755. Filed Jan. 6, 1912.

Windshield for Automobile Radiators—Albert Holland, Nome, N. D., No. 1,079,765. Filed June 17, 1912.

Dust Cap for Tire Valves—John Lynn, Alice, Tex., No. 1,079,781. Filed April 28, 1913.

Spark Plug—John J. Meyer, Yonkers, N. Y., No. 1,079,790. Filed March 6, 1913.

Spring Wheel—James Dell Collier, Redlands, Cal., No. 1,079,840. Filed Oct. 11, 1912.

Dirigible Lamp—William B. Dievendorf, Sprakers, N. Y., No. 1,079,844. Filed July 25, 1913.

Motor—Benjamin Blake Dorr, West Toledo, O., No. 1,079,845. Filed May 18, 1912.

Variable Speed Gearing—Roy Hanmore Gerard, Berkeley, Cal., No. 1,079,852. Filed Oct. 9, 1912.

Fender—Joseph Mascari, Memphis, Tenn., No. 1,079,872. Filed Feb. 28, 1911.

Vaporizer and Igniter—Wilbur O. Platt and John Reid, Oil City, Penn., assignors to Joseph Reid Gas Engine Company, same city, No. 1,079,878. Filed Oct. 8, 1912.

Tread Section for Anti-Skidding Devices—Harry D. Weed, Syracuse, N. Y., No. 1,079,907. Filed March 26, 1908.

Carburetor—Cyril Clarke Boville Morris, London, England, No. 1,079,947. Filed Feb. 5, 1913.

Vaporizer Attachment—Edward Morris Norton, New York City, assignor to De La Vergne Machine Company, same city, No. 1,079,950. Filed Feb. 6, 1913.

Automobile Fender—Robert H. Prestlen, Norfolk, Va., No. 1,079,951. Filed June 8, 1912.

Transmission Mechanism—John G. Utz, Detroit, No. 1,079,961. Filed Nov. 22, 1910.

Tire Gauge—John F. Waters, Kansas City, Mo., No. 1,079,965. Filed June 29, 1912.

Wheel and Detachable Rim—William Thomas Smith, Bolton, England, No. 1,079,995. Filed July 11, 1908.

Cushion Wheel—Walter D. Douglas-Jones, London, England, No. 1,080,004. Filed Dec. 16, 1909.

Sidecar Attachment—Leo A. Pothast, Melbourne, Ia., No. 1,080,020. Filed Feb. 21, 1913.

Tire Chain—Phibia Gauthier, Lowell, Mass., No. 1,080,054. Filed May 15, 1913.

Wrench—Jacques Huber, Basel, Switzerland, No. 1,080,064. Filed April 24, 1913.

Automatic Fire Extinguisher—Alphonse La Breche, Jefferson, S. D., No. 1,080,068. Filed Jan. 3, 1913.

Spark Plug—Frederick J. Walker and Frank C. Loeffler, Des Moines, Ia., No. 1,080,089. Filed Jan. 9, 1912.

Spring and Pneumatic Wheel—Joseph A. Gray, Norwalk, Conn., No. 1,080,106. Filed July 7, 1910.

Changeable Headlight—Victor Howard and James P. Wrigley, Oakland, Cal., No. 1,080,110. Filed March 6, 1913.

Carburetor—Olney B. Monosmith, Lorain, O., No. 1,080,118. Filed Aug. 30, 1912.

Engine—Don E. Pratt, San Francisco, Cal., No. 1,080,123. Filed July 10, 1912.

Cushion Wheel—John J. Van Iderstine, Kansas City, Mo., No. 1,080,128. Filed Feb. 25, 1913.

Spring Tire for Wheels—Charles Henry Vidal, Chiswick, England, No. 1,080,129. Filed Aug. 29, 1911.

Carburetor—Alexis R. Pribil, Detroit, No. 1,080,166. Filed Oct. 4, 1911.

Lock Nut—Jacob M. Doolittle, New Kensington, Penn., No. 1,080,199. Filed Jan. 7, 1913.

Fuel Pump—Alfred H. Hoadley, Providence, R. I., No. 1,080,216. Filed Dec. 22, 1911.

Valve for Gas Engine Starters—Gottlieb R. Holliger, Birmingham, Ala., No. 1,080,218. Filed June 15, 1912.

Dry Cell Battery—Alfred Rordame, Salt Lake City, Utah, No. 1,080,234. Filed May 14, 1913.

Resilient Wheel Hub—Joseph W. Bready, Springfield, Mass., assignor of one-third to Charles P. Kenney, same city, No. 1,080,253. Filed April 30, 1913.

Automatic Headlight—Benjamin H. Brown, George W. Edwards and Edmund T. Manwell, Marysville, Cal., No. 1,080,256. Filed May 10, 1913.

Anti-Skid Attachment for Tires—William E. Budd, Elizabeth, N. J., No. 1,080,259. Filed Jan. 29, 1913.

Combined Air Motor and Compressor for Starters—Harry A. Loud, Pasadena, Cal., No. 1,080,289. Filed May 23, 1912.

Tire—John J. Patton, New York City, No. 1,080,295. Filed Feb. 14, 1913.

Oiler—Kirkwood A. Boggs, Fort Dodge, Ia., No. 1,080,320. Filed Oct. 31, 1911.

Engine Starter—Frank Gahm, Streator, Ill., No. 1,080,335. Filed Aug. 14, 1912.

Demountable Rim—Leo A. Gordon, Fall River, Mass., No. 1,080,337. Filed June 12, 1913.

Motor Vehicle—Thomas F. McAllister, Prineville, Ore., No. 1,080,361. Filed July 27, 1912.

Spring Wheel—John F. Sipe and Harry E. Sipe, New York City, No. 1,080,378. Filed Dec. 14, 1909.

Tire—Herbert L. Stillman, Westerly, R. I., No. 1,080,285. Filed Feb. 23, 1911.

Tire—William G. Chipley, Atlanta, Ga., assignor to Pneumatic Rim & Tire Company, Wilmington, Del., No. 1,080,416. Filed Aug. 31, 1912.

Windshield—Jerome Francis Kennedy and Ernest Norbert Kennedy, London, England, No. 1,080,458. Filed Oct. 20, 1911.

Primary Battery—Charles B. Schoenmehl, Waterbury, Conn., No. 1,080,483. Filed Dec. 9, 1910.

Wheel Rim—Orson L. Pickard, Columbus, O., No. 1,080,580. Filed Dec. 20, 1909.

Resilient Wheel—Joseph Rene Ayotte, Chicago, Ill., assignor to Alexander Airless Auto Wheel Company, same city, No. 1,080,621. Filed March 18, 1912.

Automobile Sign Holder—Henery Osborne Havemeyer, Mahwah, N. J., No. 1,080,631. Filed Dec. 27, 1910.

Spring Wheel—Abraham Morgan, Independence, Mo., No. 1,080,649. Filed Oct. 17, 1912.

Spring Cover—Arthur E. Peters, Westmont borough, Penn., No. 1,080,652. Filed May 13, 1913.

Traction Plow—Simon Belanger, Warroad, Minn., No. 1,080,673. Filed Jan. 10, 1913.

Carburetor—William P. Huguelet, Chicago, Ill., assignor, by mesne assignments, to Muir Company, Inc., Baltimore, Md., No. 1,080,696. Filed Sept. 27, 1912.

Resilient Wheel—Lem H. Schoonover, Boise, Idaho, No. 1,080,720. Filed Aug. 23, 1913.

Air Compressor—William Everett Ver Planck, Erie, Penn., assignor to General Electric Company, No. 1,080,737. Filed Feb. 20, 1913.

Shock Absorber—George C. Beck, Spokane, Wash., No. 1,080,745. Filed Jan. 28, 1913.

Motor Starter—Charles H. Myers, Buffalo, N. Y., No. 1,080,773. Filed March 1, 1912.

Variable Speed Mechanism—John Clifton Riegel, Pottsville, Penn., No. 1,080,782. Filed Nov. 30, 1912.

Timer and Distributor—James M. Smith, Philadelphia, Penn., assignor of one-half to Charles Adsit Magruder, Bryn Mawr, Penn., No. 1,080,788. Filed May 17, 1912.

Engine—Anton M. Bach, San Francisco, Cal., No. 1,080,800. Filed Sept. 9, 1912.

Storm Front for Vehicles—Jesse B. Cretors, St. Paris, O. No. 1,080,812. Filed Aug. 29, 1912.

Rim—Edward Frederick Dreger, Oakland, and Frank Elvin Pfister, Piedmont, Cal., No. 1,080,814. Filed March 2, 1912.

Carburetor—Ernest Percival Everest, Coventry, England, No. 1,080,815. Filed Nov. 11, 1911.

Tire—Albert H. Fisher, Lincoln, Neb., No. 1,080,818. Filed June 25, 1912.

Rotary Valve for Motor—Milford G. Chandler, Chicago, Ill., assignor to Chandler Engine Valve Company, that city, No. 1,080,892. Filed April 1, 1912.

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ACCESSORIES, SUPPLIES AND FITTINGS.

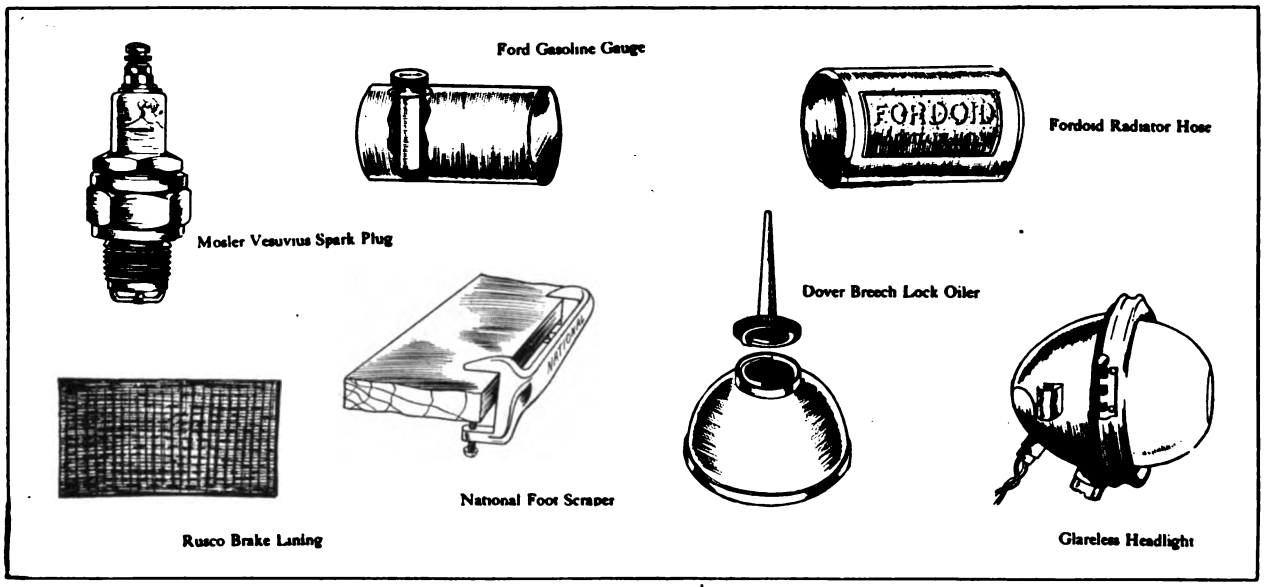
(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

Mosler Vesuvius Spark Plug.

A. R. Mosler & Co., Mt. Vernon, N. Y., well known maker of the Mosler Spitfire spark plugs, is marketing the Vesuvius plug, which is designed to withstand severe service. The centre core is of a special stone, practically indestructible, and one of its qualities is that it is so shaped and constructed as to be absolutely gas tight. Another feature is that the plug may be disassembled easily and the parts replaced without interfering with the original adjustment of the points. The last named are of genuine platinum, liberal in size, making for efficiency and durability. The Vesuvius plug is made to fit any motor and is manufactured with various threads. The same high grade workmanship and material for which the product of A. R. Mosler & Co. is noted is incorporated in the new design.

Ford Gasoline Gauge.

The Modern Specialty Company, Racine, Wis., has brought out a fuel gauge for model T Ford cars, which is a distinct improvement over the usual method of noting the contents of the container, that of employing a stick or a rule. The Modern gauge is constructed of an outer tube of heavily leaded steel, with an inner casing containing a brass float, fitted to a spiral upright, which turns the indicator on the dial as the fuel is raised or lowered in the tank. The head containing the etched dial and indicator is of heavy brass and is threaded to fit any



Ford gasoline tank. The gauge is installed easily and without any alterations by simply removing and discarding the usual filler cap and screwing in the Modern. All parts are substantially constructed and the maker states that there are no parts to become disarranged through service. It retails for $2.50.

Fordoid Radiator Hose.

The importance of having an unobstructed flow of water in the cooling of the motor, especially with the thermo-syphon system, is well understood by those familiar with the internal combustion engine. With the model T Ford motor the outlet water manifold is connected to the radiator by a rubber hose, and to obtain efficiency from the system this tube should be kept clear. With inferior material, the plies of fabric separate, diminishing the diameter of the hose and impeding the flow of the water. The Thermoid Rubber Company, Trenton, N. J., is producing the Fordoid radiator hose especially for the model T Ford motor. Both inlet and outlet designs are made and the maker guarantees that the material will not harden or soften in service, or when various anti-freezing solutions are utilized. The outlet hose sells for 50 cents, the inlet 40.

Rusco Brake Lining.

Rusco brake lining is produced by the Russell Manufacturing Company, Middletown, Conn., and the maker states that it is constructed of the best quality asbestos, solidly woven and thoroughly impregnated with a special compound to render it water, oil and heat proof. It contains a number of brass wires, these being interwoven with the asbestos. It is produced in standard sizes and thicknesses.

National Foot Scraper.

More or less mud and dirt is carried into the car, soiling the carpets and robes, and to keep these articles clean the National Motor Supply Company, Cleveland, O., has brought out a useful and inexpensive device, termed the National foot scraper. It is secured to the running board by clamping screws, is very compact and neat in appearance and is provided with a suitable edge for removing deposits from the shoes.

Dover Breech Lock Oiler.

The Dover Stamping & Manufacturing Company, Cambridge, Mass., is marketing the Dover wide mouth breech lock oiler, a new design, which makes for convenience in that the spout may be easily and quickly detached and replaced by a rotating movement. This permits of replenishing the supply of fluid without spilling as the opening is ample in size. The oiler is practically a one-piece construction, the bottom being of the best clock spring steel, pressed against the shoulder of the dome, and the seam double turned. The spout and breech are put together in the same manner. No cement, solder or brazing is used in the construction. The oiler is made of the best cold rolled steel, brightly polished, plated and lacquered, and is designed to withstand severe use. It is made in 10 sizes, Nos. 12 to 16, these having capacities ranging from three ounces to one pint.

Glareless Headlight.

Otto Luyties, 546 Fifth avenue, New York City, is marketing the Glareless headlight, which the maker states eliminates the dazzling and blinding rays without affecting the efficiency of the lamp. This is held to be due to the type of front glass utilized, it involving details of optical principles which are said to be very complicated. When viewed from the front the effect is that of an attractively frosted globe having a diffused light and showing a relatively small central bright spot. It is stated that this portion is not blinding because it is seen against an illuminated background.

Kells Tank Cover.

The W. J. Kells Manufacturing Company, Jersey City, N. J., is producing a cover for tanks, although especially designed for Prest-O-Lite gas tanks. It is constructed of spring metal, a one-piece design, and has a diameter slightly less than the tank and clamps over the last named member. One end is rounded while the other is open to permit of inspecting the pressure gauge of the Prest-O-Lite tank. The purpose of the cover is that it can be polished to correspond with the other trimmings.

O'Brien Fore Door Ventilator.

The Joseph F. O'Brien Company, 61 Park Place, New York City, is marketing the O'Brien fore door ventilator, an outside view of which is shown herewith. It is so constructed that it can be adjusted to any thickness of cowl or dash by employing different lengths of machine screws. The amount of air admitted is regulated from the inside by turning an inside projection, and the maker states that the vibration will not affect the adjustment. The exterior of the ventilator is covered with a wire gauze, preventing entrance of rain or dust.

Fairchild Radiator Cap.

The Fairchild Sales Company, 1777 Broadway, New York City, distributor for the Fairchild Ford crank locks and spring radiator caps, is offering a new Fairchild product termed the bayonet lock radiator cap. It is designed for model T Ford radiators and as the principle

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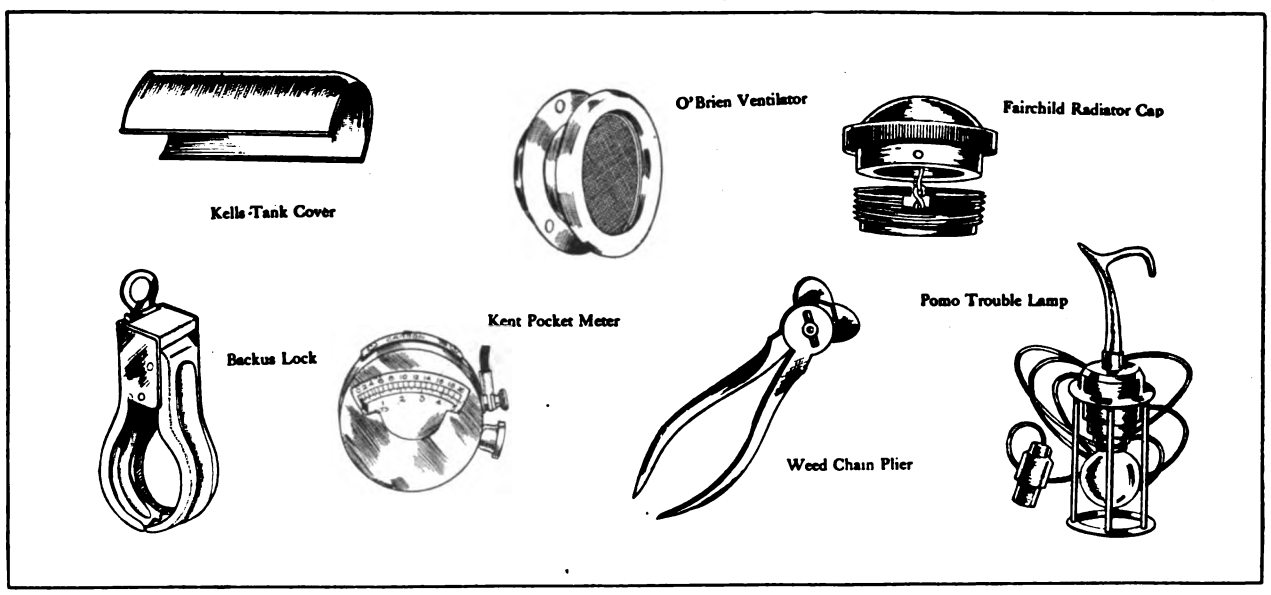
involved is similar to the socket utilized in electric lamp connectors, it is removed and replaced easily by a slight movement. The Fairchild is fitted easily and quickly and includes a new cap, loss of which is prevented by the use of a chain, a feature of the Fairchild design. The maker states that the new cap can be fitted in three minutes. It retails for $1.25.

Kent Pocket Meter.

The Atwater Kent Manufacturing Works, Philadelphia, is marketing the Kent pocket meter, which is an automatic volt-ammeter for ascertaining the condition of dry cells and storage batteries. The instrument may be utilized for testing batteries in connection with automobiles, stationary engines, launches, etc., being calibrated especially for the work. The needle is delicately pivoted and the readings are accurate. One of the qualities of the instrument is that no change is made in the connection to the battery for reading voltage and amperage, as the latter is obtained by simply pressing a button. A flexible lead of ample length is provided with each meter, which is of the dead beat type, insuring accuracy. The Kent comes in a neat hand sewed leather case and is calibrated for both volts and amperes. One of its qualities is the use of a substitute for glass, the maker stating that it is unbreakable.

Backus Lock.

Numerous locking devices have made their appearance on the market, but generally they have been designed to lock a particular component of the car, the clutch, ignition, etc., for example. The Backus, manufactured by the Backus Novelty Company, 512 Water street, Smethport, Penn., differs from these in that it may be employed for a number of purposes. It comprises a pair of movable jaws having an opening of 4.5 inches and a



locking mechanism, also a ratchet arrangement which permits of locking in any desired position. The jaws are provided with rounded teeth which will not tear or injure soft materials, as when securing the robe, for example. The Backus may be utilized for locking the gearshift and emergency brake levers together, the ignition and throttle levers, securing the robe to the radiator cap when it is thrown over the cooler, or to the robe rail and numerous other articles carried in the car. No two sets of locks are made alike and the sets of two and three have the same key combination, two keys to each lock. It sells for $1.

Weed Chain Plier.

The Curreir-Koeth Manufacturing Company, Coudersport, Penn., is producing the Koeth interchangeable tool, to which a large number of heads may be attached to provide for using it as pliers, pinchers or a shearing tool. The automobile kit comprises, in addition to the tool, six heads, including those for obtaining a Weed chain plier as illustrated. This design opens the link easily and for the proper distance, and the maker states that it can be operated easily with one hand. The tool and heads are constructed of tool steel, drop forged, ground and tempered, and it is stated that the heads may be changed as readily as auger bits in a brace.

Pomo Pocket Trouble Lamp.

The G. C. Parker Company, 122 Milk street, Boston, is marketing what is claimed to be the smallest inspection or trouble lamp manufactured. It is equipped with a hook member, making for convenience in service, and the lightness of the design permits of hanging it from the button hole of a coat or the brim of a hat. The lamp is an all-metal construction with the bulb protected by a cage. The bulb is a six-volt, six candlepower tungsten. Ediswan sockets are utilized for the lamp base and the battery plug, and are connected by 10 feet of silk cord. The lamp is finished in nickel and is inexpensive. It retails for $2.

Destroy-O Carbon Remover.

Destroy-O carbon remover is manufactured by the Atlas Supply Company, 3233 West Lake street, Chicago, and comes in 1.5-quart cans. As the name implies it is utilized to remove carbon and other deposits from the cylinders without displacing these members. The fluid is inserted through the spark plug opening and allowed to remain in the cylinders for about 30 minutes, after which it is removed with a grease or oil gun. The motor is then started. The preparation taken from the cylinders may be used over and over again, and the maker states that it will soften the carbon which is carried out in the exhaust. Destroy-O carbon remover is moderately priced and makes for economy in that only a small amount is employed in each cleaning process. The Waite Auto Supply Company, 81 Exchange Place, Providence, R. I., is representative for the maker. The retail price is $1.

A C Titan Spark Plug.

The Champion Ignition Company, Flint, Mich., maker of the Champion spark plugs, has brought out a new design which is stated to be regular equipment on Cole and Cadillac cars. A very large porcelain, easily replaced, is employed, and it is maintained that the dimensions make for durability and efficiency. The centre electrode is screwed into the porcelain and cemented. A special washer is fitted to the top of the porcelain and pressed down with a closed nut to prevent leakage. The bottom of the porcelain has a very wide seat and where it takes its bearing in the shell is fitted with a corrugated aluminum washer. It is stated that the last named member conducts the heat from the porcelain. Both the centre and shell electrodes are substantial, the latter being blade shaped, and have an increased diameter at the point of contact with the shell to draw the heat. A cool plug is claimed for the design of the electrodes, making for more satisfactory operation of the motor at low speeds. It lists at $1.

Breaznell Clips.

J. H. Breaznell, 26 Court street, Brooklyn, N. Y., is marketing the Breaznell clip and terminal connector for batteries and spark plugs. One of the qualities of the clip is that it can be attached to a spark or other terminal without displacing the usual nut. The Breaznell clip is provided with two gripping jaws, which may be expanded and contracted easily. A lock washer construction is included, so that when the spark plug nut, for example, is screwed down, vibration cannot loosen the clip. Provision is also made for retaining the bared end of the wire and clamping it securely, and without the use of solder. The clips are well made, substantial and inexpensive.

E-Z Rim.

Many owners desire to obtain the advantages and convenience of the quick detachable rim, but hesitate to make the change owing to the alterations and expense involved. With some types of rims it is necessary to cut down or build up the felloe and sometimes the spokes must be altered. The E-Z Rim Company, 146 Summer street, Boston, is marketing the E-Z Rim, which presents interesting and practical advantages, in that the maker states that it can be applied to any automobile wheel without alterations and at a moderate cost. As will be noted by the accompanying illustration, the use of split rings, cams, levers, etc., is eliminated in the E-Z, it comprising a removable ring to which lugs are fitted, these retaining it to the rim proper by means of bolts. The

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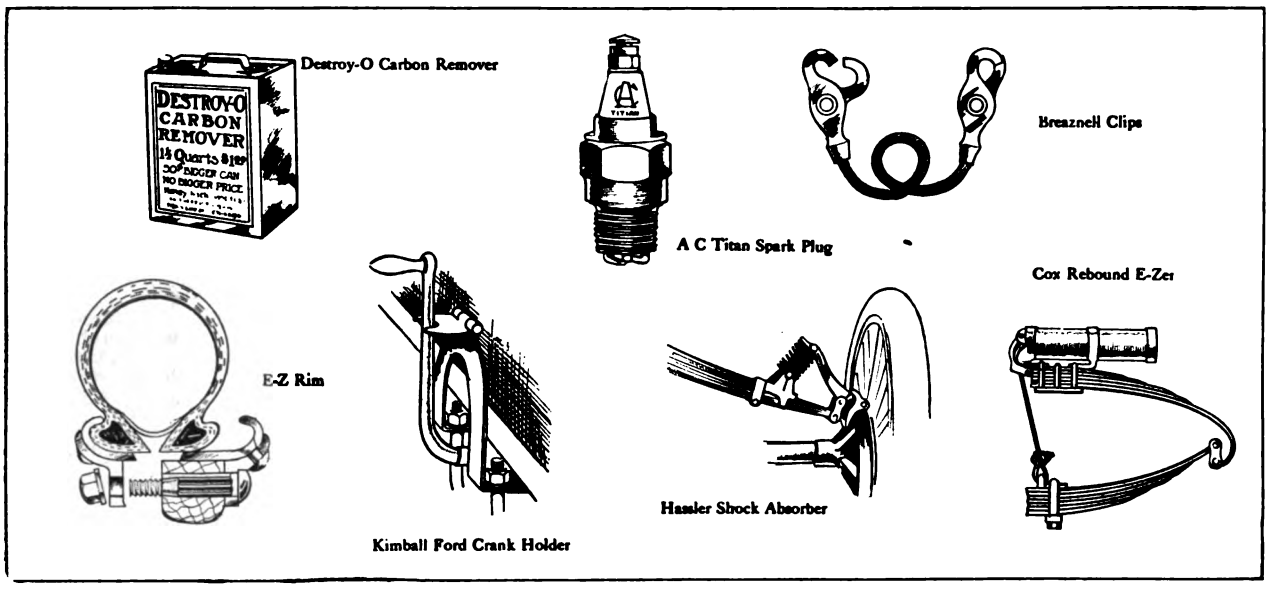


method of retention is similar to that employed with demountable types, six nuts and bolts anchoring the ring to the felloe. One of the qualities of the E-Z is that no tool, other than the brace wrench supplied with each equipment, is necessary to remove and replace a tire. With the E-Z the clincher shoes may be utilized until worn out and replaced by quick detachable types, a universal arrangement. The company manufactures a rim for model T Ford cars which are fitted with clincher rims. This style retails for $15 a set.

Kimball Ford Crank Holder.

To retain and prevent the swinging of the starting crank, the Northern Specialty Company, Crystal Falls, Mich., has brought out a special design for model T Ford cars. It is attached easily as shown, and a hinge member permits of holding the crank in an upright position when not in service. Provision is made for locking the handle, thereby preventing use of the car by others than those intended. An opening is provided in the hinge member for the locking device. The Kimball crank holder sells for $1.50.

Hassler Shock Absorber.

Robert H. Hassler, West 10th and Canal streets, Indianapolis, Ind., has brought out a new type of shock absorber for model T Ford cars, which differs materially from conventional designs. The absorber includes a spiral spring of tempered spring steel which takes up all jolts and jars without hampering the movement of the car spring. The end of the car spring is supported by a lever arrangement and in such manner that when the spiral spring is compressed, the end of the car spring yields downward over a range of 1.25 inches. The rebound or expansion of the vehicle spring is retarded gradually by an extension of the lever member, which engages with the axle at the time of the upward movement. The lever member is held stationary during the movement and by reason of the compression of the spiral spring, holds the leaf or car spring down. The same principle is used for the rear of the machine.

Cox Rebound E-Zer.

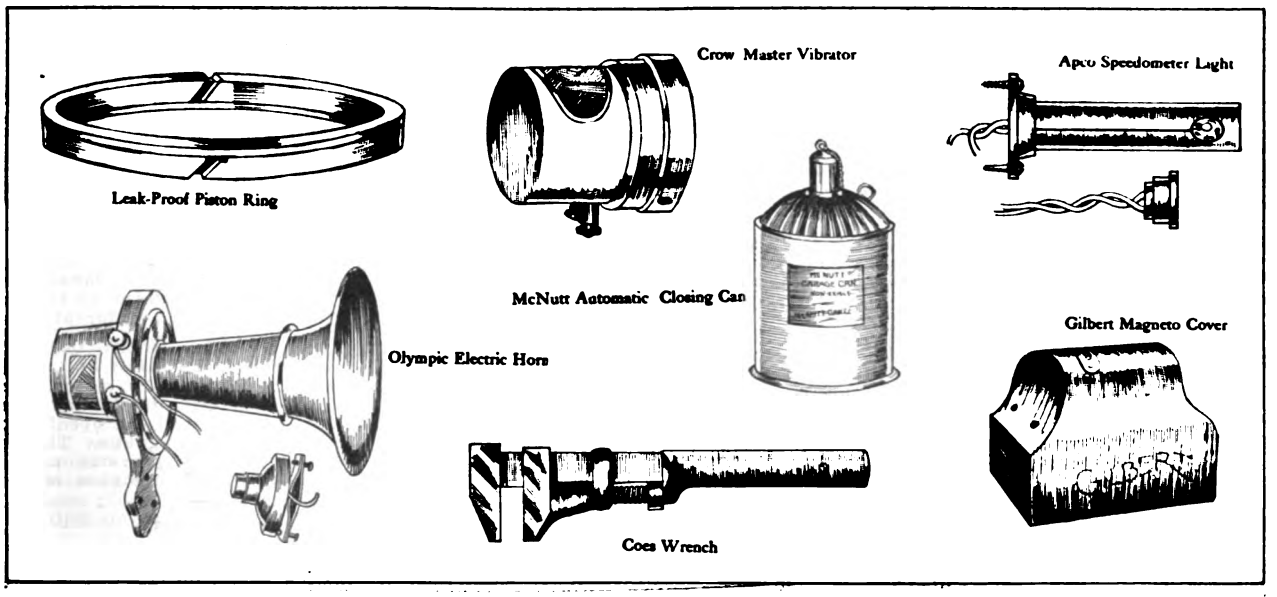
The Cox Brass Manufacturing Company, Albany, N. Y., is manufacturing the Cox Rebound E-Zer, which retards the rapid upward movement of the car springs by means of a friction clamping device and gradually allows the springs to expand to their normal position. The action of the friction clamps is entirely automatic, as they open when the springs are compressed and grip on the rebound. The clamps are fitted with cylinders enclosing compression springs, to which is attached an especially treated woven heavy canvas belt, 1.5 inches wide. This belt is water proof and feeds through the automatic friction clamps, and is fastened on the axle by special clips provided for this purpose. The E-Zer is applicable to all types of springs, and does not affect the resiliency of the car, loaded or empty, as it does not come into action until the rebound occurs.

McNutt Automatic Closing Can.

The McNutt Non-Explosive Can Company, 352 Pearl street, New York City, is manufacturing the McNutt automatic closing can, which is produced in five and 10-gallon types. The containers are equipped with the McNutt patent safety device, which prevents explosions as well as the loss of gasoline. They are constructed of a high grade material and to withstand severe service. The company also markets self-closing fuel cans in capacities ranging from one gallon to five. They are adaptable for private and public garages.

Leak-Proof Piston Ring.

Much of the poor compression existing in motors is due to worn and consequently poor fitting piston rings. This results in lost power and the lubricant works up into the combustion chamber, creating carbon as well as causing ignition trouble through dirty or fouled spark plugs. These troubles are overcome in the Leak-Proof



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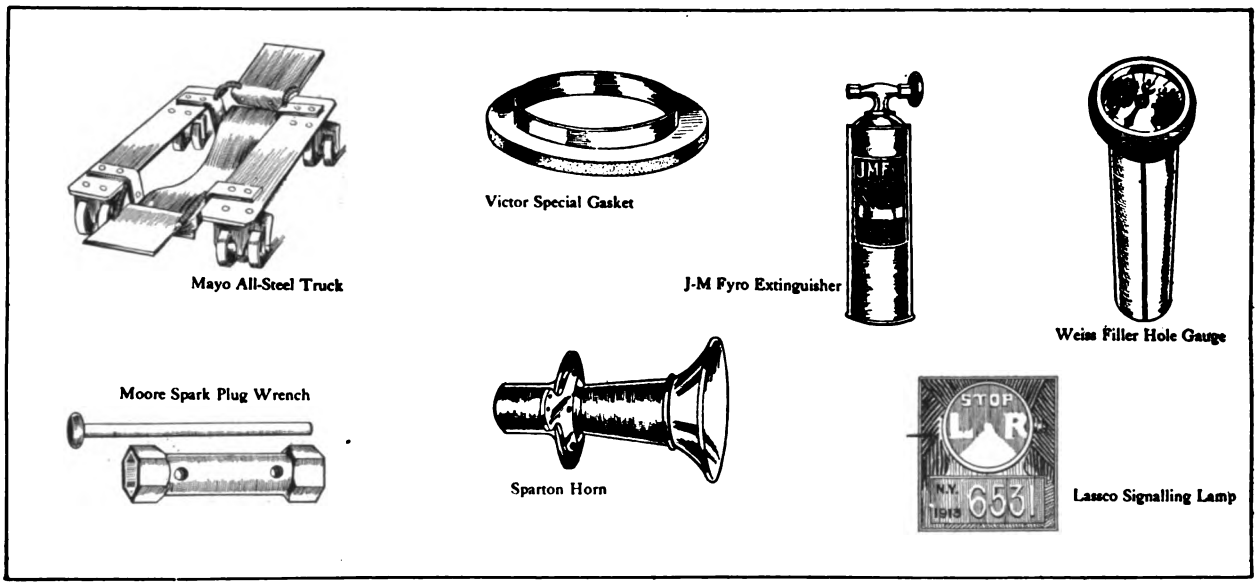
piston rings, so named because their mechanical construction is such that the gases cannot pass between the slots. There are two of these members, but they may be said to be practically sealed in that the mixture cannot escape on the compression stroke. The tension of the ring is even throughout, preventing wear of the cylinder walls at any one place as well as scoring. The rings are constructed in sizes to meet all requirements and it is not necessary to make any alterations to the piston. The Leak-Proof rings are marketed by the Motor Parts Company, 185-7 Columbus avenue, Boston, and 818 North Broad street, Philadelphia.

Crowe Master Vibrator.

The Lisle Manufacturing Company, 123 Main street, Clarinda, Ia., is marketing the Crowe master vibrator, which differs from those of usual construction in that it is non-adjustable. It is designed for model T Ford automobiles and is noticeable for its compactness and neat design, being but 2.5 inches in diameter. The company points out that the non-adjustable feature is important in that the vibrator always delivers the same hot spark and that the unit does not require any attention whatsoever after installation. Although designed to be utilized in connection with the flywheel magneto it can be operated as successfully when the source of current supply is dry cells or a storage battery. The Crowe vibrator is constructed of high grade material and the workmanship is first class in every respect.

Apco Electric Speedometer Light.

The Auto Parts Company, Providence, R. I., is marketing the Apco electric speedometer light, an inexpensive lamp which comes complete with all fittings. The light proper comprises a 3.5-inch dash bracket with a silver plated reflector and a 2.5 candlepower tungsten bulb. The bracket is mounted over the speedometer by two screws, and illuminates the dial when the circuit is closed by a switch. The latter is a pearl faced push button which is located on the heel board or in any other convenient place. A quality of the outfit is that the lamp may be maintained about 50 hours by a single dry cell. The latter is installed under the seat or in the tool box. Eight feet of double cord wire is supplied with each equipment, and complete directions accompany each light.



Olympic Electric Horn.

One of the latest types of moderately priced high grade electric horns is the Olympic, for which the Kolb Sales Company, 1790 Broadway, New York City, is distributor. It is of the vibrator type, but it is stated to be constructed on an entirely new principle, one eliminating all sparking and subsequent burning of the contact points. It is also held that the design is very simple and that adjustments are not required even after considerable service. Economy of current is emphasized, less than 1.25 amperes being utilized to obtain maximum efficiency. The sound is far reaching, but is free from harshness or discord. The Olympic is constructed in two styles, black enamel with nickel snare, or a metallic, brass or nickel finish. A suitable length of double cord wire and a high grade push button accompany each horn.

Coes Screw Wrench.

The Coes screw wrench, made by the Coes Wrench Company, Worcester, Mass., is a valuable addition to the tool equipment of both the owner and the garage. It is designed to withstand extra heavy service and being all metal is not subject to broken handles, etc. The bar is of steel, fully hardened and cold swaged, while the jaw is made extra heavy, of semi-steel and hardened. The screw is steel, a one-piece construction, not a screw plus a moving dowel and a hidden spring, and is provided with a polished and hardened ball race. The handle is a semi-steel casting, internally supported and retained by cross riveting, and the extension of the bar through the handle is also riveted.

Gilbert Magneto Cover.

It is important that the magneto be protected against foreign elements, especially road dust. The latter acts as an abrasive and unless removed subjects the working parts to undue wear. The Gilbert Manufacturing Company, New Haven, produces a variety of designs in magneto covers and carries in stock members to fit all standard types of magnetos. The covers are made in two types, a heavy sole and a patent leather. They are also made for motorcycle magnetos.

Mayo All-Steel Trucks.

The all-steel trucks produced by the Mayo Manufacturing Company, Chicago, are of the double wheel caster truss design, having long bearings and specially adapted to the garage or repair shop. The runway plates are self-elevating, are always clear of the floor and constitute a lock when depressed by the tire. But one model is made and it is held to be capable of carrying any size car. The trucks come in pairs, finished in black enamel.

J-M Fyro Extinguisher.

The H. W. Johns-Manville Company, Madison avenue and 41st street, New York City, has brought out a new chemical fire extinguisher of the one-quart type, known as the J-M Fyro. Because of its lightness and compactness it is specially adapted to be carried in the automobile or stored in the garage. It differs from the usual extinguisher in that compressed air is employed for discharging the extinguishing fluid. The latter is a liquid gas, five times as heavy as air, and on account of its weight quickly envelopes the flames, displacing the oxygen. When thrown on a fire it instantly volatilizes, forming a dense combustion and arresting gas in which flames cannot live. It is claimed that one quart of the J-M Fyro liquid will expand to 4000 cubic feet of fire annihilating gas and that one quart of ordinary extinguishing fluid will make only 1000 feet. It is held to be especially effective on naphtha, oil, varnish, calcium chloride and electrical fires, as well as gasoline. It is non-corrosive and will not injure metals, fabrics or furnishings. A feature of Fyro is that it does not deteriorate and is not affected by differing temperatures.

Victor Exhaust and Intake Gaskets.

The Victor Manufacturing & Gasket Company, Troy and 21st streets, Chicago, is marketing a special gasket for intake and exhaust pipes. It is of the centre flange type, composed of asbestos and copper and is designed to be compressed between the manifold and cylinder in the conventional manner. Not only does the flange prevent entrance of auxiliary air, but the escape of the exhaust gases as well. They are made in different sizes and diameters.

Weiss Filler Hole Gauge.

A filler hole gauge especially designed for motorcycles has been brought out by the Weiss Manufacturing Company, Torrington, Conn. It is fitted into the opening of the fuel tank, acting as a filler cap and gauge. The device is automatic in its action and is properly vented. The gauge is constructed to fit standard makes of motorcycles and comes nickel plated.

Lassco Rear Signalling Lamp.

The Lassco rear lamp and signalling device is manufactured by the Auto Safety Signal Lamp Company, 246 North street, Philadelphia. It is circular, about seven inches in diameter, and is divided into four sections, each

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of which contains a small tungsten bulb. These may be operated together or independently of each other and the control member is a four-button switch located on the steering column. The first section is the conventional red semaphore, another shows the letter R and the third the letter L, for right and left turns of the vehicle. The fourth section presents the word "Stop." The lower part of the lamp illuminates the license tag with a white light.

Moore Spark Plug Wrench.

J. C. Moore & Co., Racine, Wis., is manufacturing a spark plug wrench which comes in two parts, the wrench proper and a handle. The former is a double headed member, fitting .5-inch standard and .875-inch A. L. A. M. spark plugs. It is constructed of high grade material and by it plugs may be removed when an ordinary wrench could not be utilized.

Wolf Mixer.

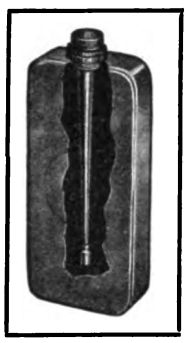
The present grade of gasoline marketed offers difficulty in vaporization and with the carburetor so adjusted as to make easy starting, the mixture is apt to be too rich at higher motor speeds. This is due to the unvolatilized fuel in the form of small globules being carried from the vaporizer to the cylinders. Not only is the gasoline wasted, but the richness of the mixture tends to create soot in the motor. To obtain efficiency from the engine the mixture should be uniform at all speeds. The Approved Auto Specialties Company, 1731 Broadway, New York City, is marketing the Wolf mixer, which is inserted in the intake manifold between the carburetor and the cylinders, and which is designed to break up the globules of fuel. This is secured through the construction of the device, which is free from screens or clogging members. The raw fluid is broken up and converted into a mist and mingled with the air by a whirling motion, created by the design of the mixer. This results in the utilization of less fuel, making for economy as well as maximum efficiency. The Wolf mixer is easily installed, being inserted in the intake pipe and without fittings of any kind. It is retained in position by a flange and will endure for an indefinite period of time.

Sparton Electric Horn.

The Sparks-Withington Company, Jackson, Mich., is making its Sparton electric horn in two models and each may be operated by any six or eight-volt battery, dry cells or a storage. A clear, penetrating signal is given by the Sparton, which comes complete with the usual length of flexible cord and push button. The horns are finished in polished brass, white nickel, black and nickel, black and brass, or all black, to suit the purchaser.

DOVER SPECIALTIES.

The Dover Stamping & Manufacturing Company, Cambridge, Mass., is marketing a number of useful and practical specialties which make for economy and convenience in the upkeep of the motor car. Among these is the Dover compact oiler, shown herewith, which is very handy for carrying in the tool box, etc. It is 6.5 inches long, three wide and 1.125 thick, and has a four-inch reversible spout.



Dover Oiler.

The Saval funnel will appeal to motorists who experience difficulty in replenishing the supply of lubricant to the motor, as the Dover is equipped with an automatic shut-off attachment, which enables the user to incline the measure and control the flow of lubricant. The spout has a brass ball valve, ground to an oil tight fit, and it is controlled by an easily operated and convenient plunger member.

The Dover soap economizer is a sturdily constructed pail with bail, and by the utilization of a perforated disc or pan, not only is waste of soap prevented, but the sponge is kept clean. The pail is filled with water and utilized in the same manner as an ordinary member. It is made of high grade material.

BRAKE LINING DATA.

Standard Woven Fabric Company, Maker of Multibestos Material, Issuing Free Booklet on Brake Linings.

The Standard Woven Fabric Company, Framingham, Mass., maker of the well known Multibestos brake lining, is issuing free a booklet on motor car brakes, which contains information of decided value to the repairman and garageman. The data are not merely a collection of statements, but replete with practical information on friction materials, and included therein is a series of tests showing how brake lining is affected in various kinds of service. The brochure is well illustrated and should be in the possession of all persons identified with the automobile industry. A copy will be mailed free of charge by filling out the coupon in the advertisement of the Standard Woven Fabric Company, which appears elsewhere in this issue.

LIBERAL DEALERS' POLICY.

Cataract Rubber Company to Protect Representatives and Makes Special Interesting Offer to Trade.

The Cataract Rubber Company, 66 Hereford street, Boston, with factory at Wooster, O., has prepared for an additional output of 50,000 tires during 1914. It also has decided to nationalize its product, which heretofore has been placed in New England with Boston as the distributing centre. Two years of conservative work proved the success of the company's policy; that of building a strictly high grade tire, in which the best material and workmanship was incorporated.

The Cataract Rubber Company believes that the jobber and dealer today are not handling standard tires on a marginal profit commensurate with the time, money and labor expended in representing a product for which there is such an unlimited demand. The company has, consequently, adopted a policy toward the dealer similar to that used by other successful manufacturers of standard commodities; one that will insure a splendid margin of profit to the dealer. The concern has decided that when a dealer or jobber builds up a certain percentage of total business in his territory in a year or two it is the duty of the company to back him up in years of success, and that he is entitled to the extreme margin of profit, the result of a protected price situation in the territory in which he is operating.

The Cataract Rubber Company is making a special offer, which includes a large discount on the list price, and the dealer or jobber handling its product is to receive every co-operation and price schedules are to be absolutely maintained.

OWNERS AUTO LIST COMPANY.

Supplies Certified Copies of Official Lists of Owners, Dealers, Garages, Repair Shops, Jobbers, Etc.

The Owners Auto List Company, Albany, N. Y., is prepared to supply the trade with certified copies of the official list of automobile owners, motorcycle owners, chauffeurs, dealers, garages, repair shops, dealers in tires and repairers, manufacturers, jobbers, etc., in the several states of the Union. The company lays great emphasis on the correctness of these lists, as well as their being up to date. A monthly service is also obtainable at a slight cost. The company will supply complete data upon request.

HEINZE MODEL T FORD COIL.

The Heinze Electric Company, Lowell, Mass., is manufacturing a special type of four-unit vibrating coil designed for service with the model T Ford flywheel generator. Owing to the special windings, vibrator and general construction, the maker guarantees its efficiency when used with the Ford ignition system. The vibrator is rapid and positive in its action the high efficiency of the coil is emphasized. The secondaries are wound in eight sections with one continuous wire, on a patented wood spool with double silk insulated wire. This permits, the maker states, of utilizing a greater number of turns than ordinarily. The method of winding also is held to eliminate the possibility of burning out or breaking down.

Heinze Four-Unit Ford Coil.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. DECEMBER, 1913. NO. 8.

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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

BUSINESS CONDITIONS.

The possibilities for the sale of automobiles, accessories, supplies and fittings are influenced by industrial conditions generally, just as with any other business. The money market is high, and the buying public is governed very largely in its expenditures by its ability to secure ready money. The situation applies to every line of merchandising and automobiles are very rapidly being placed in the merchandise list.

Some dealers, and some manufacturers, undoubtedly have failed to appreciate the changing conditions within the industry itself. Those who have taken advantage of the opportunity to investigate the matter will have little difficulty in arriving at the conviction that the automobile business as a whole is today on a much better basis than at any other time during its history.

The motor vehicle has become an economic necessity. It is no longer a toy. So far as the pleasure car is concerned, the element of luxury still remains, but the average business man who considers the purchase of a machine today, studies the proposition from a business viewpoint. The manufacturer and dealer are being forced to adopt the same position. This is particularly fortunate for the industry, since it makes for permanence and stability.

The men within the industry who have been able to readjust their business so as to meet the changed conditions are not experiencing any misgivings as to the immediate prospects for sales. It is not true that the dealers in the large centres of the country have helped to create the impression that times are hard. Most of them have been too busy with optimistic plans for the future to aid in any propaganda of this character. It is because of the good business sense of the men now engaged in the handling of cars and accessories that the stability of the automobile industry is doubly assured.

THE SALESMAN'S OPPORTUNITY.

Three years ago, the census figures show, there were 90,000,000 people in the United States. Probably, this total now exceeds 100,000,000. A year ago there were practically 1,000,000 automobiles registered in the several states. The figures of the Automobile Chamber of Commerce show that about 450,000 cars have been produced during the last 12 months. Many of these have gone abroad and some of the old cars have been taken out of service, but it seems safe to assume that there are in use today in America about 1,250,000 automobiles.

It would prove of interest to learn the exact percentage of people whose incomes are such as to permit them to own a car, who have as yet to purchase their first machine. A careful study of the local field should enable the dealer to discover abundant opportunities for business. It is possible to secure reliable data that will give the practical salesman sufficient information to work his territory in a systematic manner.

NOT HOW MANY? BUT HOW MUCH?

The dealer in New York City who recently inaugurated a system by which he was able to determine the actual value of his salesmen, in dollars and cents, was surprised to learn that the man who had been disposing of the most cars had cost the house the most money. That is to say: Salesmen who had fewer sales to their credit had made a satisfactory profit on each, while this man had been so intent upon making a big showing that used cars and discounts had figured so largely in the transactions as to net a substantial loss to the concern at the end of a given period.

Therein lies the importance of a system that will detect the leaks and afford an opportunity to prevent them. It is not the number of cars that are sold, but the margin of profit on each sale that overcomes the handicap imposed by overhead expenses and makes the difference between success and failure.

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FOURTEENTH NEW YORK AUTOMOBILE SHOW.

SEVENTY makers of gasoline cars, six of electrics, five of cyclecars, 12 of motorcycles and 253 of accessories, supplies, parts and fittings will make display at the 14th annual national automobile show in the Grand Central Palace, New York City, Jan. 3-10. Statistics indicate that this will be the largest assemblage of motor cars ever seen under one roof in the Metropolis.

The event is to be held under the auspices of the Automobile Chamber of Commerce, and the management of Samuel A. Miles, who is well known throughout the industry, having been manager of all the automobile shows held in Chicago, although this is his first appearance in this capacity in connection with the New York display. The show committee is composed of Col. George L. Pope, H. C. Smith and Wilford C. Leland.

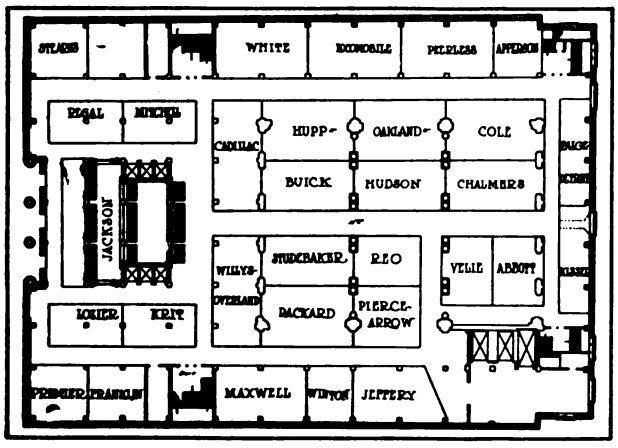
Samuel A. Miles, General Manager, New York Show.

Four floors will be devoted to the exhibition. Gasoline pleasure cars only will be staged on the main floor, while the second will house gasoline and electric cars. Cyclecars will be on the third floor and motorcycles on the fourth. On these the gasoline machines will occupy the wall spaces only, the remainder being given over to the exhibit of accessories. The display will be devoted solely to pleasure vehicles, and will be one week only.

The following list of exhibitors has been classified, alphabetically and according to the principal products shown by each, so far as it has been possible to learn these details in advance:

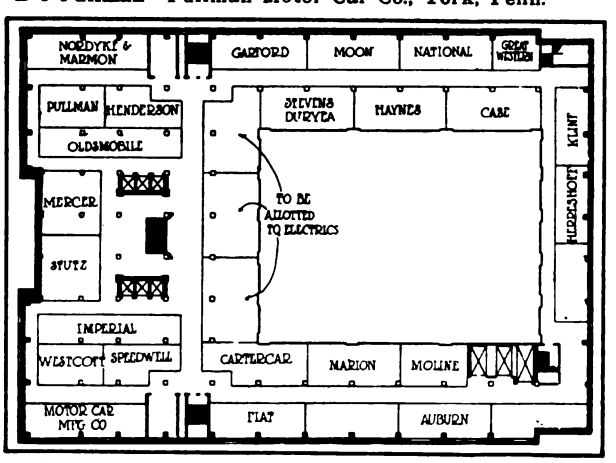
GASOLINE PLEASURE CARS.

A 23 Abbott-Detroit—Abbott Motor Co., Detroit, Mich.
D 14 Allen—Allen Motor Co., Fostoria, O.
A 2 Apperson—Apperson Bros. Auto Co., Kokomo, Ind.
B 17 Auburn—Auburn Auto Co., Auburn, Ind.
A 15 Buick—Buick Motor Co., Flint, Mich.
A 11 Cadillac—Cadillac Motor Car Co., Detroit, Mich.
D 13 Cameron—Cameron Mfg. Co., West Haven, Conn.
B 28 Cartercar—Cartercar Co., Pontiac, Mich.
B 22 Case—J. I. Case T. M. Co., Racine, Wis.
A 17 Chalmers—Chalmers Motor Co., Detroit, Mich.
C 5, 6 Chandler—Chandler Motor Car Co., Cleveland, O.
A 14 Cole—Cole Motor Car Co., Indianapolis, Ind.
C 10 Davis—Geo. W. Davis Motor Car Co., Richmond, Ind.
C 21 Empire—Empire Automobile Co., Indianapolis, Ind.
B 15 Fiat—Fiat Automobile Co., Poughkeepsie, N. Y.
A 29 Franklin—H. H. Franklin Mfg. Co., Syracuse, N. Y.
B 2 Garford-Knight—Garford Co., Elyria, O.
B 5 Great Western—Great Western Auto Co., Peru, Ind.
C 11 Havers—Havers Motor Car Co., Port Huron, Mich.
B 23 Haynes—Haynes Automobile Co., Kokomo, Ind.
B 7 Henderson—Henderson Motor Car Co., Indianapolis, Ind.
B 20 Herreshoff—Herreshoff Motor Co., Detroit, Mich.
A 16 Hudson—Hudson Motor Car Co., Detroit, Mich.
A 12 Hupmobile—Hupp Motor Car Co., Detroit, Mich.
B 11 Imperial—Imperial Automobile Co., Jackson, Mich.
A 18 Jackson—Jackson Automobile Co., Jackson, Mich.
A 32 Jeffery—Thos. B. Jeffery Co., Kenosha, Wis.



Main Floor, Section A, Gasoline Cars Only.

C 18 Keeton—Keeton Motor Car Co., Detroit, Mich.
C 2 King—King Motor Car Co., Detroit, Mich.
A 8 KisselKar—Kissel Motor Car Co., Hartford, Wis.
B 21 Kline-Kar—Kline Motor Car Corp., Richmond, Va.
A 25 K-R-I-T—K-R-I-T Motor Car Co., Detroit, Mich.
A 4 Locomobile—Locomobile Co. of America, Bridgeport, Conn.
A 24 Lozier—Lozier Motor Co., Detroit, Mich.
B 29 Marion—Marion Motor Car Co., Indianapolis, Ind.
B 1 Marmon—Nordyke & Marmon Co., Indianapolis, Ind.
A 30 Maxwell—Maxwell Motor Co., Detroit, Mich.
C 8 McIntyre—W. H. McIntyre Co., Auburn, Ind.
B 9 Mercer—Mercer Automobile Co., Trenton, N. J.
C 4 Metz—Metz Co., Waltham, Mass.
A 10 Mitchell—Mitchell-Lewis Motor Co., Racine, Wis.
B 30 Moline-Knight—Moline Automobile Co., East Moline, Ill.
C 14 Mondex-Magic—Aristos Co., New York, N. Y.
B 3 Moon—Moon Motor Car Co., St. Louis, Mo.
B 4 National—National Motor Vehicle Co., Indianapolis, Ind.
A 13 Oakland—Oakland Motor Car Co., Pontiac, Mich.
D 2 Ohio—Crescent Motor Co., Cincinnati, O.
B 8 Oldsmobile—Olds Motor Works, Lansing, Mich.
A 19 Overland—Willys-Overland Co., Toledo, O.
A 26 Packard—Packard Motor Car Co., Detroit, Mich.
A 7 Paige—Paige-Detroit Motor Car Co., Detroit, Mich.
C 20 Palmer-Singer—Palmer & Singer Mfg. Co., Long Island City, N. Y.
C 13 Partin-Palmer—Partin Mfg. Co., Chicago, Ill.
B 14 Pathfinder—Motor Car Mfg. Co., Indianapolis, Ind.
A 5 Peerless—Peerless Motor Car Co., Cleveland, O.
A 27 Pierce-Arrow—Pierce-Arrow Motor Car Co., Buffalo, N. Y.
A 28 Premier—Premier Motor Mfg. Co., Indianapolis, Ind.
B 6 Pullman—Pullman Motor Car Co., York, Penn.



Second Floor, Section B, Gasoline and Electric Cars.

A 9 Regal—Regal Motor Car Co., Detroit, Mich.
A 21 Reo—Reo Motor Car Co., Lansing, Mich.
B 13 Speedwell—Speedwell Motor Car Co., Dayton, O.
A 1 Stearns-Knight—F. B. Stearns Co., Cleveland, O.

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B 24 Stevens-Duryea—Stevens-Duryea Co., Chicopee Falls, Mass.
A 20 Studebaker—Studebaker Corp., Detroit, Mich.
B 10 Stutz—Stutz Motor Car Co., Indianapolis, Ind.
C 22 Vaughan—Vaughan Car Co., Kingston, N. Y.
A 22 Velie—Velie Motor Vehicle Co., Moline, Ill.
B 12 Westcott—Westcott Motor Car Co., Richmond, Ind.
A 3 White—White Co., Cleveland, O.
A 31 Winton—Winton Motor Carriage Co., Cleveland, O.

ELECTRIC PLEASURE CARS.

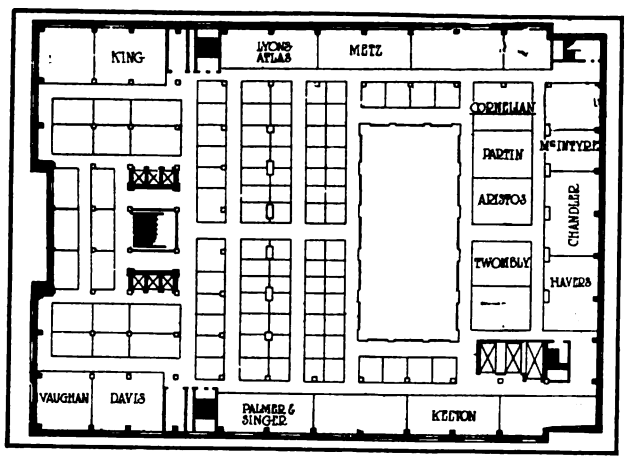
B 27 Baker—Baker Motor Vehicle Co., Cleveland, O.
B 26a Detroit—Anderson Electric Car Co., Detroit, Mich.
B 27a Ohio—Ohio Electric Car Co., Toledo, O.
B 25a Rauch & Lang—Rauch & Lang Carriage Co., Cleveland, O.
B 25 Ward—Ward Motor Vehicle Co., New York City.
B 26 Waverley—Waverley Co., Indianapolis, Ind.

CYCLECARS.

C 7 Ajax—Briscoe Freres, New York, N. Y.
C 12 Cornelian—Cornelian Co., Kalamazoo, Mich.
C 8 Imp—Imp Cyclecar Co., Auburn, Ind.
C 1 Lomax—Lomax Motor Car Co., Lomax, Ill.
C 15 Twombley—Twombley Car Corp., New York, N. Y.

MOTORCYCLES.

D 151-153 Dayton—Davis Sewing Mch. Co., Dayton, O.
D 165-168 Emblem—Emblem Mfg. Co., Angola, N. Y.
D 154-159 Excelsior—Excelsior Motor Mfg. & Sup. Co. Chicago, Ill.
D 132-136 Flying Merkel—Miami Cycle and Manufacturing Company, Middletown, O.



Third Floor, Section C, Cars, Cyclecars and Accessories—Motorcycles and Other Cars and Accessories on Fourth Floor.

D 160-164 Harley-Davidson—Harley Davidson Motor Co., Milwaukee, Wis.
D 190-192 Henderson—Henderson Motorcycle Co., Detroit, Mich.
D 124-131 Indian—Hendee Mfg. Co., Springfield, Mass.
D 193-195 Pope—Pope Mfg. Co., Hartford, Conn.
D 148½-150 R-S—Reading-Standard Co., Reading, Penn.
D 171-172 Schickel—Schickel Motor Co., Stamford, Conn.
D 187-189 Thor—Aurora Auto. Mch. Co., Chicago, Ill.
D 183-186 Yale—Consolidated Mfg. Co., Toledo, O.

ACCESSORIES.

Accessory Jobbers.

D 66a—W. Smalley Daniels, Detroit, Mich.
D 31—Chas. E. Miller, New York, N. Y.
D 209—Ralph Waldt, New York, N. Y.

Axles, Transmissions, Etc.

C 66—Brown-Lipe-Chapin Co., Syracuse, N. Y.
D 9a, 9b—Thos. Prosser & Son, New York, N. Y.
D 85—Torbensen Gear & Axle Co., Newark, N. J.
C 51—Warner Gear Co., Muncie, Ind.

Ball and Roller Bearings.

D 34a—Bock Bearing Co., Toledo, O.
D 113, 115—Marburg Bros., New York, N. Y.
D 65, 66—Rhineland Machine Works Co., New York, N. Y.

Batteries.

C 96, 97—Edison Storage Battery Co., West Orange, N. J.
C 50—Electric Storage Battery Co., Philadelphia, Penn.
D 84—Philadelphia Storage Battery Co., Philadelphia, Penn.
C 110—Vesta Accumulator Co., Chicago, Ill.
C 75, 77—Willard Storage Battery Co., Cleveland, O.

Bodies.

D 196, 197, 198—Edward G. Budd Mfg. Co., Philadelphia, Penn.
C 27—Hayes Mfg. Co., Detroit, Mich.
C 112—Springfield Metal Body Co., Springfield, Mass.

Boxes, Metal.

C 51—Globe Machine & Stamping Co., Cleveland, O.
C 107—Sparks, Withington Co., Jackson, Mich.

Brakes and Brake Lining.

D 105a—Asbestos & Rubber Works of America, Trenton, N. J.
D 49, 50—H. W. Johns-Manville Co., New York, N. Y.
C 55, 50—Royal Equipment Co., Bridgeport, Conn.
D 175—Standard Woven Fabric Co., Framingham, Mass.
D 70, 71, 72—Thermoid Rubber Co., Trenton, N. J.

Bumpers.

D 180—Essex Rubber Co., Trenton, N. J.
C 102, 108—J. H. Sager Co., Rochester, N. Y.

Carbon Removers.

D 55, 56, 57—Cox Brass Mfg. Co., Albany, N. Y.
D 24a—G. B. Sales Corp., New York, N. Y.

Carburetors.

C 89—Breeze Carburetor Co., Newark, N. J.
C 59—Byrne, Kingston Co., Kokomo, Ind.
D 69—Eiker Carburetor Co., New York, N. Y.
C 98, 99—Findeisen & Kropf Mfg. Co., Chicago, Ill.
D 121—Schoen-Jackson Co., Media, Penn.
C 64—Stromberg Motor Devices Co., Chicago, Ill.
C 41—Wheeler & Schebler, Indianapolis, Ind.

Castings, Etc.

C 78, 79—American Bronze Co., Berwyn, Penn.
C 43—Wm. Cramp & Sons Sh. & Eng. Bldg. Co., Philadelphia, Penn.
C 92—Doehler Die Casting Co., Brooklyn, N. Y.
D8, 8a—H. H. Franklin Mfg. Co., Syracuse, N. Y.
D 43—Peter A. Frasse & Co., New York, N. Y.
C 52—Light Mfg. & Fdy. Co., Pottstown, Penn.
C 80—Manufacturers Fdy. Co., Waterbury, Conn.
D 121—National Lead Co., New York, N. Y.
C 53—National Tube Co., Pittsburg, Penn.

Concealed Hinges.

D 39—Soss Mfg. Co., Brooklyn, N. Y.

Chains.

D 111—Herbert F. L. Funke, New York, N. Y.
C 111—Link-Belt Co., Philadelphia, Penn.

Fire Extinguishers.

D 54—David Kahnweiler's Sons, New York, N. Y.
D 61—Pyrene Mfg. Co., New York, N. Y

Gasoline Gauges.

D 49—Schaefer Sales Corp., Detroit, Mich.

Gear Shifters.

D 11—Gray Pneumatic Gear Shift Co., New York, N. Y.

Horns and Signalling Devices.

D 29, 30—Automobile Supply Mfg. Co., Brooklyn, N. Y.
C 69, 71—Dean Electric Co., Elyria, O.
D 36a—Fitzgerald Mfg. Co., Torrington, Conn.
C 44—Gabriel Horn Mfg. Co., Cleveland, O.
C 115—H. W. Johns-Manville Co., New York, N. Y.
D 112—Nonpareil Horn Mfg. Co., New York, N. Y.
C 90—Randall-Faichney Co., Boston, Mass.
D 119—Sireno Co., New York, N. Y.

Ignition Devices.

C 87—Atwater Kent Mfg. Works, Philadelphia, Penn.
D 177—Electric Spark Appliance Co., New York, N. Y.
C 108—Heinze Electric Co., Lowell, Mass.
D 200—Herz & Co., New York, N. Y.
D 143—Holtzer-Cabot Co., Brookline, Mass.
D 207—K-W Ignition Co., Cleveland, O.
D 113, 114, 115—Marburg Bros., New York, N. Y.
C 101—Motsinger Devices Co., Lafayette, Ind.
C 54—National Coil Co., Lansing, Mich.
D 68—New York Coil Co., New York, N. Y.
C 36—Remy Electric Co., Anderson, Ind.
C 91—Simms Magneto Co., New York, N. Y.
C 60, 73—Splitdorf Electrical Co., Newark, N. J.
D 142—Western Electric Co., New York, N. Y.

Jacks.

C 49, 50—Hartford Suspension Co., Jersey City, N. J.
C 74—Oliver Mfg. Co., Chicago, Ill.

Lamps.

D 174—B & L Auto Lamp Co., New York, N. Y.
C 46—Badger Brass Mfg. Co., Kenosha, Wis.
C 116—C. Cowles & Co., New Haven, Conn.
C 51—Edmunds & Jones Mfg. Co., Detroit, Mich.
D 206—Hawthorne Mfg. Co., Bridgeport, Conn.
D 26—Reynolds Browne Co., Chicago, Ill.
D 25—Roffy-Grace Corp., New York, N. Y.
D 19—Rushmore Dynamo Works, Plainfield, N. J.

License Brackets.

D 37—Perkins-Campbell Co., Chicago, Ill.
C 109—Rose Mfg. Co., Philadelphia, Penn.

Lighting Systems.

C 94, 95—Apple Electric Co., Dayton, O.
C 104, 105—Detroit Electric Appliance Co., Detroit, Mich.
C 68—Dyneto Electric Co., Syracuse, N. Y.
D 86—Electric Auto-Lite Co., Toledo, O.
C 26, 28—Gray & Davis, Boston, Mass.
C 49, 50—Hartford Suspension Co., Jersey City, N. J.
D 143—Holtzer-Cabot Co., Brookline, Mass.
D 106a—Kemco Electric Mfg. Co., Cleveland, O.

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D 39a—North East Electric Co., Rochester, N. Y.
C 23, 25—U. S. Lighting & Heating Co., New York, N. Y.
D 28—Ward Leonard Electric Co., Bronxville, N. Y.
D 18—Westinghouse Electric & Mfg. Co., East Pittsburg, Penn.

Lubricants.

C 58—Adam Cook's Sons, New York, N. Y.
C 38—Jos. Dixon Crucible Co., Jersey City, N. J.
C 88—A. W. Harris Oil Co., Providence, R. I.
C 85—Geo. A. Haws, New York, N. Y.
D 47—Indian Refining Co., New York, N. Y.
C 114—International Acheson Graphite Co., Niagara Falls, N. Y.
C 45—New York & New Jersey Lubricant Co., New York, N. Y.
D 103—Platt & Washburn Refining Co., New York, N. Y.
D 88, 90—L. Sonneborn Sons, New York, N. Y.
C 37—Vacuum Oil Co., Rochester, N. Y.
C 63—White & Bagley Co., Worcester, Mass.

Lubricators, Grease Guns, Etc.

D 27—Daim Oil Cushion Spring Insert Co., Chicago, Ill.
D 123—Detroit Lubricator Co., Detroit, Mich.
D 31a—Frazer Lubricator Co., Chicago, Ill.
C 90—Randall-Faichney Co., Boston, Mass.
D 95—S. P. Townsend & Co., Orange, N. J.
D 34—Universal Lubricating Co., Cleveland, O.

Machinery and Machine Tools.

D 90—Baush Machine Tool Co., Springfield, Mass.
D 142a—Houpert Machine Co., New York, N. Y.
D 33a—Universal Machine Co., Bowling Green, O.
D 10—Westinghouse Machine Co., New York, N. Y.

Motometers.

D 77—Motometer Co., New York, N. Y.

Motors.

D 84—Buda Co., Harvey, Ill.
D 214—Model Gas Engine Works, Peru, Ind.
D 201—F. W. Spacke Mch. Co., Indianapolis, Ind.

Motor Starters.

C 94, 95—Apple Electric Co., Dayton, O.
D 120—Gemmer-Detroit Starter Co., Detroit, Mich.
C 26, 28—Gray & Davis, Boston, Mass.
C 49, 50—Hartford Suspension Co., Jersey City, N. J.
D 143—Holtzer-Cabot Co., Brookline, Mass.
D 88—Ignition Starter Co., Detroit, Mich.
D 33—Jones Electric Starter Co., Chicago, Ill.
D 30a—North East Electric Co., Rochester, N. Y.
D 7a, 7b—Thurber Rotary Starter Co., Detroit, Mich.
C 23, 25—U. S. Light & Heating Co., New York, N. Y.
D 28—Ward Leonard Electric Co., Bronxville, N. Y.
D 18—Westinghouse Electric & Mfg. Co., East Pittsburg, Penn.

Motorcycle Accessories.

D 217—F. A. Baker & Co., New York, N. Y.
D 117—Fentress-Newton Mfg. Co., Chicago, Ill.

Motorcycle Clutches, Etc.

D 145, 146—Eclipse Machine Co., Elmira, N. Y.

Mufflers, Cut-Outs, Etc.

D 15—Yale Steel Stamping Co., Oostburg, Wis.

Paints and Varnishes.

C 42—Valentine & Co., New York, N. Y.
D 25a—C. A. Willey & Co., Hunter's Point, N. Y.

Piston Rings.

D 210—McQuay-Norris Mfg. Co., St. Louis, Mo.
D 85—Wasson Piston Ring Co., Hoboken, N. J.

Polishes, Soaps, Etc.

D 140—N. B. Arnold, Brooklyn, N. Y.
D 101—Baum's Castorine Co., Rome, N. Y.
D 46—J. Eavenson & Sons, Camden, N. J.
D 36—International Metal Polish Co., Indianapolis, Ind.
D 60a—A. R. Justice & Co., Philadelphia, Penn.
D 48—John T. Stanley, New York, N. Y.

Portable Garages.

D 21a—Metal Shelter Co., New York, N. Y.
D 15—Taylor Mfg. Co., Montclair, N. J.

Pumps.

D 215—Brown Co., Syracuse, N. Y.
D 206—Hawthorne Mfg. Co., Bridgeport, Conn.
D 199—Kellogg Mfg. Co., Rochester, N. Y.

Radiators.

D 213—Mayo Mfg. Co., Chicago, Ill.

Recorders.

D 24—American Taximeter Co., New York, N. Y.
C 40—Veeder Mfg. Co., Hartford, Conn.

Rims.

D 33a—E-Z Rim Co., Boston, Mass.
D 6b, 7—Newmastic Co., New York, N. Y.
D 35—Presto Inter-Rim Co., Boston, Mass.
C 34—Standard Welding Co., Cleveland, O.

Shock Absorbers.

D 96, 97—Aristos Co., New York, N. Y.
D 89—J. W. Blackledge Mfg. Co., Chicago, Ill.
D 179—Ernst Flentje, Cambridge, Mass.
C 49, 50—Hartford Suspension Co., Jersey City, N. J.
D 67—Hudson Export & Import Co., New York, N. Y.
D 59—J-M Shock Absorber Co., Philadelphia, Penn.
D 26a—Le Telesco Shock Absorber Co., New York, N. Y.
D 38—Mechaley Auto Co., Stamford, Conn.
D 75—C. N. Peacock & Co., New York, N. Y.
C 102, 108—J. H. Sager Co., Rochester, N. Y.
D 59—Universal Shock Eliminator, Inc., New York, N. Y.
D 10a—Westinghouse Air Spring Co., New York, N. Y.

Sidecars.

D 8b, 9—Majestic Mfg. Co., Worcester, Mass.

Spark Plugs.

D 90—Benford Mfg. Co., Mount Vernon, N. Y.
C 106—Champion Ignition Co., Flint, Mich.
D 12—Champion Spark Plug Co., Toledo, O.
D 62, 63, 64—Emil Grossman Co., Brooklyn, N. Y.
D 81—Hartford Machine Screw Co., Hartford, Conn.
C 59—A. R. Mosler & Co., Mount Vernon, N. Y.
C 90—Randall-Faichney Co., Boston, Mass.
D 178a—Silvex Co., New York, N. Y.

Specialties.

D 55, 56, 57—Cox Brass Mfg. Co., Albany, N. Y.
D 52, 53—Donnelly Motor Equipment Co., New York, N. Y.
D 107—English & Mersick Co., New Haven, Conn.
D 82—Garage Equipment Co., Milwaukee, Wis.
D 176a—Hall-Thompson Co., Hartford, Conn.
D 50—Stewart & Co., New York, N. Y.

Speedometers.

D 202—Corbin Screw Corp., New Britain, Conn.
C 61—Hoffecker Co., Boston, Mass.
C 84—Standard Thermometer Co., Boston, Mass.
C 29—Stewart-Warner Speedometer Corp., Chicago, Ill.

Springs.

D 178—Detroit Steel Products Co., Detroit, Mich.
D 204—Perfection Spring Co., Cleveland, O.

Stampings, Metal.

D 74—Metal Stamping Co., Long Island City, N. Y.

Steering Wheel Warmers.

D 35a—Warm Hand Steering Wheel Corp., Poughkeepsie, N. Y.

Storage Systems.

D 141a—American Pump & Tank Co., New York, N. Y.
C 47, 48—S. F. Bowser & Co., Ft. Wayne, Ind.
D 1a—Hydraulic Oil Storage Co., New York, N. Y.
C 113—Janney, Steinmetz & Co., Philadelphia, Penn.
D 93, 94—Wayne Oil Tank & Pump Co., Ft. Wayne, Ind.

Tires and Tubes.

D 106—Braender Rubber & Tire Co., Rutherford, N. J.
D 40—Cataract Rubber Co., Boston, Mass.
D 45—Columb Tyres Import Co., New York, N. Y.
D 78, 79—Double Fabric Tire Co., Auburn, Ind.
D 11a—Marathon Tire Sales Co., New York, N. Y.
D 1—Miller Rubber Co., Akron, O.
D 23—Overman Tire Co., New York, N. Y.
D 70, 71, 72—Thermoid Rubber Mfg. Co., Trenton, N. J.
D 102—United & Globe Mfg. Co., Trenton, N. J.
D 80—Voorhees Rubber Mfg. Co., Jersey City, N. J.

Tire Accessories.

D 83—J. L. G. Dykes Co., Chicago, Ill.
D 142—Julian H. Faw, New York, N. Y.
D 141—National Rubber Co., St. Louis, Mo.
D 216—Stevens & Co., New York, N. Y.
D 100—Chas. O. Tingley & Co., Rahway, N. J.

Tire Gauges.

C 82, 83—A. Schrader's Sons, New York, N. Y.
D 212—U. S. Gauge Co., New York, N. Y.

Tire Protectors.

C 62—Leather Tire Goods Co., Niagara Falls, N. Y.

Tops and Top Materials.

D 91, 92—F. S. Carr Co., Boston, Mass.
C 72—L. C. Chase & Co., Boston, Mass.
D 12a—Cleveland Hardware Co., Cleveland, O.
D 181, 182—Golde-Patent Mfg. Co., New York, N. Y.
D 22—Wm. R. Laidlaw, Jr., New York, N. Y.
D 208—L. J. Mutty Co., Boston, Mass.
C 32, 33—Pantasote Co., New York, N. Y.
D 27a—P. Reilly & Son, Newark, N. J.
D 177a—Sharrer Patent Top Co., New York, N. Y.

Trunks.

D 164—Ajax Trunk & Sample Case Co., New York, N. Y.
D 138, 139—Berg Trunk & Specialty Co., New York, N. Y.

Universal Joints.

C 67—Spicer Mfg. Co., Plainfield, N. J.

Vulcanizers.

C 35—C. A. Shaler Co., Waupun, Wis.

Wheels.

C 27—Hayes Mfg. Co., Detroit, Mich.
D 198—Geo. Houck Co., Philadelphia, Penn.
D 211—Ideal Steel Wheel Co., Cincinnati, O.
C 24—Schwarz Wheel Co., Philadelphia, Penn.

Windshields.

D 76—H. W. Johns-Manville Co., New York, N. Y.

Worm Gears.

D 15a, 16—Cleveland Worm Gear Co., Cleveland, O.
C 43—Wm. Cramp & Sons, Sh. & Eng. Bldg. Co., Philadelphia, Penn.

Wrenches.

D 58—Asch & Co., New York, N. Y.
C 57—Coes Wrench Co., Worcester, Mass.

Unclassified.

D 59a—Eveland Eng. & Mfg. Co., Philadelphia, Penn.
D 8a—Gem Supply Co., Waterbury, Conn.
D 44—Hans Motor Equipment Co., La Crosse, Wis.
D 118—Motor Patents Co., Detroit, Mich.
D 41—National Metal Moulding Co., Pittsburg, Penn.
D 16a—Paul G. Niehoff & Co., Chicago, Ill.
D 32—Swyers & Lorch, Pittsburg, Penn.
D 76—Trenton Brass & Machine Co., New York, N. Y.

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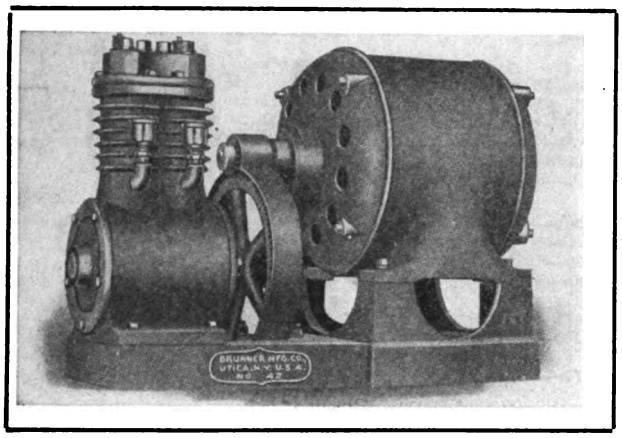
GARAGE AND REPAIR SHOP EQUIPMENT.

MOTOR driven air compressors are now considered standard equipment in the garage, repair shop and service station, the design varying according to the service required. The Brunner Manufacturing Company, Utica, N. Y., is producing a number of different types, that shown in the accompanying illustration being adaptable to many varying classes of service. The complete outfit is self-retained and operates with so little vibration that it can be installed, if desired, without fastening to the floor.



Parker Double-Cylinder Motor Driven Air Compressor.

The No. 42 Parker outfit, as it is termed, comprises, in addition to the motor, a double-cylinder vertical compressor with cylinders having a bore of 1.825 inches and stroke of 2.5. The guaranteed pressure with a standard motor is 130 pounds to the square inch, although the compressor can be fitted for higher pressures upon order.

Lubrication is by the splash system and the motor bearings are oiled by ring oilers on the shaft. The height is 16.5 inches and the floor space required is 18.5 by 11 inches. The net weight is 170 pounds; shipping weight, 200.

Energy is supplied by a .5 horsepower electric motor, and drive is by a cast iron spur gear and a rawhide pinion. The compressor is driven at a speed of 350 revolutions a minute, and has a capacity of 4480 cubic inches (2.5 cubic feet) of free air a minute. The outlet is tapped for a .25 inch iron pipe. The finish is gloss black enamel. The motor is a direct current machine or single-phase alternating current, 110 or 220 volts. Motors of any frequency on alternating current are supplied at an extra cost.

The outfit can be made automatic with an electric controller and any desired pressure can be maintained day or night without any other attention than an occasional oiling. Two types of controllers are shown in an accompanying illustration, that at the left being designed for service with single or two-phase alternating current motors of two horsepower and less. The No. 91 is shown at the right and is similar to the other, but has a rheostat for all direct current motors and such alternating current motors as require starting resistance or a rheostat.

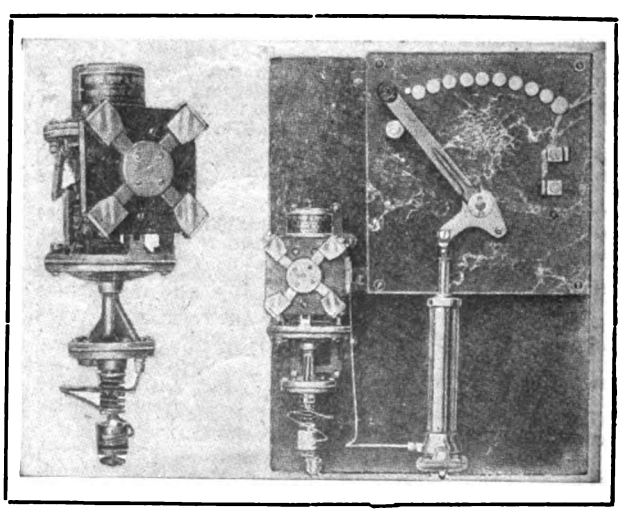
As previously stated these controllers maintain a constant air pressure at all times and are stated to be extremely accurate and reliable. They can be adjusted for operation on a wide variation of pressure, or set to start and stop the motor within a variation in the tank pressure of two to three pounds, if desired. The construction is simple, only two diaphragms being used, these presenting such a small portion of their area to the pressure that they are practically wear proof. The contact points are of the wiping variety, insuring a clean surface at all times, and eliminating sparking.

The Brunner Manufacturing Company is issuing a new catalogue illustrating and describing air compressors, which will be mailed free.

CARVER ELECTRIC GRINDER.

The American Electric Tool Company, West Newton, Mass., maker of Carver portable electric tools, is manufacturing a grinder operated by electricity constructed in three types, each of which may be moved around the shop if desired, although heavy enough to permit of their operation without being secured. The base is very substantial and a special feature, to which the maker calls attention, is the casting of the water pot in the base. The last named part is sufficiently wide to prevent tipping when the work of grinding is started.

Types A. G. B. L. and G. B. 1 carry a grinding wheel six by .375 and .5 inch respectively and turn at 3500 revolutions a minute. The first named model is employed with an alternating current; the G. B. 1 and G. B. 2 with direct. The last named employs a .75-inch wheel, eight inches in diameter, and runs at 2500 revolutions a minute. It also is provided with two wheels, one at either end, and two tool rests and wheel guards.



Electric Controllers Which Are Utilized with Parker Air Compressor Outfits.

The company issues a catalogue illustrating and describing its equipment, which will be mailed free on request.

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HOYT FORD MAGNETO TESTER.

The Hoyt Electrical Instrument Works, Penacook, N. H., well known maker of current testing devices, is manufacturing the Hoyt Ford magneto tester, shown in an accompanying illustration. As the name implies, it is designed to show the quality of the electricity generated by the flywheel magneto on model T Ford motors, and the dial of the instrument is calibrated. The meter is compact, being 3.5 inches in diameter, and is constructed of the same high grade material and with the same careful workmanship for which the product of this concern is noted.

Hoyt Ford Magneto Tester.

One of the most difficult troubles to locate with the Ford motor is the ignition, and many times weak magnets are the cause of the cylinders heating and lack of power. The Hoyt company conducted a series of tests with 100 cars, the experiments extending over a period of 12 months, and it was found that almost invariably a magneto which indicated below a certain point of the scale would not operate continuously without skipping, and that at another point, while operating without skipping, the gasoline consumption was higher.

For the purpose of simplifying the use of the Hoyt magneto tester these two points were indicated as "Poor" and "Medium". The lowest point of efficiency, that is, the point at which the motor would operate without skipping and with reasonable fuel consumption, was indicated on the scale as "Fair". A small percentage of cars tested showed as high as "Good", while a few tested "Extra". Very satisfactory results were obtained from motors testing between "Fair" and "Good", while rather indifferent results were obtained from those cars testing below "Medium".

The test is made easily. The device is provided with two cables, and either one may be utilized in connection to the magneto terminal. The remaining lead is grounded. The motor is started, operated as slowly as possible without skipping and the position of the needle of the tester noted. It should indicate "Poor" and "Fair" when the motor is raced for a minute. The quality of the current at predetermined speeds is read easily on the dial, enabling the workman to tell at a glance the condition of the magneto.

GENTER'S METALLIZED PAINT.

The J. H. Genter Company, Inc., Newburgh, N. Y., is marketing a metallized glass paint which is intended to withstand extreme high temperatures. It is stated that the three shades of copper will successfully survive a heat of 900 degrees Fahrenheit, and at the other end of the scale come black, brown and red, which, it is claimed, will remain unaffected under a heat of 2200 degrees.

LINDHE SHIMS.

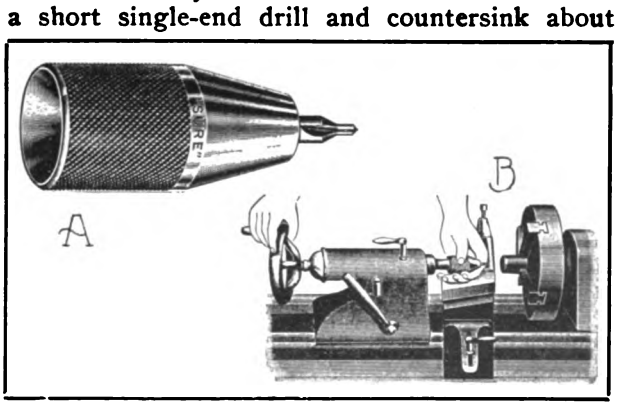
The Lindhe Shim Company, 212 Canal street, New York City, is marketing the Lindhe shims in two new sets. The first is known as the No. 1 and comprises one strip, .03125 by two by nine inches (all .002 inch laminations); .0625 by two by nine inches; .125 by two by nine inches; the last two named are half .002 inch laminations and half solid brass. The second set consists of similar sizes, excepting the laminations are .003 inch. By combining these different pieces almost any thickness of shim can be obtained.

FORD FELT WASHERS.

N. E. Booth, 644 Pacific street, Brooklyn, N. Y., maker of felt washers, gaskets and packings, is manufacturing a special felt gasket for insertion between the engine base and crankcase of model T Ford motors. The gasket comes in shape for immediate use and with all the bolt holes punched in it.

SURE CENTRE FINDER.

The West Haven Manufacturing Company, New Haven, Conn., is producing the Sure centre finder, a new lathe tool, shown in an accompanying illustration. It has a socket that fits on the 60-degree angle taper of centre in the tail stock of the lathe, and when held in that position and fed up to the work held and revolving in the chuck, it immediately locates the centre. The friction of the centre finder on the lathe centre is sufficient to hold for drilling and countersinking, enabling the workman to make the three operations without change or use of any other tool. The fingers need do little more than steady the tool. Each centre finder is sent out with a combination drill and countersink, which are stock sizes with many makers. The Nos. 0 and 1 have a short single-end drill and countersink about



West Haven Sure Centre Finder: A, the Finder; B, Method of Use.

half the length of the double-end ones on the market, for the sake of compactness, but the double-end ones may be used however.

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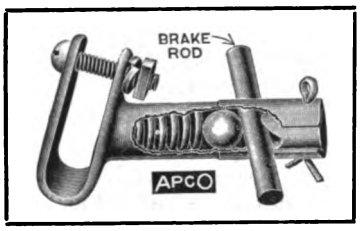
TWO NEW APCO ACCESSORIES.

Maker of Ford Specialties Brings Out Brake Rod Support and Device Termed Speederup.

The Apco line, manufactured by the Auto Parts Company, Providence, R. I., maker of Ford specialties, has been augmented by two new accessories, one of which fills a long felt want upon the part of owners of the model T Ford car. The Apco brake rod support is stated to be the only one of its kind that can be attached to the car without displacing the brake rod and an accompanying illustration shows the simplicity of the design. The brake rod is prevented from rattling or vibrating by a steel ball and plunger, these providing a bearing, the tension of which is automatically regulated by a coil spring. Normally the rod is held firmly, but in service it moves easily and without friction because of the ball bearing.

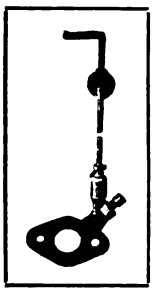


Apco Brake Rod Support.

The Apco brake rod support can be attached in a few minutes, the only tool utilized being a screw driver for tightening the clamp to the radius rod. To attach, the screw bolt is removed, also the cotter pin and plunger. The support is then slipped over the radius rod and the retaining bolt tightened. Replacing the plunger and cotter pin is accomplished easily as the parts are accurately designed and finished. The brake rod supports are constructed of bronze and as the ball bearing, etc., are fully enclosed, the working parts are not affected by dust, etc. They come in sets of two and retail for $2.

Speederup.

Speederup is the latest Ford accessory. It permits the driver to regulate and control an auxiliary supply of air to the mixture, obtaining maximum efficiency from the fuel and without changing the original setting of the carburetor. It comprises a metal flange, which is inserted between the inlet pipe and the carburetor, and, as will be noted by the accompanying illustration, the flange is in the shape of a gasket. A cored passage communicates with the opening of the flange, which is provided with a threaded extension having an opening. Over the threaded member is screwed a cap, which is rotated by a rod extending through the dash and with a handle for operating the cap member. The last named is perforated. By rotating the rod the hole in the cap is made to register with the aperture in the extension of the flange, permitting air to be drawn into the intake manifold. The fine thread utilized on the extension permits of a close regulation of the air supply. The flange member is accurately made and is fitted by displacing the two bolts retaining the carburetor, inserting the flange and replacing the bolts. The Speederup also has an opening for introducing a decarbonizer, a screw plug being used as shown. The new accessory operates on the well known principle of introducing auxiliary air into the intake pipe to break up and convert into useful vapor any particles of fuel not vaporized by the carburetor. It also permits the driver to obtain more mileage from the fuel by adjusting the supply of air to conform with climatic changes, etc. The Speederup retails for $2.



Speederup.

G. B. OXYGEN CARBON REMOVER.

G. B. Sales Corporation Marketing Outfit Selling for $10. —Has No Gauges and Is Self-Regulating.

The G. B. Sales Corporation, 1790 Broadway, New York City, is marketing the G. B. oxygen carbon remover equipment, which is a simple apparatus having but few parts. One of its qualities is its self-regulating feature, the maker stating that too much or too little oxygen cannot be utilized and that in addition to making for economy maximum efficiency is obtained. Gauges and adjusting mechanism are eliminated and the equipment is easily operated.

The materials employed are strictly high grade and the company guarantees the apparatus to do the work as well as any in the market. The carbon is consumed by the action of the oxygen and, as is characteristic with the process, does not injure the metal of the cylinders, pistons or valves.

The G. B. oxygen carbon removing apparatus lists for $10, a price within the reach of the smallest garage and repair shop. The advantages of the process have long been recognized and indorsed by the trade.

DEALER BECOMES MANUFACTURER.

Gramm Agent on Pacific Coast to Produce Trucks on Its Own Account.

Arrangements have been completed by the Klieber Company, San Francisco, Cal., to manufacture trucks on its own account in its home city. Plans have been made to build 100 cars during the 1914 season, each one of which will be equipped with a Continental engine.

The officers of the company, which for several years has successfully handled the Gramm trucks, are: President, Paul Klieber; vice president, W. M. Remensperger; second vice president, E. Kleiber; treasurer, P. E. Rathjens; secretary, Otto T. Suden.

ANOTHER ROTARY VALVE MOTOR.

New Concern Locates in Marshfield, Wis., and Will Produce Engines of This Type.

The stockholders of the recently incorporated Augustin Rotary Valve Engine Company, Marshfield, Wis., have perfected a permanent organization by the election of the following officers: President, Dr. G. E. Harrington; vice president, Charles R. Herrick; secretary, Henry E. Hoerl; treasurer, R. J. Strauss.

The purpose of the new company is to manufacture and develop a new type of internal combustion engine and a factory has been located at Marshfield, Wis. The incorporators are R. J. Strauss, Dr. G. E. Harrington and H. E. Hoerl, and the capital stock is $10,000.

COMING EVENTS.

January.

Jan. 2-10—Importers' Salon, Hotel Astor, New York City.
Jan. 3-10—Pleasure car show, Grand Central Palace, New York City.
Jan. 4- 8—Winter meeting, Society of Automobile Engineers, New York City.
Jan. 5-10—Show, Los Angeles, Cal.
Jan. 10-16—Show, Milwaukee, Wis.
Jan. 10-17—Show, Cleveland, O.
Jan. 10-17—Show, Philadelphia, Penn.
Jan. 10-21—Show, Brussels, Belgium.
Jan. 12-17—Show, Bridgeport, Conn.
Jan. 17-24—Show, Pittsburg, Penn.
Jan. 17-24—Show, Detroit, Mich.
Jan. 19-24—Show, Washington, D. C.
Jan. 24-31—Pleasure car show, Montreal, Que.
Jan. 24-31—Show, Rochester, N. Y.
Jan. 24-31—Pleasure car show, Coliseum, Chicago, Ill.
Jan. 26-31—Show, Scranton, Penn.
Jan. 31-Feb. 7—Show, Minneapolis, Minn.

February.

Feb. 2- 7—Pleasure car show, Buffalo, N. Y.
Feb. 3- 7—Show, Kalamazoo, Mich.
Feb. 3- 7—Commercial car show, Montreal, Que.
Feb. 4- 7—Show, St. Joseph, Mo.
Feb. 7-12—Show, Seattle, Wash.
Feb. 9-14—Truck show, Buffalo, N. Y.
Feb. 9-14—Show, Grand Rapids, Mich.
Feb. 14-21—Show, Pittsburg, Penn.
Feb. 16-21—Show, Kansas City, Mo.
Feb. 18-21—Show, Bloomington, Ill.
Feb. 21-28—Show, First Regiment Armory, Newark, N. J.
Feb. 21-28—Pleasure car show, Cincinnati, O.
Feb. 23-28—Show, Omaha, Neb.
Feb. 24-28—Show, Syracuse, N. Y.

March.

March 2- 4—Commercial car show, Cincinnati, O.
March 2- 6—Show, Fort Dodge, Ia.
March 7-14—Pleasure car show, Mechanics' Building, Boston, Mass.
March 9-14—Show, Des Moines, Ia.
March 17-21—Truck show, Mechanics' Building, Boston, Mass.

April.

April 9-15—Show, Manchester, N. H.

May.

May 30—500-mile race, Indianapolis, Ind.

July.

July 25-29—Grand Prix race, Belgium.

The Thompson-Carroll Company, Leader-News building, Cleveland, O., has issued a neat little brochure calling attention to its appearance in the advertising agency field. The concern is composed of the following: Clyde S. Thompson, formerly advertising manager of the Diamond Rubber Company, and more recently connected with large advertising agencies in New York and Cleveland; George A. Schneider, formerly connected with Cleveland newspapers; Charles F. Carroll, municipal contractor; L. Z. Stone, for two years in charge of the advertising department of the B. F. Goodrich Company, and Fred S. Tuerk, for several years in charge of the copy department of the Western Electric Company.

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CLASSIFIED ADVERTISING

Make this column your market place, if you want to buy, exchange or sell anything used by those in all Branches of the Automobile Industry.

20 cents a line. 7 words to a line.

Public Sale---Warren Auto Co.

These goods must be sold.
Send for our Bargain Sheet.

$1.00 Warranted Spark Plugs	$.19
35.00 Gemmer Steering Gears	12.19
150.00 Rear Axles	42.00
350.00 Rear Axles and Transmissions	96.19
14.00 Wheels—all kinds	3.00
75.00 Frames—all sizes	10.00
18.00 Carburetors	5.19
30.00 Windshields	8.19
85.00 Magnetos	25.00
65.00 Magnetos	20.00

Lamps, bodies, tops and everything for the automobile at a price listed on list of our 1000 bargains.

WARREN MOTOR CAR CO.,
53 10th St., Detroit.

COMPLETE LIST

New York State Registrations—fifty cents per thousand names

OWNERS AUTO LIST COMPANY, Albany, N. Y.

AUTOMOBILE MAILING LISTS

13,191 Automobile Dealers	$25.00
9,627 Automobile Garages	20.00
5,681 Automobile Repairs	12.50
3,541 Automobile Supplies	10.00
150,000 Ford owners	$3.00 per thousand

Neatly typewritten, showing Financial Rating in Dollars of each one, alphabetically by States and Towns, 1913 compilation.

Ask for certain States if you do not want all.

877,000 Automobile Owners by States. Price on application.

Ask for our "Silent Salesman" showing 2000 other lists, etc.

Send check with order.

TRADE CIRCULAR ADDRESSING COMPANY,
166 West Adams Street, Chicago.
Established 1880. Phone Franklin 1183.

WRIGHT RADIATORS

FORD T and all BUICK models carried in stock. Delivery on receipt of order. Get our prices for the best value ever offered. THE WRIGHT MFG. CO., Muskegon, Mich. 10-11

ABSOLUTE TIRE PROTECTION
GIVEN ONLY BY THE
Hopewell Tire Case

It prevents any water entering the spare tire (either from rain or hose used in washing). Water rots the fabric and causes blowouts.

$3.00 to $4.00 according to size.

Hopewell Brothers, Newton, Mass.

BUYING AND SELLING IS MADE EASY

12,000 Trade Interests

READ THE

Accessory and Garage Journal

EACH MONTH

You can secure your monthly audience with all buying and selling heads in all concerns in every branch of the automobile industry through the Accessory and Garage Journal. Such interests must know what you have to offer. All are logical prospective purchasers. They constitute your market and are always looking for lines of merit.

In this magazine the large and small manufacturer has equal opportunity to reach the whole trade and can secure a service equal to that of a trade mailing list and better than can be secured through any other medium.

100 Per Cent. Quantity—100 Per Cent. Quality—Circulation Value.

Every order carries with it a positive guarantee of service stated, and this in any form requested.

Ask how we give concern and product listing under proper classification in Buyers' Guides that have a distribution of more than 1,100,000 copies yearly. This service is free. Our trade mailing list is 100 per cent. active —Do you need it? Details gladly furnished on request.

Next issue Jan. 15th.

Accessory and Garage Journal

TIMES BUILDING, PAWTUCKET, R. I.

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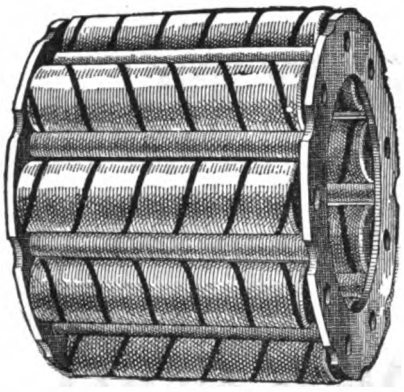


HYATT QUIET BEARINGS

For Convenience of Car Owners A Small Stock of the Popular Sizes of Hyatt Roller Bearings as used in Motor Cars is maintained in each of the Cities indicated.

Address SERVICE DEPARTMENT

SERVICE STATIONS

756 Woodward Ave., Detroit Michigan
(Telephone Grand 4130);
1120 Michigan Ave., Chicago, Illinois
(Telephone Wabash 3790)
4th and Middlesex Streets, Harrison,
(Newark) N. J.
(Telephone Harrison 2190)

HYATT ROLLER BEARING CO.
DETROIT, MICH. WORKS: NEWARK, N. J.

"PASS THEM ALL"

Knox
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX AUTO CO., Springfield, Mass.

TRADE APCO MARK

Ford Specialties

1914 CATALOG

Is Free and Ready Now

Dealers: Get in on Our Line

AUTO PARTS CO., PROVIDENCE, R. I.

AKRON-WILLIAMS

Proved-By-Test Equipment

MEN, the first essential in the Tire Repair Business is first quality, proved-in-practice Equipment.

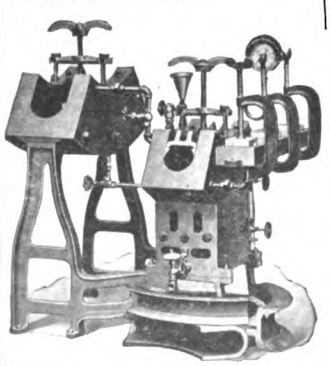
You can't afford to experiment with uncertain Equipment. That is apt to ruin your business, ruin your customers' tires and tubes, and cost you a new Equipment.

You take no chance when you buy Akron-Williams—you are not experimenting. Akron-Williams Repair Equipment and Tools are all "Proved-By-Test," before we offer them to the trade.

Some Akron-Williams Users

Firestone, Goodyear, Diamond, Hartford, Republic, Pennsylvania, Revere, Consolidated, Empire, U. S. and Hood are some of the 27 leading Tire Makers using our equipment.

You are safe in using what these makers use.



One of a dozen styles

Localized Steam

The three distinct and separate steam chambers of Akron-Williams Repair Outfits is an important feature. That insures heat just where wanted, prevents over-curing, and insures efficient work.

Let's Talk It Over

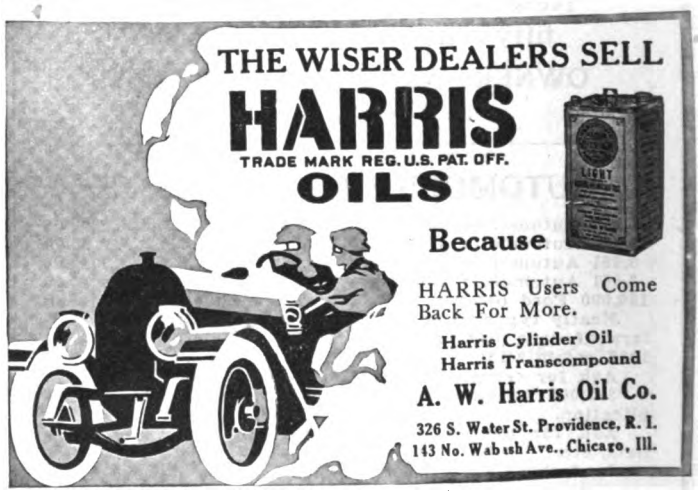
If you are going to enter this profitable business—Tire Repairing—write us and let's talk it over. There are many reasons why you should buy Akron-Williams equipment, and we'll be glad to show you why.

Get our valuable book—Catalog No. 12. It's full of expert information. Write for it now.

The Williams Foundry and Machine Co.

Ash St., Akron, O.

The Waterhouse & Lester Co., San Francisco, exclusive California Distributors.



THE POWER TIRE PUMP

That Sells for Only

$10 Complete

EVERY WINTER MOTORIST SHOULD OWN A DEWEY

It saves the hardest sort of work and makes the air pressure a known quantity.

There's no guessing because the table attached to the pump tells the correct pressure required and the high grade gauge says when.

The Dewey is the best buy possible for the money. There are no "extras", and it is the only pump that is never oiled.

With high grade Dial and all connections, including 12 feet of Special Fabric Covered Hose tested to 1000 lbs.—fully guaranteed for $10

THE DEWEY-ANDERSON MFG. CO.

450 Woodruff Ave. TOLEDO, OHIO

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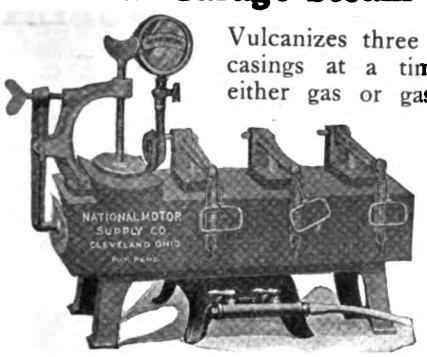
National Garage Steam Vulcanizer

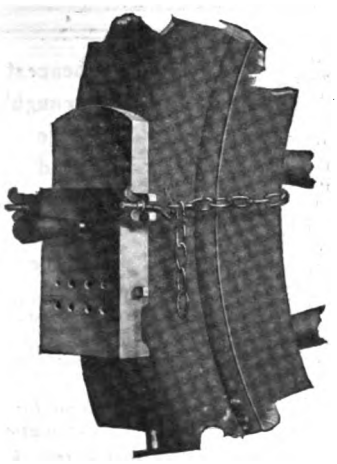


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer

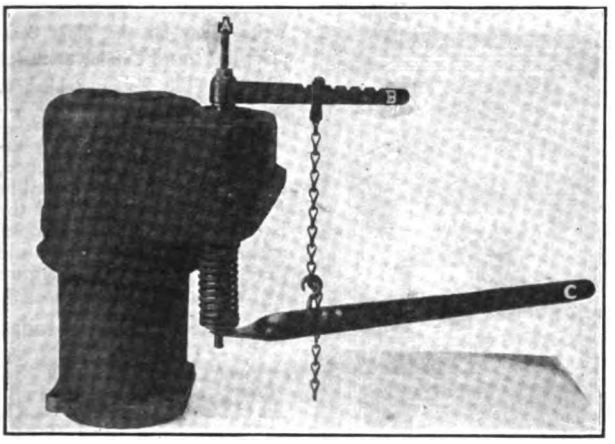


For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

MANUFACTURED BY

THE NATIONAL MOTOR SUPPLY CO.

5604 Euclid Ave., Cleveland, O.



WINSOR PATENT ADJUSTABLE MOTOR VALVE REMOVER

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug. LIST PRICE—Enameled black, each $2.50. Nickel plated, each $5.00 Extra barrels, each $1.50.

Dealers, Write Today for discounts. Manufactured by

Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

SEAMLESS STEEL
TANKS
TINNED & TESTED
JANNEY, STEINMETZ & CO. PHILA

Do Your Own Welding

Save Time and Money on Repair Jobs

Every garage and every owner of taxicabs and motor trucks has an **actual and frequent need** for a good, simple welding outfit. Don't send out such repair work. You can now **do it yourself**—and save a lot of time for your customers and money for yourself!

Don't buy and wait for new parts! You can **make old parts as good as new** by using the

Cox Welding Outfit

For Welding and Carbon Removing

Complete in every detail. Will do every possible welding job. Unlike others, it is **very simple in construction.** Any average mechanic can become adept in its use in a short time. We furnish complete instructions with each outfit. Can be used on parts of iron, steel, brass, bronze and aluminum. It is **safe** and **sure.**

Every job you do means

Extra Profit for You

The outfit will pay for itself many times over. It means quick repair work—and **all of it done in your shop!**

The Cox Outfit is not only excellent for welding, but it can also be used to **Quickly and Completely Remove Carbon from Cylinders.**

Thus you have a dual outfit—a profit maker two ways! Its use is doubled. It saves time in two ways—and produces two profits! Its possession indicates progressiveness—up-to-date in shop equipment.

Send for free catalog and full information —NOW.

Cox Brass Mfg. Co.

ALBANY, N. Y.

1777 Broadway . . . New York City
3445 Michigan Avenue . . Chicago, Ill.
870 Woodward Avenue, Detroit, Mich.

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CRANE'S NEW MODEL PATENT PULLER

For Removing Fly Wheels, Propellers, Couplings, Gears, Etc.

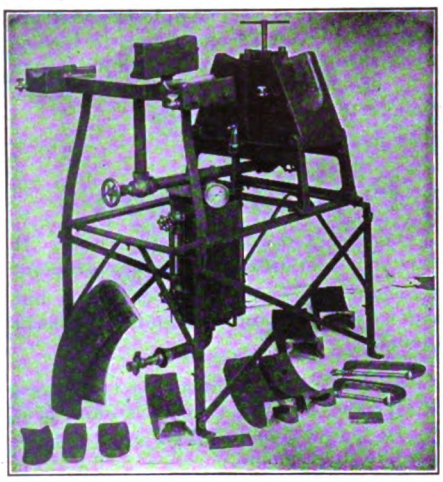
New flat pointed screw with **inserted tempered tool steel point.** Will not injure centres no matter what the strain. Works equally well on work that has no centres.

Each Puller furnished with **two sets of new combination hook and extension arms** that greatly increase the range of work.

New screws and combination arms are interchangeable with any Pullers we have ever made.

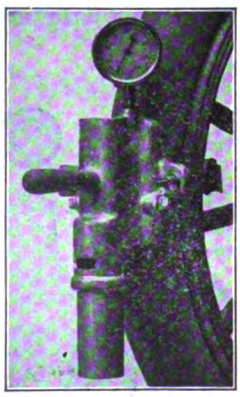
Write Today for Circular A.

CRANE PULLER COMPANY - - Arlington, Mass.



Make Big Money

Start vulcanizing in your garage or open up a shop. Get into it now while the business is new and growing fast. Start with our shop outfit. Ask for Catalogue C.



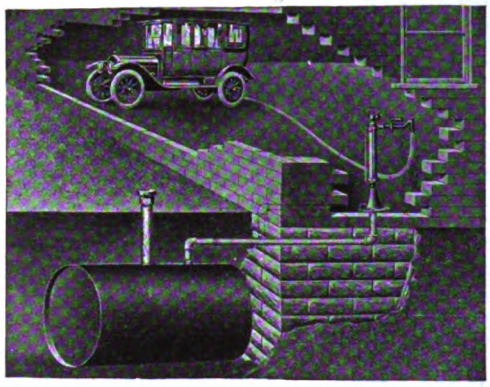
Vulcanizing Instruction Book 50c

Van Steam Portable

$4.50 for Sample

Made to repair tires on the rim, a great tire saver. Also repairs tubes.

VANDERPOOL CO.
Springfield, Ohio

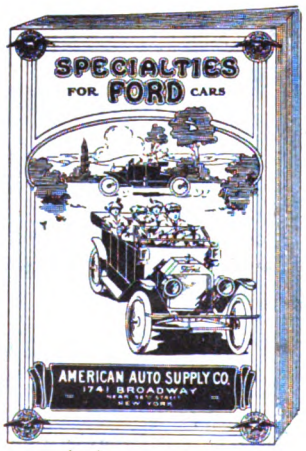


Cheapest Thoroughly Safe and Practical Outfit Made

Every part of this apparatus is listed by the Underwriters' Laboratories.

Send for Catalogue

Wm. B. Scalfe & Sons Co., Pittsburgh, Pa.
(New York Office: 26 Cortlandt Street)



Write today for the Most Complete Illustrated Catalog of FORD SPECIALTIES Ever Published. Sent *Free.*

This book is absolutely essential for the convenience, comfort and economy of every Ford owner. It shows all the latest and best Ford accessories and parts, with prices and descriptions—a dictionary of Ford information.

Don't delay—Write today

American Auto Supply Co.

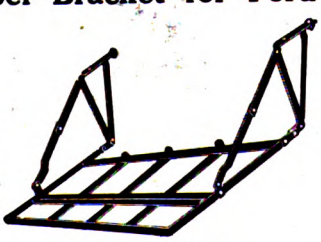
1741 Broadway (near 56th St.)
NEW YORK

"SPECIAL" 1913 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



1913 Ford Rack

This Rack Will Fit Any 1913 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

15,000 GUARANTEED

All Trade—No Owner Distribution

When you have anything to say to those in the automobile industry use straight trade talk copy in the

Accessory and Garage Journal

The only strictly automobile trade paper published in America.

Automobile Journal Publishing Co.
Publishers of
AUTOMOBILE JOURNAL MOTOR TRUCK
Times Building, Pawtucket, R. I.

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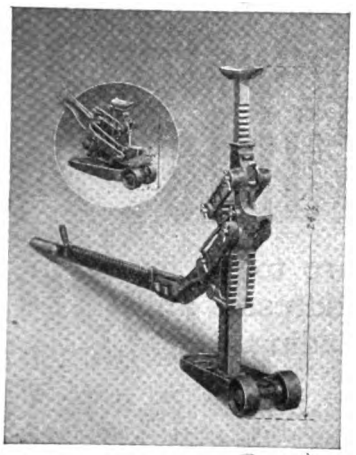


Something New—The Excel Auto Jack

THE QUICKEST ACTING JACK MADE

Will go under anything 5 to 20 inches high and lift it 4 inches in two seconds.
Can be adjusted to the work instantly.
Will lift by the frame, will lift by the springs.
Will go under any rear axle and not interfere with gasoline tank, trunk rack, tire case or tool box.
Will go under the centre of the front axle and lift the whole front of the car at once.
Runs on its wheels like a truck.
Built for hard work and fully guaranteed.
Will save its cost every week on the wash stand.

Write for catalog A.

CRANE PULLER COMPANY, Arlington, Mass.

THE HEINZE ELECTRIC COMPANY

MANUFACTURERS OF

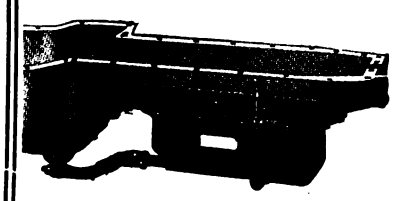
Ignition and Generating Apparatus

LOWELL, MASS.

Factory and Main Office: LOWELL, MASS.

Sales Office: DETROIT, MICH.

BIG PROFITS FOR THE FORD DEALER AND REPAIRMAN.

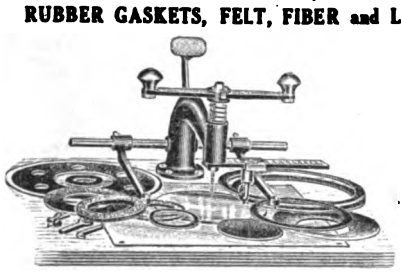


The DANVER OILER produces more lubricating capacity, provides constant circulation, is automatic and prevents smoking and fouled plugs. The only perfect oiler for Ford motors. Its principle is right. Easily fitted. A BIG SELLER. Write for our special offer to Ford agencies, dealers and repairmen.

DANVER ACCESSORY COMPANY
Manufacturers of DACO Accessories
18 Broadway, Pawtucket, R. I.

The Springfield Circle Cutter

FOR CUTTING
LAMP GLASS, SHEET COPPER, PAPER, CARD BOARD and RUBBER GASKETS, FELT, FIBER and LEATHER WASHERS.



Capacity any size from 0 to 14" diameter, and any thickness from 0 to 1-2". Positive Measuring Scale to determine sizes.

Price Complete, $12.00 net. Shipping Weight, 30 lb.

THE SHAWVER MFG. CO., Springfield, Ohio

DIXON'S GRAPHITE GREASE No. 677

For Transmissions and Differentials

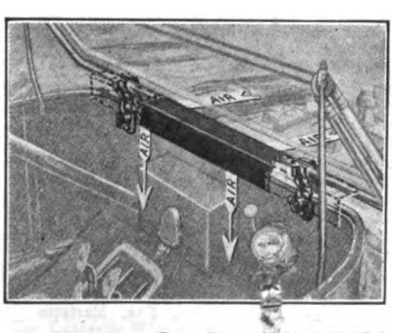
Use this on your automobile—or motor truck—and note the difference in the running qualities. More engine power acts as driving power—less as "wearing-out" power destroying the gears. The secret is in the special finely ground Ticonderoga Flake Graphite mixed with the pure mineral grease. The theory and practise of auto lubrication are presented in booklet No. 49 "Lubricating the Motor," sent on request.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827

EXCELSIOR ADJUSTABLE VENTILATOR FOR MODEL T FORD



Admits Fresh Air
No Draughts

Excelsior Adjustable Ventilator provides proper ventilation of the front compartment of automobiles, where the excessive heat is unbearable. The ventilator admits fresh air but prevents draughts. The opening is adjustable and can be closed. Can be installed in a few minutes.

Black Enamel Finish.
Retail Price $3.00
Write for Discounts and Particulars.

C. B. WATTLES
441 BUTLER EXCHANGE PROVIDENCE, R. I.

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alden & Goulding Co., Worcester, Mass.
Auto Parts Co., Providence, R. I.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight Sts., Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree St., Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Pennacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
Rhineland Machine Works Co., 140 W. 42d St., New York City.
Branches: 1254 Michigan Ave., Chicago; 650 Woodward Ave., Detroit.; 1424 Vine St., Philadelphia; 220 Motor Mart, Boston.
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Keeton Motor Co., Detroit. (Keeton.)
Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Mercer Automobile Co., 1100 Whitehead Road, Trenton, N. J. (Mercer.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
Owen & Co., R. M., 19 W. 62nd St., New York City. (Reo.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp, Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (G. M. C.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

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THE GREATEST CAR VALUE FOR 1914

See all others—but examine the KING before you buy

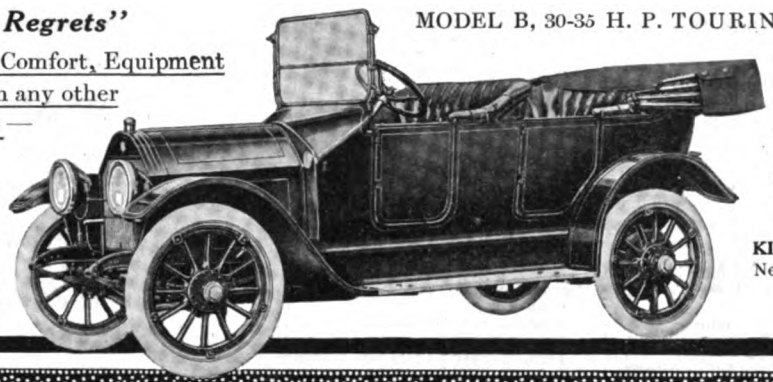
"The Car of No Regrets"

MORE Service, Economy, Comfort, Equipment and Style than can be had in any other car near the KING'S price—

$1095

WITH EQUIPMENT

Ward Leonard Starter and Generator, $100 net additional.



MODEL B, 30-35 H. P. TOURING CAR AND ROADSTER

"None So Easy Riding"

The KING'S patent cantilever rear springs make all auxiliary shock-absorbers unnecessary; prevent "side swing" and assure long life to car and tires.

Write for catalog

KING MOTOR CAR CO., Detroit, Mich.

New York Agency, Broadway at 52d St.

AGENTS—Some choice territory still open. Wire today.

KING

The Famous Model "T"

FORD SPECIAL

Master Vibrator

Price $10.00

Satisfaction Absolutely Guaranteed

NEW YORK COIL CO.

338 Pearl St.,
New York City, N. Y.

WESTERN BRANCH

1429 Michigan Ave.,
Chicago, Ill.

New Departure

"TWO-IN-ONE"

Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.

Bristol, Connecticut

EDWARDS FIREPROOF STEEL

GARAGES

For Automobiles and Motorcycles

$30 and Up

Easy to put up. Portable. All sizes.
Postal brings latest illustrated catalogue.

The Edwards Mfg. Co., 416-466 Eggleston Ave., Cincinnati, Ohio

The Atwater Kent Ford Ignition

does more than eliminate the frequent and troublesome adjustment of the Ford coils.

The Atwater Kent Ignition assures perfect synchronization at all speeds, eliminating preignition and overheating—starts easily with a quarter turn of the crank and frequently without cranking by means of the starting button on the coil.

Effects a saving in gas, wear and vibration by enabling the motor to run slowly while the car is standing and run as smoothly on "high" at four miles an hour as at thirty or fifty.

The Atwater Kent will, in addition, wonderfully increase the power, speed, flexibility and hill climbing ability of the Ford car, and gives superior results and costs less than half that of the high tension magneto.

It consists of the Unisparker or distributor elevated to a convenient and accessible position which takes the place of the Ford timer and a single non-vibrating coil is installed in place of the four vibrating coils.

It is easily installed by any one who can time a motor—no holes to bore—a screw driver and wrench are the only tools required.

Price complete with hand-operated switch $28.00—foot-operated switch $2.00 extra.

Write at once for Circular "L" and trade prices.

ATWATER KENT MFG. WORKS 4932 STENTON AVENUE PHILADELPHIA

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BUYERS' GUIDE---Continued

CHAINS, TIRE AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

Miller, Chas. E., 97-103 Reade St., New York. (Brampton.)

Branches: See Accessory Manufacturers and Jobbers.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FIRE EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

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Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

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Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)

IGNITION APPARATUS.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)

Branch: 1974 Broadway, New York.

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Apple Electric Co., Dayton, O. (Aplco.)

Dean Electric Co., Elyria, O. (Dynalux.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Remy Electric Co., Anderson, Ind. (Remy.)

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Borne, Scrymser Co., 80 South St., New York. (Colonial.)

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Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)

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Haws, Geo. A., 148 Front St., New York. (Panhard.)

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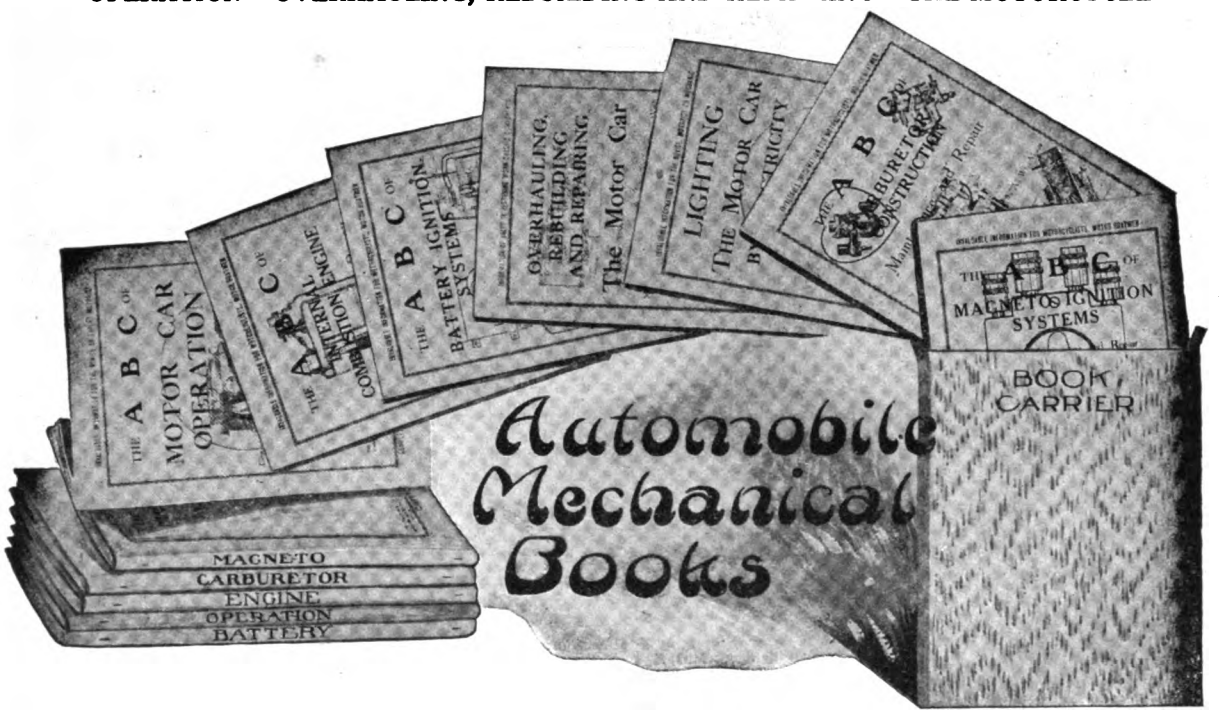

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Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Lite.)
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TIRE PRESERVATIVES AND PROTECTORS.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)
Gaulois Tire Corp., 1926 Broadway, New York. (Gaulois.)
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Branches: In all principal cities.
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

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Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)
Polack Tyre & Rubber Co., 246 W. 59th St., New York City. (Polack.)
United States Tire Co., Broadway and 58th St., New York.
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TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

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Hopewell Brothers, Newton, Mass. (Vibrator.)
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TRUCKS AND TRACTORS. (See Cars, Commercial.)

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Connecticut Steel & Wire Co., Hartford, Conn.

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VALVE GRINDERS.

Wall, J. H., 290 Hope St., Bristol, R. I. (Ford.)

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Winsor Mfg. Co., Providence, R. I.

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Autogenous Welding Equipment Co., Springfield, Mass.

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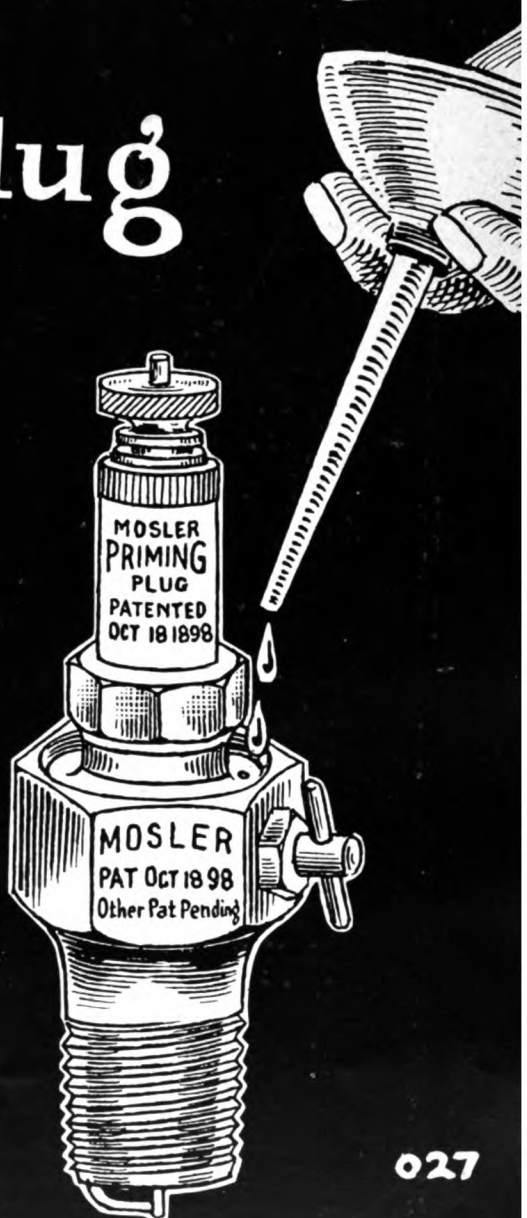

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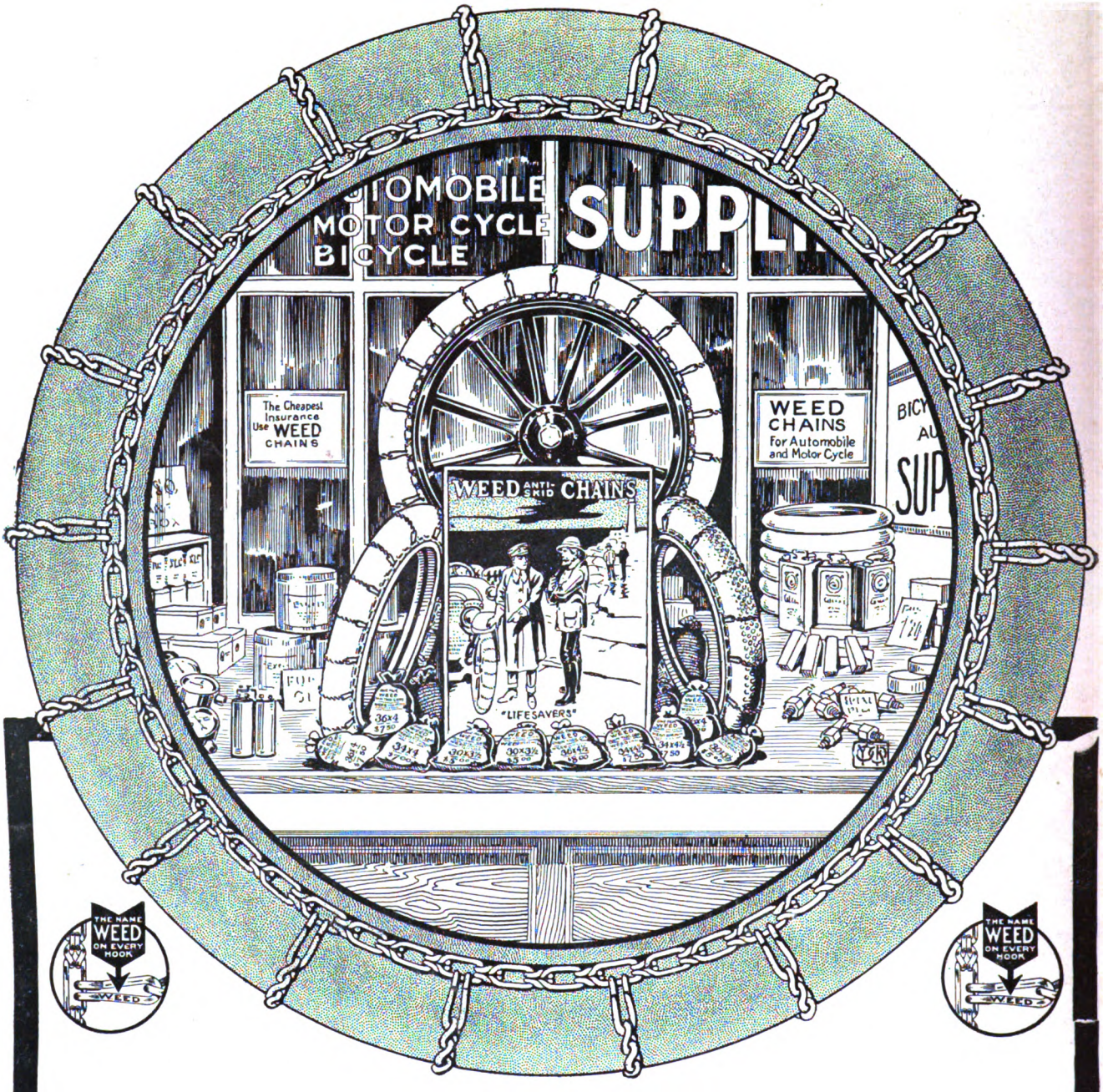

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JANUARY, 1914. NO. 9

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Dealers' Oil Bulletin No. 2

Pennsylvania Crude Oil makes the best gas-engine lubricants. Everyone acknowledges this. It is a pure paraffine base. Practically all other crudes contain a percentage of asphalt.

Pennsylvania yields not over 10% of the crude oil produced in this country today. Many of the so-called "Pennsylvania" oils will bear watching. Because of its higher quality and comparative scarcity, its products are more expensive. During the past two years the crude itself has doubled in price.

Most dealers are paying no more for oil today than they did years ago; some pay less. There is only one answer; less quality. Will it pay in the end?

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., JANUARY, 1914. No. 9

SITUATION PRESAGES A PROSPEROUS YEAR.

Business Conditions as Reflected by the Shows---New Records in Attendance ---Many Sales Reported.

BUSINESS conditions in the industry throughout the country, as reflected by the New York national show and the local dealers' displays in widely separated sections, are particularly encouraging. Manufacturers and dealers have awaited these exhibitions this year with more than ordinary interest, and the results thus far reported are such as to inspire confidence in the possibilities for sales during 1914.

The attendance at New York was larger than ever before, and reports from the manufacturers who made display, indicate that much better business was realized than has been true in any recent year. It is anticipated that a similar experience will result at the Chicago show, Jan. 24-31.

Immediately following the New York display, local shows were held in Philadelphia, Detroit, Bridgeport, Baltimore, Washington, Cleveland, Milwaukee and Los Angeles. Reliable information from each of these centres sets forth that new records in attendance were created in every instance. Cleveland reports sales aggregating $1,000,000. Detroit and Milwaukee found the business men particularly interested in commercial vehicles. Bridgeport dealers sold 100 cars during the week. The enthusiasm of the purchasing public in the other cities mentioned was such as to make the dealers most optimistic as to the future.

Big Combination of Electric Vehicle Manufacturers---Argo, Borland and Broc Models Affected.

One of the most important announcements of the electric vehicle industry in recent months is that concerning the formation of the American Electric Car Company of Chicago, capitalized for $1,500,000. It is understood that the new company will take over the product of the Argo Electric Vehicle Company, Saginaw, Mich., the Borland-Grannis Company, Chicago, and the Broc Electric Vehicle Company, Cleveland, O. The officers are: President, F. A. Brand; vice presidents, Fred Buck, Bruce Borland and U. B. Grannis; secretary-treasurer, Theodore Huss. Each of the three constituent concerns is represented on the executive board and on the board of directors.

The details of the plan have not been made public sufficiently to determine definitely whether the new company will take over the manufacturing of the cars heretofore produced by the makers of the Argo, Borland and Broc. It is stated, however, that the three names will be retained, and, presumably, the various models will be continued, at least for the present.

As announced recently, there will be three Argo pleasure car models for 1914, six Borland and six Broc. In addition there are two Argo commercial vehicles, and it has been rumored that there is a possibility of electric trucks being produced under the Borland name.

MOLINE-KNIGHT ENGINE IN RECORD TEST.

A Moline-Knight engine, made by the Moline Automobile Company, East Moline, Ill., was turned over to the laboratory engineer of the Automobile Club of America in New York City, Dec. 19, to undergo an official test, covering two weeks of continuous running. The 336-hour test came to an end Jan. 2 and the motor was run an additional hour at a higher rate before being completely disassembled to learn the condition of its components.

During the original test the motor was run at a crankshaft speed of 1117 revolutions a minute, at which it showed an average horsepower reading of 38.3. In the subsequent run the engine

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was speeded up to 1682 revolutions, at which it developed 53.6 horsepower. The rating of the engine under the S. A. E. formula is 28.16 horsepower.

Concerning the condition of the motor at the completion of the test, the official report reads as follows:

There was no perceptible wear on the bearings, sleeves or other parts. The slight irregularities in the sleeves were built up with carbon to form close-fitting, glossy surfaces. The ports in the sleeves were not burnt, and there was only a very slight deposit of carbon on the port edges. The cylinder heads and the tops of the pistons showed only a very thin coating of carbon, and only small quantities were found elsewhere. No shake could be felt in any bearing, and there was every indication of perfect lubrication. There was not a single ring in either piston or cylinder head which was not perfectly free at the end of the test. The running of the motor as regards noise and vibration was not appreciably different at the end of the test from that at the start and early hours.

The carburetor employed was a 1.5-inch, nominal size, model R Schebler, which has a tapered needle whose position in the nozzle is controlled, through a lever connection, by the position of the air valve. No changes in the carburetor setting were made during the endurance test.

Ignition was furnished by a Bosch DU model 4A Duplex magneto. Four Bosch plugs with heavy three point electrodes were put in at the start of the test, and none of these was taken out of the cylinder or otherwise disturbed until after the endurance test was completed. The electrodes were partly burned away, so that the gap was increased, but the regularity of firing was noticeable throughout.

BRISCOE MOTOR COMPANY.

Organized in New York City and Cars Will Be Produced in Factory at Jackson, Mich.

The Briscoe Motor Company was organized in New York City, Jan. 6, to handle the American production of the Briscoe car, made by Briscoe Freres, Paris, France. The latter concern is composed of Benjamin and Frank Briscoe, who are already well known to the American automobile industry, through their connection with the old Maxwell-Briscoe Motor Company, the United States Motor Company, and a number of other concerns.

Horace DeLisser, President, Briscoe Motor Company.

About the same time it was announced that a contract had been entered into between the Briscoe Motor Company and the Lewis Spring & Axle Company, Jackson, Mich., under the terms of which the Briscoe car will be produced by the latter company. The officers of the Briscoe Motor Company are: President, Horace DeLisser, formerly associated with Benjamin Briscoe in the United States Motor Company, the former as vice president and the latter as president, and now with the Ajax-Grieb Rubber Company; vice president, W. F. Smith; secretary and treasurer, L. E. Latta.

TO PRODUCE KEETON CARS.

American Voiturette Company Assumes Manufacture of Large Machine.

Announcement is made by Charles B. Shaffer, president of the American Voiturette Company, Detroit, that it has completed arrangements with the Keeton Motor Company of that city, whereby the Keeton cars will be produced by the former concern in the future. It is understood that outward appearance and name of the Keeton will remain unchanged, while the mechanical construction and details will be given every consideration consistent with sound engineering practise.

The American Voiturette Company was organized early last year for the purpose of producing the Car-Nation, in three models. This machine has been classified as a cyclecar, insofar as the two two-passenger models are concerned, but it is also produced as a touring car. Many of those interested in the manufacture of the Keeton machine were connected with the other company, although some of these withdrew from the older concern last summer.

Mr. Shaffer was a minority stockholder in the Keeton company. The other officers of the American Voiturette Company are: Vice president and general manager, W. H. Newsom; secretary and treasurer, C. B. Lewis; assistant secretary and treasurer, C. P. Jones.

It is explained by Mr. Shaffer that, owing to the fact that the field for a car of the class and type of the Keeton is somewhat limited, it has been decided best to have it made in conjunction with the Car-Nation. He adds that the company will build a limited number of the new Keetons for the 1914 season, but every one of them will be of the quality and construction that makes a car a continual source of pride and satisfaction to the owner.

OPENS CINCINNATI BRANCH.

Auto Parts Company Adds Another Distributing Station in Charge of Vice President Wilson.

The Auto Parts Company, Providence, R. I., maker of the well known Apco Ford specialties, announces that it has opened a distributing branch at 806 Race street, Cincinnati, O. This is the heart of the automobile district in that city, and the branch will be in charge of John Wilson, Jr., a vice president of the concern.

The Apco line is one of the most comprehensive manufactured in this country, embracing practically every accessory that makes for the comfort of Ford owners, and the wide distribution of Ford cars throughout the country has impelled the company to adopt this method of serving the public. Branches also have been established in Boston, Philadelphia, Chicago, Los Angeles and San Francisco. The officers of the Auto Parts Company are: President and treasurer, Thomas F. Wilson; vice president, John Wilson, Jr., and secretary, William M. Wilson.

SPARK PLUG ORGANIZATION.

Forty Manufacturers Meet for This Purpose During New York Show.

One of the important gatherings during the week of the New York automobile show was that of some 40 manufacturers of spark plugs, which was called at the instance of A. R. Mosler, president of A. R. Mosler & Co., Mount Vernon, N. Y. The meeting followed a banquet at the Hotel Astor, at which the guest of honor was William A. Redding, patent attorney, and the chief topic of discussion was the recent decision respecting the so-called Canfield spark plug patent.

A second meeting will be held in the near future for the purpose of completing the organization of the spark plug manufacturers, and to this end the following committee was appointed: D. B. Mills, Rajah Supply Company; Albert Champion, Champion Ignition Company; R. A. Stronnehan, Champion Spark Plug Company; David Smith, Standard Company; E. H. Schwab, Silvex Company, and Otto Heinze, Bosch Magneto Company.

It is expected that the organization will be composed of manufacturers licensed to produce spark plugs under the Canfield patent, which is owned by the Mosler company. It is stated that 23 leading manufacturers already hold such licenses.

CONNERSVILLE CONCERNS UNITE.

Makers of Howard and Lexington Cars Combine Under New Charter.

A certificate of incorporation has been filed with the secretary of state in Indianapolis, Ind., for the Lexington-Howard Company of Connersville, with capital of $150,000. It is understood that this is the result of a combination between the Howard Motor Car Company and the Lexington Motor Car Company, and that the new concern will produce both the Howard and the Lexington cars.

The directors of the new company are E. W. Ansted, J. E. Huston and F. I. Barrows.

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GENERAL NEWS OF THE MANUFACTURERS.

The Folberth Auto Specialty Company, Cleveland, O., has completed its new building at Lake avenue and West 80th street, and now has a thoroughly modern plant. The firm is composed of F. W. and W. L. Folberth, who have been identified with the automobile industry for some time. Their father is a motor car manufacturer in Germany. The company intends to specialize in foreign car service and is patentee of the Folbert tire pump and the Folberth carburetor.

The Jones Electric Starter Company, Chicago, Ill., manufacturer of the Jesco electric starting and lighting system, announces the opening of the Jesco Equipment Company, New York City, as its eastern sales, service and installation representative. This company occupies the eighth floor of a building at 245 West 55th street, just off Broadway. George W. Wacker, formerly in charge of the Simms Magneto Company's plant at Bloomfield, N. J., is general manager, and F. E. Moskovics, secretary of the Jones Electric Starter Company, is president.

The Heinze Electric Company announces the opening of a New York sales office and service station at 1876 Broadway, under the management of P. G. Sedley. This branch will carry in stock a complete line of coils and coil parts for Ford cars, carburetors and spark plugs, together with a full line of ignition apparatus, and in addition will be thoroughly equipped for the prompt and efficient repairing of same.

The Knight Tire and Rubber Company, Kansas City, Mo., has opened a branch at 1528 Grand avenue, in charge of H. C. Hess.

The Champion Ignition Company, Flint, Mich., has brought suit against the Champion Spark Plug Company, Toledo, O., to restrain the use of the name Champion and also alleging infringement on the Flint company's plug patents.

The Hastings Motor Shaft Company, Jackson, Mich., has been reorganized and refinanced. The name has been changed to the Jackson Motor Shaft Company and new additional preferred stock has been issued. The new officers elected are: President and general manager, L. E. Bloomfield; vice president, Winthrop Livingood; treasurer, John L. Allen; secretary, F. H. Lewis.

The Monroe Body Company, Pontiac, Mich., manufacturers of automobile bodies, has taken a lease of the plant of the late Pontiac Turning Company, and has already started alterations to properly equip the building. The plant will be used for assembling bodies. The additional room will enable the concern to materially increase its output.

The Sireno Company, Inc., 18 Rose street, New York City, manufacturer of signal horns and accessories, has been elected to membership in the Motor & Accessory Manufacturers.

The Premier Motor Manufacturing Company, Indianapolis, Ind., has increased its capital stock from $1,250,000 to $1,750,000 at a special meeting of the stockholders, and a bond issue of $250,000 was also authorized. This additional working capital will put the Premier Company in a position to take care of its rapidly growing business.

The Long Manufacturing Company, Detroit, Mich., manufacturer of automobile parts, has increased its capital from $300,000 to $400,000. J. L. Dryden is secretary.

The Great Western Manufacturing Company, Laporte, Ind., has taken over the patents and manufacture of Lindsay wire wheels for automobiles, which were formerly made by the Lindsay Automobile Parts Company, Indianapolis.

The Ford Motor Company, Detroit, Mich., has bought from the Ohio River Sand Company a plot of ground on the Southern & Louisville tracks at Third street, Louisville, Ky., and will begin immediately the construction of an assembling plant at a cost of approximately $200,000. The plant will employ between 200 and 300 men and will be used to supply the trade in this section.

The National Tire & Rubber Company, East Palestine, O., has started operations on its new two-story reinforced concrete steel factory, which is to cost $75,000.

The Timken-Detroit Axle Company, Detroit, Mich., is having another large addition made to its factory. The new building will be on Clark avenue.

The Stewart Warner Speedometer Corporation, Chicago, has opened seven new direct factory branches and 50 new service stations in all parts of the country. The new factory branches are located in St. Louis, Kansas City, Minneapolis, Los Angeles, Atlanta, Pittsburg and Philadelphia. The complete Stewart organization now comprises 15 factory branches and 103 dealers' service stations, including depots in London, England; Christchurch, New Zealand; Edmonton, Canada; Montreal, Canada; Hamburg, Germany; Paris, France; Sydney, Australia, and Johannesburg, South Africa.

The Batavia Rubber Company, Batavia, N. Y., has completed plans to erect an addition 101 by 85 feet, three stories high, providing 25,000 square feet of additional floor space. The structure is to be of steel and brick.

The Knight Tire and Rubber Company, Canton, O., has commenced the erection of two new buildings, three stories high, 75 by 125 feet, and one building two stories high, 55 by 125 feet.

The Housel Manufacturing Company, Rochester, N. Y., manufacturer and distributor of automobiles and supplies, has finished its new factory building and all new machinery has been installed.

The Dile Motor Car Company, Reading, Penn., is having a factory built in that city for the manufacture of Dile cars. The company will locate at 10th and Chestnut streets.

The Ravenna Motor Truck Company, Ravenna, O., will soon select an architect to prepare plans for a cement block factory addition, 50 by 100 feet. The work will mature in the spring.

The Thomas B. Jeffery Company, Kenosha, Wis., is building another addition to its works, which now cover 25 acres, with 105 acres in which to expand. This building will contain approximately 2.25 acres of floor space and will be of standard saw tooth construction. A force of 200 men is working on this structure.

The Adams Bros. Company, Findlay, O., held its annual meeting Jan. 13, at which the following officers were elected for the ensuing year: President, Joseph J. Kivis; vice president, C. H. Bigelow; secretary, L. J. Adams; treasurer, B. B. Bigelow; purchasing agent, D. B. Adams; sales manager, J. T. Adams; general manager, W. D. McCaughey. The company reports a good business for the past year and is now busy filling 1914 orders for Adams trucks.

O. J. Rohde, vice president and general manager of the Splitdorf Electrical Company of New York, is one of the best informed electrical experts in the country, and his experience has been such as to make him well fitted for his position. He was one of those who was directly responsible for the new Splitdorf Ford Special water proof high-tension magneto, which has occasioned such widespread interest during the present show season.

O. J. Rohde, General Manager, Splitdorf Electrical Company of New York.

The Detroit Seamless Steel Tubes Company, Detroit, Mich., is building a tube rolling mill.

The Keystone Mobile Car Sign Company will locate a factory in Frederick, Md.

The Hood Rubber Company, Boston, Mass., has sold the entire $500,000 of preferred stock issued by directors, without any commission or underwriting, netting the company par.

The Gallagher Carburetor Company, Inc., 1876 Broadway, New York City, has purchased the Edwards & Smith Company's foundries at Easton, Penn., and will operate under the name of the Lehigh Valley Foundries & Manufacturing Company, with head office in Easton.

The Standard Welding Company, Cleveland, O., has taken up the manufacture of wire wheels for automobiles in addition to the production of rims for motor-driven vehicles.

The Pennsylvania Rubber Company, Jeannette, Penn., has opened its new eastern branch at 1889 Broadway, New York City. The building provides 6000 square feet of floor space and extends from Broadway to Columbus avenue. The basement is to be used for shipping and adjustments. C. C. McCullough is manager.

The Dominion Tire Company, Berlin, Ont., has opened its new factory, constructed of reinforced concrete, one of the largest buildings of its character in Canada. The directors of the company are: D. Lorne McGibbon, Col. S. P. Colt, Victor E. Mitchell, Elisha S. Williams, A. J. Kimel, Homer E. Sawyer and T. H. Reider.

The Puritan Machine Company, Detroit, Mich., has opened a department for furnishing repair parts for the Michigan car, made by the Michigan Motor Car Company before its suspension. E. D. Edwards, formerly purchasing agent of the Michigan company, has been placed in charge.

The H. W. Johns-Manville Company, New York City, has taken over the sales rights for the Arnold electric vaporizer and heating plugs, manufactured by the Arnold

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Electric Company, and the Long horn, manufactured by the G. Piel Company, Long Island City, N. Y. With respect to the last named accessory, the company announces a retail price reduction on the J-S model to $10.

The Hartford Suspension Company, Jersey City, N. J., has taken the new building at 425 North Capitol boulevard as a new location for its Indianapolis branch, the former quarters having been at 448-50 North Capitol boulevard. The new place was built especially for the Truffault-Hartford concern, whose Indianapolis interests are cared for by S. C. Bohannon.

The Richmond Forgings Corporation, Richmond, Va., has opened a permanent office in the Dime Bank building at Detroit, Mich., which will be in charge of the sales manager, L. C. Wellford. This company has also arranged with A. O. Knudson, Boston, Mass., to look after its large New England trade.

The Lee Tire and Rubber Company, Conshohocken, Penn., reports that the sale of its tires has quadrupled during the last nine months and an increase in the other departments of the business of more than 50 per cent. A new 600 horsepower addition to the boiler house is to be completed and a new calender and several 60-inch mills are on the ground ready for erection. Three new tire making machines and several hundred cores and side rings for the manufacture of pneumatic automobile tires are in transit. The total new equipment involves an expenditure of between $50,000 and $75,000.

The Dean Auto Devices Company, 120 South Sangamon street, Chicago, Ill., announces that in the future it will authorize every dealer handling Dean battery horns to replace any such horn which has become inoperative or imperfect in operation at any time within five years from date of purchase, upon the return of the original, accompanied by the exchange certificate.

The Republic Rubber Company's clubhouse for employees at Youngstown, O., was formally opened Jan. 15. It is located on the east side of Albert street, directly opposite the general offices, and is 60 by 130 feet, three stories high. The first floor contains bowling alleys, pool tables, reading and lounging rooms and shower baths;

Clubhouse Recently Opened for Employees of Republic Rubber Company, Youngstown, O.

the second provides a large dining room to accommodate 1200 persons, and a hall for lectures, dances, etc., and the third floor has a kitchen, a dining room for officers and office employees, living apartment for steward and rooms for the company's fire force.

The Goodyear Tire and Rubber Company of Canada, Ltd., Bowmansville, Ont., has just announced several important changes in the personnel of the sales department. P. D. Saylor, vice president and sales manager of the Canada company, has been made president and managing director of the Goodyear Tire and Rubber Company of Great Britain, Ltd. R. P. D. Graham, secretary and manager of the tire department, has been promoted to the position of sales director, succeeding Mr. Saylor.

The Factory Sales Company, 716 Williamson building, Cleveland, O., is placing on the market a new keyless lock which operates like that of the combination safe, to prevent the theft of automobiles.

The F. S. Carr Company, Boston, Mass., manufacturer of water proof automobile and carriage fabrics, has moved into the Francis building, 31 Beach street, where the general offices will be located.

The S. & M. Tire Company, Coshocton, O., expects to have its new plant in operation in a few weeks.

The Lion Liner Company of Appleton, Wis., has moved its factory and general office to Sheboygan, Wis.

The Akron Tire Company, Akron, O., has purchased land in Long Island City, N. Y., and will erect a branch factory there.

The Nu Fen Manufacturing Company, Indianapolis, Ind., has taken offices in the Hume-Mansur building. It is producing a new paint for automobile hoods, etc., which it is claimed will dry overnight.

The Auto Repair & Guarantee Service Company, New Haven, Conn., agent for Chase trucks, has removed to 212 State street, and changed its name to the Central Garage Company.

Dodge Bros., Detroit, has completed plans for a light four-cylinder machine. It will sell between $690 and $750 and production will begin next summer, after the Dodge plant concludes its existing contract with the Ford Motor Company for supplying gears and some detail parts for the Ford cars.

The Swearington Tire Company, Jacksonville, Fla., has taken over the good will and stock of R. W. Swearington and will manufacture tires, etc.

The Cole Motor Car Company, Indianapolis, Ind., has erected a large addition to its plant at a cost of $200,000.

WITH THE CYCLECAR MAKERS.

The Dayton Cyclecar Company, Joliet, Ill., has closed a contract with the Farmer Manufacturing Company for the production of its engines.

The Reid Company, Moline, Ill., has contracted for the manufacture of all sheet metal parts required by the Zip Cyclecar Company of Davenport, Ia., in the production of Zip cyclecars. Deliveries of the latter have been begun in western Illinois.

The Toledo Cyclecar Company, Toledo, O., has leased the building at 628 Erie street and will start cyclecar production in the near future. The plant will employ between 75 and 100 men and it is expected that from 15 to 25 cars a day will be manufactured.

The Flagler Cyclecar Company, 1334 Michigan avenue, Chicago, announces the Flagler cyclecar, seating two persons side by side, with wheelbase of 90 inches, tread of 42 and weight of 450. The motor is a two-cylinder unit, rated at 10-12 horsepower; transmission, friction; final drive, V belt.

The Gadabout Motor Corporation, 29 Broadway, New York City, is to manufacture the Gadabout cyclecar in a Detroit factory. The car seats two persons side by side, with wheelbase of 86 inches and tread of 46. The weight is 550 pounds. The motor is a four-cylinder, water-cooled unit, 2.5-inch bore, 3.5-inch stroke, rated at 12 horsepower. A distinctive feature is the use of a wicker basket body.

The Chautauqua Cyclecar Company has been organized in Jamestown, N. Y., by H. J. Newman and others for the production of the Chautauqua cyclecar, a side-by-side seater, with wheelbase of 102 inches, tread of 52 and weight of 600 pounds. The motor is a 12 horsepower twin-cylinder unit; transmission, friction; final drive, V belt.

The American Cyclecar Company, Seattle, Wash., has purchased a lot 60 by 120 feet on 12th avenue, between Union and Pike streets, for the erection of a factory for the production of a car utilizing a three-cylinder, two-cycle engine of 12 horsepower. The transmission of power also is to be unique, in that a friction drive will be mounted on the engine shaft, between the first and second cylinders of the engine, from which power will be transmitted by chain to the forward axle.

The American Motorette Company, Detroit, has changed its name to the Lincoln Motor Car Company, and its product will be known as the Lincoln Highway roadster. The body is arranged to accommodate three persons, an auxiliary seat being fitted, which may be folded and removed from the car as desired. The motor is a four-cylinder, water-cooled unit, with bore of 2.81 inches and stroke of four. The car employs a cone clutch and progressive gearset, affording two forward speeds and reverse. The wheelbase is 100 inches and the weight 950 pounds.

Herbert A. Meyers and A. H. Hooper, Detroit, have formed a partnership for designing and constructing engines for automobiles and cyclecars.

DIVIDENDS DECLARED.

Chicago Pneumatic Tool Company, Chicago; quarterly, one per cent.; payable Jan. 26.

Firestone Tire & Rubber Company, Akron, O.; common, quarterly, 2½ per cent.; preferred, quarterly, 2½ per cent.; both payable Jan. 15.

Lee Tire & Rubber Company, Conshohocken, Penn.; quarterly, 1¾ per cent.; payable Jan. 15.

National Carbon Company, Cleveland, O.; preferred, quarterly, 1¾ per cent.; payable Feb. 14.

Torrington Company, Torrington, Conn.; common, semi-annual, four per cent.; payable Feb. 2.

U. S. Rubber Company, New York City; common, quarterly, two per cent.; first preferred, quarterly, 1½ per cent.; second preferred, quarterly, 1½ per cent.; all payable Jan. 31.

Westinghouse Electric & Manufacturing Company, Pittsburg, Penn.; common, quarterly, one per cent.; payable Jan. 30; preferred, quarterly, 1¾ per cent.; payable Jan. 15.

Westinghouse Air Brake Company, Pittsburg, Penn.; quarterly, $2; payable Jan. 15.

Pyrene Manufacturing Company, New York City; 1½ per cent.; payable Feb. 1.

Willys-Overland Company, Toledo, O.; common, quarterly, 1½ per cent.; payable Feb. 2.

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FIRE RECORD FOR THE MONTH.

O. K. Garage, Shreveport, La.; garage, $15,000.

Missouri Auto Specialty Company, St. Louis, Mo.; automobile building and contents, $7000.

M. & M. Supply Company, Prospect avenue, Cleveland, O.; store, $80.000.

Albany Garage, Albany, Mo.; garage, $30,000. W. G. Carmack is the owner.

Mrs. Mary Drummond Job, St. Louis, Mo.; garage, $4500.

Syfort Garage, Ainsworth, Neb.; garage, $15,000.

J. P. Holden, Porterville, Cal.; garage and cars.

Ira E. Fonda, New Haven, Conn.; garage badly damaged, three auomobiles and two motor boats, $8000.

H. M. Cockran, Atlantic City, N. J.; garage and machine shop, $2000.

Interboro Garage, West New Brighton, S. I., N. Y.; garage and 10 automobiles belonging to the company, $35,000.

Charles Bandelspaugh, 630 Smith street, Dayton, O.; garage, $2000.

A. Tinkler, Milwaukee, Wis.; two automobiles damaged in the garage caused by an explosion, $1000.

Hickman-Lauson-Diener Company, Milwaukee, Wis., garage.

E. A. Berg, Oakland, Cal.; garage, $1000.

Rickey Machine Company, East Orange, N. J.; garage, loss slight.

Galvin Pardee, Philadelphia, Penn.; garage, several hundred dollars.

S. J. Shinnick, Kansas City, Mo.; garage, $11,000.

Hammond-Standish Company, Detroit; garage, $25,000.

Herren, Menard & Russell, Puyallup, Wash.; garage, $115,000.

Bowe Garage, West Main street, Meriden, Conn.; garage.

Standard Glass & Motor Works, 336 Decatur street, New Orleans, La.; $2000.

Azro Castle, Tell City, Ind.; garage.

Nutley-Newark Express Company, Nutley, N. J.; garage, barns, wagons and delivery trucks, $3000.

Auto Garage Company, Montreal, Can.; building and contents, $225,000.

American Motor Car Company, East Market street, Greensboro, N. C.; building, $10,000.

Buick Auto Company, Pearl and Commerce streets, Houston, Tex.; $1000.

Central Garage Company, Dallas, Ore.; building, $35,000.

Detroit Auto Specialty Company, Detroit, Mich.; building, $5000.

Goodyear Rubber Company, Milwaukee, Wis.; $300,000.

Hendley Auto Repairing Company, 665 Golden Gate avenue, San Francisco, Cal.; loss not stated.

Joseph Hudson Automobile Company, 11 North 21st street, Philadelphia, Penn.; garage.

Harry Madden, Laurel street, Manchester, Conn.; garage, $3000.

Ohio Auto Carriage Company, 1735 East 12th street, N. E., Cleveland, O.; $15,000.

G. A. Schnabel & Sons Auto & Wagon Repair Company, Pittsburg, Penn.; building and contents, $50,000.

Southern Automobile Company, Memphis, Tenn.; buildings and contents, $20,000.

Ford Garage, Milwaukee, Wis.; building and contents, $120,000.

Samuel A. Jones, Norwich, N. Y.; garage.

Bronze Bros., Portsmouth, O.; garage.

Dr. Fred Sigworth, Annamosa, Ia.; garage and two automobiles.

Warren Electric & Machine Company, 936 Fort Wayne avenue, Indianapolis, Ind.; building and contents, $2000.

Saul Munter, 1915 North Delaware street, Indianapolis, Ind.; garage and automobile, $1000.

Alexander Cockburn, 395 Fifth avenue, Watertown, N. Y.; garage, $1500.

COMING EVENTS.

January.

Jan. 24-31—Pleasure car show, Montreal, Que.
Jan. 24-31—Show, Rochester, N. Y.
Jan. 24-31—Pleasure car show, Coliseum, Chicago, Ill.
Jan. 26-31—Show, Scranton, Penn.
Jan. 31-Feb. 7—Show, Minneapolis, Minn.

February.

Feb. 2- 7—Show, Troy, N. Y.
Feb. 2- 7—Pleasure car show, Buffalo, N. Y.
Feb. 3- 7—Show, Kalamazoo, Mich.
Feb. 3- 7—Commercial car show, Montreal, Que.
Feb. 4- 7—Show, St. Joseph, Mo.
Feb. 7-12—Show, Seattle, Wash.
Feb. 7-14—Independent show, Cincinnati, O.
Feb. 9-14—Truck show, Buffalo, N. Y.
Feb. 9-14—Show, Grand Rapids, Mich.
Feb. 11-14—Show, Louisville, Ky.
Feb. 11-14—Show, Geneva, N. Y.
Feb. 14-21—Show, Pittsburg, Penn.
Feb. 16-21—Canadian national show, Toronto, Ont.
Feb. 16-21—Show, Kansas City, Mo.
Feb. 18-21—Show, Bloomington, Ill.
Feb. 21—Vanderbilt Cup race, Santa Monica, Cal.
Feb. 21-28—Show, Hartford, Conn.
Feb. 21-28—Show, First Regiment Armory, Newark, N. J.
Feb. 21-28—Pleasure car show, Cincinnati, O.
Feb. 21-28—Show, Elmira, N. Y.
Feb. 23-28—Show, Omaha, Neb.
Feb. 24-28—Show, Syracuse, N. Y.
Feb. 28—Grand Prize Race, Santa Monica, Cal.

March.

March 2- 4—Commercial car show, Cincinnati, O.
March 2- 6—Show, Fort Dodge, Ia.
March 4- 7—Show, Tiffin, O.
March 7-14—Pleasure car show, Mechanics' Building, Boston, Mass.
March 9-14—Show, Des Moines, Ia.
March 17-21—Truck show, Mechanics' Building, Boston.
March 21-28—Show, St. John, N. B.

April.

April 9-15—Show, Manchester, N. H.

May.

May 24-25—Targa Florio race, Italy.
May 30—500-mile race, Indianapolis, Ind.

June.

June 9-11—Isle of Man road race.

July.

July 3-4—Road races, Tacoma, Wash.
July 4—Grand Prix, Lyons, France.
July 25-29—Grand Prix race, Belgium.

August.

Aug. 28-29—Road races, Elgin, Ill.

September.

Sept. 9—Road race, Corona, Cal.
Sept. 9—Grand Prix, Italy.

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison:

	Dec. 22		Dec. 29		Jan. 5		Jan. 12			
	High	Low	High	Low	High	Low	High	Low	Dec. 20	Jan. 19
Antimony, lb	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Beams and chan. 100 lbs	1.36½	1.36½	1.36½	1.31½	1.31½	1.31½	1.31	1.31	1.36½	1.31½
Bessemer steel, ton	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	19.00
Copper, elec., lb	.14¼	.14 1-5	.14½	.14 1-5	.14¾	.14 1-5	.14½	.14	.14¼	.14¼
Copper, lake, lb	.14⅝	.14⅝	.14¾	.14½	.14⅞	.14½	.14¾	.14¼	.14½	.14½
Cottonseed oil, bbl	6.81	6.69	6.77	6.60	6.67	6.60	6.75	6.85	6.65	6.90
Cyanide potash, lb	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
Fish oil, Menhaden, br	.39	.38	.39	.39	.39	.39	.40	.40	.39	.40
Gasoline, auto., 200 gals	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼
Lard oil, prime	.92	.92	.93	.92	.93	.93	.93	.93	.92	.93
Lead, 100 lbs	4.00	4.00	4.10	4.00	4.15	4.10	4.15	4.07½	4.00	4.07½
Linseed oil	.52	.52	.52	.52	.52	.52	.52	.52	.52	.52
Open hearth steel, ton	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	19.00
Petroleum, Kan. cr., bbl	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Petroleum, Penn. cr., bbl	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Rapeseed oil, refined	.62	.62	.62	.62	.62	.62	.62	.62	.62	.62
Rubber, fine up-river Para	.73	.73	.73	.73	.76	.73	.76½	.75	.73	.75
Sulphuric acid, 60	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Tin, 100 lbs	37.85	37.00	37.13	36.65	37.38	36.63	36.85	36.38	37.10	37.45
Tire, scrap	.05	.05	.05	05	.05	.05	.05	.04½	.05	.04½

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MARKET QUOTATIONS FOR THE MONTH.

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of January were as follows:

Pennsylvania dark	$2.50	Ragland	$ .70
Second sand	2.50	Illinois above 30°	1.45
Tiona	2.50	Illinois below 30°	1.45
Mercer black	2.00	Kan. & Okla.	1.03
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.80
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.49	Caddo, La., 38°	1.05
South Lima	1.44	Caddo, La., heavy	.78
Indiana	1.34	Spindletop	1.06
Princeton	1.40	Canadian oil	1.89
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	30½	30	20½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-62°	20¼	20	19¾
73 a 76°	29½	29¼	29
Stove	23	22¾	22½
Auto, 68-72°	25½	25¼	25

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	13	a	13½
Tank wagon delivery	..	a	9
Fuel, 31°	9¼	a	..
Fuel, 34°	10¼	a	..

Naphtha.

Auto in wood	..	a	20
Auto in garages, steel bbls.	..	a	16
V. M. & P. deod., in steel	..	a	14
V. M. & P. deod., in wood	..	a	16

Gasoline

86°	..	a	29½
74-76°	..	a	25¼
67-70°	..	a	22¼
Stove	..	a	21

COMPARATIVE QUOTATIONS ON AUTOMOBILE SECURITIES.

Business conditions, as revealed by the stock market quotations respecting automobile securities during the past month, are such as to offer encouragement. It will be noted by the accompanying tabulation, which indicates the state of the market during each week of the month and in comparison with last year at this time, that many of the securities have reached a point well in advance of the quotations of January, 1913. Taken in connection with the prices quoted elsewhere and other information available, business conditions are having a decidedly upward tendency all along the line.

	Dec. 22		Dec 29		Jan. 5		Jan. 12		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com.	195	220	195	210	195	215	195	..	180	200
Ajax-Grieb Rubber, pfd.	99	102	98	101	98	101	98	102	95	101
Aluminum Castings, pfd.	97	100	97	100	97	100	97	100	98	101
Borne, Scrymser	290	300	300	310	350	380	325	335	..	..
Chalmers Motor, com.	89	93	..	91	..	91	90	93	..	..
Chalmers Motor, pfd.	92	95	90	93	90	93	92	97	..	..
Consolidated Rubber Tire, com.	40	41	39	40	38	40	39½	41	14	16
Consolidated Rubber Tire, pfd.	107	110	106½	107½	106	108	106½	107½	60	70
Firestone Tire & Rubber, com.	240	250	242	250	244	248	248	252	328	332
Firestone Tire & Rubber, pfd.	100	101	103	104	102	104	102	104	105½	107
Garford Co., pfd.	80	90	80	90	80	90	80	90	100	102
General Motors, com.	36	37	36½	38	38	38½	44	45½	34	36
General Motors, pfd.	77	78	76	78	77	77½	82½	84½	78	79
B. F. Goodrich, com.	18	18½	22½	23½	23	24	22	23	64	66
B. F. Goodrich, pfd.	78	79	78	79	80	81½	81	83	105	105¼
Goodyear Tire & Rubber, com.	180	190	190	195	240	..	240	255	440	450
Goodyear Tire & Rubber, pfd.	88¼	90	92	94	92	94	95½	97	104½	106
Gray & Davis, pfd.	94	101	94	101	92	100	90	98	..	..
Hayes Mfg. Co.	..	..	..	..	..	..	..	..	..	90
International Motor, com.	..	5	..	5	..	5	..	5	5	10
International Motor, pfd.	..	15	..	14	..	15	..	15	40	60
Kelly-Springfield Motor Truck, com.	40	60	40	60	40	60	39	41	..	..
Kelly-Springfield Motor Truck, pfd.	90	105	90	105	90	105	107	110	..	..
Lozier Motor, com.	..	16	..	15½	..	15½	..	15¼	..	..
Lozier Motor, pfd.	..	90	..	90	..	90	..	80	..	..
Maxwell Motor, com.	3	3½	3	3¼	3	3½	5	5½	..	..
Maxwell Motor, 1st pfd.	19	20	21½	22	22¾	23¼	29	30	..	..
Maxwell Motor, 2nd pfd.	7	7½	7	7½	7	7½	9	10	..	..
Miller Rubber	115	120	115	120	119	125	124	130	165	170
New Departure Mfg., com.	..	145	135	145	125	..	120	124	..	..
New Departure Mfg., pfd.	101	102	101	102	100	102	100	104	..	..
Packard Motor Car, pfd.	..	95	91	95	92	95	95	..	103	105
Palmer & Singer Mfg., pfd.	..	65	..	65	..	65	..	65	..	..
Peerless Motor Car, com.	15	25	15	25	15	25	15	25	..	..
Peerless Motor Car, pfd.	75	80	75	80	75	80	75	80	..	..
Pope Mfg. Co., com.	1	3	1	2	..	2½	..	2	34	35
Pope Mfg. Co., pfd.	7	12	7	12	..	12	..	12	79	80
Portage Rubber, com.	..	40	..	40	..	40	..	40	..	..
Portage Rubber, pfd.	..	90	..	90	..	90	..	90	..	..
Reo Motor Car	13¾	14¾	14½	..	14½	15½	14¾	15¾	20¼	20¾
Reo Motor Truck	5¾	7	6½	..	6¾	7¾	6¾	7½	10	10½
Rubber Goods Mfg., pfd.	103	112	104	112	104	115	105	115	..	..
Russell Motor Car, com.	..	40	..	40	..	40	..	40	..	..
Russell Motor Car, pfd.	..	70	..	70	..	70	..	70	..	..
Splitdorf Electrical	40	45	40	45	42	45	40	50	..	..
Stewart-Warner Corp., com.	55	57	45	51	49	50	50	52	..	..
Stewart-Warner Corp., pfd.	95	97½	94	97	94	96	94	96	..	..
Studebaker Corp., com.	16½	17½	18	18½	19½	20½	21	22	33½	36
Studebaker Corp., pfd.	66	68	68½	70	70	71	71½	72½	92½	94½
Swinehart Tire & Rubber	65	70	68	71	69	71	69	71	110	112
U. S. Rubber, com.	56	56½	56	57	58	58½	58½	59½	..	..
U. S. Rubber, 1st pfd.	100	101	100½	101	102	102½	103	104	..	..
Vacuum Oil	189	192	195	198	194	198	216	218	..	..
White Co., pfd.	105	110	105	110	105	110	105	110	328	332
Willys-Overland, com.	58	61	59	62	58	61	58	62	74	74½
Willys-Overland, pfd.	82	89	80	85	83	90	83	86	99	100

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

PLEASURE CAR AGENCIES WANTED.

9752—New York House is interested in securing the agency for pleasure cars selling between $300 and $1000.

9758—Kansas Firm is desirous of securing the agency for pleasure cars selling between $400 and $2000.

9748—North Carolina Dealer would represent makers of pleasure cars selling from $750 to $1200.

9756—Illinois House is interested in pleasure cars selling from $500 to $2000.

9757—North Dakota Firm is desirous of securing the agency for cars listing from $450 to $1500.

9753—Kansas House is in the market to represent cars selling up to $5000.

9784—Virginia House seeks the agency for cars selling from $800 to $1500.

9766—Michigan Dealer is anxious to secure the agency for pleasure cars selling at about $500.

9755—South Dakota Dealer is in the market for pleasure cars listing from $750 to $2000.

9781—Ohio Firm is interested in securing the agency for pleasure cars selling from $500 to $1500.

9750—Wisconsin House is interested in securing the agency for pleasure cars selling from $350 to $850.

9759—Michigan Company would consider the agency for pleasure cars selling from $500 to $1500.

9762—New York House would consider an agency for pleasure cars selling between $525 to $5000.

9767—Delaware Firm would consider an agency proposition involving cars selling between $1000 and $5000.

9768—Michigan House is interested in the agency for pleasure cars selling between $400 and $1250.

9783—California Company would represent makers of pleasure cars selling from $500 to $5000.

9803—North Dakota Firm is in the market for pleasure cars selling from $375 to $2000.

9827—Iowa Dealer wants to obtain an agency on cars ranging from $1785 to $3850.

9816—Texas Company is in the market for pleasure cars selling from $750 to $1000.

9788—Nebraska House is in the market for pleasure cars selling from $500 to $2500.

9820—Texas Firm wants to obtain an agency for pleasure cars selling between $350 and $1500.

9823—New York House is desirous of securing an agency for pleasure cars ranging from $500 to $5000.

9829—Washington Company wants the agency for pleasure cars selling from $750 to $6500.

9831—Nebraska Firm is anxious of securing the agency for pleasure cars selling up to $1200.

9835—Iowa House is in the market for pleasure cars ranging in price from $850 to $2000.

9844—Nebraska Company is desirous of obtaining the agency for pleasure cars selling between $585 and $2500.

9857—Ohio Dealer is in the market for pleasure cars of all prices.

9838—New York Dealer wants the agency for pleasure cars selling up to $500.

9848—Washington Concern would like to secure the agency for pleasure cars selling from $1500 to $2350.

9853—Arkansas Company is desirous of securing the agency for pleasure cars ranging from $400 to $2000.

9860—Ohio Company wants the agency for pleasure cars selling up to $2250.

COMMERCIAL CAR AGENCIES WANTED.

5490—Michigan Dealer is interested in securing the agency for power wagons listing at $500 to $1500.

5493—Illinois House is in the market to represent manufacturers of commercial vehicles selling between $800 and $1500.

5499—Kansas Firm wants agency for commercial vehicles selling between $600 and $2500.

5495—Virginia House is open for an agency proposition involving power wagons selling from $800 to $1500.

6000—Michigan Dealer is interested in securing the agency for power wagons listing at $1000 and under.

6005—South Dakota House would take the agency for power wagons selling from $800 to $2500.

5492—Ohio House would consider an agency proposition for power wagons selling from $800 to $1500.

6001—Delaware Dealer is interested in securing the agency for power wagons listing at $1000 to $3000.

6006—New York Firm is open for an agency proposition involving power wagons selling at $525 to $4750.

6026—Nebraska House is in the market for commercial cars selling from $500 to $2500.

6033—Wisconsin Dealer would consider an agency proposition for power wagons selling from $700 to $1200.

6037—Ohio Firm would take the agency for power wagons of all prices.

6043—Nebraska Dealer is in the market for commercial cars selling up to $1350.

6047—New York House would consider an agency proposition for power wagons selling up to $1000.

6053—Washington Concern is interested in securing the agency for power wagons listing from $1800 to $5000.

CYCLECAR AGENCIES WANTED.

1713—Montana House would take the agency for some good cyclecar proposition.

1728—Michigan House in the market for a good line of cyclecar parts, accessories and shop equipment.

ACCESSORY AGENCIES WANTED.

7598—Ohio House is in the market to represent Ford accessories.

7599—North Dakota Firm is interested in securing the agency for pleasure car equipment and accessories.

7606—Maryland House is interested in securing the agency for automobile accessories.

7603—Kansas Company seeks an opportunity to handle good selling line of pleasure car accessories and supplies, also power wagon equipment, accessories and supplies.

7610—Virginia Dealer wants agency for pleasure car accessories and supplies, also power wagon accessories, supplies and equipment.

7601—Michigan Firm would handle a line of pleasure car accessories and supplies.

7613—South Dakota Company is seeking the agency for pleasure car accessories, equipment and supplies.

7617—Ohio House is interested in new equipment, supplies and accessories for pleasure cars.

7620—Delaware Company desires the agency for automobile equipment, accessories and supplies, also power wagon supplies and accessories.

7625—Montana Firm is interested in securing the agency for pleasure car equipment, accessories and supplies.

7622—Indiana House would handle a line of pleasure car equipment, accessories and supplies.

7630—Wisconsin Company is in the market for all kinds of pleasure car accessories and supplies.

7645—Florida House is in the market to represent any satisfactory line of automobile accessories and supplies.

7637—Michigan Firm is interested in securing the agency for pleasure car equipment, accessories and supplies.

7624—Michigan House wants agency for automobile equipment, accessories and supplies.

7633—New York Company is in the market to represent any satisfactory line of automobile and power wagon accessories, equipment and supplies.

7623—Kansas Firm would like the agency for automobile accessories, equipment and supplies.

7635—New York House is anxious to secure the agency for tops, tires, self starters, tire irons, speedometers, electric lighting systems, etc.

7594—North Carolina House is in the market to represent a good line of automobile accessories and supplies.

7638—Indiana House is desirous of securing the agency for automobile accessories.

7631—California Firm is in the market to represent pleasure car electric equipment.

7634—New York Dealer wants agency for pleasure car accessories and supplies.

7640—Maryland Company is desirous of securing the agency for automobile equipment, accessories and supplies.

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7643—Michigan House would handle a line of pleasure car supplies.

7638—Illinois House is in the market to represent pleasure car supplies.

7666—Missouri Concern is looking for a good line of pleasure car equipment, accessories and supplies.

7670—Nebraska Firm is in the market for automobile accessories and supplies.

7655—Chicago Dealer is in the market for tires, inner tubes, tire repair equipment and stock. He would also like to hear from manufacturers of a strictly high grade guaranteed inner tube who are not now represented in Chicago and territory with the exclusive right to handle tubes in this territory.

7675—North Carolina House is in the market for pleasure car and power wagon equipment and supplies.

7682—Texas Firm is looking for a good line of pleasure car equipment, accessories and supplies.

7671—North Dakota House is desirous of securing a good line of automobile equipment, accessories and supplies.

7688—Iowa Company is looking for a first class line of automobile accessories.

7690—Wisconsin House is in the market for pleasure car accessories and supplies.

7704—New York Concern is looking for a good line of pleasure car accessories and supplies.

7710—Iowa Firm is desirous of securing a good line of automobile equipment, accessories and supplies.

7710—Nebraska Dealer is in the market for pleasure car accessories of all kinds and all supplies for Ford cars.

7723—Arkansas Dealer wants to secure a good line of automobile equipment, accessories and supplies.

7728—Ohio Firm is looking for a first class line of automobile and power wagon accessories, supplies and equipment.

7731—Nebraska Concern is anxious to secure a line of pleasure car and power wagon equipment, accessories and supplies.

7738—New York Dealer is in the market for a line of automobile and power wagon equipment, supplies and accessories.

7742—Missouri Concern would like to secure the agency for a good line of automobile equipment and accessories, also power wagon supplies.

7747—Iowa Dealer is looking for a first class line of automobile accessories and supplies.

7752—Illinois Company wants a line of automobile equipment, accessories and supplies.

7758—Illinois Dealer is looking for a line of automobile accessories and supplies.

7763—Ohio Concern is in the market for a line of pleasure car equipment, accessories and supplies.

GARAGE EQUIPMENT WANTED.

8659—Maryland House is in the market for garage equipment and supplies.

8669—New York Company seeks information respecting garage equipment and supplies.

8675—North Dakota Firm is in need of garage equipment.

8655—Massachusetts Dealer wants information relative to garage supplies.

8670—Wisconsin Concern is anxious to secure garage supplies.

8658—Kansas House is interested in garage equipment and supplies.

8688—Virginia Firm is anxious to secure garage equipment and supplies.

8671—Ohio Company wants garage supplies.

8680—Delaware Concern is in the market for garage equipment and supplies.

8674—Indiana House seeks information concerning garage equipment and supplies.

8690—Wisconsin Firm is in the market for garage supplies.

8694—Florida Dealer is desirous of securing garage equipment and supplies.

8699—Michigan Company is in need of garage equipment and supplies.

8692—North Dakota Company seeks information in regard to garage equipment.

8697—Michigan House requests information relative to garage equipment and supplies.

8720—New York Firm is interested in garage equipment and supplies.

8733—North Dakota House is interested in garage equipment and supplies.

8738—Wisconsin Dealer is in the market for garage supplies.

8744—Iowa Firm seeks information respecting garage equipment and supplies.

8749—Nebraska Concern is in the market for garage equipment and supplies.

8752—Arkansas Dealer is interested in garage equipment and supplies.

8773—Illinois Dealer is interested in garage equipment and supplies.

8758—Ohio Dealer requests information relative to garage equipment and supplies.

8761—Nebraska Dealer would like to hear from a good line of garage equipment and supplies.

8763—New York House is in the market for garage equipment and supplies.

8765—Missouri Company wants a line of garage supplies.

8769—Iowa Company seeks information regarding garage equipment and supplies.

8777—Illinois House is in the market to secure garage equipment and supplies.

8780—Ohio House seeks information relative to garage equipment and supplies.

REPAIR SHOP AND MACHINE TOOLS.

6333—New York Concern is in the market for repair shop supplies and equipment.

6352—Maryland House wants information respecting machine tools, repair shop equipment and supplies.

6343—New York Firm wants information relative to machine tools, repair shop equipment and supplies.

6349—Michigan Dealer is desirous of securing information relative to repair shop supplies and equipment.

6366—North Dakota House is in the market for repair shop supplies and equipment.

6354—Florida Concern wants information respecting repair shop supplies and equipment, to be fitted out in the spring.

6377—Wisconsin House wants information relative to machine tools, repair shop supplies and equipment.

6381—Indiana Firm wants information respecting machine tools, repair shop equipment and supplies.

6383—Montana Dealer will purchase repair shop supplies and equipment.

6351—Delaware Firm seeks information relative to machine tools, repair shop supplies and equipment.

6380—New York Company is in the market for machine tools and repair shop equipment.

6391—Kansas House is in the market for repair shop supplies and equipment.

6397—South Dakota Concern will purchase machine tools, repair shop equipment and supplies.

6376—Ohio Firm is in the market for new tools of all kinds.

6393—Virginia House wants information relative to machine tools, repair shop supplies and equipment.

6382—New York Concern wants information concerning a milling machine.

6387—Kansas Company wants information relative to machine tools, repair shop supplies and equipment.

6400—Michigan House is desirous of securing machine tools, repair shop supplies and equipment.

6410—Maryland Dealer wants tools for tire repairing.

6417—Massachusetts Firm wants information relative to repair shop supplies.

6418—North Dakota House wants information concerning repair shop supplies.

6423—North Dakota Dealer is desirous of securing up-to-date machine tools, repair shop supplies and equipment.

6431—Iowa Company is in the market for repair shop supplies and equipment.

6438—New York Company wants machine tools of all makes, also repair shop supplies and equipment.

6443—Illinois House wants information relative to repair shop supplies and equipment.

6447—Nebraska Concern will purchase machine tools of all kinds.

6450—Ohio Concern seeks information respecting machine tools and repair shop supplies.

6458—Iowa House is in the market for repair shop supplies and equipment.

6462—Nebraska Dealer wants information relative to machine tools, repair shop supplies and equipment.

6467—Arkansas Dealer is desirous of securing up-to-date machine tools, repair shop supplies and shop equipment.

6469—Illinois Firm is in the market for machine tools, repair shop equipment and supplies.

6471—Iowa Company wants information relative to machine tools, repair shop supplies and equipment.

6473—Missouri Dealer wants repair shop supplies.

6477—Ohio Firm wants repair shop supplies and equipment.

AGENCY TERRITORY OPEN.

2115—Texas House has territory open throughout the state.

2118—Iowa Firm wants agents all over the state.

2123—Texas Concern has territory open in Texas, Oklahoma and Louisiana.

2124—Nebraska Dealer has territory open in Antelope county.

2127—Ohio House has territory open throughout the state.

2130—Arkansas Firm has territory open all over the state.

2133—Washington Company has territory open in nine counties in State of Washington, in and around Seattle.

2134—Ohio Dealer has territory open in that state.

2136—Ohio Concern wants representatives in Wisconsin and elsewhere.

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CONTEMPLATED BUILDING OPERATIONS.

CONTRACTS AWARDED.

Andrew Trier, Trenton, N. J.; one-story garage, 24x100, $12,000, for Toman Bros.

Fred Graupner, Philadelphia; one-story garage, $2500, at 5215 North Broad street.

John Ingersoll, 1510 Atlantic avenue, Atlantic City, N. J.; addition, $20,000, for Marlborough Hotel garage.

J. Mathis & Son, Bartlett building, Atlantic City, N. J.; residence and garage, 2.5 stories, 31x94, $20,000, at Ventnor, N. J., for H. G. Harris, Atlantic City.

E. Randall, 714 Robinson street, Danville, Ill.; one-story garage, 22x26, $3000, for J. Levin, 112 East Main street.

J. E. Martin & Co., New Rochelle, N. Y.; two-story garage, $3000, at Pelhamwood, N. Y., for W. F. Jones, 75 Harmon avenue.

E. E. Hollenback, Philadelphia; one-story brick garage, rear of 660 North Broad street, for Samuel Sternberger.

H. H. Burrell, Philadelphia; garage, 30x32, $1500, at 5373 Belfield avenue, for John C. Humphreys.

J. J. Maas, 239 Sherman street, Albany, N. Y.; one-story garage, 19x20, $2500, for Dr. B. G. Troidle, 2 Judson street.

James G. Dook & Co., Philadelphia; brick garage, 50.1x54.6, $8000, at Watts and Manning streets, for Williams S. Elkins estate.

John Duncan, Philadelphia; one-story brick garage, 22.6x40, $4000, at 7361 Ridge avenue, for Charles L. Renz.

A. Perrault, 185 Oak street, Holyoke, Mass.; three-story garage, 25x50, $5000, for Alfred Demaries, 15 Division street.

L. C. Walker, 313 Furnace street, Elyria, O.; one-story garage, 12x15, for C. L. Terry, 600 Dewey avenue.

J. D. Collins, 60 Gill street, Columbus, O.; two-story garage, $5500, for C. E. Belcher, Ruggery building.

Albert Schmidt, Philadelphia; one-story brick addition to garage, 9x10, $300, east side of Clarion street, north of Columbia avenue, for Dr. W. E. Rourke.

William Liegmann, Minneapolis, Minn.; one-story garage, 61x63, $4500, for Minneapolis Brewing Company.

J. D. Cormack, 550 South Pearl street, Albany, N. Y.; one-story garage, 58x85, $10,000, for A. J. Strobel, 12 Mercer street.

F. Burke, 35 South Dearborn street, Chicago; one-story garage, $10,000, for A. J. Lord, 9 South La Salle street.

Harper & Buttendorff, 143 North boulevard, Oak Park, Ill.; one-story garage, 50x100, $5000, for F. M. Pebbles.

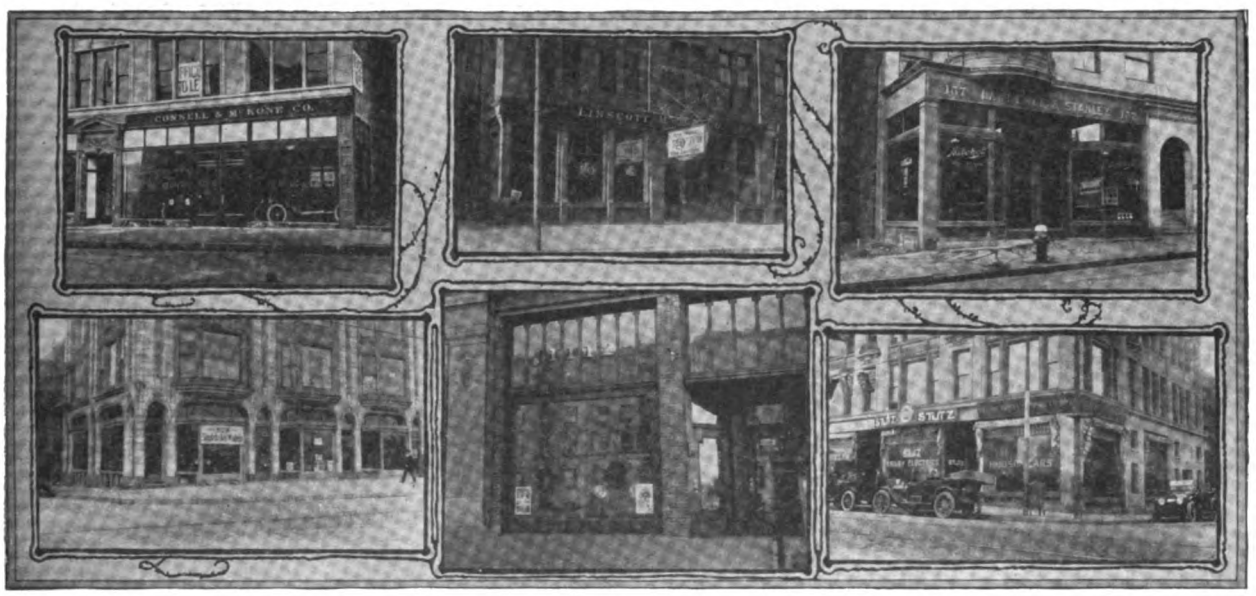
M. Kirchner, Philadelphia; one-story brick garage and salesroom, at 2520 North Broad street, for Uncle Sam Motorcycle Company.

A. A. Johnson, White Plains, N. Y.; two-story garage and stable, $6000, for J. Warren Thayer, Scarsdale, N. Y.

E. J. Shuttleworth, Philadelphia; 10 two-story brick garages, $2500, on east side of Jasper street, south of Orleans street, for Norman H. Hannah.

J. H. Dunkelberger, Philadelphia; two-story garage, at Chestnut Hill, Penn.

Samuel H. Headley, Bartlett building, Atlantic City, N.



Some Boston Automobile Salesrooms: Upper Row, Left, Overland, Massachusetts Avenue; Centre, Reo, Columbus Avenue; Right, Mitchell, Massachusetts Avenue—Lower Row, Studebaker and Knox, Cameron and Cartercar, and Stutz, Bailey Electric and Hudson, All on Boylston Street.

D. Elmer Dampmann, 344 Pine street, Reading, Penn.; one-story garage, 24x24, at Second and Pine streets, for A. S. Deysher.

Henry Eynon, Iowa street, Pittsburg, Penn.; one-story garage, 30x80, $3000, for Edward Waag, 2560 East street.

M. T. Ackerman, Morton, Penn.; 2.5-story residence and garage, at Palmer's Corner, Delaware county, for Howard M. Davis.

R. Harrison & Son, Duluth, Minn.; one-story private garage, 24x30, for J. R. McGriffert, care Clyde Iron Works.

Kirk & Son, 4529 Rutger street, St. Louis, Mo.; two-story garage, $30,000, for Pierce-Arrow Motor Company, 4701 Washington avenue.

Norman Crawford, 888 South High street, Akron, O.; one-story garage, 40x40, for Paul F. Romig Auto Company, 141 West Thornton street.

Samuel Spreat, 203 North Pine street, Baltimore, Md.; alterations to garage, $10,000, for Frank Bros., 1537 Maryland avenue.

Fred T. Ley, Inc., 499 Main street, Springfield, Mass.; one-story garage, 120x100, $19,000, for Reed Realty Trust, Winchester square.

W. O. Clark, 540 Temple court, Minneapolis, Minn.; concrete garage, 24x26, $2000, for Edward B. Douglas.

Henry C. Dahl, Philadelphia; three one-story brick garages, 16.8x56.1, $4000, at 3643-47 Lancaster avenue, for E. S. Armstrong.

Daniel Hunter, Reading, Penn.; two-story brick and stone garage, $10,000, for Reiff & Leinbach.

N. J. Westra, 610, The Gilbert, Grand Rapids, Mich.; garage, 18x28, for T. Stewart White, 449 Fulton street.

J.; two-story garage and apartment structure, 45x75, $7000, for A. R. Jolly.

M. J. Benamy, Philadelphia; one-story garage, $2500, at 243-245 North Jefferson street, for B. Alexander.

John Greive Construction Company, Century building, St. Louis, Mo.; three-story garage, 50x150, for Delor Realty Company, 715 Chestnut street. Cleveland Auto Company, 2310 Locust street, is lessee.

H. A. Johnson, 347 Millvale avenue, Pittsburg, Penn.; 1.5-story garage, $5000, for Louis Brown, Devonshire avenue.

James G. Dook & Co., Philadelphia; one-story and basement garage, 56x116, $20,000, for United Gas Improvement Company.

W. F. Mass, Railroad street, Rochester, N. Y.; alterations to garage, $7000, for Kelly Bros., Main and Franklin streets.

F. L. Fisher, Watson street, Pittsburg, Penn.; garage and store, 48x100, $15,000, for G. Caplan, 4821 Center avenue.

Frank E. Wallace, Philadelphia; one-story brick garage, 26x45, $2200, southeast corner 22nd and Tioga streets, for William Brown.

Charles H. Schlegee, 2204 Perkiomen, Reading, Penn.; one-story garage, 20x20, for Leo Sondheim.

B. Cooper, 1140 Yale place, Minneapolis, Minn.; 1.5-story garage, 23x38, $3500, for W. L. Goodling, 909 Elmwood avenue.

N. E. Redlon Company, Union street, Portland, Me.; one-story garage, 96x125, $24,000, for F. L. & H. L. Jervis, Fidelity building.

Nichol & Carn, 400 Arcade building, Columbus, O.; one-

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story garage, $1000, on 15th avenue, for S. N. Postlewaite.

T. S. McVaugn, Philadelphia; residence and garage, on Rising Sun lane, for Charles R. Brady.

H. W. Cordes, 728 Union Trust building, Cincinnati, O.; two-story garage, 46x33, $7000, for Misses Alice and Mae Butler, 2134 Sinton avenue.

Crowell & Sherman Company, 1951 East 57th street, Cleveland, O.; one-story garage, 36x62, for Standard Oil Company of Ohio, East 55th street.

Edward D. Springer & Co., 424 South Charles street, Baltimore, Md.; two-story garage, 28x20, $1500, for John Hoos & Son, 135 West Camden street.

Henry Specht, Jr., Willow Grove, Penn.; one-story garage, 24x32, $4000, for W. S. Taqua, Jekintown, Penn.

Leddy & Moore, 105 West 40th street, New York City; one-story brick and concrete garage, 37x47, for National Sugar Refining Company of New Jersey, Long Island City, N. Y.

George Kessler Contracting Company, Philadelphia; one-story brick garage, east side of Stillman street, $7500, for Ridde McCoach.

Joseph Bird Company, Philadelphia; one-story public garage, 50x80, on Spring street, between 10th and 11th.

Moore McQuigg, 724 Elinore street, Kalamazoo, Mich.; one-story garage, 50x84, $7000, for Mrs. Bowman. Cadillac Motor Car Company is lessee.

Grewalk Bros., Laporte, Ind.; addition to garage, $4000, for Westley Fagle, 600 Clay street.

J. C. Culver, Eau Claire, Wis.; one-story garage, 15x20, $12,000, for J. C. Thompson..

Barnum & Troy, Dorrancetown, Penn.; two story garage, 20x22, for W. C. Leiter, Harvey's Lake, Penn.

Martin & Kirkpatrick, Philadelphia; one-story stone garage, at Chestnut Hill, Penn., for A. B. Steele.

J. C. Fernald, Philadelphia; one-story garage, at 61st street and Girard avenue, for Frank Kerr.

R. C. Ballinger & Co., Philadelphia; two-story frame garage, at Villanova, Penn., for W. T. Harris.

H. Kerbaugh, Mt. Airy, Penn.; two-story garage and hall building, 50x50, at Mermaid lane and Germantown avenue, for Adam Lotz, Chestnut Hill, Penn.

A. M. Marshall, care Marshall-Walls Hardware Company, Duluth, Minn.; two-story garage, stable and apartment house, 40x60.

Central Trust Company, Owensboro, Ky.; one-story garage, 66x100.

I. A. Dunkleberger, 71 Horman street, Philadelphia; one-story stone garage, 40x75, $4000, at 453 Queen lane, for Charles Buck.

Frank Rommel, Philadelphia; alterations to residence and garage of Dr. G. Ross, Whitemarsh, Penn.

Caldwell & Co., Scranton, Penn.; two-story brick and concrete service station and garage, $20,000.

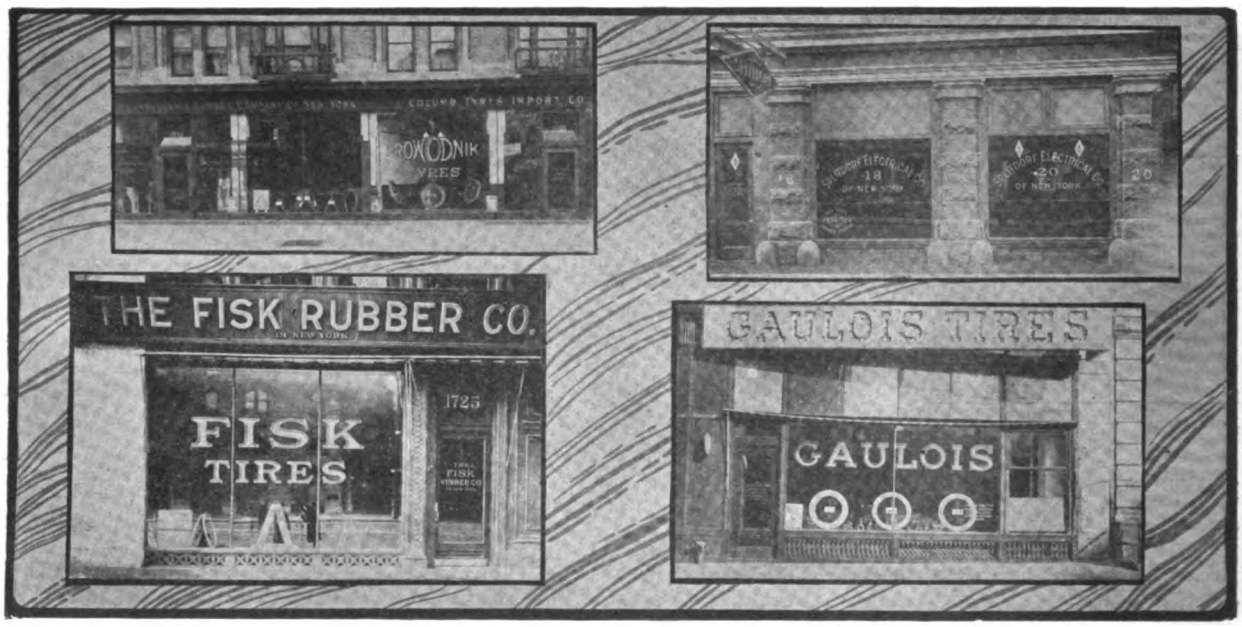
George Kessler Construction Company, Philadelphia; garage, at 1530-32 Germantown avenue, for Reiger & Gretz Brewing Company.

Horace M. Sellers, Stephen Girard building, Philadelphia; garage, garden and pool, at Stratford, Penn.

John Dagney, Oak Lane, Penn.; one-story garage, at 13th and Rockland streets, for Thomas Lawler.

Bailey & Basset, Philadelphia; residence and garage for Robert T. Moore, at Haddonfield, N. J.

H. L. Walker, Villanova, Penn.; residence and garage.



Four Accessory Houses in New York: Upper Row, Pennsylvania Rubber Company of New York, Pennsylvania Tires; Columb Tyres Import Company, Prowodnik Tires, and Splitdorf Electrical Company, Splitdorf Ignition; Lower Row, Fisk Rubber Company, Fisk Tires, and Gaulois Tire Corporation, Gaulois Tires.

George F. Pawley, Philadelphia; three-story terra cotta and brick sales building, 75x190, $65,000, at 250-254 North Broad street, for L. J. Bergdoll.

John Hamilton, Monticoke, Penn.; two-story garage and blacksmith shop, 30x40, $3000, for George Thomas.

Golden & Crick, 3512 Fifth avenue, Pittsburg, Penn.; two-story residence and garage, 89x40, $75,000, for Roy A. Hunt, 4916 Wallingford avenue.

McCarthy & Kunkle, 404 Nelson street, Utica, N. Y.; two-story garage, 180x32, for Mrs. Griffith Williams, 134 Park avenue.

PLANS AND SPECIFICATIONS.

Peter J. Devine, 3099 Broadway, New York City one-story garage, 54x158, $7500.

Augustus H. Butterworth, Beverly, N. J.; one-story brick garage, 60x40.

M. W. Del Gandis, 1910 Webster avenue, New York City; one-story, 100x100.

Horace W. Sellers, Philadelphia; 2.5-story stone garage, for Lewis L. Smith, Stafford, Penn.

Frank J. Gillespie, Philadelphia, two-story garage, 28x116, side wing, 32x42, at 892-894 North 50th street.

Oppenheim, Collins & Co., 35 West 34th street, New York City; two-story garage, 40x93, $35,000.

Mowrer & Co., Philadelphia; two one-story stone garages with slate roofs for Dr. John Sloan, at Merion, Penn.

Myron Bellinger, 224 Union street, Schenectady, N. Y.; two-story garage, 24x26, $2000.

Simon Weil, 837 North Third street, Philadelphia; one-story storage and repair garage, at Front and Richmond streets.

Downs & Eads, 712 New York Life building, Minneapolis, Minn.; residence and garage, 48x62, $10,000.

Alfred Pillsbury, 116 East 22nd street, Minneapolis, Minn.; two-story garage, 40x38, at Stevens and 22nd streets.

State Arsenal, Columbus, O.; one-story garage, $5000.

S. Linderoth & Co., 5844 Elizabeth street, Chicago; one-story garage and store, 84x122.8, $18,000.

Joseph E. Tilt, 512 West Huron street, Chicago; one-story garage.

L. Nooy & Son, 3223 West 22nd street, Berwyn, Ill.; one-story garage, 25x60, $4000.

Dr. G. P. Gill, 521 Ashton building, Rockford, Ill.; one-story garage, $1000.

Philip Buischench, 668 Western parkway, Brooklyn, N. Y.; two-story residence and garage, 20x31, $2000.

David Dick, 24 Citizens Bank building, Charleston, W. Va.; one-story garage, 60x130.

R. L. Mills, 212 Lafayette avenue, N. E., Grand Rapids, Mich.; garage.

Dr. William E. Tyson, 499 Seminole avenue, Detroit; private garage, 16x17.

Alfred Popik, American National Bank building, Newark, N. J.; two-story garage, 28x98, $10,000.

C. S. Millington, Herkimer, N. Y.; one-story garage, 26x26, $2500.

Olden & Tucker, Christman, Ill.; one-story garage, $10,000.

Mrs. B. G. DuPont, Wilmington, Del.; two-story garage, 21x37, $5000.

Herman Avleis, 210 Lewis avenue, Brooklyn, N. Y.; two-story garage and storehouse, 28x80, $9000.

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Theodore Steuben, 3217 Lincoln avenue, Chicago; one-story garage, 50x150.

NEW PUBLIC GARAGES.

F. Porchert, Caledonia street, Rochester, N. Y., will build a one-story garage, 34x104, to cost $4000.

The Sterling Stable Company, 523 East 73rd street, New York City, is to erect a five-story garage and stable to cost $50,000.

David Grant, Philadelphia, has awarded the contract for the erection of a one-story brick garage, 137.6x119.3, on the east side of 33rd street, east of Oxford, to cost $2600.

George Rabich, 701 North Seventh street, Allentown, Penn., will build a three-story garage, 60x135.

M. Marino, Philadelphia, has let the contract for the erection of a garage at 4007 North 64th street, to cost $2000.

Alonzo Pawling, 2003 Grand avenue, Milwaukee, Wis., will erect a one-story garage, 70x70.

The Hudson Motor Car Company, 618 Washington street, Reading, Penn., will erect a one-story garage, 43x90, to cost $4000.

Philip Erney, Garrick, Penn., will build a two-story garage, 45x70, to cost $10,000.

W. Paterson, Dakota street, Schenectady, N. Y., will build a two-story garage, 40x70, to cost $5000.

E. Humpreville, 2641 Hutchinson street, Philadelphia, is having plans prepared for a one-story brick garage, 80x90, to be erected at Logan, Penn.

The Morgan-Foster Company, 197 West Fifth street, St. Paul, Minn., has awarded the contract to erect a commercial garage, one-story, 80x150.

The Central Auto Company, Grand Rapids, Mich., is planning to erect a three-story garage and storage salesroom, 70.6x135.

John Mashak, Cashton, Wis., has awarded contracts for the construction of a fireproof garage, 50x100. It will contain a completely equipped repair shop.

George Keinard, Reading, Penn., is erecting a two-story garage, 20x40. He also will specialize in body work. His equipment includes a 550-gallon underground gasoline tank.

John Erion, Rochester, N. Y., has secured permission to erect a concrete garage, 66x70, on St. Paul street, between Mortimer and Andrews street.

William Stromberg, Milaca, Minn., heads a company which plans to erect a garage in that town to cost $10,000.

Angelo Burbato, Newark, N. J., has secured permission to build a garage on High street to cost $4000.

John Hurrle, St. Cloud, Minn., plans to build a garage to cost $40,000.

J. F. Straley, Chicago, Ill., has secured permission to erect a garage at 4405 North Clark street, to cost $10,000.

The American Garage Company, Washington, D. C., is having plans prepared for the erection of a garage on M street and the Avenue of the Presidents, N. W. The structure will have two stories and basement and will occupy a lot 168 feet deep. It will cost $30,000.

Hugh P. Skelly, 38th street, near First avenue, New York City, is to build a garage to cost $9000.

St. Mark's Protestant Church, New York City, has in course of construction a modern garage, which has been leased for a term of 21 years. It is located on 62 North Moore street.

P. T. Prather, San Francisco, Cal., is to erect a garage to cost $11,000.

Matilda Gorf, San Francisco, Cal., has had plans prepared for a garage, costing $20,000.

J. R. Quatmann, St. Louis, Mo., will erect a garage at 3628 Folsom street.

Jesse Phillipin, Washington, Ia., will erect a new garage on his property on North Marion avenue. J. E. Ross has leased the structure and will carry on automobile business.

E. E. Dow, Boyne City, Mich., contemplates building a garage on State street, costing $5000.

The Lindell Auto Sales Agency & Repair Company will erect and maintain a building at 3441 Pine street, St. Louis, Mo., for the repair of automobiles, etc.

Adolph Schick is to erect a new garage and repair shop near Zane street, Wheeling, W. Va.

E. W. Brown of the Brown Apartments, Des Moines, Ia., is to erect a new modern garage on Chestnut street.

Dora Starr will erect a garage on Bushwick avenue, Brooklyn, N. Y., at a cost of $17,000.

Thomas Newman, 22 Pinnace road, Rochester, N. Y., is to erect a new modern garage to cost $12,000.

H. & Samuel Frankenheimer contemplates building a garage at a cost of $25,000 on El Dorado street, Stockton, Cal.

The Suburban Homes Company is to erect a new up-to-date garage at Owensmouth, Van Nuys, Cal.

Ernest Ostrom, Akron, Ia., is planning to erect a garage at a cost of $5000.

Thomas M. Barr, Metchen, N. J., will erect a new public garage on Main street.

The Fulwilor Electric Company, Abilene, Tex., is having a garage erected on Pine street.

W. B. Mouch, owner of the Miami Vulcanizer Company, Main street, Piqua, O., is having a modern garage built at a cost of $5500.

Ockford & Fahnestock, Peoria, Ill., is building a three-story structure of brick, concrete and steel to be used as a combination garage and livery.

The Bagley Realty Company, Detroit, Mich., contemplates the erection of a garage on Bagley avenue, near Cass street.

Anthony Conns, Detroit, Mich., is planning to erect a modern garage on Chene street, near Ferry avenue.

PERSONAL NEWS OF THE INDUSTRY.

Charles A. Singer, Sr., at a special meeting of the board of directors of the Palmer & Singer Manufacturing Company, Long Island City, N. Y., was elected president of the concern following the resignation of Clyde D. Knapp.

Richard Kennerdell, Franklin, Penn., has been selected as chairman of the contest board of the American Automobile Association.

Frank L. Moore, Indianapolis, has become manager of the H. W. Johns-Manville Company's accessory department in that city. This branch controls the states of Indiana and Kentucky. Mr. Moore is also president of the Indianapolis Automobile Trade Association.

E. R. Benson, James C. Heaslet and D. M. F. Weeks have become directors of the Studebaker Corporation, Detroit. Benson and Heaslet were recently made vice presidents of the company.

F. C. Benson, Kokomo, Ind., has joined the organization of the Apperson Bros. Automobile Company. He will act as the New York State representative of the company.

J. Allen Smith, Niagara Falls, N. Y., recently returned from a European trip. He is president of the United States Lighting & Heating Company, and while abroad made arrangements for considerable extension in the sale of U. S. L. starting and lighting systems.

George D. Sullivan, Brooklyn, N. Y., has become engineer for the Doehler Die Castings Company. He is undertaking some special engineering work in connection with the design of small die cast parts.

C. Berlin Boyd, Kansas City, Mo., has been appointed sales manager of the Karshner Motor Car Company.

L. H. Bradbury, Boston, Mass., has joined the selling force of the Simplex Automobile Company.

Ira S. P. Fahrney, Jacksonville, Fla., has become local sales manager for the Haynes Automobile Company.

E. M. Lubeck, Chicago, Ill., has joined the sales force of the Buick Motor Company.

Louis Mansbach, New York City, president of the Times Square Automobile Company, sailed for Europe recently. He is to place agencies in England, France, Germany and Italy.

J. G. Mathemy, Terre Haute, Ind., has taken charge of the Clinton Auto Sales Company, 666 Ohio street. This company contemplates building a large garage.

Forest H. Peabody has severed his connection with the Ford Motor Company, Boston, Mass., and is taking up a new position as branch manager for the same company in Louisville, Ky.

B. B. Perkins, Providence, R. I., is now manager of the Davis Automobile Company. He was formerly connected with the Bangor Motor Company, Bangor, Me.

Harvey J. Woodard, New York City, has resigned as general sales manager of the Century Tire Company, 123 West 68th street.

F. L. Atwood, Anderson, Ind., has become factory manager, and E. F. Creager has been appointed assistant factory manager of the Remy Electric Company.

A. F. Bemet has recently been appointed sales manager of the Electric Auto-Lite Company, Toledo, O.

W. E. Cameron, Akron, O., has recently become assistant sales manager of the Motz Tire & Rubber Company.

Walter Judd, Detroit, has joined the sales force of the Bemb-Robinson Company. He was formerly manager of the American Motors Company, Battle Creek, Mich.

W. S. Parrish, Bath, N. Y., who for the past three years has been factory manager of the Kirkham Motor Manufacturing Company, has severed his connection with that company. He has made no immediate plans for the future.

Edwin H. Chase, Jr., formerly manager of Cole sales for the Standard Auto Company, is the new assistant sales manager of the Lyons-Atlas Company, Indianapolis, Ind.

L. P. Dorsett has succeeded John McDonald, Jr., as manager of the McDonald Motor Car Company, Milwaukee, Wis.

C. B. McCanna, president of the Burlington Wisconsin Brass Works, Burlington, Wis., died recently in New York, where he was attending the convention of American brass manufacturers.

Eugene L. Caton of the firm of Caton & Brewster, Worcester, Mass., has sold out his interest. Charles L. Brewster will conduct the business alone.

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Samuel Wallace, Jr., a practical and experienced traffic engineer, has joined the engineering forces of J. M. Van Harlingen, New York City. Mr. Wallace has had wide experience in practical transportation, both by horse drawn and electric and gasoline motor trucks.

Albert H. Doolittle, Well Known as an Advertising Man.

George Uehlien, president of the Universal Motor Truck Company, Detroit, has purchased the interests of F. K. Parke and the latter has retired as general manager and from participation in the activities of the concern.

Ralph Ketchum, formerly with the R. & L. Company of Boston, has succeeded H. B. Pruden as manager of the New England branch of the Kissel Motor Car Company in that city.

Albert H. Doolittle, who has been connected with the Continental Motor Manufacturing Company, has left that concern and entered the advertising business in his own behalf.

M. A. Smetts succeeds Lloyd W. Young as advertising manager of the Billings-Chapin Company, Cleveland, O., maker of the Bilchaco quality paints and varnishes.

Melvin J. Adams has joined forces in Detroit with the Carl E. Green Company, which handles the advertising for makers of the Chalmers, Detroit Electric, GMC trucks and other companies.

Lee W. Bennett has acquired an interest in the Syracuse Automobile Supply Company, Syracuse, N. Y., and is now president and general manager of that organization.

R. E. Ingersoll has been appointed manager of the Reo Motor Car Company, New York City, and the branch in Newark, N. J.

H. C. Hill has been appointed assistant general sales manager of the Thomas B. Jeffery Company, Kenosha, Wis.

Z. C. Elkins, who held the position of manager for the Rambler branch in Chicago, has joined the Detroit office of the General Motors Company.

H. B. Young, previously with the Chicago Pneumatic Tool Company, has become Ohio manager of the Standard Motor Truck Company.

Benton Fremont, who has been the Oakland representative for some time, has been appointed acting manager of the New York branch of the Chevrolet Motor Company.

E. W. Weaver, previously identified with the engineering department of the Peerless Motor Car Company, has become mechanical engineer for Gray & Davis, Inc., Boston, Mass.

J. M. Cram, formerly manager of the Mitchell Motor Car Company, New York City, is now secretary and sales manager of the L. P. C. Motor Company, Racine, Wis.

Marc Bunnell has been appointed western representative of the Paige-Detroit Motor Car Company, Detroit. Previous to his appointment he was connected with the American Motors Company on the Pacific Coast.

Walter H. Ilg is now advertising and sales manager of the Wichita Falls Motor Company, Wichita Falls, Tex. He was formerly connected with the Schacht Motor Car Company of Cincinnati.

J. C. Austin, assistant chief engineer of the Studebaker Corporation, has resigned. He has established an office in the Ford building, Detroit, where he will conduct a manufacturers' service bureau.

J. R. Power has taken the position of district manager for the Chicago Electric Motor Car Company, Chicago, Ill. His territory will include Illinois, Indiana and Wisconsin, with headquarters in Chicago. He was formerly manager of the Anderson Electric Car Company, Detroit.

H. H. Leckler is now superintendent of the Emil Grossman Manufacturing Company's plant, Brooklyn, N. Y. He also retains the position of mechanical engineer.

Peter Severin Steenstrup, formerly general sales manager of the Hyatt Roller Bearing Company, has joined the staff of the Hupp Motor Car Company as general South American representative. His headquarters will be at Buenos Aires.

Harvey L. Houke, assistant general manager of the Gramm Motor Truck Company, has been transferred to Elyria, O., to take charge of the Garford Company's plant. E. A. Williams, Jr., has succeeded Mr. Houke.

David L. Gallup, professor of gas engineering at Worcester Polytechnic Institute and consulting engineer in matters pertaining to motor cars for the Boston fire department, has accepted an appointment as chairman of the research committee of the Society of Automobile Engineers.

Thomas C. O'Connor has once more taken active control of the Pullman Motor Car Company, York, Penn., having reassumed the presidency after a period of about 10 months, during which time he retired in order to give attention to his extensive real estate operations.

Dr. J. W. Means has been elected president of the Columbus Automobile Club, Columbus, O.

Edward Oliver has become special representative of the Hudson Motor Car Company, Springfield, Mass., and will cover New England and New York from his headquarters in Brookline, Mass.

A. L. Danforth, formerly used car department manager of the Boston Packard Company, has become sales manager of the Cadillac Automobile Company of Boston.

G. D. Edwards, formerly purchasing agent of the Michigan Buggy Company, Kalamazoo, Mich., has been appointed service manager of the Puritan Machine Company, Detroit, in charge of repair parts for Michigan and Warren cars.

A. B. Hanson, service manager of the Chalmers Motor Car Company, Detroit, has recovered from a 13 weeks' illness with typhoid fever. He is now able to be in attendance at the office.

Eugene F. Russell, identified with the factory of the Locomobile Company of America, Bridgeport, Conn., is at present on an extensive motoring trip in the far West for health and pleasure.

S. S. Toback is now president of the A. Elliot Ranney Company, New York City distributor of Hudson cars, having succeeded Arthur M. Day, who has retired from the automobile business to go into the banking business in Wall street. Mr. Toback had been general manager of the company.

James M. Ryan has been appointed general manager of the Electric Steel Company of Speedway, Ind. Mr. Ryan has had charge of the steel casting department of the Canadian Pacific Foundries Company, Ltd., Montreal, Canada. The new company expects to install only one electric furnace to start with, but will add other furnaces as the growth of the business demands.

W. K. Erlich, formerly connected with the Electric Storage Battery Company, Philadelphia, Penn., has been made general manager of the Richmond Electric Garage, Inc., Richmond, Va.

W. L. Pelter has joined the Grand Rapids Overland Company, Grand Rapids, Mich. This firm has the Overland agency in that section of Michigan. Mr. Pelter was formerly connected with the Chalmers sales force, and more recently was state representative for the Willys-Overland Company.

E. R. Benson, vice president of the Studebaker Corporation, spent the month of December on a trip of inspection through the South. He was the guest of automobile clubs, chambers of commerce and similar organizations in St. Louis, Little Rock, Memphis, Dallas, New Orleans, Jacksonville, Atlanta, Norfolk and other cities.

J. E. Baird has been appointed advertising manager of the General Motors Truck Company, Pontiac, Mich., and will also assist in the sales department. Mr. Baird was recently with the Kingman Plow Company, Peoria, Ill., where he held the position of advertising manager.

L. B. Sanders, Sales Manager, Wagenhals Motor Car Company.

W. L. Gould was elected president of the Watertown Automobile Association, Watertown, N. Y., at the fifth annual meeting of that organization held recently.

C. F. Ames, Chicago, Ill., formerly distributor of Sewell cushion wheels, has taken the position of sales manager of the Devine Tire Company, 2020 Michigan avenue, Chicago.

L. B. Sanders, former sales manager of the Abbott Motor Company, Detroit, has been appointed sales manager of the Wagenhals Motor Car Company of the same city.

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REPORTED CHANGES IN TRADE ADDRESSES.

Fox Company, Oakland, Cal., from 744 19th street to 4166 Montgomery street.

A. Schrader's Sons, Inc., New York City, from 28-32 Rose street to 783-791 Atlantic avenue, Brooklyn, N. Y.

The White Company's Branch, New York City.

Twitchell Garage Company, Chicago, Ill., from 1701 Michigan avenue to 1612 same street.

Barco Brass & Joint Company, Chicago, Ill., to 230 North Jefferson street.

Great American Rubber Company, Conshohocken, Penn., to Houston, Tex.

Slama Tire Protector Company, Kansas City, Mo., from 617 East 15th street to 1504 Grand avenue.

Rex Fire Appliance Company, New York City, from 72 Cortlandt street to 36 East 23rd street.

Howard Miniature Lamp Company, Newark, N. J., from 327 Academy avenue to East Orange, N. J.

Simplex Machine Works, Brooklyn, N. Y., from 45th street and Sixth avenue to 272 41st street.

Burns Auto Company, Brooklyn, N. Y., from Bedford avenue and Fulton street to 57 New York avenue.

H. W. DeVeer, Roslindale, Mass., from 85 Brown avenue to 82 Johnson road.

Richardson Tire Company, Hartford, Conn., to Newton, Mass.

Economy Specialties Company, Chicago, Ill., from 1712 Michigan avenue, to 5542 Indiana avenue.

Patton Crank Company, Chicago, Ill., from 2123 Michigan avenue to 600 Lake street.

Wetherell Finished Casting Company, Philadelphia, Penn., to Erie street and Richmond avenue.

Auto Sheet Metal Company, Chicago, Ill., from 2228 Michigan avenue to 1534 same street.

Essenkay Company, Chicago, Ill., from 2120 Michigan avenue to 543 Orleans street.

Michigan Motor Car Company, St. Louis, Mo., from 2735-37 Olive street to 4131 Chonteau avenue.

Union Avenue Repair Shop, Portland, Ore., from 518 Union avenue to 26 North Broadway.

Engel Bros., New York City, from 167 Delancey place to 1733 Victor street.

H. Hansen, New York City, from 188th street and Third avenue to 56th street and Fordham road.

E. S. Crull, Indianapolis, Ind., from 530 Lemeke building to 5460 University avenue.

Armstrong Motors Company, Cincinnati, O., from 517 Johnston boulevard to 3959 Hazel avenue.

E. B. Finch, Cleveland, O., from 7102 Euclid avenue to 30 Ferry avenue, Detroit, Mich.

Republic Sales Company, Cleveland, O., from 5010 Euclid avenue to 1912 East 13th street.

Packard Service Station, Cleveland, O., from 5017 Euclid avenue to 1900 East 19th street.

B. & B. Machine Company, Cleveland, O., from Pennsylvania avenue and East 66th street to 2398 East 38th street.

H. L. Pugh Company, Cleveland, O., from 905 Rose building to 2199 Bellfield avenue.

Steam Auto Repair Company, Cleveland, O., from 3225 Prospect street to 2358 East 93rd street.

Vesta Battery & Light Company, Cleveland, O., from 10,227 Euclid avenue to 1907 same street.

M. Naylon & Son's Garage, Cleveland, O., from 1054 Euclid avenue to Jones road, near Howard street.

Standard Motor Truck Company, Cleveland, O., from 2352 Euclid avenue to Warren, O.

Barger Auto Company, Cleveland, O., from 3011 Euclid avenue to 5017 same street.

Jno. H. Howald, Columbus, O., from 172 North Fourth street to 1119 Bryden road.

C. E. Eckhart, Columbus, O., from 140 East Spring street to 779 Summit street.

H. E. Cooper, Grand Rapids, Mich., from 121 Terrace to 1015 West Third street.

J. C. Vesely, Chicago, Ill., from 1657 South 40th avenue to 3839 Ogden avenue, Hawthorne station.

Auto Sales Company, Chicago, Ill., from 2449 Michigan avenue to 10th floor, Bedford building.

Ajax-Grieb Rubber Company, Chicago, Ill., from 1721 South Michigan avenue to 1507 Michigan avenue.

White Company, Chicago, Ill., from 240 Michigan avenue to 2635 Wabash avenue.

Fixit Garage & Repair Company, Kansas City, Mo., from 1811 Harrison street to 1331 Walnut street.

E. E. Guthrie, Kansas City, Mo., from 3501 Main street to 1609 Merchant's Bank building, Indianapolis, Ind.

Burke Auto Company, St. Louis, Mo., from 4148 Olive street to 3454 Lindell street.

Stearns Motor Car Company, St. Louis, Mo., from 1210 Olive street to 4521 Delmar street.

Massachusetts Motor Company, Boston, Mass., from 591 Boylston street to 208 Camden street.

Goodyear Tire & Rubber Company, Boston, Mass., from 669 Boylston street to 61 Brookline avenue.

W. J. Connell, Boston, Mass., from 36 Columbus avenue to 171 Massachusetts avenue.

C. E. Wheeler, Boston, Mass., from 563 Boylston street to 113 Thorndike street, Brookline, Mass.

Franklin Automobile Company, Boston, Mass., from 671 Boylston street to 616 Commonwealth avenue.

Lake William Garage, Marlboro, Mass., to Central street, Southbridge, Mass.

Goodwin-Sherman Motor Car Company, Providence, R. I., from 179 Aborn street to 249 Washington street.

Elmer Wall & Co., Chicago, Ill., from 108 East 23rd street to 918 Sheridan road.

Auto Mart, Chicago, Ill., from 58 East 16th street to 1559 Michigan avenue.

Farrington Auto Company, Chicago, Ill., from 1224 South Michigan avenue to 2436 Michigan avenue.

General Machine Shop & Manufacturing Company, Chicago, Ill., from 1340 Wabash avenue to 3812 West 12th street.

National Motor Car Company, Chicago, Ill., from 1350 Michigan avenue to 2430 same street.

Chas. Emrich & Son, Chicago, Ill., from 736 East 51st street to 2637 Michigan avenue, Armour station.

H. W. Brice, Chicago, Ill., from 126 East 16th street to 527 West Jackson boulevard.

Ohio Auto Sales Company, Youngstown, O., from 139 Lincoln street to 325 Garfield street.

Brush Chicago Motor Company, Chicago, Ill., from 2328 Michigan avenue to 1330 same street.

Jackson Auto & Supply Company, Lynn, Mass., from Willow street to 54 Converse avenue, Malden, Mass.

E. S. Hale, New Haven, Conn., from 166 St. John street to 1107 Chapel street.

Whitten Motor Vehicle Company, Providence, R. I., from 152 Washington street to 148 same street.

E. M. Stock, Hastings, Mich., to 53 Irving street, Detroit, Mich.

J. H. MacAlman, Providence, R. I., from 31 Snow street to 16 Jackson street.

Peerless Motor Car Company, Providence, R. I., to 773 Broad street.

Manufacturers & Dealers Motor Fire Insurance Company, Philadelphia, Penn., from 1440 Mann building to 703 Hale building.

Robert A. Waters, Benton Harbor, Mich., from 126 Elm street to 6030 Broadway.

Kelly-Springfield Motor Truck Company, Chicago, Ill., from 2439 Cottage Grove street to 2870 Michigan avenue.

R. & L. Company, New York Garford Agent.

G. A. Lesperance, Detroit, Mich., from 1634 Rovard street to 430 Theodore street.

H. E. Cooper, Grand Rapids, Mich., from 121 Terrace avenue to box 207.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Ashland.
Jeffery, W. A. Kitchens.
Sheffield.
Maxwell, J. H. Lester Auto Co.

ARIZONA.

Phoenix.
Lozier, A. Newton.

CALIFORNIA.

Bakersfield.
Oakland, Bakersfield Garage & Auto Supply Co.
Colton.
Oakland, Fred O. Lewis.
Fillmore.
Oakland, Opshal Bros.
Fresno.
Hudson, Evans-Cobb Co.
Los Angeles.
Chevrolet, Reo-Pacific Auto Co.
*Stewart, Los Angeles Co.
Oakland.
Maxwell, C. R. Allen.
Pacific Grove.
Maxwell, Culp Bros.
Pomona.
Oakland, Truston Clark.
San Diego.
Oakland, P. M. Price.
San Francisco.
Chevrolet, Reo-Pacific Auto Co.
King, California Supply Co.
Marathon, Linz-Sanborn Motor Co.
Maxwell, Bonneheim-Moore Motor Car Co.
*Commerce, Gus Boyer.
‡Imp, C. L. Barnett.
Santa Barbara.
Cartercar, C. C. Hunt and G. E. Ord.
Marathon, John S. Catlin.
Marion, John S. Catlin.
Santa Cruz.
Maxwell, C. M. Bias.
Santa Rosa.
Maxwell, J. P. Muenzer.
Stockton.
Oakland, A. Bonzi.
Uplands.
Oakland, Doner & Wilson.
Watsonville.
Maxwell, Century Garage.

CONNECTICUT.

Bridgeport.
Maxwell, Case Motor Co.

DELAWARE.

Fredericks.
Maxwell, W. W. & S. L. Wilson.

DISTRICT OF COLUMBIA.

Washington.
K-R-I-T, P. L. Paylor.
Oakland, Pollock Car Corp.
Stutz, George C. Wohr.

FLORIDA.

De Land.
Maxwell, Gordon Garage Co., 10-12 South boulevard.
Miami.
Franklin, Charles L. Craig.

GEORGIA.

Augusta.
Maxwell, Walker & Ivey.
Brunswick.
Maxwell, Young's garage.
Elberton.
Maxwell, Bond & Maxwell.
Dublin.
Maxwell, J. B. Burch and B. A. Hooks.
Hinesville.
Maxwell, J. B. Way & Son.
Richland.
Maxwell, W. L. Chappell.
Vidalia.
Maxwell, E. L. Meadows.

IDAHO.

Steele.
Overland, M. J. Steele.
Twin Falls.
Maxwell, Edward S. Johnson.

ILLINOIS.

Belleville.
Chandler, A. Wangelin.
Overland, A. Wangelin.
Bloomington.
Chalmers, C. U. Williams & Son, 207-9 East Washington St.
Overland, C. U. Williams & Son.
Studebaker, C. U. Williams & Son.
†Standard, C. U. Williams & Son.
†Woods, C. U. Williams & Son.
Carrollton.
Maxwell, Phillips & Lucas.
Centralia.
Reo, Roemer Motor Co.
Maxwell, Otto O. Harris.
Dixon.
Maxwell, J. E. Miller.
East Lynn.
Jeffery, Jonas Sawyer.
Granite City.
Henderson, L. Kaltenbach.
Henry.
Maxwell, Phillips & Lucas.
Moon, J. E. Berry & Co.
Leland.
Jeffery, Jonas Sawyer.
Manteno.
Jeffery, O. C. Schreffler.
Milledgeville.
Maxwell, Miller Bros.
Mount Olive.
Overland, William E. Sewing.
Odell.
Moon, Cosgrove & Cleary.
Palmyra.
Maxwell, Bell Hart Tool Co.
Paris.
Maxwell, O'Hair & Alexander.
Rankin.
Ford, Gus Droll.
Rockford.
Franklin, Louis J. Theiss.
Rock Island.
Ford, Horst & Strieter Automobile Co.
Sterling.
Maxwell, Sterling Garage.
Tallula.
Maxwell, Tallula Auto Co.
Waterman.
Maxwell, Kit Carson.
Waverly.
Maxwell, T. S. Harris.
Woodstock.
Maxwell, Woodstock Improvement Co.

INDIANA.

Columbia City.
Jeffery, F. F. Morsches.
Frankfort.
Oakland, H. M. Smith & Son.
Goodland.
Oakland, Oakland Sales Co.
Jasper.
Maxwell, Stucy & Maddox.
Madison.
Maxwell, Means & Wagner.
Shelbyville.
Maxwell, Means & Wagner.
Terre Haute.
Franklin, Terre Haute Auto Co.
West Lebanon.
Maxwell, Ira Cadwallader.

IOWA.

Aurelia.
Maxwell, Johnson Bros.
Buffalo Center.
Maxwell, J. F. Buggy.
Corwith.
Maxwell, G. H. Oxley.
Dike.
Maxwell, Johnson & Anderson.
Dunkerton.
Maxwell, Lisbert Bros. Auto Co.
Earlville.
Jeffery, P. L. Cloud.
Elgin.
Maxwell, H. D. Yack.
Gooding.
Maxwell, Furcht Auto Co.
Gray.
Oakland, King & Shaw.
Grundy Center.
Maxwell, J. D. Deiken.
Holland.
Maxwell, O. A. Ontjes.
Kingsley.
Maxwell, O. S. Pixler.
Lake Park.
Maxwell, Lake Park Implement Co.
Manchester.
Oakland, Strickland & Strickland.
Oakland.
Oakland, F. W. Pierce.
Sioux City.
Oakland, C. E. Daily.
Westcott, Hoeven Auto Co.
Smithland.
Maxwell, L. N. Gambs.
Spirit Lake.
Maxwell, Hartman & Hurd.
Sunny Mill.
Maxwell, Arthur Lawson Co.
Tripole.
Maxwell, Tripole Implement Co.
Waterloo.
Haynes, Hileman-Garner Motor Co.
Westfield.
Maxwell, T. J. Martin.
Woodbine.
Maxwell, Tague Bros.

KANSAS.

Capello.
Cole, Cole Motor Sales Co.
Emporia.
Cole, John E. Martin.
Fort Scott.
Jeffery, Fort Scott Grain & Implement Co.
Greenleaf.
Jeffery, William Kennington.
Hutchinson.
Franklin, Franklin Motor Car Co., 112 W. Second St.
Manhattan.
Maxwell, J. C. Schafer.
Topeka.
Lozier, Independent Auto Co.
Maxwell, Independent Auto Co.
Regal, Independent Auto Co.
Wheaton.
Maxwell, Kufahl Hardware Co.
Regal, Kufahl Hardware Co.

KENTUCKY.

Lexington.
Franklin, Phoenix Motor Car Co.
Reo, Phoenix Motor Car Co.
Paducah.
Oakland, E. Guthrie Co.

MAINE.

Bangor.
Maxwell, S. L. Crosby Co.
Rockland.
Oakland, Oakland Auto Sales Co.

MARYLAND.

Baltimore.
Chandler, Poehlmann Auto Co., 1020 Morton St.
Chevrolet, Poehlmann Auto Co.
Cole, Poehlmann Auto Co.

MASSACHUSETTS.

Boston.
Velie, Frank L. Roberts.
†Century, Century Electric Co.
Holyoke.
Marathon, J. Z. Chesebro & Co.
Pittsfield.
Franklin, Pittsfield Carriage Auto Co.

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Springfield.
Moon, J. W. Chesebro & Co.
Partin-Palmer, Waverley Auto Garage.
Somerville.
‡Economycar, A. G. Norton.

MICHIGAN.

Alma.
Maxwell, J. M. Wright Co.
Bay City.
Chevrolet, Garner Auto Sales Co.
Bellevue.
Maxwell, Legee & Simon.
Charlotte.
Chevrolet, Fritz & Bolock.
Maxwell, Donovan Son & McCormick.
Detroit.
Chevrolet, Monroe Sales Co.
Jeffery, W. H. Weber.
‡Mercury, Regal Motor Sales Co.
Flint.
Maxwell, Fowler Garage.
Franklin.
Maxwell, F. D. German.
Grand Rapids.
Maxwell, Robert Willey Auto Co., Wealthy and Charles Aves.
Harbor Beach.
Maxwell, Dell McMann.
Hillsdale.
Jeffery, Pinkham & Wright.
Howard City.
Hudson, Howard City Garage.
Maxwell, A. B. Potts.
Overland, Howard City Garage.
Ishpeming.
Maxwell, J. C. Forell.
Kalamazoo.
Maxwell, W. O. Harlow Co.
Lansing.
Maxwell, Wolverine Auto Co.
Laurium.
Maxwell, S. P. Dupont.
Litchfield.
Maxwell, McKenzie & Son.
Mancelona.
Buick, Burt Wright.
Manistique.
Maxwell, E. J. French.
Nashville.
Maxwell, A. E. Bassett.
Negaunee.
Maxwell, Charles E. Kirkpatrick.
North Adams.
Maxwell, J. M. Williams.
Oakdale.
Oakland, H. L. Ingalsbe.
Owosso.
Chevrolet, M. Kalaher.
Oxford.
Maxwell, D. L. Bronson.
Reed City.
Buick, Theodore Schmidt.
River Rouge.
Maxwell, H. L. Nieman and A. J. Polk.
Rockwood.
Maxwell, B. Champion.
Romeo.
Maxwell, H. L. Turner.
Saginaw.
Maxwell, Mutscheller Bros.
St. Johns.
Maxwell, Lee Kellman.
Suttons Bay.
Maxwell, John A. Ott.
Unionville.
Maxwell, C. H. Geyer.
Walled Lake.
Maxwell, G. E. Dickerson.
Zeeland.
Maxwell, Lamer Bros.

MINNESOTA.

Coleraine.
Metz, Meagher & Oas.
Delano.
Maxwell, P. W. Pergman.
Duluth.
Franklin, Inter-State Auto Co.
Foley.
Maxwell, Varner Bros.
Jasper.
Maxwell, Jasper Auto Co.
Kenyon.
Buick, F. G. Hold.
Lake Crystal.
Maxwell, W. W. Harris.
Minneapolis.
Abbott-Detroit, A. F. Chase & Co.
Crow Elk-Hart, Alex. R. Curtis.
Dorris, Martin Sales Co.
National, Martin Sales Co.
Pullman, Portland Auto Co., 616 E. 17th St.
*Motokart, C. & S. Motor Car Co.
†Woods, Owl Electric Garage Co.
‡Downing-Detroit, Auto Parts Co.
Montevideo.
Oakland, J. H. Seelye.
New Prague.
Maxwell, Tuma & Hanzel.
Walnut Grove.
Maxwell, F. W. Schauer.
Wheaton.
Maxwell, Neuman's Auto Sales Co.
Studebaker, Neuman's Auto Sales Co.
Worthington.
Jeffery, Dr. T. Smallwood.

MISSISSIPPI.

Gulfport.
Maxwell, Horton W. James.

MISSOURI.

Chillicothe.
Locomobile, B. F. Brogels.
Columbia.
Locomobile, W. C. Pearman.
Fredericktown.
Maxwell, J. E. Peringer.
Liberty.
Jeffery, R. A. Davidson.
St. Joseph.
Chalmers, Wyco Car Co.

MONTANA.

Hinghman.
Maxwell, Sorenson & Malland.
Missoula.
Maxwell, Chicago Garage, 228 W. Main St.

NEBRASKA.

Atkinson.
Oakland, C. E. Havens.
Bancroft.
Oakland, Alvin Browning.
Beatrice.
Oakland, G. O. Rains & Co.
Berlin.
Maxwell, F. J. Nutzman.
Central City.
Oakland, Central City Implement Co.
Coleridge.
Oakland, H. V. Coonrod.
Crawford.
Oakland, Scott Auto Co.
Dannebrog.
Oakland, Oscar Carlson.
Eddyville.
Maxwell, Eddyville Garage Assoc.
Grand Island.
Maxwell, Matt Jarvis Auto Co.
Hartington.
Oakland, Hans J. Sorenson.
Harvard.
Oakland, Schwenk & Bieck.
Humphrey.
Oakland, J. Brening.
Inman.
Oakland, Inman Implement & Hardware Co.
Julian.
Maxwell, Wilberger & Stowell.
Kearney.
Maxwell, Wort & Minton.
Lincoln.
Maxwell, H. E. Stockdale.
Oakland, H. E. Stockdale.
Long Pine.
Oakland, E. C. Engle.
Loup City.
Oakland, A. C. Ogle.
Monowi.
Maxwell, E. W. Allen.
Murdock.
Maxwell, William Gehrts.
Neligh.
Oakland, Clyde Foreman.
Omaha.
*Stewart, Andrew Murphy & Son.
Sargent.
Oakland, David T. Adams.
Springfield.
Oakland, Johnson & Armstrong.
Stuart.
Maxwell, William Krotter Co.
Sutton.
Oakland, J. Bender & Son.
Valentine.
Maxwell, Valentine Auto Co.
Valley.
Oakland, George Cowles.
Wausa.
Maxwell, Otto Hult.
Wisner.
Maxwell, West Bros.

NEW HAMPSHIRE.

Holderness.
Hudson, Guy S. Davison.

NEW JERSEY.

Lewiston.
Maxwell, Lewis Yerkes.
Newfoundland.
Maxwell, F. A. Hoagan.
Shrewsbury.
Maxwell, J. R. King.
Trenton.
Maxwell, Toman Bros.

NEW YORK.

Albion.
Maxwell, Kelsey & Peterson.
Amsterdam.
Jeffery, W. H. Bell.
Binghamton.
Chandler, Lowell & Hammond.
Maxwell, Frank W. Van Antwerp.
Clarendon.
Maxwell, Cole & Redinger.
Glen Falls.
Jeffery, Glen Falls Auto Co.
Goshen.
Maxwell, N. H. Wilcox.
Liberty.
Maxwell, G. M. Palmer & Co.
Lyndonville.
Oakland, Kenyon & Bidleman.
Mexico.
Ford, Mexico Car & Supply Co.
Middletown.
Maxwell, North End Garage.
New York.
Regal, Drouet & Page Co.
Niagara Falls.
Maxwell, Peter Lammerts.
Oneonta.
Overland, Camp & Wolcott.
Port Jervis.
Maxwell, Rutan Auto Co.
Sandusky.
Maxwell, W. J. Joslyn.
Schenectady.
Maxwell, Chris. C. Kehoe.
Stamford.
Maxwell, W. D. Thompson.
Stapleton.
Maxwell, Louis Blum.
Syracuse.
*Stewart, Stowell Motor Car Co.
Troy.
Maxwell, Ilium Garage.
Westfield.
Maxwell, Main Street Garage.

NORTH CAROLINA.

Goldsboro.
Buick, Ford Garage Co.
High Point.
Maxwell, Central Auto Co.
Pikeville.
Maxwell, Pikeville Garage & Motor Co.

NORTH DAKOTA.

Abercrombrie.
Maxwell, J. P. Johnson.
Fargo.
Maxwell, More Bros.
Havana.
Maxwell, J. H. Anderson.
Langdon.
Maxwell, McLaughlin & Stranger.
Lisbon.
Maxwell, J. C. Hyde.
Pembina.
Maxwell, G. G. Thompson.

OHIO.

Akron.
Hupmobile, Main Auto & Supply Co., 1151-5 S. Main St.
Mitchell, Main Auto & Supply Co.
Vulcan, Main Auto & Supply Co.

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*Stewart, Main Auto & Supply Co.

Ashley.
Maxwell, M. M. Powell & Co.

Athens.
Maxwell, J. L. Ravenscroft.

Centerburg.
Maxwell, E. E. McGuire.

Clarksville.
Oakland, Clarksville Motor Car Co.

Cleveland.
Jackson, Mahon Bros.
‡Imp, Harry L. Wilkinson.

College Corner.
Maxwell, Charles Kirkpatrick.

Columbus.
Buick, W. W. Muzzey.
Little, Daniel Motor Co.
*Stewart, F. E. Avery & Son, 863 N. High St.
‡Imp, G. L. Sitgreaves.

Dayton.
Moon, F. W. Blum.

Gallipolis.
Maxwell, Stewart Garage.

Ironton.
Maxwell, F. A. Marting.

Kenton.
Ford, Littleton & Critchfield.
Lambert, Littleton & Critchfield.

Lebanon.
Maxwell, John Law & Son, 11-15 East St.
Studebaker, John Law & Son.

Liepsic.
Jeffery, H. H. Townsend.

Logan.
Studebaker, Studebaker Garage.

Marietta.
Jeffery, Marietta Motor Car Co.

Milford.
Oakland, Milford Motor Co.

Sandusky.
Oakland, George J. Bing.

Tiffin.
Jeffery, J. W. Reiff.

Toledo.
Lozier, Landman-Griffith Co., 1402 Madison Ave.
Maxwell, Landman-Griffith Co.
Mitchell, H. A. Throne.
*Commerce, Bunnell Auto Sales Co.

Wellsville.
Maxwell, Wellsville Auto Co.

Wharton.
Maxwell, Mrs. T. J. Howard.

OKLAHOMA.

Bartlesville.
Moon, Cherokee Motor Car Co.

Enid.
Ford, Enid Ford Co.
Maxwell, Maxwell Oklahoma Auto Co.

Hugo.
Maxwell, C. A. Thompson.

Okmulgee.
Franklin, William A. Burke.

Pond Creek.
Hudson, F. J. Gentry.
Maxwell, F. J. Gentry.

OREGON.

Portland.
Chevrolet, Northwest Chevrolet Motor Car Co.
*Stewart, H. L. Keats Auto Co.

PENNSYLVANIA.

Altoona.
Maxwell, H. L. Stutz & Bro.

Ashland.
Maxwell, H. J. Williams.

Berwick.
Maxwell, Houck & Stahl.

Boswell.
Oakland, Boswell Auto Co.

Catawissa.
Maxwell, Gunter & Knittle.

Clarksburg.
Moon, Clarksburg Auto Co.

Erie.
Partin-Palmer, Bearle and J. H. McCarthy.

Evans City.
Maxwell, Wahl Motor Car Co.

Everett.
Maxwell, A. M. Karns & Son, 210 E. Main St.
Overland, A. M. Karns & Son.

Freeland.
Maxwell, J. W. Boyle, 415 Johnson St.

Harrisburg.
Reo, Harris Auto Co.
*Chase, Harris Auto Co.

Hatboro.
Maxwell, Charles H. Yerkes.

Lehighton.
Chalmers, Serfas Motor Car Co., 126 Iron St.
Maxwell, Serfas Motor Car Co.
Overland, Serfas Motor Car Co.

McDonald.
Oakland, McDonald Auto Co.

Monessen.
Maxwell, Lion Motor Sales Co.

Philadelphia.
Maxwell, Gibbons-Wetherill Service Co.
*Kelly-Springfield, Bartlett Garage.

Punxsutawney.
Oakland, P. L. Brown.

Saylorsburg.
Maxwell, S. Clarence Newhart.

Scranton.
Maxwell, P. J. Needham.

Selinsgrove.
Maxwell, Fisher Garage.

Shenandoah.
Maxwell, John Paskey.

Springville.
Maxwell, C. H. Young.

State College.
Maxwell, State College Transportation Co.

Swissvale.
Maxwell, Swissvale Motor Car Co.

Towanda.
Maxwell, Towanda Motor Co.

York.
*Autocar, T. S. Pfeiffer.

SOUTH CAROLINA.

Bamberg.
Maxwell, D. Fowling.

Newberry.
Maxwell, Summer's Garage.

SOUTH DAKOTA.

Alcaster.
Maxwell, Henry Ring.

Beresford.
Maxwell, P. A. Rasmussen & Co.

Centerville.
Maxwell, Nels Lind.

Emery.
Apperson, H. M. Bleeker.
Maxwell, H. M. Bleeker.
Studebaker, H. M. Bleeker.

Fairfax.
Maxwell, Tabor Motor Car Co.

Lesterville.
Maxwell, A. O. Wagner.

Platte.
Maxwell, Charles S. Just.

Sioux Falls.
Maxwell, A. L. Barth.
Maxwell, Hessenius Auto Co.

Tabor.
Maxwell, Tabor Motor Co.
Oakland, J. E. Beagle.

Tripp.
Maxwell, Geidd Case Co.

Tyndall.
Maxwell, Robinson Auto Co.

White Lake.
Maxwell, W. B. Huebl.

TENNESSEE.

Nashville.
Grant, W. H. Hirsig.
Lozier, W. H. Hirsig.
Marathon, State Motor Car Co.
Moon, Lawrence & Sons.
Paige, W. H. Hirsig.

TEXAS.

Austin.
Moon, Abadie Garage.

Center.
Maxwell, B. C. Armstrong.

Clifton.
Maxwell, T. C. Grimland.

Commerce.
Maxwell, P. W. Maloney.

Dallas.
Marathon, Tri-State Sales Co.
Maxwell, Tri-State Sales Co.
Metz, Tri-State Sales Co.
Velie, Shelor-Morris Auto Co.
‡Imp, Tri-State Sales Co.

El Paso.
Packard, Richardson Motor Car Co., 422 San Antonio St.

Galveston.
Crown, Oleander Sales Garage & Transfer Co.

Georgetown.
Franklin, T. J. Caswell.
Oakland, Toune Bros.

Henderson.
Franklin, Crow Bros.

Lockhart.
Moon, J. R. Lipscomb.

Mason.
Maxwell, Gresham & Logan.

Methis.
Moon, C. C. Braden & Co.

Rosedale.
Moon, J. C. Lockhart.

Temple.
Maxwell, Temple Motor Car Co.

Terrell.
Maxwell, T. L. Seitzler.

Waco.
Maxwell, Garrett Hardware & Implement Co.

Weatherford.
Maxwell, E. & L. Garage.

VIRGINIA.

Norfolk.
Jeffery, Allen Motor Co.

Ottoman.
Maxwell, L. B. Cottingham.

VERMONT.

Barre.
Maxwell, H. F. Cutler.

Middlebury.
Marathon, Cobb's Garage.

Rutland.
Ford, Williams & Leonard.

WASHINGTON.

Johnson.
Maxwell, J. Maynard.

Seattle.
Stearns-Knight, Seattle Automobile Co.
Velie, Louis & Edward Roesch.
Four Wheel Drive, E. J. Kennedy.
*Republic, Pope-Hartford Motor Car Co.

Tacoma.
Chevrolet, J. A. Croston.

WEST VIRGINIA.

Clarksburg.
Maxwell, Ransome Auto Co.

Huntington.
Maxwell, Stevenson & Taylor.

Morgantown.
Jeffery, City Auto Co.

Parkersburg.
King, Seventeenth Street Garage.
Maxwell, Maxwell Logan Carriage & Auto Co., 118-124 Fourth St.

WISCONSIN.

Barron.
Maxwell, A. H. Struve.

Cameron.
Maxwell, Northern Motor Sales Co.

Eau Claire.
Oakland, Taylor Motor Co.

Ellsworth.
Maxwell, A. H. Struve.

Elmwood.
Maxwell, Elmwood Auto Co.

Hillsboro.
Maxwell, James Helak.

Janesville.
Maxwell, Hall Bros.

Manitowoc.
Maxwell, Hall Bros.

Menominee.
Maxwell, Menominee Garage.

Milwaukee.
Empire, Jesse A. Smith Auto Co.
Meteor, Rhode Automobile Co.
*Federal, Creek Motor Sales Co.

Prairie du Chien.
Maxwell, John I. Keller.

Rhinelander.
Moon, Oneida Garage & Machine Co.

Rib Lake.
Maxwell, George F. Braun.

Sheboygan.
Franklin, E. & H. Motor Co.

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NEW CONCERNS AND BUSINESS CHANGES.

NEW GARAGES AND REPAIR SHOPS.

The Cook Motor Vehicle Company, Delmar and Clerendon avenues, St. Louis, Mo., has been taken over by the Electric Garage & Service Company. The concern will conduct an exclusive garage for all makes of electric cars at 5175 Delmar boulevard. The painting and repairing departments will be continued, as well as the agency for the Buffalo electric pleasure and commercial cars.

Alexander Schneeweiss, New York City, has leased the garage at 159 West 127th street and will locate there.

Paul Vincent and Howard D. Redfield have organized the Shore Line Garage & Electric Company at Madison, Conn. They have purchased the garage business of James Pezatti and will conduct it under the new title.

Fred H. Bates, Santa Barbara, Cal., is now established at 19 East Anapamu street, under the name of El Segunda garage.

Edward Vogelsang, Lawrenceburg, Ind., formerly with the Queen City Garage & Repair Company, has gone into business for himself and has organized the Lawrenceburg Garage & Repair Company.

G. E. Blylock, Baltimore, Md., has purchased the business formerly known as the Gauls-Blylock Company, 1823 Maryland avenue, and will do a general vulcanizing and retreading business.

Richard Golder and W. Dare, Pleasantville, N. J., will open a garage in that town.

The Donaldsonville Garage, Donaldsonville, La., has rented the repair department to S. L. Speer. Mr. Aucoin, the owner of the garage, continues the other part of the business as heretofore.

The Breitenwischer-Ford Auto Company has opened a new garage at Fourth avenue and William street, Ann Arbor, Mich. The company will conduct a general repair business.

W. C. Malone and E. Deedom, Colton, Cal., have formed a company to operate a garage and auto depot.

William Moore, has opened a garage at Windsor avenue, Oneonta, N. Y., and will conduct a general automobile business. He will also act as agent for Hudson cars.

The Central Motor Company, Owensboro, Ky., has opened a new garage at the corner of Fourth and Locust streets. The building has a frontage of 66 feet and a depth of 144 feet.

E. R. Allen has opened a new garage on Pacific avenue, Huntington, Cal., where he will handle the Studebaker cars.

The Huselton Automobile Company, Butler, Penn., is to open a new and modern garage on Jackson street.

M. R. Raymond and P. S. Anglin have opened an automobile repair shop in connection with the Southern Motor Car Company at San Antonio, Tex.

H. Stokes has leased the building on Washington street and will open a garage and repair shop at Middlebury, Vt.

The Union Service Company, St. Louis, Mo., will operate an automobile garage and repair shop at 329 South 12th street.

The Klassen Automobile Company, McPherson, Kan., has opened a new garage on South Main street.

H. K. Wright and M. V. Hanscom have opened a new garage on the corner of Main and North streets, Winchester, Ind. They formerly had a garage on South Meridan street.

Solon A. Stein, agent for the Koehler trucks, has opened a garage at 37-39 Carpenter street, Reading, Penn.

F. Roick & Co. will open a garage at 183 Broadway, New York City.

Joseph Cathcart, Jr., has opened a garage on Reid street, New Brunswick, N. J.

Moody Bros. has opened a repair shop and accessory store in Peoria, Ill., located in a three-story structure at 1805 Main street.

Townsley & Rohr has opened a garage in Palmyra, Mo., in the building formerly occupied by A. P. Bowles as a livery stable.

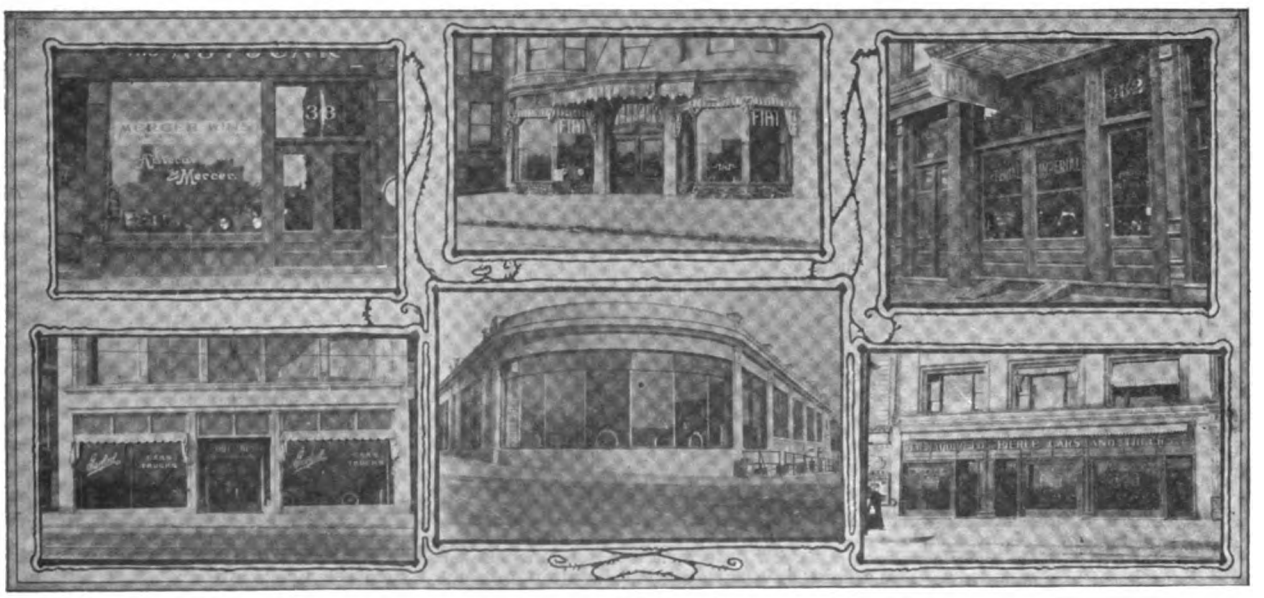
P. F. Peterson and J. L. Johnson, Eau Claire, Wis., whose new garage at 551 Franklin street is completed, have opened for business. Repair work of all kinds will be handled.

The Merrill Garage, Merrill, Wis., is open for business. A repair shop and supply store will also be conducted.

NEW AGENCIES AND DEALERS.

E. R. Metheany will engage in the automobile business in Detroit. He has engaged space and will handle the Overland cars.

C. H. Crain has purchased an interest in the automobile business of A. R. Bowen, operated under the name of the Redlands Machine & Auto Company, Redlands, Cal., and will change the name to the Bowen & Crain Company. The company will handle the Cadillac line of cars.



A Group of Boston Salesrooms: Upper Row, Mercer, Columbus Avenue; Fiat, Boylston Street; Imperial, Columbus Avenue—Lower Row, Garford, Boylston Street; Henderson, Brookline Avenue; Pierce-Arrow, Boylston Street.

The Burns-Thomas Company, New Haven, Conn., will open a service station at 228 George street. The company will handle the Oldsmobile, Overland and other cars.

T. V. Graves, formerly manager of the Goodyear Rubber Company, Omaha, Neb., has established a business of his own on Farnham street and will handle the American tires.

William P. Cuberly and Oliver O. Moore have opened salesrooms and a service station at West Hanover and Barnes streets, Trenton, N. J. They are agents for the Cole and Paige lines.

E. H. Palmer has opened a new garage and salesrooms in Charleston, S. C., at 57 Broad street, where he will handle Lyons-Knight cars.

The Jeffery Auto Sales Company, San Francisco, Cal., has established salesrooms on Van Ness avenue, near Geary street. Joseph I. McMullen is manager.

The Hansel-Ortman Modesto Company, Modesto, Cal., has established salesrooms for the purpose of handling Oakland cars.

Burnell & Clark, Marathon, Ia., has disposed of the Marathon agency to Carl Peterson and Arthur Wessman, who have taken possession.

The Studebaker Corporation's branch at Chicago, 25th and Michigan avenue, has been succeeded by the Markle Company. L. Markle, formerly manager of the Studebaker branch, is president of the new company, and C. R. Dashiel, vice president.

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CHANGES IN NAME.

The Adix Automobile Company, Chicago, Ill., has changed its name to the City Automobile Company.

The Capital City Cartercar Company, 15th and N streets, Lincoln, Neb., has changed its name to Atkins, Daily & Anderson.

The Barrett Motor Car Company, Buffalo, N. Y., has changed its name to the Paige-Buffalo Company.

The Dearborn Automobile Company, Chicago, Ill., has changed its name to the M. & O. Auto Repair Company.

The Divine Motor Car Company, 2430 Michigan avenue, Chicago, Ill., has been taken over by the Garford Company, and will hereafter be known as the Garford Motor Car Company. It will be operated as a branch of the parent company, under the management of T. J. Edwards. E. C. Divine, president and founder of the Divine Motor Car Company, has retired.

The Simplex Automobile Company, New York City, will be known hereafter as the Monarch Automobile Company, permission for the change having been granted by the supreme court.

F. E. Avery, Columbus, O., has changed the name of the concern to F. E. Avery & Son.

The Potts-Rine Supply Company, Columbus, O., has changed its name to the Potts-Seider Supply Company.

The American Motor Car Company, Charlotte, N. C., has changed its name to the Lumma-McCoy Company. W. R. Smith, the former manager, is now engaged in business for himself along the same lines.

The Moyer Automobile Company, Des Moines, Ia., will be conducted hereafter under the name of the Hudson-Jones Automobile Company.

The Lozier Sales Company, Cleveland, O., has been reorganized by the same interest, but under the name of the Cuyahoga Sales Company. The efforts of the company will be devoted to the sale of Chandler cars in Ohio. Ray L. Colwell will remain as manager.

The Furcht-Fowler Auto Company, Hailey, Idaho, will be known hereafter as the Fowler Auto Company. J. D. Furcht has disposed of his interests to J. L. Jameson.

The Ford Auto Company, Baltimore, Md., has changed its name to the Eastwick Motor Company.

The Morgan & Torrenga Auto Company, Lafayette, Ind., will hereafter be known as the West Side Auto Company.

The Twenty-Second and Illinois Street Garage, Indianapolis, Ind., has changed its name to the Illinois garage. A new partner has entered the firm, in the person of Lou Conde, and a large addition is being erected.

PARTNERSHIPS DISSOLVED.

Steffes & Thompson, proprietor of the Main Street garage, Chilton, Wis., has dissolved partnership. Mr. Thompson has disposed of his interest in the concern to Anton Steffes, Sr., and hereafter the firm will be known as Steffes & Steffes.

Roeske & Sindt, Davenport, Ia., has dissolved partnership, A. E. Sindt retiring from the firm. A new company has been formed by W. E. Roeske, to be known as the Ford garage. Business will be carried on at the old quarters, Fourth and Ripley streets.

Larson & Lehnen, Corning, Ia., has dissolved partnership. The business will be continued by E. Lehnen.

The Russian Tyre Sales Company has been dissolved and has been replaced by a branch of the parent factory at Riga, Russia, under the name of the Columb Tyres Import Company, Inc., at 1891 Broadway, New York City.

Betances & Co., San Juan, P. R., has dissolved partnership and has given all agencies to Andrew Betances who will conduct the business under the name of A. Betances.

Butler & Berry, Springvale, Me., has dissolved partnership. The business will be continued by Chester Berry.

The Northern Auto Company, Petoskey, Mich., John L. A. Gaster and Owen McMahon proprietors, has dissolved partnership and the latter is now sole owner.

The City Garage, Rockdale, Tex., Talley & Jenness, owners, has dissolved partnership. Mr. Jenness has taken over the entire business.

Braidwood & Crane, Yankton, S. D., has dissolved partnership and settled its affairs. Mr. Crane will continue the business and Mr. Braidwood will open another garage in the near future.

Cozad & Wise, Villisca, Ia., have dissolved partnership, Mr. Cozad retiring from the firm. The business will be conducted under the name of W. D. Wise.

GARAGE TRANSFERS.

I. W. Phillips & Sons, Orlando, Fla., has purchased the garage of the Orlando Automobile Supply Company, Jacksonville, Fla.

Frank M. Johnson, Eureka, Cal., has sold his garage business to the Humboldt garage owners.

H. H. L. LeBarron, Santa Rosa, Cal., has purchased the interests of DeLatimer & Eaisdor in the Boulevard garage.

William A. Applegate, Bethlehem, Penn., has sold his garage business to Charles Roeder of Coopersburg, who will conduct it under the name of Applegate Motor Company.

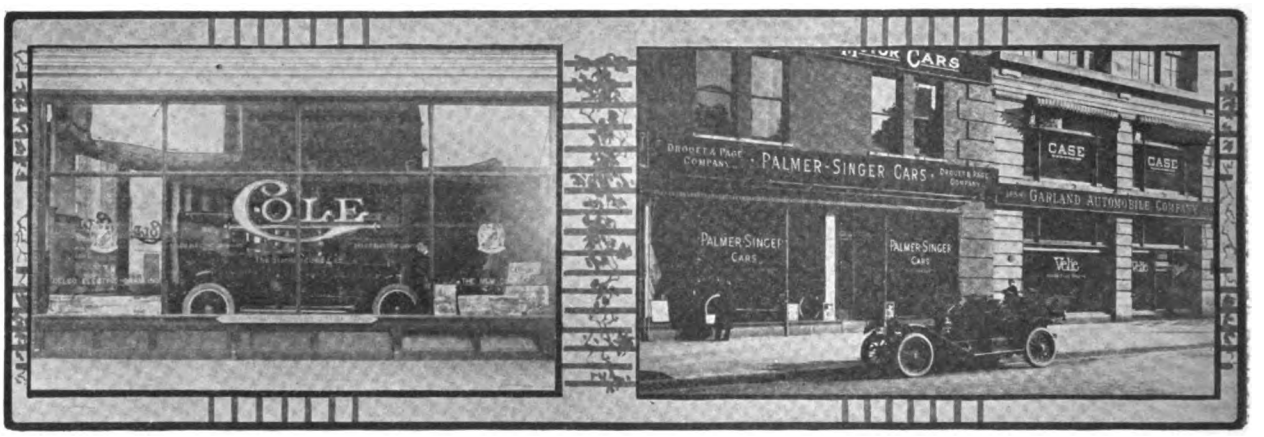
The Alameda Garage, Alameda, Cal., has been purchased by John G. and Robert Dorward. The former owner, Fred Kahn, has retired from the automobile field.

Jesse Brabazon, Beloit, Wis., formerly an aviator, has become owner of the garage formerly conducted by the Beedle Automobile Company, on Pleasant street.

Moody Nelson, Harlan, Ia., has purchased the Harlan garage, and has taken possession.

The Galt Garage, Galt, Cal., has been sold to E. Hudelson.

J. W. Jones and J. G. DuBoise, Gadsden, Ala., have purchased the Gadsden garage on Court street and will continue the business. The garage maintains a repair shop, which will be enlarged and improved.



Homes of Three New York Dealers: At Left, Colt-Stratton Company, Cole; at Right, Drouet & Page Company, Palmer-Singer and Regal, and Garland Automobile Company, Speedwell and Velie.

The Hayward Garage and the Pacific Coast Garage, Hayward, Cal., have been sold at public auction to Mrs. Margaret Van Hoosear.

The Capital City Garage, Phoenix, Ariz., has changed hands, Wesley A. Hill having disposed of his interest to J. Staples.

The Eastport Garage, Eastport, Me., has been bought by Sidney Frost.

The Mansfield Auto Garage, 66 North Walnut street, Mansfield, O., has been purchased by Ludwig and Jacob Walters.

The Hiko Garage, Sloan Springs, Ark., has been sold to W. H. Bailey, who will conduct the business under the name of Hiko Auto Company.

Clayton Jackson has purchased the interest of R. H. Munford in the Escalon Garage, Escalon, Cal., and the business will hereafter be known as Mead & Jackson.

G. H. Crosby, Pomona, Cal., has purchased the interest of his partner in Crosby & Morse, and will continue the business alone under the name of the Main Street garage.

F. X. Lauterbur & Co., Sidney, O., has disposed of its garage equipment to Charles W. McClure and Walter Brookey. The new firm will be known as McClure & Brookey and will be located at Fair avenue and Water street.

Samuel Lemos, Danville, Cal., has sold his garage business to Harris Bros.

The Interstate Auto & Supply Company, Sioux City, Ia., has sold to E. A. Christiansen the garage, repair shop and automobile accessory department. Mr. Groves, the former proprietor, still retains his agencies.

William Martin, Augusta, Ill., who recently purchased a half-interest in the Plymouth Auto garage, has bought the other half from Frank Oewesse.

Green Bros.' Garage, Arkadelphia, Ark., has been bought

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by L. E. Gulledge, who will conduct the business under the name of the Arkadelphia garage. The former owners have a machine shop, in which they will conduct business.

The Pyle Bros. Garage, Edwardsville, Ill., has been bought by the Edwardsville Garage & Auto Supply Company. Mr. Pyle will continue to handle the Ford and Overland cars, but will not be connected with the garage business.

The Moody Bridge Garage, Moody and Pawtucket streets, Lowell, Mass., has been taken over by James M. Banger, who has had charge of the repair department for some time.

Goldie Morton, Minneapolis, Kan., has bought the interest of Jesse Kirby, in the Meridan garage, and is now sole owner of the business.

Fraak Weichel, Norwalk, O., has sold his garage business to Charles Rikeman and Carl Strecker, who will take possession on March 1.

H. B. Swalley, Nebraska City, Neb., has disposed of his garage interests to Alexander W. Neihart.

Toburen Bros. & Susdorf, Kentucky street, Rantoul, Ill., has disposed of its garage to Christy Bros. Torburen Bros. will retain the agency for the Cartercar.

The Trail Garage, Olathe, Kan., has been purchased by the Olathe Auto Company.

The Warsaw Auto Company, Warsaw, Ind., has sold its garage business to L. M. Neher, proprietor of the Ford garage, Milford, Ind. The name has been changed from Widaman's garage to Ford garage, and the business at Milford will be conducted as a branch.

The F. P. Stilp Garage, Columbia avenue, Aurora, Ill., has changed hands and will hereafter be known as the Columbia garage.

The Milton Garage, Milton, Mass., has been sold to C. A. and G. E. Merrifield and H. Wilbur Perkins. The business will be known as the Milton Garage & Machine Works.

The Beltrami Avenue Garage, Bemidji, Minn., formerly owned by John Moberg, has been bought by the Northern Automobile Company.

The Brattleboro Machine Works, Brattleboro, Vt., has leased its garage to George C. Martell, formerly foreman.

George W. Gates, Windsor Locks, Conn., has sold his repair shop to Louis L. Stone, who will conduct the business under the name of the Buick Service Station.

F. G. Hold, Kenyon, Minn., will conduct a repair business and carry a full line of supplies in his new building, completed last fall.

H. F. Davis, formerly of St. Louis, has purchased the garage of the Overland Company at 1312 West Broadway, Glendale, Cal., and will take possession at once.

M. G. Hastings has purchased the garage operated by the Island Garage Company, Potsdam, N. Y. Improvements to machinery are to be made.

William Seufert, Fort Clinton, O., has purchased the garage and machine shop owned by his son, Charles F. Seufert, and will continue the business. The former proprietor has taken a position in one of Toledo's big automobile plants.

Randall S. Williamson, San Francisco, Cal., has purchased the garage owned by Miles Standish, Richmond, Cal.

Everett Rayburn, Greenview, Ill., has purchased the garage of Hatch & Son.

Willsey & Graham, Elsinore, Cal., has taken over the Keith garage at Main street and Heald avenue. The deal carries with it the agency for the Ford and Hupmobile lines.

GENERAL SALES AND TRANSFERS.

Christ. Bang, Spencer, Ia., has sold his motor repair shop to Neis & Swift.

The Robinson Auto Company, Globe and Main streets, Peoria, Ill., has been bought by the Cole Motor Car Company, which will continue the business at the same location. F. C. Vaughn, secretary and treasurer of the company, will have active charge of the management.

The Kossuth Motor Car Company, Algona, Ia., has been sold to Paul Clement, La Porte City, and Elmer Kelley.

Dupuis Bros., Washington, Ia., has sold its tire repair business to W. E. Logan and Ira Long. The new concern will continue the business in the present location in the Graham Theatre building.

H. C. Hughes, Sullivan, Ind., has sold his business to the Bisinger Auto Company, which has now located in its new quarters at 20-22 East Washington street. The Bisinger Company has also bought out the E. S. Crowder Company.

The Acme Vulcanizer Company, 2316 Patterson street, Pittsburg, Penn., has sold its vulcanizing business to the Fisher Foundry Company, 29 South 14th street. G. F. Hollis, the former owner of the business, will maintain a machine shop for welding automobile parts at the old location.

The Automobile Repair Shop, South Dubuque street, Iowa City, Ia., has been sold to Voss & Conrod.

Crane & Kennedy, Oneida, Ill., has been purchased by Leonard Wikoff, formerly with the Galesburg Machine Works.

The Hancock County Auto Company, Marshalltown, Ia., has sold its interests to George F. Castle and his son, Arthur Castle, who will conduct the business hereafter.

Frank Harmon, Garrison, Ia., has bought the interest of Mr. O'Neill in the firm of Harmon & O'Neill, and will continue the business alone.

The Ford Garage & Supply House, West Point, Neb., has changed hands, C. C. Stahl having disposed of his interests to John E. Wiesner.

The Parsons Motor Car & Machine Company, Parsons, Kan., formerly owned by Korp & Harrington, has been bought by Kimball & Delay, who will continue the business under the name of the Parsons Motor Car Company.

Arthur L. Smith, Santa Maria, Cal., has sold his Cadillac agency to the Crescent garage.

The Spencer Auto Company, Spencer, Ia., has been bought by P. J. Claer.

The Erie Supply Company, 242 Erie street, Toledo, O., has disposed of a part interest to W. O. Taylor, who will continue under the same name. O. R. Browne, a former partner, will engage in the accessory business on Erie street.

George W. Hawkins, Houston, Tex., has sold his interest in the Hawkins-Halff Auto Company, to his partner, who will conduct the business under the name of the Halff Company.

The Mitchell-Brown Repairing Company, Salt Lake City, Utah, has been bought by the Reliable Motor Car Company.

The Thomas B. Jeffery Company's branch at 455 Broadway, Milwaukee, Wis., has been taken over by the Reeke-Osmond Motor Car Company.

The Lindsay Motor Car Company, St. Louis, Mo., local distributor of the Paige cars, has absorbed the Frye Motor Car Company.

Carl Burdeson has purchased an interest in the Independent garage, Petaluma, Cal., from his partner, and will operate it alone.

The Automobile Supply Company, Miami, Ariz., has been bought from Rucker & Liles by Glint Haymond. He will be located at the corner of Sullivan street and Keystone avenue.

William C. Thomas, Jacksonville, Fla., has bought the interest of E. C. Williamson in the Thomas-Williamson Company.

The Mogul Auto Company, 117 Broadway, Newburgh, N. Y., has transferred its lease to The Van Motor Company, which has removed from 9-11 Chambers street to the present quarters of the Mogul Company. The Van Motor Company is a branch of John Van Benschoten of Poughkeepsie, N. Y., who also has a branch garage in Kingston, N. Y.

Richards G. Edwards, 1210 Atlantic avenue, Atlantic City, N. J., has sold his taxicab business to Chanbers, Sedlag & Byrne. The new office will be located at 16 South North Carolina avenue. Mr. Edwards will retain the agency for the White cars and maintain his salesrooms for tires and machines.

C. H. Newton, Atlantic, Ia., has sold his interest in the business conducted by Newton & Felt, and has moved to Omaha, where he will go back to railroad work. Paul Beekman has purchased his interest, and the firm will hereafter be known as Felt & Beekman.

H. E. Hendrickson, Villisca, Ia., has bought the interest of Theodore Marvick in the Marvick Bros.' garage.

W. C. Moore & Co., Water street, Torrington, Conn., has sold its business to Zele Bros.

MISCELLANEOUS BUSINESS CHANGES.

The Maxwell Motor Car Company's district headquarters in Omaha, Neb., have been reorganized. John Yoke will have charge.

The Lister, Smith & Walsh Company, 37 Chestnut street, Providence, R. I., will remain the same in name, although H. R. Smith has retired from the company.

W. A. Newby, Wall Lake, Ia., has resigned from the Newby Auto Company and C. J. Rose is now sole owner.

Boone Auto Company, Boone, Ia., has changed ownership in all but the sales department, J. W. Erickson of Boone and A. G. Olson of Boxholm having bought the repair, storage and supply departments. The name has been changed to the Erickson Auto Supply Company, and the new firm will occupy the rear half and basement of the building.

H. C. Teegarden, Greenville, O., has taken over the interest of E. C. Jobes in the firm of Fouts & Jobes, and the business will be continued under the name of Fouts & Teegarden. Mr. Jobes has gone into the piano business.

Edward A. Cassidy, Philadelphia, Penn., formerly junior member of Petry-Cassidy, Inc., has withdrawn from the firm and formed a new company under the name of Edward A. Cassidy & Co., with offices in the Abbot building, where it will represent a number of the manufacturers of automobile supplies and accessories. G. B. Gosnan, formerly secretary of the Petry-Cassidy Company, has resigned and become affiliated with Mr. Cassidy, as have E. C. Wright and P. C. Smith. Branch offices have been established in Pittsburg, Penn., and Atlanta, Ga.

F. Shirley Boyd, 903 Boylston street, Boston, Mass., has added the J. H. S. shock absorbers, made by the J. H. Sager Company, Rochester, N. Y., to the line of accessories and supplies, carried by him. He is distributor for the New England States.

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NEW CONCERNS RECENTLY INCORPORATED.

CARS AND PARTS.

Direct Drive Axle Company, Columbus, O.; $10,000; to manufacture and deal in transmissions; W. E. Campbell, C. O. Haines, C. T. Phillips, I. M. Pluckharp, H. B. Gilchrist.

American Motor & Transmission Company, New York City; $50,000; Charles H. Bassford, E. V. Nixon, Eustace Reynolds.

Leitz, Inc., Buffalo, N. Y.; $10,000; to manufacture motor vehicles, supplies, etc.; Elizabeth Leitz, Edward Leitz, Carl A. Cairns.

Bullock Tractor Company, Chicago, Ill.; $100,000; to manufacture farm tractors and other motor propelled machinery; H. E. Bullock, J. E. Bullock, W. O. Wayman.

Town Taxi Company, New York City; $5000; to manufacture taxicabs, etc.; John N. Scelsa, Joseph F Dempsey, Eugene A. Donohue.

Detroit Ball Bearing Company, Detroit; $2000; to manufacture ball bearings and other metal specialties; Joseph Pauer, James Cerney, Robert Weigel.

Briscoe Motor Company, New York City; $500,000; L. E. Latta, W. J. Maloney, Herbert Latter.

Chirocar & Cycle Company, Wichita, Kan.; $100,000; to manufacture and sell vehicles of light construction, etc.

Utility Motors Corporation, Wilmington, Del.; $100,000; to manufacture and deal in automobile motors, engines, etc.

Detroit Axle Company, Detroit; $50,000; William Dailey, C. F. Gazley, Ed. Wiepert, H. Pierce.

Advance Gear Company, Detroit; $50,000; J. P. Lavigne, Charles O. Barnes, H. T. Bradley.

H. E. Wilcox Motor Company, Minneapolis, Minn.; $3,500,000; to manufacture motor vehicles; John F. Wilcox, R. D. Wilcox, O. P. Briggs, G. W. Lewis, C. H. Davidson, Jr., W. T. Joslin, F. E. Kenaston, P. M. Starnes.

Abbott-Akin Company, Johnsonville, N. Y.; $10,000; to manufacture automobiles and farm machinery; E. H. Abbott, J. Slade, H. V. Akin.

Arrow Cyclecar Company, Augusta, Ga.; $500,000; to manufacture automobiles, cyclecars, trucks, etc.; R. S. Buzzell, L. J. Coleman.

Service Motor Car Company, Wabash, Ind.; $250,000; to manufacture and deal in motor cars.

Lewis Differential Company, Chicago, Ill.; $25,000; to do general manufacturing business; F. M. Lewis, R. Lewis, S. M. Hogan.

Briskin-Wolsiefer Manufacturing Company, Indianapolis, Ind.; $10,000; to manufacture automobile parts; J. H. Briskin, C. C. Wolsiefer, H. W. Bullock.

Essex Motors Manufacturing Company, Newark, N. J.; $100,000; to manufacture motors, machinery, supplies, etc.; W. H. Simpson, N. E. Hudden, J. J. Coyle.

Higrade Body-Building Company, Ossining, N. Y.; $5000; J. B. Tillottson, J. A. Cuff, R. W. Yates.

Dunlop Wire Wheel Corporation of America, New York City; increased from $400,000 to $1,000,000.

Liebson Self-Starter Company, Macon, Ga.; $50,000; to manufacture self-starters for automobiles; T. N. Baker, J. S. Schofield, W. S. Anderson.

U. S. Wire Wheel Company, McKeesport, Penn.; $100,000; to manufacture wire wheels for automobiles; G. Baehr, S. Kalkstone, T. Lewis.

San Francisco Auto Truck Company, San Francisco, Cal.; $100,000; to manufacture trucks; J. A. Keenan, W. A. McLeod, H. Harrington, H. B. Barbee, J. P. McDonnell.

GARAGES AND REPAIR SHOPS.

Convent Garden Garage, New York City; $40,000; W. E. Thompson and others.

Reliable Tire Company, Detroit; $4000; to repair tires; L. A. Shapiro, W. F. Furney.

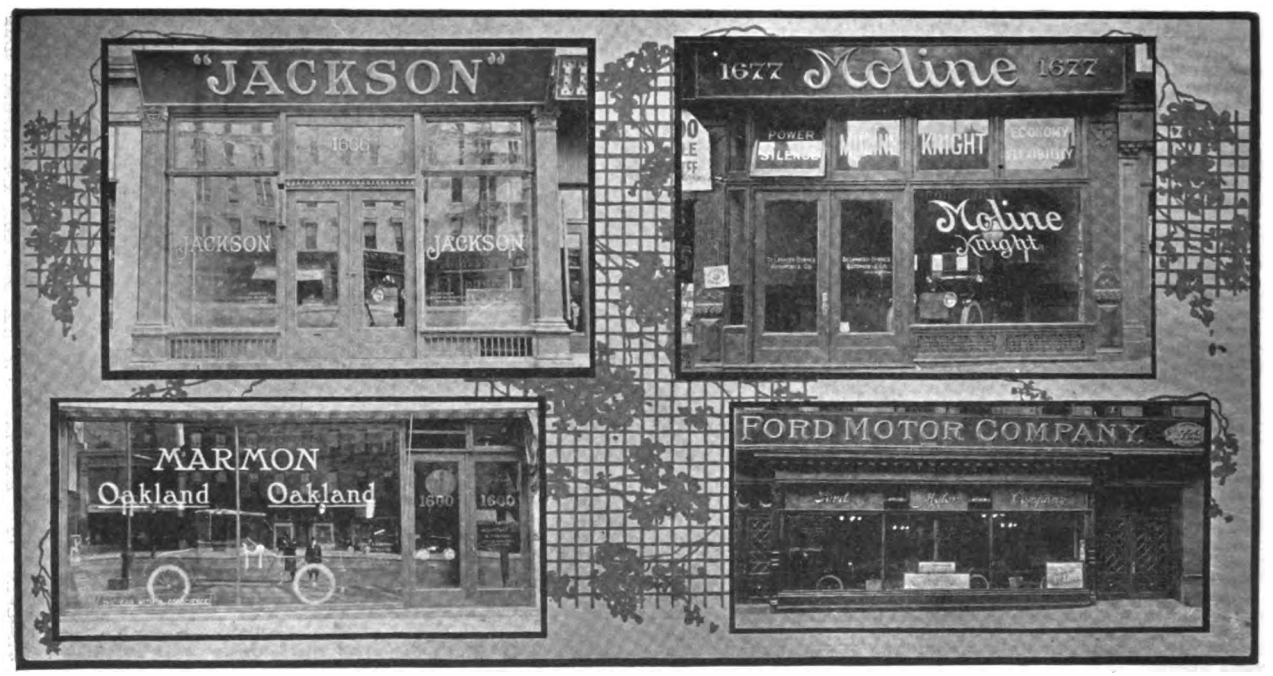
Coliseum Garage & Machine Company, South Bend, Ind.; $10,000; John Walz, W. P. Furey, J. E. Peak.

Central Garage, Norfolk, Va.; $15,000; to do a general garage business; J. L. Gay, O. H. Gay.

Crotty Company, Cleveland, O.; $20,000; general garage business; A. B. Crotty.

Murray Transfer Company, Wilmington, Del.; $25,000; general garage business; Claude Murray, N. W. Murray, R. C. Rogers.

Packard Acme Garage Company, New York City; $5000; Eugene Beugnet, Gustave Posner, Sidney S. Levine.



A Quartette of New York Salesrooms: Upper Left, Jackson Eastern Distributors, Jackson; Upper Right, DeLamater-Byrnes Company, Moline-Knight; Lower Left, Sidney Bowman Automobile Company, Marmon and Oakland: Lower Right, Ford Motor Company, Ford.

Guaranty Service Truck Company, Columbus, O.; $12,000; to conduct repair and taxicab business; W. H. Klunk, W. G. Brewer, G. F. McDowell, J. M. Borst, R. A. Nichols.

Martin Automobile Company, Elizabeth, N. J.; $10,000; to take over and operate the garage now conducted by Fred W. Hand.

Horace Sague & Son, Poughkeepsie, N. Y.; $35,000; to conduct a garage and repair shop.

Baker Automobile & Machine Company, Billings, Mont.; $2000.

Carlton Garage, Brooklyn, N. Y.; president, Joseph Cox; secretary, Philip H. Fett.

Gloversville Motor Car Company, Gloversville, N. Y.; $15,000; John W. Sisson, Lillian B. Sisson, Mortimer E. Everett.

Huntington Hotel Garage Company, Los Angeles, Cal.; $25,000; C. L. Goodman, W. R. Covington, C. A. Bonyun.

DEALERS AND AGENTS.

Grand Center Motor Car Company, St. Joseph, Mo.; $5000; to deal in automobiles; W. J. Hendler, H. R. Lewis, Louis Seigel.

New State Auto & Supply Company, Tulsa, Okla.; $2000; to deal in automobiles and accessories; F. S. Snow, M. M. Shaw, G. E. Davis.

Crabb Auto Sales & Accessories Company, Indianapolis, Ind.; $10,000; to deal in automobiles and accessories; G. L. Crabb, J. D. Thornton, H. M. Wolfe.

Aird Motor Company, Troy, N. Y.; $10,000; to deal in

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motor cars and accessories; John W. Aird, Alanson A. Aird, Alanson W. Aird.

Fuquay Motor Car Company, Fuquay Springs, N. C.; $25,000; to deal in automobiles; C. W. Howard, C. E. Cheek and others.

Northwest Motor Company, Amarillo, Tex.; $10,000; to deal in automobiles; T. M. Ellis, Turner Ellis, O. M. Boynton.

Interstate Automobile & Supply Company, Davenport, Ia.; $25,000; to deal in automobiles; F. A. Seeman, R. E. Beedee.

L. A. Van Patten, Inc., New York City; $60,000; to deal in motor vehicles, wagons, etc.; A. G. Thaanum, F. Disch, R. Goldman.

Spring-Roberts Auto Company, Houston, Tex.; $15,000; to deal in automobiles; W. H. Spring, F. S. Roberts, L. D. Thomas.

Parrett-Barbour Motor Sales Company, Detroit; $10,000; W. L. Parrett, H. J. Latour.

Broadway Auto Sales Company, New York City; $2000; B. F. Thomas, R. G. Randolph, Louise E. Jeter.

Fiat Motor Company, Philadelphia, Penn.; $40,000; to deal in automobiles.

Aalding Supply Company, Manchester, N. H.; $15,000; to deal in motor vehicles of all kinds; Carl D. Johnston, Hugh D. O'Dowd, John Marston, Oscar Mills, Marshall C. Blanchard.

Dietrich Motor Car Company, Youngstown, O.; $15,000; to deal in motor vehicles; Dale Dietrich, Frank Dietrich, J. Fred Dietrich, C. S. Dietrich.

ACCESSORY AND SUPPLY HOUSES.

Ten Broeck Tire Sales Company, Cincinnati, O.; $5000; to sell automobile tires; R. T. Durett, M. L. Lewman, John E. Bruce, H. C. Upson, J. H. Brownell.

Bobra Spark Plug Company, Dayton, O.; $12,000; to manufacture spark plugs; C. H. Braselton, D. H. McKenzie.

Barnard-Michael Tire Company, Buffalo, N. Y.; $10,000; to manufacture automobile tires; Robert S. Barnard, Isidore Michael, Sidney M. Michael.

Keaton Tire & Rubber Company, New York City; $1000; Harold A. Forbes, William J. Kreuder, Thomas F. MacMahon.

United Auto Supply Company, Dallas, Tex.; $5000;

Pullman Tire Company Dallas, Tex.; $5000.

Woburn Degreasing Company of New Jersey, Jersey City, N. J.; $100,000; to manufacture leather, oils, greases, etc.; J. J. Treacy, B. Treacy, B. Milton.

Hazel Lock Nut Company, Reading, Penn.; $125,000; to manufacture and sell lock nuts and other metal specialties; W. J. Sterrett, W. H. Cox, J. H. Hughes.

National Automobile Accessories Company, Adrian, Mich.; $6000.

Auto Accesories Association, New York City; $10,000; Samuel Falk, Henry C. Falk, Edward E. Braendle.

Tri-State Motor Car Company, Wheeling, W. Va.; $10,000; to manufacture auto supplies.

Triple Action Spring Company, Chicago, Ill.; $25,000; to manufacture and deal in springs, mechanical appliances, automobiles, accessories, etc.; O. G. Temme, R. H. Mather, C. R. Church.

Reliance Automatic Lighting Company, Racine, Wis.; $10,000; B. F. Fliegel, E. B. Hand, F. H. Fliegel.

Lea Oil Company, Cleveland, O.; $15,000; to manufacture oils; E. E. Stuyvesant, H. B. Stuyvesant, A. B. Lea, S. G. B. Lea, H. E. Parsons.

Airless Tire Filler Company, Birmingham, Ala.; $2000; J. E. Smith, W. E. Oldham.

Western Motor Supply Company, Milwaukee, Wis.; $25,000; to deal in all standard supplies, accessories and Quaker tires; R. F. Coerper, L. Connie, R. L. Tietbohl.

Mechanical Auto Tube Company, Newark, N. J.; $100,000; to manufacture tires; B. F. C. Rothwell, W. B. Estes, F. F. Estes.

M. J. L. Rear Adjustable Bumper Company, New York City; $1000; M. J. Leclerc, S. Solinsky, H. Stern.

Automobile Roll Top Company, Milwaukee, Wis.; $50,000; to manufacture and market a top for motor cars; G. W. Browne, A. A. Jonas, P. C. Avery.

Lansing Rubber Company, Lansing, Mich.; $75,000; to manufacture and deal in automobile tires; W. M. Sheperd, A. C. Haite, Frank Preuss.

Warner Auto Top Company, Cincinnati, O.; $40,000; to manufacture automobile tops; W. W. Warner, W. W. Dill, F. A. Brown, K. L. Warner, N. G. Dill.

Mutual Automobile League, Philadelphia, Penn.; $10,000; automobile supplies.

Stafford Automobile Lamp & Number Company, Dallas, Tex.; $60,000; to produce combination lamp and number plate; E. H. Pollard, M. M. Parks, William Doran.

Wiley-Postal Company, Detroit; to manufacture automobile tops; Harry W. Wiley, Charles Postal.

Wynn Pneumatic Puncture Proof Tire Company, Sault Ste. Marie, Mich.; $25,000; to deal in rubber goods; R. J. Wynn, J. Hulster.

Safety Fender Company, Detroit; $10,000; to make automobile fenders; John A. Bierns, Charles S. Hawkins.

Worcester Tire Fabric Company, Worcester, Mass.; $50,000; tires and tire fabrics; A. D. Sykes, Peter Reilley.

Monitor Clock Works, Brockport, N. Y.; $100,000; B. A. Chubbuck, F. S. Levan, M. E. Lott.

UNCLASSIFIED.

Auto Sales Company, Cairo, Ill.; $2600.

Baker Auto Transit Company, South Charleston, O.; $10,000; to operate a motor 'bus line; George W. Baker, William W. Kiefer, Floyd Baker, W. E. Roderick, C. J. Baughn.

Dunham Motor Company, Cleveland, O.; $10,000; to deal in motor cars; L. A. Dunham, C. W. Rush, G. K. Wadsworth, H. A. Mullen, T. S. Dunlap.

Marburg Bros., Toronto, Ont.; $40,000; to manufacture machinery, etc.; Otto Veit, M. C. Lamburn and others.

Peerless Motor Specialty Company, New York City; $1500; Harry E. Spencer, Gustave Weinberg, Ernest M. Culp.

Utica Saxon Motor Corporation, Utica, N. Y.; $10,000; William D. Lyon, J. William Seaton, William P. S. Doolittle.

Mission Motor Car Company, Los Angeles, Cal.; $50,000; Y. R. Del Valle, H. L. Palmer, Walter Sheppard, Alfred Barstow, C. A. Rohe.

Empire Postal Motor Company, Brooklyn, N. Y.; $10,000; Charles J. Gillen, R. W. Kathan, Alma M. Kathan.

Arcade Motor Car Company, Arcade, N. Y.; $15,000; Kirk R. Wilson, F. R. Wilson, Annie M. Wilson.

Rex Motor Car Company, Ford, Mich.; $75,000; Charles H. Ripple, William J. Frasier, Alfred Robinson.

Meyers & Grayson, New York City; $25,000; Morris Meyers, Shirley J. Grayson, Mary Ginsburg.

Grant Tire & Auto Company, Omaha, Neb.; $50,000; E. W. Morrison.

Panama Park Transportation Company, Jacksonville. Fla.; $5000; to engage in the automobile business in general.

Victor Motor Car Company, Greenville, S. C.; $100,000.

Robinson Machine Company, North Vernon, Ind.; $3000.

Automobile Funding Company, Seattle, Wash.; $500,000; F. W. Clay, C. A. Bradley.

Buick Taxicab Company, Hartford, Conn.; $25,000; A. C. Bieber, F. H. Bieber, D. Roberts.

Lincoln Motor Van Company, Cleveland, O.; $1000; to engage in transportation business; L. A. Kujauski, G. Shum, P. E. Paukuch, D. D. Hurlbert, H. M. Calvert.

Hurd-Landsheft Motor Company, Buffalo, N. Y.; $7500; M. J. Hurd, C. M. Hugo, R. Landsheft.

Duplex Gasoline Motor Company, New York City; George W. Woodruff, A. Parker Nevin, Thomas M. Parker.

Dile Motor Car Company, Reading, Penn.; $20,000; to deal in automobiles.

Herreshoff Motor Company, Columbus, O.; $5000; to deal in automobiles; O. M. Dickinson, John F. Ward, W. C. Benham, Jr., D. D. Sibley, J. M. Loren.

Chicago Motor 'Bus Company, Chicago, Ill.; $10,000; D. J. Schuyler, S. A. Ettelson, C. W. Einfeld.

Chicago-St. Louis Automobile Boulevard, Chicago, Ill.; $6000; to build an automobile boulevard; N. T. Allen, Fred Peterson, R. D. Moore.

Merriam Motor Company, Amsterdam, N. Y.; $15,000; F. S. Modher and others.

Black-Frasier Motor Car Company, Columbus, S. C.; $50,000; to succeed E. B. Lyon Motor Car Company.

Arthur L. Clark Company, Bridgeport, Conn.; $10,000; William H. Comley, Jr., Arthur M. Comley, Arthur Clark.

Milton Tire & Rubber Company, Boston, Mass.; $40,000; Philip L. Hardy, Herbert E. Pender, Charles M. Riddock.

Vendome Taxicab Company, Boston, Mass.; $5000; Albert Rosenfeld, Max J. May, David Litvin, Charles Rosnosky.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

12,212, Automobile Accessories—An American consular officer reports that a firm in his district desires to be put into communication with important dealers in automobile accessories in the United States. Correspondence is preferred in the Spanish language.

12,220, French Agency for American Firms—An American consular officer reports that a French agent intending to visit Canada at the end of January or beginning of February, would like to hear from American firms desirous of establishing an agency in France. During his stay in Canada this agent will be prepared to visit the United States and discuss on the spot arrangements for representing likely firms. This person speaks English and states that he has extensive connections both in Canada and in France.

12,218, Hides for Automobile Coach Work—A report from an American consular officer states that a resident of his district desires to receive offers from American manufacturers of enamelled hides for automobile coach work and upholstery. The inquirer states that he will furnish satisfactory references and would like to secure the agency for the entire country, if possible. Correspondence should be in English.

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NEW LOCATIONS AND REMOVALS.

The Rodney K. Haines Company, New York City, will locate in its new and enlarged quarters at 1757-65 Broadway.

The Foiles Garage, De Kalb, Ill., is now open to the public on South First street, where it has a new garage and machine shop, also sales and show rooms, 90x120 feet, two stories.

The Capitol City Auto Company, Hartford, Conn., has had its building remodelled. The company handles the Lozier and Mitchell cars.

S. A. Foster, Hartford, Conn., agent for White and Jeffery cars, has removed to 343 Trumbull street.

The M-B-M Motor Company, Boston, Mass., has removed to 41 Monroe street.

Frederick W. Drosten, St. Louis, Mo., has purchased the building at the corner of 12th and Locust streets and will remodel it for automobile purposes, at a cost of $40,000.

The Pathfinder Motor Car Company, Minneapolis, Minn., northwestern distributor of the Pathfinder line of cars, has removed its quarters from 723 Third avenue, South, to 307 Sixth street, South.

The Harter Automobile Company, Sac City, Ia., has completed its large graage on North Fifth street, Marshalltown.

The Knudson-Lurdblade Company, Eureka, Cal., is planning to remove its Overland garage to the quarters of the Eureka Garage Company, having purchased the entire stock of the latter concern.

The Kloeppel Motor Car Company, Jacksonville, Fla., which handles the Reo and Lozier lines in that territory, has moved into larger quarters at 800 Main street. The new location affords ample room for a complete service station and supply warehouse.

The George W. Browne Automobile Company, Milwaukee, Wis., has moved into its new building at the corner of Broadway and Biddle street, where Overland, Stutz and Garford cars will be handled.

E. B. Leverens, Milwaukee, Wis., has disposed of his garage and agency to Joseph Thor, who will continue the business in the same city.

The Northwest Chevrolet Motor Car Company, Portland, Ore., has taken quarters in the new Keats building. A. L. Smith is manager of the concern.

The Detroit Slip Cover Company, Detroit, Mich., has moved into its new salesrooms at 22 Hendrie avenue.

The Knight Tire Company, Chicago, Ill., is now located at 2112 Michigan avenue.

C. V. Cairns, Kansas City, Mo., has moved from 1804 McGee street, where K-R-I-T cars henceforth will be shown by the Motor Sales & Service Company.

The Inter-State Automobile Company, Kansas City, Mo., is now located at 1625 Grand avenue.

The F. B. Stearns Company, St. Louis, Mo., has leased the two-story building at 3030 Locust street for a term of years and is now located at that address.

J. W. Shelor and W. W. Morris, Jr., Dallas, Tex., have opened salesrooms at 2219 Commerce street for the purpose of showing Velie cars and trucks.

The Western Minnesota Auto Company, Roscoe, Minn., has moved to St. Cloud, Minn.

George J. Bohen, Sacramento, Cal., has opened offices and a service station at 1308 K street.

The KisselKar Branch, San Francisco, Cal., has removed to the spacious new building on Van Ness avenue and Geary street. KisselKar pleasure and commercial cars, Federal trucks and Ford cars will each receive the attention of a special department.

The Oswald Auto Company, Jackson, Mich., is now preparing to take possession of the new Oswald garage and salesrooms at 111-113 North Walnut street, where it will handle Imperial cars, to be distributed to northwestern parts of the state.

Charles F. Knuth, Palmyra, N. Y., has opened a garage and repair shop at 10 Broad street.

The F. B. Stearns Company, Philadelphia, Penn., is now located at 247 North Broad street. The service department is in the same building.

Thelma Motor Company, Detroit, Mich., incorporated under the name of Rex Motor Company, will move its factory from 1200 Junction avenue to West Jefferson avenue, near River Rouge.

Carl Lambert, Ukiah, Cal., has opened a garage and machine shop at the corner of Stanley and Dora streets.

TABULATED LIST OF SPECIFICATIONS FOR THE VARIOUS

Make	Seats	W. B.	Trd.	Wgt.	Cy.	Bore	Stroke	H. P.	Cooling	Lubrication	Carburetor	Ignition	Transmission
Ajax	side by side	..	..	....	4	2.20	3.80	10	water	pump	special	.....	friction
Brown	side by side	96	44	600	2	...	...	10	air	.....	Schebler	Bosch	friction
Car-Nation	side by side	104	48	1050	4	3.12	3.75	..	water	pump	Car-Nation	.....	selective
Car-Nation	tandem	104	48	1150	4	3.12	3.75	..	water	pump	Car-Nation	.....	selective
Comet	tandem	100	36	....	2	3.50	3.67	10	air	.....	Schebler	Bosch	planetary
Cornelian	side by side	100	56	450	2	2.37	2.90	..	.....	.....	.....	.....	selective
Cricket	side by side	82	46	....	2	3.25	3.60	8	air	.....	.....	.....	selective
Davis	tandem	93	36	475	2	3.50	3.67	10	air	.....	Schebler	Bosch	selective
Dayton	tandem	104	36	550	2	3.50	3.62	9-13	air	.....	Schebler	Bosch	friction
Dayton	side by side	104	36	550	2	3.50	3.62	9-13	air	.....	Schebler	Bosch	friction
De Cross	tandem	93	36	....	2	3.50	3.62	10-12	air	.....	Schebler	Bosch	friction
Detroit	side by side	92	44	....	4	2.75	4.00	12	water	gravity	Schebler	Bosch	selective
Downing	side by side	103	56	670	2	3.50	3.67	12	water	gravity	Schebler	Bosch	selective
Downing	side by side	103	56	670	4	2.75	4.12	18	water	pump	Schebler	Bosch	selective
Dudly	staggered	96	40	500	2	...	...	10-18	air	.....	Schebler	At. Kent	planetary
Duryea	side by side	102	..	....	2	3.75	3.75	19	air	.....	Heitger	option	friction
Economycar	tandem	106	36	393	2	3.50	3.62	8-10	air	gravity	Schebler	Bosch	planetary
Falcon	staggered	96	36	325	2	3.37	3.90	10	air	.....	Heitger	.....	friction
Faultless	staggered	100.5	36	....	2	3.37	3.87	..	air	.....	.....	.....	friction
Fenton	side by side	96	36	500	2	3.50	3.67	10	air	pump	Schebler	Bosch	friction
Imp	tandem	100	36	600	2	3.50	3.67	10-15	air	pump	Schebler	Bosch	friction
Lavigne	side by side	96	50	600	4	...	...	..	air	.....	Schebler	Bosch	selective
Los Angeles	side by side	102	44	450	2	3.37	3.87	10	air	pump	.....	.....	friction
Los Angeles	side by side	102	44	500	4	2.50	3.50	12-15	water	pump	.....	.....	friction
Malcolm	tandem	100	36	560	2	...	...	10-15	air	pump	special	.....	friction
Mercury	tandem	100	36	....	2	3.50	3.50	9.8	air	gravity	Schebler	Bosch	friction
Pioneer	staggered	96	40	500	2	2.87	4.00	12-15	air	pump	Schebler	Briggs	friction
Princess	side by side	86	44	725	4	2.75	3.87	12	air	pump	Holley	Bosch	planetary
Puritan	side by side	108	42	550	2	...	...	10	air	.....	.....	.....	planetary
Rayfield	.....	96	..	....	4	2.75	4.50	12	water	.....	Rayfield	Bosch	selective
Rocket	tandem	100	36	650	2	3.50	3.67	10-12	air	gravity	Schebler	At. Kent	planetary
Stickney	tandem	120	40	....	4	2.75	5.00	12-15	water	.....	Schebler	Bosch	friction
Trumbull	side by side	80	44	650	4	2.87	4.00	14-18	water	pump	.....	At. Kent	friction
Twombly	tandem	96	38	....	2	...	...	10	air	.....	.....	Bosch	friction
Twombly	tandem	102	38	....	4	...	...	15	water	.....	.....	Bosch	selective
Victor	side by side	98	..	....	4	3.37	3.75	18	water	.....	Breeze	Berling	selective
Woods	tandem	98	30	450	4	2.68	2.93	14	air	pump	.....	.....	planetary
Zip	side by side	92	40	600	2	3.37	3.90	10-14	air	.....	Schebler	At. Kent	friction

*Any number; †front, 28x2¾ rear; ‡front, 30x3 rear.

MAKERS OF CYCLECARS LISTED ABOVE.

Ajax—Briscoe Freres, New York City.
Brown—Brown Cyclecar Car Company, Asbury Park, N. J.
Car-Nation—American Volturette Company, Detroit.
Comet—Comet Cyclecar Company, Indianapolis, Ind.
Cornelian—Cornelian Company, Kalamazoo, Mich.
Cricket—Cricket Cyclecar Company, Detroit.
Davis—Davis Cyclecar Company, Detroit.
Dayton—Dayton Cyclecar Company, Joliet, Ill.
De Cross—De Cross Cy Car Company, Cleveland, O.
Detroit—Detroit Cycle Car Company, Detroit.
Downing—Downing Cycle Car Company, Detroit.
Dudly—Dudly Tool Company, Menonominee, Mich.
Duryea—Duryea Motor Company, Saginaw, Mich.
Economycar—Economycar Company, Indianapolis, Ind.
Falcon—Falcon Cyclecar Company, Staunton, Va.
Faultless—Valley Boat & Engine Company, Saginaw, Mich.
Fenton—Fenton Cycle Car Company, Fenton, Mich.

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The Republic Tire & Rubber Company, 215 North Fourth street, Columbus, O., has moved to Fourth and Gay streets and will hereafter be known as Harris & Llewellyn Tire & Rubber Company.

L. B. Lorimer, Providence, R. I., agent for the Hudson cars, has moved into a new salesroom and service station at 89-91 Plenty street.

William W. Whitten, Providence, R. I., has moved to 148 Washington street. He handles the K-R-I-T, Marathon, Abbott-Detroit and Herreshoff cars.

The Cyclecar Sales Company, Milwaukee, Wis., representing the Imp cyclecar, has opened a garage and salesroom in the Chacona building, 803 Grand avenue. This is the first of its kind in Milwaukee.

F. E. Wing, Boston, Mass., New England distributor of the Marmon cars, has just leased the big building erected recently for the Lozier Company on Commonwealth avenue and Beacon street, and will remove from the Motor Mart at Park square in the near future.

The Jeffery Auto Sales Company, San Francisco, Cal., has opened new retail salesrooms at Van Ness avenue. The wholesale headquarters and service station will be continued as heretofore.

C. E. Warner, Wenatchee, Wash., is now located at South Wenatchee avenue.

Chesley & Harveycutter, Washington, D. C., local representative of Kelly-Springfield tires and Velvet shock absorbers, has moved into new quarters at 918 14th street.

W. Zimmerman, Salem, O., local agent for the Studebaker cars, will locate on Lincoln avenue.

W. Hill, Portland, Ore., agent for the White cars, has removed to larger quarters at the corner of Broadway and Oak street.

The Ahlberg Ball Bearing Company, Boston, Mass., has opened an office and salesrooms at 33 Massachusetts avenue. Edward J. Fischel, formerly with the Lozier Motor Company of New York City, is manager.

The King Motor Car Company, New York City, has leased floor space at 250 West 64th street.

The Stanley Steamer Company, San Francisco, Cal., has a well appointed parts and service department in its new home at Golden Gate avenue.

Ford Motor Company, Atlanta, Ga., is preparing to move to its new quarters at 380 Peachtree street, having taken a long term lease of the premises. Alterations, however, are first to be made and many innovations installed before the company takes possession. The building is of two stories, containing 44,000 square feet of floor space.

The Fiannelly-Clarkson Company, Inc., Louisville, Ky., is now located in its new garage and salesrooms at the southwest corner of Jackson street and Broadway.

The Allen Moore Car Company, Easton, Penn., agent for the Hudson cars, will remove to new quarters at 44 South 11th street. The new building will be modern throughout.

The E. C. Eads Automobile Company, St. Joseph, Mo., has removed to 1224 Frederick avenue.

The General Motor Car Company, St. Louis, Mo., has removed to 3003 Locust street. The company has the agency for the Hupmobile cars.

The Times Square Automobile Company, New York City, has opened a new salesroom, corner of 56th street and Broadway.

Dry Bros., Columbia, Tex., has moved into its new garage on South Garden street.

The Schee Company, Oskaloosa, La., has moved into its new building at First avenue.

The Cadillac Motor Car Company, New York City, has removed to its new quarters at Broadway and 62nd street.

The Automatic Auto Fender Company, Braddock, Penn., is planning to locate in Dayton, O. The company manufactures fenders for automobiles.

The Pope-Hartford Motor Car Company, Seattle, Wash., has moved into larger quarters at 1003 East Pike street.

The Hartford Suspension Company, Kansas City, Mo., has moved from 1524 Grand avenue to 1803 Grand avenue, where additional facilities for the use of the company will be available.

The E. L. Peacock Company, Oakland, Cal., has removed to upper Broadway in the dealers' colony. The company is agent for Mitchell, Oakland, S. G. V. and Empire cars, also Sternberg and Selden trucks. Its salesroom and repair department are modern throughout. Fred Hauger is manager.

J. and S. Frank of Frank Bros., Baltimore, Md., distributor of Lee tires and dealer in general auto supplies and accessories, will remove into new quarters Feb. 1. The new address will be 114 West Mount Royal avenue.

MODELS OF CYCLECARS NOW ON THE AMERICAN MARKET.

Speeds	Drive	Ser. Brake	Emer. Brake	Front Springs	Rear Springs	Rear Axle	Differential	Wheels	Tires	Price
..	chain	.....	.....	.....	.....	.....	....	wire	26x2½	$380
..	chain	.....	.....	.....	.....	dead	no	wire	28x2¾	375
3	shaft	shaft	wheels	cantilever	cantilever	semi-floating	yes	wire	30x3	495
3	shaft	shaft	wheels	cantilever	cantilever	semi-floating	yes	wire	30x3	510
2	chain	.....	.....	.....	.....	dead	no	wire	28x3	400
2	belt	.....	.....	.....	.....	semi-floating	yes	wire	28x3	400
2	V belt	.....	.....	spiral	½-elliptic	none	no	wire	28x2½†	375
3	chain	.....	.....	.....	.....	dead	....	wire	28x2½	425
5	V belt	wheels	wheels	½-elliptic	½-elliptic	dead	no	wire	28x2½	375
5	V belt	wheels	wheels	½-elliptic	½-elliptic	dead	no	wire	28x2½	375
..	belt	.....	.....	¼-elliptic	¼-elliptic	dead	no	wire	28x2¾	385
2	shaft	.....	.....	.....	.....	dead	yes	wood	28x3	375
3	shaft	wheels	wheels	½-elliptic	½-elliptic	semi-floating	yes	wire	28x3	450
3	shaft	wheels	wheels	½-elliptic	½-elliptic	semi-floating	yes	wire	28x3	480
2	V belt	block	wheels	½-elliptic	½-elliptic	dead	no	wire	28x3	385
..	.....	.....	.....	.....	.....	dead	....	wood	30x3	450
2	V belt	.....	.....	.....	.....	dead	no	wire	28x3	425
..	V belt	wheels	wheels	special	special	dead	no	wire	28x3	385
..	V belt	.....	.....	.....	.....	dead	no	wire	29x2¾	...
*	V belt	.....	.....	½-elliptic	½-elliptic	dead	no	wire	26x2½	375
4	V belt	block	friction	transverse	transverse	dead	no	wire	28x2½	375
..	shaft	.....	.....	½-elliptic	½-elliptic	floating	yes	wire	.....	425
4	belt	countershaft	wheels	½-elliptic	½-elliptic	dead	no	wire	28x2¾	395
4	chain	countershaft	wheels	½-elliptic	½-elliptic	dead	no	wire	28x2¾	475
*	V belt	block	friction	platform	cantilever	dead	no	wire	28x2½	395
..	V belt	.....	.....	½-elliptic	cantilever	dead	no	wire	28x2½	375
4	belt	block	friction	½-elliptic	½-elliptic	dead	no	wire	28x2½	385
2	shaft	shaft	wheels	½-elliptic	cantilever	semi-floating	yes	wire	28x3	395
2	shaft	.....	.....	½-elliptic	¾-elliptic	dead	no	wire	28x3	350
..	belt	.....	.....	.....	.....	semi-floating	yes	wire	28x3	375
2	shaft	wheels	wheels	¼-elliptic	¼-elliptic	dead	yes	wire	28x3	...
..	chain	jackshaft	wheels	½-elliptic	½-elliptic	dead	no	wire	28x3	395
4	chain	wheels	wheels	½-elliptic	½-elliptic	dead	no	wire	28x3	425
..	chain	.....	.....	.....	.....	dead	no	wire	28x3	...
3	shaft	.....	.....	.....	.....	floating	yes	wire	28x3	...
..	belt	.....	.....	.....	.....	floating	yes	wire	30x3½‡	500
2	shaft	wheels	wheels	½-elliptic	cantilever	floating	yes	wire	28x2½	385
..	V belt	.....	.....	.....	.....	dead	no	wire	28x2½	395

Imp—Imp Cyclecar Company, Auburn, Ind.
Lavigne—J. P. L. Cyclecar Company, Detroit.
Los Angeles—Los Angeles Cycle Car Company, Los Angeles, Cal.
Malcolm—Malcolm Jones Detroit Company, Detroit.
Mercury—Mercury Cyclecar Company, Detroit.
Pioneer—American Manufacturing Company, Chicago, Ill.
Princess—Princess Cyclecar Company, Detroit.
Puritan—Puritan Motor Company, Chicago, Ill.
Rayfield—Rayfield Motor Company, Chrisman, Ill.
Rocket—Scripps-Booth Cyclecar Company, Detroit.
Stickney Motorette—Charles A. Stickney Company, St. Paul, Minn.
Trumbull—American Cyclecar Company, Bridgeport, Conn.
Twombly—Twombly Motors Company, New York City.
Victor—Victor Motor Car Company, Philadelphia, Penn.
Woods Mobilette—Woods Mobilette Company, Chicago, Ill.
Zip—Zip Cyclecar Company, Davenport, Ia.

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SPECIFICATIONS OF NEW SIX-CYLINDER MODELS.

Accompanying Table Gives Detailed Information of Chassis Construction for Only Those Models Which Are Entirely New.

Name and Model	Cylinders How Cast	Bore and Stroke, Inches	S. A. E. H.P.	Carburetor	Fuel Feed	Ignition	Cooling	Clutch	Gearset	Forward Speeds	Tires	Driving Side	Lighting	Starting	Wheel-base
Abbott-Detroit B. I..	Triplets	3.75x5.25	33.75	Zenith	Pressure	Bosch	Pump	Disc	Selective	4	36x4.5	Left	Electric	Electric	130
American 642, 644...	En Bloc	4.00x6.00	38.40	Rayfield	Pressure	Eisemann	Pump	Cone	Selective	4	38x4.5	Left	Electric	Electric	132
American 646.....	En Bloc	4.25x5.50	43.80	Rayfield	Pressure	Eisemann	Pump	Cone	Selective	4	38x4.5	Left	Electric	Electric	140
American 666.....	En Bloc	4.50x6.00	48.60	Rayfield	Pressure	Eisemann	Pump	Cone	Selective	4	38x4.5	Left	Electric	Electric	140
Apperson 6-45.....	En Bloc	3.75x5.50	33.75	Rayfield	.....	Mea	.....	Band	Selective	.	36x4.0	Left	Electric	Electric	128
Apperson 6-55.....	En Bloc	4.25x5.00	43.80	Rayfield	.....	Mea	.....	Band	Selective	.	37x4.5	Left	Electric	Electric	128
Buick B 55.....	Pairs	3.75x5.00	33.75	.....	Pressure	Delco	Pump	Cone	Selective	3	36x4.5	Left	Electric	Electric	130
Chandler	Triplets	3.37x5.00	27.40	Stromberg	Pressure	Splitdorf	Pump	Disc	Selective	3	34x4.0	Left	Electric	Electric	120
Crescent	En Bloc	4.00x6.00	38.40	Schebler	Pressure	Briggs	Pump	Disc	Selective	.	35x4.5	Left	Electric	Electric	132
Davis 6-50..	Triplets	3.75x5.25	33.75	Stromberg	Gravity	Mea	Pump	Disc	Selective	4	37x4.5	Left	Electric	Electric	128
De Soto.....	Pairs	4.00x5.00	38.40	Schebler	Pressure	Remy	Pump	Disc	Selective	4	36x4.0	Right	Electric	Air	132
Haynes 26.....	Pairs	4.25x5.50	43.80	Stromberg	Pressure	Simms	Pump	Band	*Selective	3	36x4.5	Left	Electric	Electric	130
Haynes 27.....	Pairs	4.25x5.50	43.80	Stromberg	Pressure	Simms	Pump	Band	*Selective	3	36x4.5	Left	Electric	Electric	136
Henderson	En Bloc	3.75x5.50	33.75	Rayfield	Gravity	Eisemann	Thermo	Cone	Selective	3	35x3.5	Left	Electric	Electric	126
Howard	Triplets	4.12x5.25	40.90	Stromberg	.....	Bosch	Pump	Cone	Selective	.	36x4.5	Left	Electric	Electric	132
Hudson 6-40.....	Triplets	3.50x5.00	29.40	Zenith	Pressure	Delco	Pump	Disc	Selective	3	34x4.0	Left	Electric	Electric	123
Imperial 44.....	Triplets	3.75x5.25	33.75	Stromberg	Pressure	Simms	Pump	Disc	Selective	3	36x4.5	Left	Electric	Electric	126
Jeffery	Pairs	3.75x5.25	33.75	Rayfield	Pressure	Bosch	Pump	Cone	Selective	4	36x4.5	Left	Electric	Electric	128
L. P. C. Lewis Six...	En Bloc	3.50x6.00	29.40	Rayfield	Pressure	Bosch	Pump	Disc	Selective	.	36x4.0	Left	Electric	Electric	135
Maxwell 50-6.....	En Bloc	4.12x4.75	40.90	.....	Pressure	Splitdorf	Pump	Cone	Selective	3	36x4.5	Option	Electric	Electric	130
Marion G.....	Triplets	3.75x4.50	33.75	Rayfield	Pressure	Splitdorf	Pump	Disc	Selective	3	35x4.5	Left	Electric	Electric	124
Moon	Triplets	3.75x5.25	33.75	Rayfield	Gravity	Delco	Pump	Disc	Selective	4	35x4.5	Left	Electric	Electric	129
National	En Bloc	3.75x5.50	33.75	Rayfield	Pressure	.....	Pump	Cone	Selective	3	36x4.5	Left	Electric	Electric	132
Oakland 48.....	En Bloc	3.50x5.00	29.40	Stromberg	Pressure	Delco	Pump	Cone	Selective	3	35x4.5	Left	Electric	Electric	123
Palmer-Singer K.....	Triplets	4.00x5.00	38.40	C. R. C.	.....	Mea	Pump	Disc	Selective	.	36x4.5	Right	Electric	Electric	128
Pathfinder	Pairs	4.12x5.25	40.90	.....	Gravity	.....	Pump	Disc	Selective	4	35x5.0	Left	Electric	Electric	135
Premier Weideley....	En Bloc	3.62x5.50	31.60	Carter	Pressure	Eisemann	Pump	Disc	Selective	3	36x4.5	Left	Electric	Electric	132
Pullman 6-48.....	Triplets	3.75x5.25	33.75	Stromberg	Gravity	Bosch	Pump	Disc	*Selective	4	36x4.0	Left	Electric	Electric	130
S. & M. 6-48.....	Triplets	3.75x5.25	33.75	.....	Pressure	Bosch	.....	Disc	Selective	4	34x4.5	Left	Electric	Electric	130
Vaughan	En Bloc	3.75x5.50	33.75	Rayfield	Pressure	Mea	Pump	Disc	Selective	4	35x4.0	Left	Electric	Electric	138
Velie 6-50.....	Triplets	3.75x5.75	33.75	Stromberg	Pressure	Bosch	Pump	Disc	Selective	4	.....	Left	Electric	Electric	126

*Electric gearshift.

SPECIFICATIONS OF NEW FOUR-CYLINDER MODELS.

Name and Model	Cylinders How Cast	Bore and Stroke, Inches	S. A. E. H.P.	Carburetor	Fuel Feed	Ignition	Cooling	Clutch	Gearset	Forward Speeds	Tires	Driving Side	Lighting	Starting	Wheel-base
Allen 40.....	En Bloc	4.12x5.00	27.25	Schebler	Gravity	Splitdorf	Thermo	Disc	Selective	3	34x4.0	Left	Electric	Electric	118
Chevrolet	En Bloc	3.69x4.00	22.00	Zenith	Gravity	Simms	Thermo	Disc	Selective	..	.....	Left	.....	.....	104
Crescent	Pairs	4.25x4.75	28.90	Schebler	Gravity	Splitdorf	Pump	.....	Selective	..	32x3.5	Right	Electric	Electric	116
Crown	En Bloc	3.00x3.75	14.40	.....	Gravity	Briggs	.....	Friction	.....	..	.....	.....	.....	.....	90
Cameron	En Bloc	3.62x5.00	21.00	Kingston	Gravity	.....	Thermo	Cone	Cameron	4	32x3.5	Left	Electric	Electric	115
Flyer	En Bloc	2.75x4.50	12.10	Mayer	Gravity	.....	Thermo	Disc	Selective	..	.....	Left	.....	.....	100
Grant	En Bloc	2.75x4.00	12.10	Mayer	Gravity	Bosch	Thermo	Cone	Selective	2	28x3.0	Left	Gas	.....	90
Henderson	En Bloc	4.12x5.50	27.25	Rayfield	Gravity	Eisemann	Thermo	Cone	Selective	3	35x4.5	Left	Electric	Electric	116
Lozier	En Bloc	4.25x6.25	28.90	.....	Pressure	Bosch	Pump	Disc	Selective	4	36x4.5	Left	Electric	Electric	120
Lyons-Knight	Pairs	4.50x5.50	32.40	Stromberg	Gravity	Splitdorf	Pump	Disc	Selective	3	37x5.0	Left	Electric	Electric	130
Mercer M.....	Pairs	4.50x5.00	32.40	Flechter	Pressure	Bosch	Pump	Disc	Selective	3	34x*4.0	Right	Electric	Electric	124
Mercer O.....	Pairs	4.50x5.00	32.40	Flechter	Pressure	Bosch	Pump	Disc	Selective	3	34x4.0	Right	Electric	Electric	118
Maxwell 25.....	En Bloc	3.62x4.50	20.25	Zephyr	Gravity	Simms	Thermo	Cone	Selective	3	30x3.5	Left	Gas	.....	103
Maxwell 35.....	En Bloc	4.00x4.75	25.60	Holley	Gravity	Splitdorf	Pump	Cone	Selective	3	33x4.0	Left	Electric	Electric	111
Monarch	Pairs	3.19x5.00	16.00	Zephyr	Gravity	Splitdorf	Thermo	Cone	Selective	3	32x3.5	Left	Electric	Electric	110
Metropol	En Bloc	4.25x7.87	28.90	Rayfield	Gravity	Briggs	Pump	Cone	Selective	3	33x4.0	Right	.....	.....	115
Multiplex	Pairs	5.00x6.00	40.00	Stromberg	Gravity	Bosch	Pump	Disc	Selective	4	38x*4.5	Right	Electric	Electric	134
Partin-Palmer	En Bloc	.....	....	Stromberg	Gravity	Briggs	Thermo	Cone	Selective	3	32x3.5	Left	Gas	.....	115
Read	En Bloc	3.50x4.00	19.60	Stromberg	Gravity	Bosch	Thermo	Disc	Selective	3	32x3.5	Left	Gas	.....	115
Stafford	Pairs	4.25x5.13	28.90	Stromberg	Gravity	Splitdorf	Pump	Disc	Selective	3	34x4.5	Right	.....	.....	115
Saxon	En Bloc	2.62x4.00	11.00	.....	Gravity	Atwater-Kent	Thermo	Disc	Progressive	2	28x3.0	Left	.....	.....	96
Vulcan	En Bloc	3.38x5.00	18.25	.....	Gravity	.....	Thermo	Cone	Selective	3	32x3.5	Left	Gas	.....	115
Wahl	Pairs	3.25x5.50	16.90	Holley	Gravity	Bosch	Thermo	Disc	Selective	3	32x3.5	Left	Gas	.....	108

*Mercer rear tires 34x4.5 inches. Multiplex rear tires 39x5 inches.

NEW FOUR-CYLINDER CARS CLASSIFIED BY MAKE.

Name and Model	Body	Seats	S.A.E. H.P.	Wheel-Base	Price
Allen 40	Touring	5	27.25	118	$1395
Allen 40	Roadster	2	27.25	118	1395
Chevrolet Baby Grand	Touring	4	22.00	104	875
Chevrolet Royal Mail	Roadster	2	22.00	104	750
Crescent	Touring	5	28.90	116	1275
Crown	Roadster	2	14.40	90	385
Cameron	Touring	5	21.00	115	1200
Flyer	Roadster	2	12.10	100	495
Grant	Roadster	2	12.10	90	495
Henderson De Luxe	Touring	5	27.25	116	1785
Henderson De Luxe	Roadster	2	27.25	116	1785
Henderson De Luxe	Sedan	..	27.25	116	....
Henderson De Luxe	Coupe	..	27.25	116	....
Lozier	Touring	7	32.40	120	2100
Lozier	Roadster	2	32.40	120	2100
Lyons-Knight K	Touring	5	32.40	130	2900
Lyons-Knight K	Touring	7	32.40	130	2980
Lyons-Knight K	Sedan	..	32.40	130	3900
Lyons-Knight K	Berline	..	32.40	130	$4300
Mercer M	Touring	5	32.40	124	3000
Mercer O	Roadster	2	32.40	118	2900
Maxwell 25	Touring	5	20.25	103	750
Maxwell 35	Roadster	2	25.60	111	1200
Maxwell 35	Touring	5	25.60	111	1225
Monarch	Touring	5	16.00	110	1050
Metropol	Roadster	2	28.90	115	1350
Multiplex	Touring	7	40.00	134	3600
Multiplex	Roadster	2	40.00	134	3125
Partin-Palmer	Touring	6	....	115	975
Read	Touring	5	19.60	115	850
Stafford	Touring	5	28.90	115	2350
Saxon	Roadster	2	11.00	96	400
Vulcan	Touring	5	18.25	115	850
Vulcan	Roadster	2	18.25	105	750
Wahl	Touring	5	16.90	108	790
Wahl	Roadster	2	16.90	108	790

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NEW SIX-CYLINDER CARS CLASSIFIED BY MAKE.

Name and Model	Body	Seats	S.A.E. H.P.	Wheel-base	Price
Abbott-Detroit B. I.	Touring	7	33.75	130	$2290
American 642	Roadster	2	38.40	132	2750
American 644	Touring	4	38.40	132	2750
American 646	Touring	6	43.80	140	2950
American 666	Touring	6	43.80	140	4500
Apperson 6-45	Touring	5	33.75	128	2200
Apperson 6-45	Roadster	2	33.75	128	2200
Apperson 6-55	Touring	5	43.80	128	2350
Apperson 6-55	Roadster	2	43.80	128	2350
Buick B-55	Touring	5	33.75	130	1985
Chandler	Touring	5	27.40	120	1785
Crescent	Touring	5	38.40	132	1985
Davis 6-50	Touring	6	33.75	128	2185
Davis 6-50	Touring	5	33.75	128	2150
De Soto	Roadster	2	38.40	132	2185
De Soto	Touring	4	38.40	132	2185
De Soto	Touring	5	38.40	132	2185
De Soto	Touring	7	38.40	132	2185
Haynes 26	Roadster	2	43.80	130	2700
Haynes 26	Touring	4	43.80	130	2700
Haynes 26	Touring	5	43.80	130	2700
Haynes 26	Coupe	..	43.80	130	3200
Haynes 27	Touring	6	43.80	136	2785
Haynes 27	Touring	7	43.80	136	2785
Haynes 27	Limousine	7	43.80	136	3850
Henderson	Roadster	2	29.40	126	2285
Henderson	Touring	5	29.40	126	2285
Henderson	Sedan	..	29.40	126	....
Henderson	Coupe	..	29.40	126	....
Howard	Touring	5	40.90	132	2375
Hudson 6-40	Roadster	2	29.40	123	1750
Hudson 6-40	Phaeton	7	29.40	123	1750
Hudson 6-40	Cabriolet	2	29.40	123	1950
Imperial 6-44	Touring	5	33.75	126	2000
Imperial 6-54	Touring	7	40.90	137	2500
Jeffery	Touring	5	33.75	128	2250
Jeffery	Touring	6	33.75	128	2300
Jeffery	Sedan	5	33.75	128	$3250
Jeffery	Limousine	..	33.75	128	3700
L. P. C. Lewis Six	Touring	6	29.40	135	1600
Maxwell 50-6	Touring	5	40.90	130	1975
Maxwell 50-6	Touring	7	40.90	130	1975
Marion G	Roadster	2	33.75	124	2150
Marion G	Touring	5	33.75	124	2150
Marion G	Speedster	3	33.75	124	2150
Marion G	Coupe	4	33.75	124	2650
Marion G	Sedan	5	33.75	124	2950
Moon	Roadster	2	33.75	129	2150
Moon	Touring	4	33.75	129	2150
Moon	Touring	5	33.75	129	2150
Moon	Touring	6	33.75	129	2225
Moon	Touring	7	33.75	129	2225
Moon	Coupe	..	33.75	129	2750
National	Touring	4	33.75	132	2375
National	Touring	5	33.75	132	2375
National	Coupe	3	33.75	132	2850
Oakland	Touring	5	29.40	123	1785
Pathfinder	Touring	6	38.40	135	2750
Palmer-Singer K.	Roadster	2	38.40	128	2295
Palmer-Singer K.	Touring	5	38.40	128	2295
Premier Weideley	Touring	7	31.60	132	2785
Pullman	Touring	5	33.75	130	2400
S. & M. 6-48	Roadster	3	33.75	130	2500
S. & M. 6-48	Touring	5	33.75	130	2500
S. & M. 6-48	Touring	7	33.75	130	2600
S. & M. 6-48	Limousine	7	33.75	130	3500
Vaughan	Touring	4	33.75	138	2750
Vaughan	Roadster	..	33.75	138	....
Vaughan	Limousine	..	33.75	138	....
Vaughan	Touring	..	33.75	138	....
Vaughan	Convertible	..	33.75	138	....
Velie	Touring	5	33.75	126	2350
Velie	Touring	4	33.75	126	2350
Velie	Roadster	2	33.75	126	2350

MECHANICAL DETAILS OF NEW SIX AND FOUR-CYLINDER CARS.

Of the 31 new six-cylinder models tabulated, it will be noted that 14 are of the en bloc type of casting, a decided gain over 1913, when this method of casting was confined largely to four-cylinder cars. That casting the units in pairs is favored by some is evidenced by five makes, these including the Buick, Haynes, Jeffery, Pathfinder and de Soto. Triplet units are seen in the Abbott-Detroit, Chandler, Howard, Hudson, Imperial, Marion, Moon, Palmer-Singer, Pullman, S. & M. and Velie. The L head type of motor predominates. The Continental motor has been adopted by a number of makers, and the bore of 3.75 inches and stroke of 5.25 is employed in 14 different models.

MOTORS CAST EN BLOC.

In the new four-cylinder models the use of motors cast en bloc is very noticeable, 15 makers favoring this construction as against eight utilizing the cylinders cast in pairs. This is noted in the lower priced machines, although the en bloc casting is favored by makers of cars listing much higher. With the exception of several well known makes the S. A. E. horsepower rating is below 30, and eight models are equipped with motors rated at less than 20 by the formula. As is to be expected, individual cylinders have entirely disappeared.

FAVOR DISC CLUTCH.

The disc type of clutch is gaining adherents, judging from the use made of both the dry plate and lubricated forms in the new models announced for 1914. Of 21 new designs, 12 favor the disc while nine use the cone. One friction type appears in the Crown.

The use of the selective type of gearset is practically universal with two exceptions, that of the Cameron and Saxon. The former employs its patented Cameron transmission, while the Saxon is to be equipped with a two-speed progressive gearset. The Lozier and Cameron provide four forward speeds, the balance being fitted with the conventional three forward speeds with direct drive on the third.

The electric gearshift is standard equipment with two makers, the Haynes Automobile Company and the Pullman Motor Car Company. This applies only to the new sixes and does not take into consideration other models continued from last season.

CARBURETION.

At the New York shows last year it was noted that several makers had replaced gravity feed by the pressure, a method much in vogue several years ago. It was freely predicted that in 1914 it would become general practise to mount the fuel tank at the rear of the chassis and supply the carburetor by pressure feed. The method has several advantages. It permits locating the carburetor in proximity to the water jackets of the cylinders, the heat of which assists in raising the temperature of the fuel and makes for easier starting on the present grade of fuel, in that opportunity for condensation with a long intake pipe is avoided.

Some makers hot water jacket the intake manifold and the majority also utilize the heat of the exhaust for increasing the temperature of the air supplied to the carburetor. With the fuel tank at the rear it is held that a better balance is obtained. Practically every machine is provided with means for regulating the air.

TIRES AND EQUIPMENT.

A noticeable feature of the new fours is the use of large tires, and in many instances the car is what may be termed over tired. This applies to the smaller machines as well as the larger and more expensive, and with two exceptions, those of the Mercer and Multiplex, the same size casings are fitted to the rear wheels as to the front. It will be noted in the table of specifications that 32 by 3.5-inch shoes are used on a number of different makes, a size that formerly was considered as odd by the tire manufacturer. Demountable rims are fitted to the more expensive makes, and, generally, quick detachable, to those machines listing under $1000.

The wheelbases vary considerably, but this is to be expected where a large number of cars of differing price are listed. The maker of the popular priced vehicle has considered the purchaser in the matter of equipment and with rare exceptions the machine is ready for the road with no other expense than that for gasoline and oil.

DRIVER'S LOCATION.

As was noticeable last season, the practise of placing the driver at the left has gained many adherents, and it may be said to be universal, insofar as the new sixes are concerned. Twenty makes locate the operator at the left with centre control, while two place the driver at the right, the Palmer-Singer and de Soto. The Maxwell Motor Company, Inc., is the only maker who gives option.

COMPLETE EQUIPMENT.

Last season was termed an equipment year and, while it appeared that the manufacturer left nothing to be desired in the way of accessories making for comfort and convenience, the 1914 models reveal several features not noted last year. Electric lighting and motor starting are, of course, standard, but one maker using other than electricity for starting. In the case referred to compressed air is employed.

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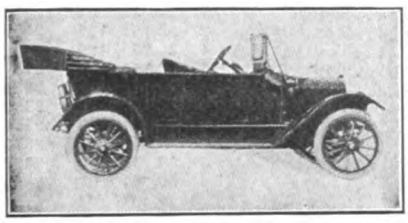
FEATURES OF NEW FOUR-CYLINDER CARS.

MAXWELL 25-4.

A Popular Priced Four-Passenger Ample Powered Touring Car.

By manufacturing in large quantities the Maxwell Motor Company, Inc., Detroit, is able to offer a popu-



lar priced machine embodying high grade material and workmanship. The Maxwell "25" was designed to meet the needs and the preference of that class of buyers who consider first cost and that of maintenance. The engineers of the company are well known to the industry and have incorporated in the new design mechanical principles indorsed by sound engineering practise.

The output of the motor is sufficient to meet all requirements of service, and it is a unit with the cone clutch and three-speed selective gearset. The power plant is very compact and a detachable cylinder head makes for accessibility of the valves, which are fully enclosed. The body is a flush side streamline, and ample leg room is provided, both in the driver's compartment and tonneau. The upholstery is in keeping with the high grade finish, and the equipment is most complete.

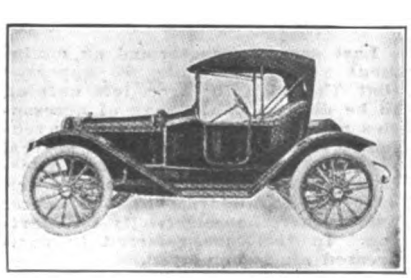
VULCAN SPEEDSTER.

Big Mileage from Fuel and Minimum Cost of Upkeep Are Emphasized.

Among the qualities emphasized in the Vulcan speedster, made by the Vulcan Manufacturing Company, Painesville, O., is that every part is made in the factories of the company and that each is subjected to rigid inspection before being assembled. The company states that by producing in large quantities and eliminating distributors, etc., it is able to manufacture a strictly high grade machine at a popular price.

The power plant is noticeable for its simplicity and is conservatively rated at 27 horsepower. Flexibility, quietness and economy of fuel are particularly prominent. The cylinders are cast en bloc and the motor, cone clutch and transmission are a unit. The maker calls especial attention to the design of the clutch, stating that the leverage is so proportioned as to make for easy release.

The gearset is of the selective type, providing three forward speeds and a reverse, and control is by a cane handle lever which is mounted on the transmission housing. The rear construction is sturdy, the differential employing five pinions instead of two



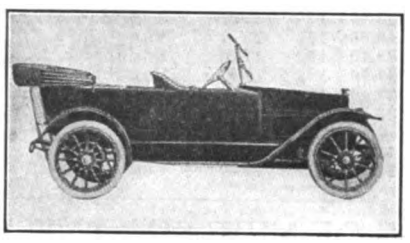
and these are of nickel steel, phosphor bronze bushed. The rear axle housing is liberally ribbed and the gears are very accessible for lubrication and inspection. The body is attractive, having full fore doors and the finish is strictly high grade. The Vulcan speedster comes completely equipped.

CRESCENT OHIO.

Five-Passenger Car Fully Equipped, Including Electric Lighting.

The Crescent Motor Company, Carthage, O., is featuring a large, roomy five-passenger touring car, termed the Ohio, which is held to have sufficient reserve power to meet varying requirements of service. The chassis details follow conventional practise. The four-cylinder motor is cast in pairs, with bore and stroke of 4.25 by 4.75 inches respectively.

Light weight, combined with a careful selection of material and

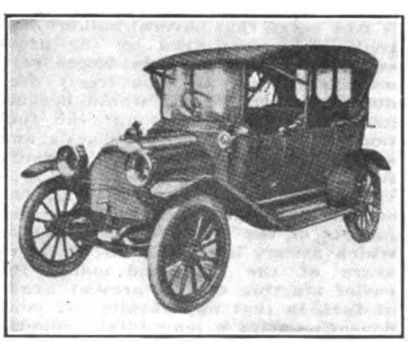


skillful workmanship are qualities emphasized in the chassis. The driver is placed at the right. The wheelbase is 116 inches.

WAHL.

Four-Passenger Touring Car with Ample Reserve Power.

The Wahl five-passenger touring car, manufactured by the Wahl Motor Company, Detroit, was designed to meet the growing demand for a light, popular priced family vehicle. The body is roomy and well upholstered and there is plenty of leg room



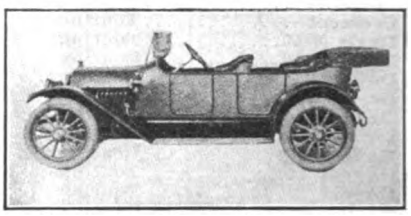
both in the driver's compartment and in the tonneau.

The cylinders of the motor are cast in pairs and their dimensions place them in the long stroke class. Economy of fuel, silence and accessibility are qualities emphasized by the maker. Lubrication is by the constant level splash system, a gear pump maintaining the proper height of the oil in the crankcase. The frame is provided with a double drop, making for a low centre of gravity, and the front of the frame is inswept, providing a short turning radius for operation in narrow streets. The Wahl comes completely equipped. Lighting is by gas and oil lamps.

CHEVROLET BABY GRAND.

Four-Passenger Light Touring Car with Low Centre of Gravity.

The Chevrolet Motor Company, Flint, Mich., is manufacturing two popular priced models, a four-pas-



senger touring car and a two-passenger roadster. The chassis is identical, the cylinders being cast en bloc and having a bore of 3.69 inches and stroke of four. The horsepower rating is 22.

Cooling is by thermo-syphon principle, the clutch of the disc type and the gearset is selective. Ignition is by a Simms magneto and carburetion by a Zenith. The driver is placed at the left. Thirty-two by 3.5-inch shoes are fitted to each wheel. The wheelbase of both models is 104 inches.

CAMERON MODEL 30.

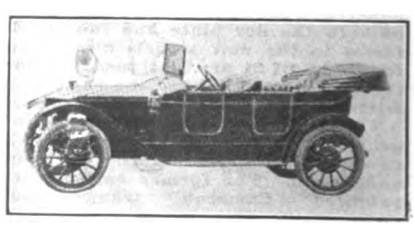
Four-Speed Direct Drive and Completely Equipped.

The Cameron Manufacturing Company, New Haven, Conn., is offering an entirely new model, in which are incorporated all of those refinements making for comfort and convenience, as well as a low cost of maintenance. The cylinders are cast en bloc and have the valves in the centre of the combustion chamber. The S. A. E. horsepower rating of 21 is very conservative.

The Cameron patented four speeds forward and one reverse gearset, with direct drive on all four, which has proven its efficiency in severe service, is again featured. This, with a flexible, long stroke motor, makes for economy in fuel. The clutch is an inverted cone, self-adjusting, and the rear axle is a Cameron, of the full floating type.

The radiator is of the pointed type, cooling by thermo-syphon, and the large capacity fuel tank is mounted in the cowl dash. The driver is placed at the left with centre control. The upholstery is deep and luxurious and the appointments throughout are in keeping with the high grade of material and workmanship. Electric lighting and motor starting are standard equipment.

The wheelbase is 115 inches. Full elliptic springs are used at the rear and semi-elliptic at front. The brake drums are extra large, providing an ample margin of safety. The weight of the car, equipped, is 1975 pounds, which places it in the light class.



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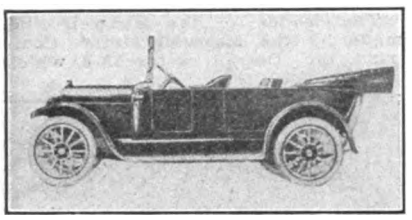
PARTIN-PALMER.

Popular Priced Six-Passenger Car Designed for Family Service.

Although the bore and stroke of the Partin-Palmer "38", a popular priced six-passenger touring car, are



not given by the maker, the Partin Manufacturing Company, Chicago, it is stated that the rating of 38 is very conservative. The motor is well designed, and presents novel features, including overhead and enclosed valves and a removable cylinder head.

The cylinders are cast en bloc, integral with the upper half of the crankcase to secure rigidity. The cylinder head is secured to the main casting by bolts, the joint being made with copper asbestos rings, insuring tightness. Cooling is by thermo-syphon and the lubricant is circulated by a gear driven pump, it being stated that it will circulate 1.5 gallons a minute at normal speed.

The material and workmanship throughout are strictly high grade and attention has been paid to those details making for comfort and convenience. Although gas and oil lighting are standard equipment, electric lighting and motor starting are supplied at a very low cost.

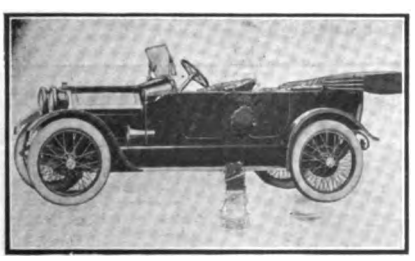
HENDERSON DE LUXE.

Large Tires, Wire Wheels and Bi-Fuel Carburetor Among Features.

The Henderson Motor Car Company, Indianapolis, Ind., is offering for the season of 1914 a new chassis termed the De Luxe, to which will be fitted five-passenger touring, two-passenger roadster, sedan and coupe bodies. The De Luxe motor has a bore of 4.125 inches and stroke of 5.5, and the company's rating is 46 horsepower. Cooling is by thermo-syphon with large intake and outlet water manifolds which, with a large size honeycomb radiator, assure proper temperatures under the severest service.

A cone clutch is employed, and the gearset located on the rear axle provides the three conventional forward speeds and a reverse. The rear axle is a Stutz. The driver is placed at the left with centre control. One of the features of the equipment is the option of a Rayfield or Harroun bi-fuel carburetor, the latter employing gasoline and kerosene.

The usual emergency brake lever is eliminated, the left pedal actuating the clutch and service brakes while the right serves the emergency brakes. De Luxe is over tired, 35 by five-inch Goodyear tires being utilized. Wire wheels are regular equipment with wood optional. The fuel tank is located in the dash and the



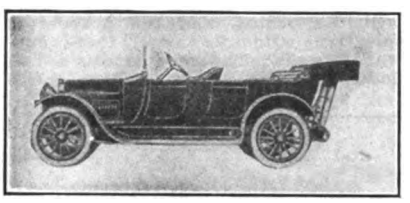
upholstery is deep and luxurious. The standard colors are dark olive and gray, at the option of the purchaser. The equipment is complete and includes electric lighting and motor starting.

ALLEN 40.

Moderate Priced Car with Two and Five-Passenger Bodies.

The Allen "40", manufactured by the Allen Motor Company, Fostoria, O., was designed to meet the demand for a moderately priced car, having those refinements and high grade material characteristic of high priced machines. Two bodies are fitted to the one chassis, a five-passenger touring and a two-passenger roadster. These have attractive lines and are complete in appointments.

The motor, clutch and gearset are



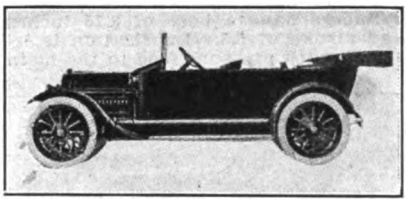
a unit. Attention has been given to the accessibility of components and to the careful selection of material. The equipment is very complete and includes electric lighting and motor starting. The driver is placed at the left. The wheelbase is 118 inches and tires are 34 by four inches.

LYONS-KNIGHT K.

Silent Knight Motor and Worm Driven Rear Axle Among Features.

The Lyons-Atlas Company, Indianapolis, Ind., is offering for the season of 1914 the combination of a silent Knight motor and a worm drive rear axle, and it is stated that the model K, as the new car is to be known, is the only one in America having these features. The new vehicle is a strictly high grade car in every particular and embodies the latest and most desirable features that have been perfected and adopted by foreign car builders.

The aim of the manufacturer has been to provide an abundance of room, so as to give the maximum amount of comfort to even the larg-



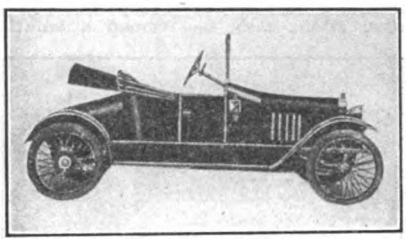
est people. The sides of the car, including the top of the doors, are high. The Knight motor utilized embodies many improvements over the conventional designs and its output is rated at 55 horsepower at 1200 revolutions. One of its features is an improved oiling system, which feeds lubricant in proportion to the motor speed.

The chassis and wheelbase of the model K cars are similar, except the rear springs, which are heavier on the six and seven-passenger cars. The five and seven-passenger bodies are standard, but the four and six-passenger types are built to order. Additional body types are offered in a sedan, five-passenger, and a berline, seven-passenger. The equipment of the Lyons-Knight cars is noticeable for its completeness.

FLYER.

Light Two-Passenger Roadster with Wire Wheels.

The Flyer, manufactured by the Flyer Motor Car Company, Elizabeth, N. J., is a light, two-passenger road-



ster having a long stroke motor, rated at 12.10 by the S. A. E. formula, although the maker states it will develop 28. Cooling is by the thermo-syphon principle and the clutch is a disc. The transmission is of the selective type, providing the conventional number of speeds.

The driver is placed at the left and the steering column is set at a comfortable angle, giving the machine a racy appearance. The body design is attractive, a sloping deck extending from the rear of the driver's seat to the rear of the chassis. The wheelbase is 100 inches. Wire wheels are included as standard equipment. The Flyer comes completely equipped and is designed for those desiring a popular priced car capable of meeting the requirements of every day service at a low cost of maintenance.

An electric lighting and motor starting system, a Ward Leonard, is also offered, being listed at $100 extra.

READ.

Light, Five-Passenger Touring Car with Wheelbase of 115 Inches.

The initial product of the Read Motor Car Company, Detroit, is a five-passenger touring car which has a very compact unit power plant, clutch and transmission. The motor is cast en bloc and is rated at 32.6 horsepower. Fixed ignition is favored, a Bosch true high-tension magneto being utilized.

The clutch is a multiple disc and the gearset is of the selective type, providing the conventional three forward speeds and a reverse. Lubrication is a combination force feed and splash, the pump being driven off the camshaft. It is of the adjustable type. The rear axle is of the semi-floating type and full elliptic springs are utilized in the rear, with semi-elliptic at front.

The maker calls special attention to the question of economical fuel consumption, and states that all material employed is high grade, carefully treated and machined. Nothing is left to be desired in the matter of equipment and the rims are demountable. The standard color is gray striped in black, with fenders, hood and running boards in black enamel. Lighting is by gas and oil lamps. The wheelbase is 115 inches.

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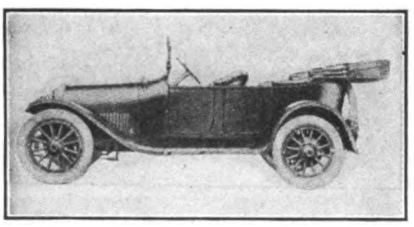
FEATURES OF NEW SIX-CYLINDER CARS.

OAKLAND 48.

En Bloc Motor Has Removable Cylinder Head.

The Oakland model 48, made by the Oakland Motor Car Company, Pontiac, Mich., may be termed a small



six in that its motor has cylinder dimensions of 3.5 by five inches, giving a horsepower rating of 29.4 according to the S. A. E. formula. The wheelbase is 123 inches. The exhaust manifold is of the double-way type, it being claimed that the construction prevents heating and carbonizing of the exhaust valves, as two successive explosions do not pass the same valve opening.

The Oakland features are continued, a cone clutch being used, and the circulation oiling system. Drive to the axles is through an unenclosed shaft, parallel to which is the torque arm, the front end of which is supported by a cushion spring. The fuel is fed by pressure and the tank has a large filler cap and gauge. The tire carriers are of special design and are said to be rattle and chafe proof.

AMERICAN 666.

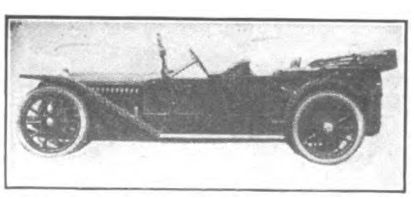
Features Underslung Suspension and Roomy Body.

The American Motors Company, Indianapolis, Ind., is featuring three new six-cylinder models for 1914, having in the past confined its efforts to the production of fours. The new models include the 642, a two-passenger car; 644, a four-passenger body on the same chassis; 646, a six-passenger car, and the 666, a six-passenger car, known as the Big Six.

The bore and stroke of the cylinders of the 666 are 4.5 by six inches respectively, and the S. A. E. horsepower rating is 48.60, which is the largest of the new sixes announced up to the present time. The cylinders are cast en bloc and are of the T head type. Accessibility and compactness are noticeable in the design.

Lubrication is by splash for the cylinders and pressure feed to the main bearings, connecting rods, etc., the splash level being maintained by a gear pump. A feature of the cooling system is that the lower water connection from the cylinders to the pump is cast in the upper part of the crankcase. To provide for unequal heating there is an expansion coupling between the water jackets and the crankcase.

Another feature is the use of a double water connection from radiator to cylinders, one connection going to each upper corner of the radiator instead of the conventional single connection to the centre. The fan



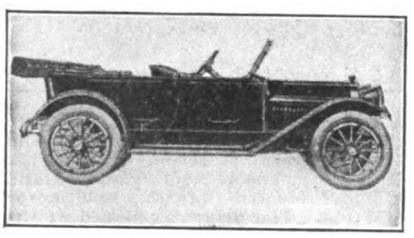
adjustment is novel, a slotted base in the fan pillar providing means for regulating the distance between the pulley centres.

IMPERIAL MODEL 44.

Five-Passenger Touring Car Fully Equipped.

The Imperial Automobile Company, Jackson, Mich., has replaced one of its four-cylinder models with a new six, which is termed the 6-44. It is fitted with a Continental motor having a bore of 3.75 inches and stroke of 5.25, and the maker rates it at 48 horsepower. The cylinders are cast in triplets, ignition is by a Splitdorf dual system, and a force feed constant level system of lubrication is employed.

The clutch is a disc, 13 plates faced with Raybestos, and the gearset is selective with the usual three forward speeds. The rear axle is a full floating design, the wheelbase is 126



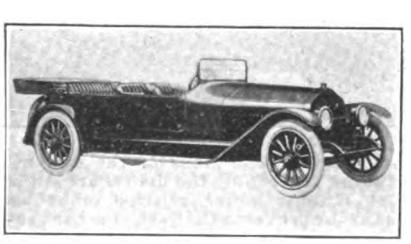
inches and 36 by 4.5-inch tires are fitted both front and rear. The electric light and motor starting system is a North East. The touring body is very attractive in appearance.

NATIONAL SIX.

Attractive Line of Bodies Feature of New Model.

The new National six, built by the National Motor Vehicle Company, Indianapolis, Ind., is a car of striking appearance, with its long, low body lines described as a one-piece design. There is a smart slope from the cowl to the radiator cap. From the radiator to the rear of the car is one continuous harmony of converging lines. Throughout the mechanical details are fully in keeping with the high grade characteristic of this concern. The touring car accommodates five passengers; the torpedo toy tonneau, four.

The motor is cast en bloc and the cylinders have a bore of 3.75 inches and stroke of 5.5. Lubrication is by splash with pressure feed to the main

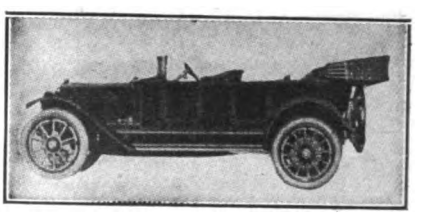


bearings and timing gears. The ignition system is dual, magneto and battery. The cooling system has been improved and the radiator is smaller than with previous models, but is fully as efficient. The fuel feed is by pressure, the tank being located at the rear of the chassis. The cone clutch may be removed without disturbing the transmission, this feature being obtained by the use of a double universal in the short shaft between the clutch and the gearset. The equipment is most complete and includes electric lighting and motor starting.

MAXWELL 50-6.

High Grade Car with Every Convenience.

The leader of the Maxwell line, made by the Maxwell Motor Company, Inc., Detroit, is the 50-6, which



is fitted with a touring body for 5-7 passengers, richly upholstered and leaving nothing to be desired in the matter of equipment and accessories making for comfort and convenience. The motor is cast en bloc and the rating claimed by the company is said to be conservative. Flexibility and economy of fuel are among the qualities emphasized in the power plant, which is noticeable for its simplicity and compactness.

Throughout the best of material and workmanship is incorporated, and all components are ample in size. The wheelbase is 130 inches, tires 36 by 4.5, front and rear, and the electric lighting and motor starting units are separate. The carburetor is a special Maxwell design, and large mileage is held to be obtained.

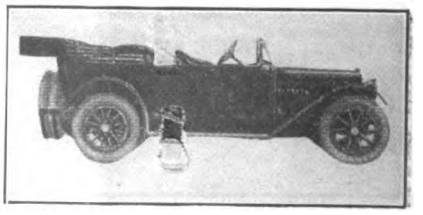
ABBOTT-DETROIT.

Belle Isle Model, a Light Six, with Wire Wheels.

A six-cylinder model, termed the Belle Isle, has been added to the 1914 line of the Abbott Motor Company, Detroit. The motor is a late type Continental having bore and stroke of 3.75 and 5.25 respectively, and is rated by the maker at 60 horsepower. The reciprocating parts are light, making for smooth operation, and the lightening of the components is said to increase the horsepower by 15 per cent. as compared with a motor having the same dimensions.

It is of the L head type and in connection with the gearbox, provides a unit power plant construction. It is lubricated by the Continental's latest system, which is a circulating splash arrangement with a new type of circulating pump. The clutch is a multiple dry disc, and the diameter of the plates has been increased over that of previous models. The rear axle is full floating, and the gearset provides four forward speeds with direct on the third and with the fourth geared up 25 per cent.

The fuel tank is mounted at the rear, and the wheels are equipped with demountable rims and 36 by 4.5-inch tires. The lighting and starting system is an Auto-Lite. A six-passenger body is fitted to the chassis, also a roadster, which is supplied with wire wheels as standard equipment. The company states that the new model is the best balanced car yet brought out under the Abbott name. The equipment leaves nothing to be desired.



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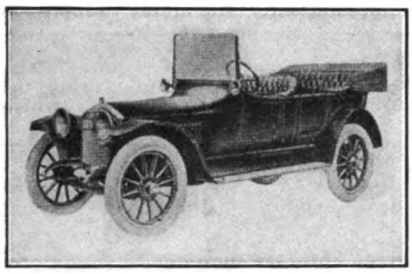
DAVIS 6-50.

Is Equipped with Five and Six-Passenger Bodies.

The George W. Davis Motor Car Company, Richmond, Ind., offers the Davis 6-50 with two body styles, five



and six-passenger types, and these are noticeable for the streamline effect, large flush doors and high grade finish. The motor is a Continental with enclosed mechanism and three point suspension, which forms, with the clutch and transmission, a unit power plant.

Ignition is by a Mea magneto, carburetion by a Stromberg, and the selective type gearset provides four forward speeds and the usual one reverse. The electric lighting and starting system is a Gray & Davis, separate units. The full floating rear axle is of liberal proportions and the brakes are ample in size.

The radiator has a rounded front, and the tool box is concealed in a dust shield, which connects the running board with the body. The trimming of the car is nickel and black, and the equipment is high grade, including every convenience.

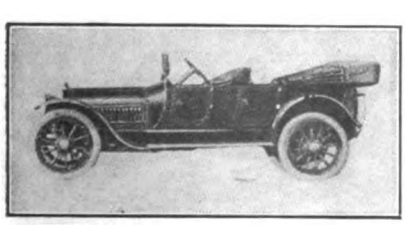
CHANDLER.

Light Weight, Big Mileage and Complete Equipment Among Features.

The Chandler light weight six, made by the Chandler Motor Car Company, Cleveland, O., is stated to weigh less than 3000 pounds when fully equipped, and its designers, who have long been identified with the automobile industry, claim 16 miles to a gallon of fuel and 700 miles to a gallon of lubricant. The motor is constructed in the factory of the company, and is of the L head type with the cylinders cast in triplets. It is in the long stroke class and is held to operate efficiently at three miles an hour on the high speed and to be capable of propelling the car 55 miles an hour. One of the features of the power plant is the use of extensions from the crankcase, which extend to the frame, obtaining weather proof qualities and eliminating the usual undershield.

The oiling system is contained within the motor, a rotary pump located in the engine pan pumping the lubricant to all main bearings and working parts. The individual trough system is utilized. The transmission is a three-speed, selective, enclosed within the case housing the multiple disc clutch, and all bearings are F. & S. imported annular. The last named are used throughout.

The lighting and motor starting system is a Westinghouse. In addition to a five-passenger car, a two-



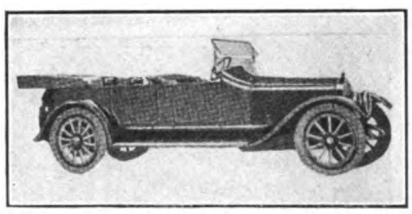
passenger roadster, five-passenger limousine, five-passenger sedan and three-passenger coupe are marketed. The equipment is in keeping with the high grade material and finish.

MOON.

Six Body Styles, All Electrically Equipped.

The new six-cylinder car manufactured by the Moon Motor Car Company, St. Louis, Mo., is fitted with six body types, having passenger capacities of two, four, five, six and seven, and wire wheels are supplied at a cost of $100 extra. The motor is of the L head type and although the bore is but 3.75 inches and stroke 5.25, the maker rates it at 50 at 1300 revolutions a minute.

A Delco system provides ignition, starting and lighting. The clutch is a dry disc and the gearbox provides four forward speeds with direct on the third. Fuel feed is by pressure, the wheelbase is 129 inches, and the tires are 35 by 4.5, front and rear. The power tire pump is driven off the flywheel of the motor. An interest-

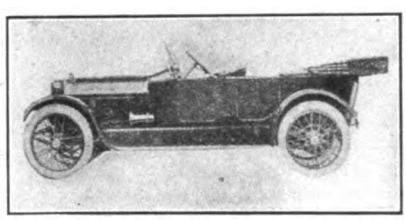


ing feature of the Moon chassis is a centrifugal oil draining device inside the wheel hub, preventing any lubricant reaching the brakes and impairing their efficiency. Electric lighting and motor starting are included in the equipment, which leaves nothing to be desired.

HENDERSON.

Four Attractive Body Designs Are Offered with New Model.

Listing wire wheels as regular equipment, optional with wooden members, the Henderson Motor Car Company, Indianapolis, Ind., claims to have been the first concern in this country to offer choice to the purchaser. The motor of the new six is noticeable for its compactness and clean lines of exterior. Although rated at 33.75 by the S. A. E.



formula, the company states it has developed 54 in block tests.

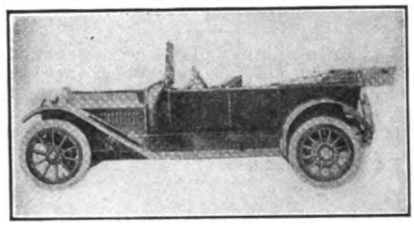
Cooling is by thermo-syphon, fuel feed by gravity and ignition by an Eisemann magneto. The clutch is a highly perfected cone and the gearset provides three forward speeds. The driver is located at the left with centre control, and, as with the four-cylinder model, the emergency brake lever is eliminated, the clutch pedal actuating the service brakes. The control lever is placed between the front cushions, and the quadrant is mounted vertically, instead of in the conventional horizontal frame.

The upholstery and equipment are fully in keeping with the high grade material and construction.

HAYNES MODEL 27.

Features Vulcan Electric Gearshift on All Models.

The Haynes Automobile Company, Kokomo, Ind., is featuring the Vulcan electric gearshift with its new



models, comprising two chassis to which are fitted a number of attractive and high grade bodies. The operation of the electric gearshift is simple. In place of the usual lever, a neat, small dial of push buttons, known as the selector switch, is located in the centre of the steering wheel. There are seven of these buttons and those numbered 1, 2 and 3, control the three forward speeds, while the reverse is marked "R" and neutral "N". The starter and horn are designated by letters "S" and "H".

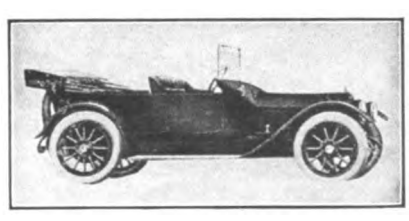
The selector switch is arranged with a mechanical lock so that only one button can remain in position at a time. These buttons control the operation of a set of electro-magnets, or solenoids, there being one for each speed. The speed is selected by the driver pushing down a button, and, upon depressing the clutch pedal fully, and releasing it, the desired gear is automatically meshed. The clutch is then engaged in the usual manner. Other changes of speeds are made in the same manner and all are accomplished instantly. It is impossible to make any errors as the construction may be termed fool proof. Its advantages in operation, especially in traffic, are obvious.

VELIE 6-50.

Three Body Styles, Including Roadster, for New Chassis.

The Velie line, manufactured by the Velie Motor Vehicle Company, Moline, Ill., is increased by the addition of a new model known as the 6-50. It is equipped with a Continental motor, which is stated to be the only component not a Velie product. It is of the long stroke type and is rated at 33.75 horsepower by the S. A. E. formula. The wheelbase is 126 inches and the tires are 27 by 4.5 all around. Lighting and starting are by the Gray & Davis system.

The bodies are of the straight line type with clean running boards. Among the features are the sloping hood with the long undercut cowl and crown fenders with flat strips at the edge. Another is the double overlaid hinge of the bonnet, which makes for strength, it being claimed that the weight of an ordinary man will not deflect it noticeably. The roadster presents novel features, having a sloping deck with doors on either side to accommodate two suit cases. The top equipment has a ratchet holder, making for rigidity on rough roads. Equipment is complete.



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ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

LICENSE NUMBER FRAME.

An Attractive Holder for Retaining Number Plate.

License number plates with cracked or broken enamel detract from the appearance of the car and to protect

and secure them the Auto License Number Frame & Supply Company, 1409 Turks Head building, Providence, R. I., is manufacturing an attractive frame, which is constructed in a variety of materials and finishes.

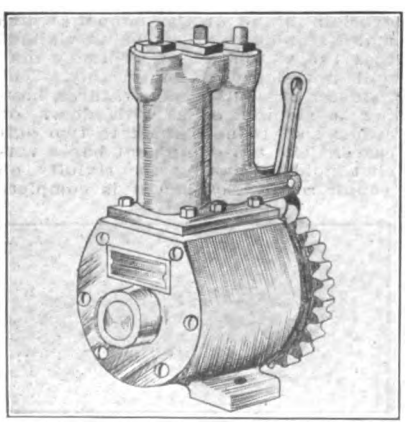
The number plate is inserted and held securely by screw bolts, preventing vibration, and the combination attached to the regular holder, provision being made to fit varying designs. The frame is constructed of highly polished aluminum, bronze and yellow brass. The last two named materials are also supplied with a nickel plate finish. One of the qualities of the aluminum frame is that it is very light.

MASTER POWER TIRE PUMP.

Constructed for Large and Small Motor Cars.

The Hartford Machine Screw Company, Hartford, Conn., is manufacturing the Master power pump, which is constructed in single and double-cylinder forms. One of the qualities of the pump is that no packing is utilized. It is also stated that the design prevents oil or other foreign substances being pumped into the tires.

The pumps are of the air-cooled type, enclosed construction, and the working parts are lubricated by an automatic splash system. The inlet valves are of the flat type, hardened and ground, and the outlet is of the ball design. The pistons are made extra long. The crankcase is an aluminum alloy, cylinders are of special gray iron, and the connecting rods of bronze. The bearings are bronze lined. The pumps may be efficiently operated at any speed from 350 to 800 revolutions a minute, although one of 600 is recommended. At this speed it is stated that the



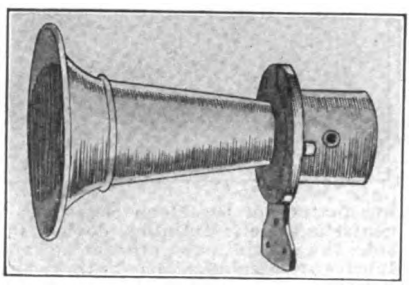
pump will inflate a 37 by five-inch tire to 100 pounds in less than three minutes. The single-cylinder design is intended for small cars, and both are held to be very efficient.

REXO II ELECTRIC HORN.

New Product of Dean Electric Company Is Inexpensive.

The Dean Electric Company, Elyria, O., which concern has marketed a number of electric signalling devices, has augmented its line with a new design which is termed the Rexo II. One of the features of the horn is that the retail price is less than $4. The company has incorporated in the new signal the same high grade workmanship and material for which the product of this concern is noted, and states that the low price is due to the fact that a production of 100,000 is planned.

The Rexo II is finished in black and nickel or black and brass. Two

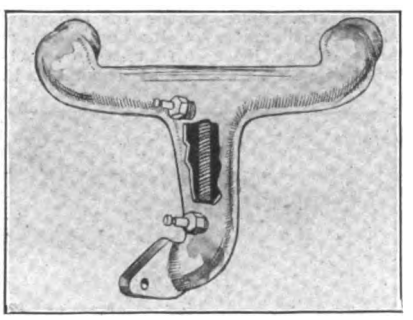


coats of baked enamel are applied by a special process. It has a six-inch bell and is quadruple plated. Suitable length of cord and push button accompany each horn.

ARNOLD ELECTRIC PLUGS.

Heat Coil in Intake Pipe Facilitating Starting of Motor.

The H. W. Johns-Manville Company, New York City, is now marketing the Arnold electric heating



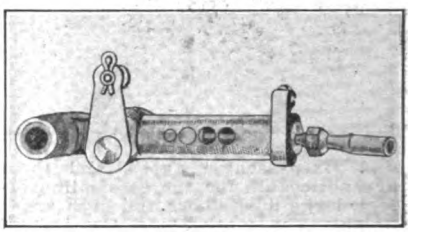
plugs, which are held to solve the starting problem when the motor is exposed to extreme low temperatures. The complete equipment comprises two electric plugs and a resistance coil, the latter being inserted in the intake manifold. The location of the plugs is clearly depicted in the illustration.

By passing a current through the coil a high degree of heat is obtained, resulting in raising the temperature of the mixture to a point for complete and instantaneous combustion. This overcomes the tendency of the fuel to condense in cold weather and makes starting easy. The terminals of the plugs are connected through a switch to a six-volt battery.

EMPIRE FUEL ECONOMIZER.

Automatically Regulates Supply of Gas and Air.

The Brown-Taylor-Greene Company, Chicago, is manufacturing the Empire gasoline economizer, which



differs from the conventional types in that the control of the auxiliary air is automatically regulated in proportion to the speed of the motor. This feature is obtained by the connection of the economizer to the throttle linkage. The maker points out that with some types of carburetors too rich a mixture is supplied at low speeds, and that the Empire so regulates the air and gas as not only to provide efficient proportions, but also to effect considerable economy.

Claims of 20 to 80 per cent. in fuel economy are made. The device is very compact, and the control of the air is by suitably proportioned ports, which are uncovered by a piston or plunger.

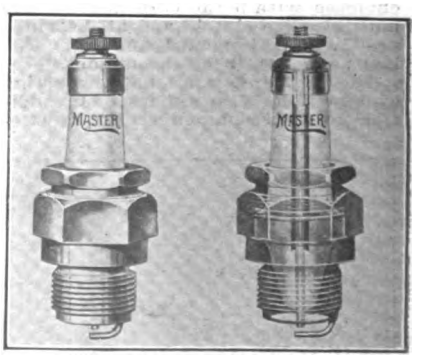
MASTER SPARK PLUG.

Constructed to Meet Demand for a High Grade Plug.

Believing that there is a demand for a high grade spark plug, the Hartford Machine Screw Company, Hartford, Conn., is manufacturing what is termed the Master plug, which is to be marketed at a moderate price because of a production in quantity. The porcelain is made extra heavy and the company states that the design will withstand strains which break down ordinary insulators.

The seat for the porcelain is very wide and well cushioned, and ample margin is provided for the effects of expansion and contraction. One of the qualities emphasized in the Master plug is that it may be easily and quickly disassembled and the parts replaced without interfering with their efficiency. Throughout the best of material and workmanship are incorporated.

The Master is made in standard threads and with varying lengths of base to meet the requirements of varying motor design. The company is licensed under the Canfield patent, and calls attention to its facilities for manufacturing in large quantities. The plug is moderately priced.



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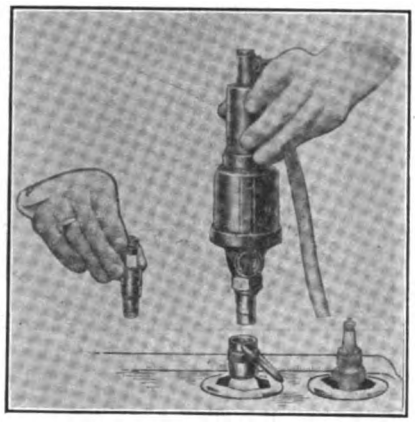
MAYO PUMP SPARK PLUG.

Quick Detachable Type for Use with Power Pump.

The Mayo Manufacturing Company, Chicago, maker of the Mayo power tire pump, has brought out the Mayo



quick detachable spark plug for service with its product. It comprises an adapter, which is permanently installed in the cylinder, a connection for attachment to the lower end of the pump, and a part which is threaded into the adapter and which acts as a lock nut for tightening either the spark plug or pump into the adapter.

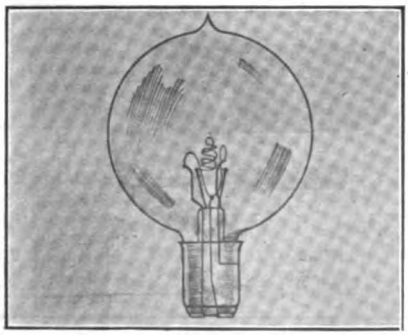
The lock nut has milled slots into which the spark plug proper is inserted until projections rest on a shoulder in the adapter beneath the lock nut. By giving the lock nut handle a quarter turn, the parts are locked. The Mayo pump is attached in a similar manner, by slipping it into the slots in the adapter, and giving the pump a quarter turn, then applying the lock nut by a quarter turn to the left. Old style pumps can be equipped with the extra connection.

TULITE AUTO BULB.

Employs Two Filaments, One of Which Is for City Driving.

One of the features of the electric lighting equipment of the 1914 models displayed at the New York show was the dimming attachment, a construction permitting of so reducing the candlepower of the headlight bulbs as to eliminate glaring effects. The Tulite Auto Bulb Company, Detroit, is manufacturing the Tulite bulb, which obtains the dimming effect, and a quality of the design is that but a single bulb is employed in the headlight.

Two filaments are utilized, these being so arranged that the use of the smaller does not impair the efficiency of the other. A standard four candlepower light is provided for city work, and a 20 candlepower member for country driving. The first named provides sufficient illumination for ordinary driving at low speeds in the country, but does not have the undesirable glaring effect noticeable with lamps of larger candlepower. One of the qualities of the Tulite bulbs is that they may be utilized on a car equipped with electric lights by connecting the side light circuit to the small Tulite filament.

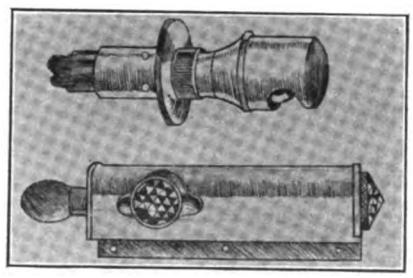


C-S REAR NUMBER LAMP.

The Culver-Stearns Is a Compact Electric Unit.

The Culver-Stearns Manufacturing Company, Worcester, Mass., and Detroit, is marketing the style K rear number light, which is designed to meet the demand for a lamp which will properly illuminate the rear number plate, and the maker states that the rays are so diffused that the numbers can be read easily at a considerable distance. While not made for a tail light, it is equipped with a small, but powerful, red lens.

The company is also making the style D combination dash and trouble lamp, which is so constructed that the lamp proper may be easily and quickly detached and employed as an inspection light. Suitable length of

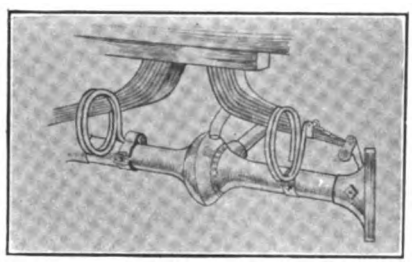


cord is provided, and the combination unit may be easily installed.

CUSHIONET SHOCK ABSORBER.

Ford Design Clamps to the Axle and the Spring.

The Walker-Moore Manufacturing Company, Racine, Wis., is marketing the Cushionet shock absorbers, which are stated to be a practical solution of the shock absorber problem for the model T Ford automobile. They are made for both the front and rear springs, and no adjustment, fitting or



alterations are necessary. They are quickly attached by hooking the top arm over the spring, then forcing the lower arm downward, and bolting a clamp to the axle. This, the maker states, provides the proper tension. It is also claimed that a set of four can be fitted to the car by a novice in less than 30 minutes. The Cushionets are made of crucible steel with drop forged fastenings.

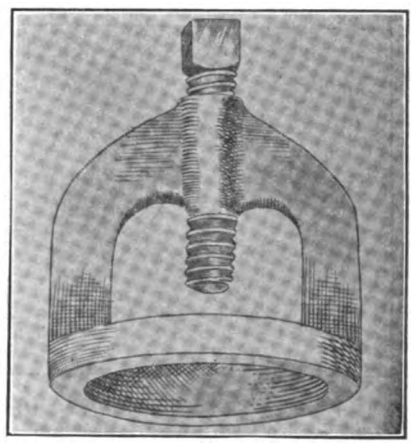
ELECTRIC LIGHTING.

That the convenience of electric lighting appeals to the owner of the used car is demonstrated by the increasing number of equipments designed especially for this service. Several makers include brackets for mounting the generator, and generally the equipment is complete.

MONARCH WHEEL PULLER.

Designed for Removing Wheels of Ford Cars.

The Benford Manufacturing Company, Mt. Vernon, N. Y., has brought out a wheel puller for the model T



Ford automobile which is not only inexpensive, but is guaranteed to remove the most obstinate wheel with ease. The Monarch, as it is termed, is made to screw on the hub flange after the hub cap is removed, and is threaded up snug. The threads of the puller are so cut that it may be fitted by hand, and the maker states it will not stick or bind in service.

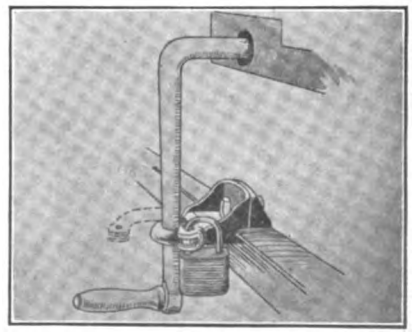
The puller carries a set screw of large thread, which is screwed up against the axle until snug. The leverage obtained is said to be very powerful. The Monarch, although light and compact, is designed to withstand severe service. The best of material is employed and each puller is carefully tested before being packed for shipment.

FORD B. & W. CRANK LOCK.

Secures Starting Handle to Crankshaft of Motor.

The Universal Manufacturing Company, Racine, Wis., is marketing the B. & W. crank lock, which is designed for model T Ford cars, and the maker states that it will positively prevent use of the machine by others than those intended. It comprises a clamp made in two sections, for attaching to the axle, and carrying a hinged shackle. The last named is operated much in the same manner as a padlock, differing in that a lock is employed for securing the movable portion of the hinge. When not in use the lock proper is moved downward out of the way of the starting handle. The B. & W. device is provided with two keys, constructed of sturdy material, and comes finished in black enamel.

The maker states that the B. & W. crank lock can be attached in a very short time by the most inexperienced, and that it does not prevent moving the car about the garage. It is moderately priced.



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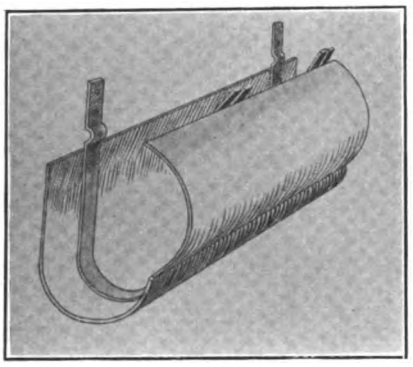
GLOBE GAS TANK COVER.

Made in Two Pieces and Locked by Winged Nuts.

The Globe Machine & Stamping Company, Cleveland, O., is manufacturing the Globe gas tank cover,



which is designed to enclose the Prest-O-Lite gas tank. It is made in two semi-cylindrical sections, which conform perfectly to the contour of the tank, and the material is durable. The sections are hinged, permitting the tank to be inserted and closed, and readily removed. One of the qualities of the design is that the straps are concealed, the only parts showing being the extensions, which are bolted to the running board or body. The two sections of the cover are locked together by T bolts and wing nuts.

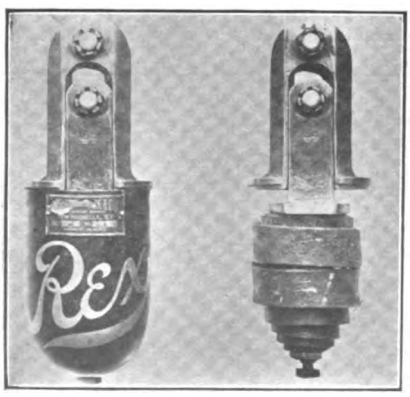
The Globe cover is made for model B and model E Prest-O-Lite tanks. The first named is 20 inches long and 6.25 in diameter, and the E is 18 inches long and 6.25 in diameter. The finish is black enamel, baked on. The company also manufactures a cylindrical form with an open seam at the bottom. Both types save the labor of polishing the tank and add to the appearance of the machine.

REX SHOCK ABSORBERS.

Made in Various Forms for Different Suspensions.

The Rex shock absorber is manufactured by the Rex Shock Absorber Company, New Rochelle, N. Y., and Stamford, Conn., and is designed for use on front and rear springs and for varying suspensions. A feature emphasized by the maker is the use of a double volute spring in such manner that it absorbs the upward and downward movements, and with the use of but one adjusting nut.

The frame or shackle is made in one piece, and the inner fork is similarly constructed. The last named has a compact guide inside the outer frame, an arrangement that the maker states makes for great strength as well as eliminates wear



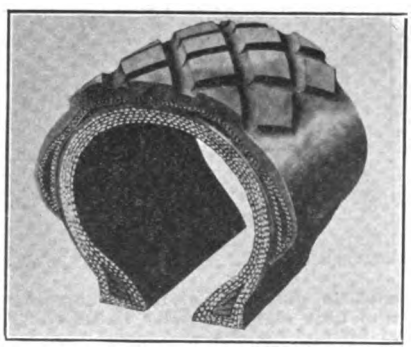
of the mechanism. The absorber spring is contained in a grease and oil tight cover.

The Rex shock absorbers are made in different sizes and for all types of cars. The company is manufacturing a new design, similar to the Rex, but utilizing an air cushion.

GOODYEAR DETACHABLE TIRE.

Detachable Tread Securely Held by Inflation of Tire.

The Goodyear Tire & Rubber Company, Akron, O., has brought out a novel tire, consisting of a regular tire carcass and a detachable tread. When the tire is deflated, the tread can be removed easily, yet when properly pumped up, the two parts have the qualities of a one-piece shoe. This makes it possible to replace either part in a few minutes. The tread is retained by inflation, and a secret construction provides the edges of the tread with a grip that excludes water or dirt. No mechanical fastenings are employed, and it is stated that the resiliency of the shoe is not impaired. The tread is built slightly square on the inside,

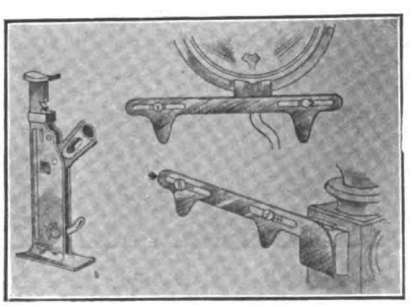


providing air chambers at the two points of vibration on each side of the centre of the tread. This, it is stated, prevents injury by heating.

LIFTING JACK FOR FORD CARS.

An All-Steel Construction Which Is Very Compact.

The Walker-Moore Manufacturing Company, Racine, Wis., is producing



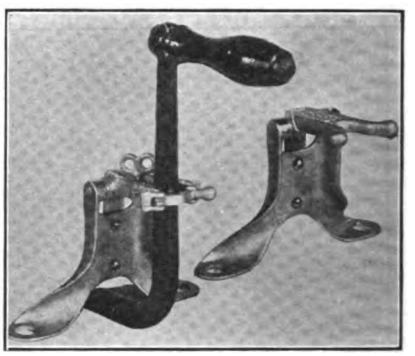
a special jack for the model T Ford car, which is constructed entirely of cold rolled steel. One of the qualities of the jack emphasized is that the base and standard, also the rack bar and cap, are electrically welded. The pawls are case hardened and are carried on short, stocky rivets.

The entire mechanism of the jack is operated by a single spring, and the car can be raised by an upward movement of the lever, or lowered by a reverse movement. The maker calls attention to the light weight, compactness and durability of the tool, stating that it will lift easily 1000 pounds dead weight, and that it is capable of raising cars weighing 2000 pounds. The company also makes number holders for Fords.

STARTING CRANK HOLDER.

Designed for Ford Cars and Is Also Made with Lock.

A practical accessory which will appeal to the owners of model T Ford cars, is the starting crank holder be-



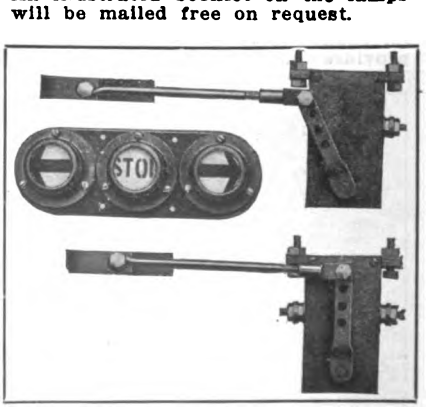
ing marketed by the Auto License Number Frame & Supply Company, Providence, R. I. It is made in two styles, one including a revolving lock with a detachable key. Both designs are attached in a few minutes by removing the nuts securing the spring clip bolts, slipping the holder frame over, and replacing the nuts. One of the qualities of the holder is that it can be moved instantly upward and out of the way of the starting crank when the use of the latter is desired. The crank is securely held in an upright position, preventing rattling. The lock proper is well designed.

J-M MOBILITE SIGNAL LAMP.

Indicates to Approaching Vehicles the Course to Be Taken.

The H. W. Johns-Manville Company, New York City, is marketing a practical compact signalling device, which is utilized to warn approaching vehicles of the direction to be taken by the machine, and provision is also made for notifying the other car when a stop is to be made. The new light is known as the J-M Mobilite signal lamp, and consists of three small electric lamps mounted on an aluminum base finished in ebony black. When the steering wheel is turned to the right or left, a white arrow automatically appears in the corresponding lamp, indicating the direction the car will proceed. When the clutch is thrown out, the word "Stop" appears in red letters in the centre dial of the device.

The signals are operated by self-contained, water proof contact devices attached to the steering gear and the clutch. Each unit comprises a vulcanized rubber socket fitted with a special tungsten bulb and a powerful reflector. The lamps consume but little current, and can be operated economically on dry cells. An illustrated booklet on the lamps will be mailed free on request.



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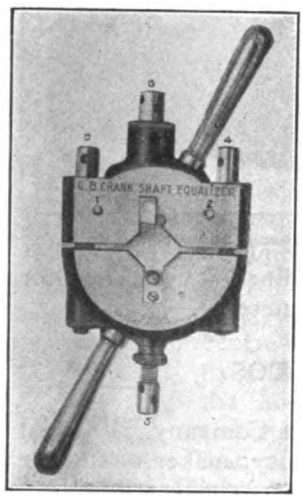
GARAGE AND REPAIR SHOP EQUIPMENT.

THE usual method employed for equalizing or truing up the bearings of a crankshaft is to place the work in a lathe. The G. B. Sales Corporation, 1790 Broadway, New York City, is marketing the G. B. crankshaft equalizer shown in an accompanying illustration, it being designed for truing up bearings by hand. The maker states that it will true up the bearings of a crankshaft in from three to four hours and that accurate results are obtained.



G. B. Crankshaft Equalizer.

If one or two bearings require attention it is stated that the work may be done without removing the crankshaft from the motor, only the displacement of the bottom of the crankcase and dropping the bottom half of the crank arm being necessary.

The operation of the tool is best explained by the directions accompanying each member: Take out the Nos. 1 and 2 pins, pull the tool apart and attach to crankshaft, then replace the pins. Screw down the adjusting screws Nos. 3 and 4, until a light but firm contact is made with the shaft. Next adjust the steel roller by the screw No. 5 until the same touches the shaft lightly. Screw down the cutting knife by the screw No. 6 to a cutting position and turn the tool slowly and steadily.

The G. B. crankshaft equalizer is constructed of high grade material throughout. The cutting blade is made of the finest quality of high speed, oil tempered tool steel, and it is stated that it will true up 25 shafts with one sharpening. It may be resharpened by the user, but the factory makes no charge for this work. The tool is made in two sizes, the No. 1 taking shafts from two to 3.5 inches, the No. 2 being designed for shafts from 1.5 to 2.5 inches.

ALUMALUX.

The Alumalux Company, Sidney, O., is marketing Alumalux, a solder especially compounded to unite aluminum with aluminum without the aid of a blow torch.

HEALY VALVE RESEATER.

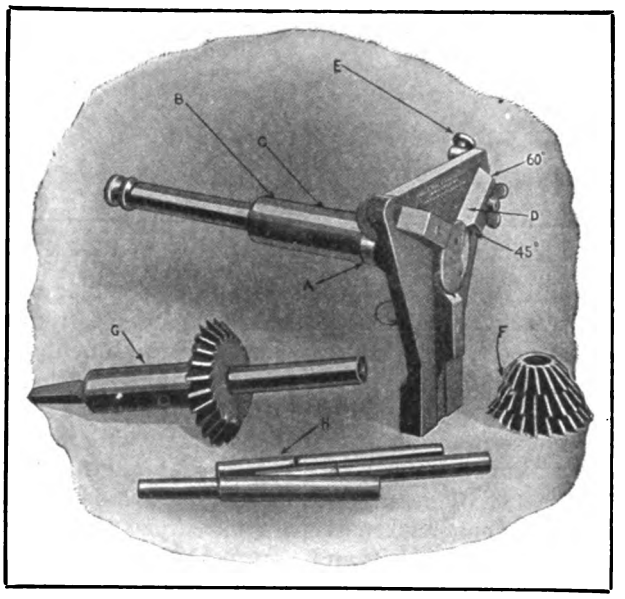
The Healy valve reseater and dresser is manufactured by the Healy Tool & Appliance Company, Brocton, N. Y., with New York City office at 1790 Broadway, of which Ralph Waldt is manager. The complete equipment is shown in an accompanying illustration with the components lettered.

A bearing on the valve stem is provided at A, it being in the same relative position as to seat as is the bearing in the cylinder. This bearing coming so near to the valve head eliminates chattering while the valve is being dressed. A second valve stem bearing is provided at B, it holding the stem central and rigid while a cut is being made. The adjustable bearing handle is shown at C and it may, by a few turns, be adapted to any size valve stem or worn members.

The reversible face cutter D has a 45-degree cutter at one end and a 60-degree at the other. These being adjustable, a roughing cut may be first used then a finishing cut without disturbing the adjustments.

The adjustment of the face cutter is depicted at E. It can be set to the thousandth of an inch. The seating cutter F is so shaped that it will remove all shoulders. The cutter carrier G has a taper which corresponds with that of the cutter, aligning it perfectly in the carrier. A Brown & Sharpe taper to the pilot aligns the same perfectly with the cutter as shown at H.

The tool is operated by hand; all wearing parts are of tool steel, hardened and ground to exact proportions, and the equipment comprises a dressing head complete with an extra roughing cutter, also one each of 1.625, two, 2.25 and 2.5-inch valve seat cutters and carriers. The pilots included consist of one each of .3125, .375, .4375



Healy Valve Reseater and Dresser.

and .5 inch. Labor and time saving qualities of the tool are emphasized by the maker.

MINIMAX PUMPING OUTFIT.

Herz & Co., New York City, is marketing a portable type of electric air compressor, termed the Minimax garage pumping outfit. It is a complete air compressor equipment mounted on a truck having a convenient handle for moving the unit as desired. A feature of the truck is the use of a metal tray which is sufficiently large to ac-

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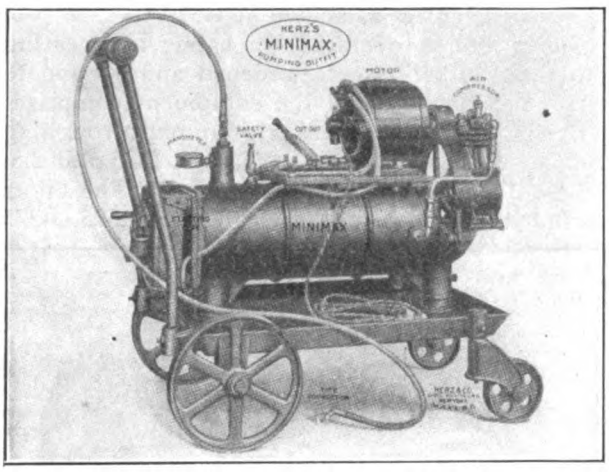
commodate tools in addition to the motor, pump and tank.

The air compressor is a double-cylinder pump with cranks set at 180 degrees. The cylinders have a bore of 1.375 inches and stroke of 2.5, and the operating speed is 400 revolutions a minute. The height is 11 inches, width 3.5. The electric motor is rated at .25 horsepower, and is supplied for direct or alternating current and different voltages. The gears driving the pump are accurately cut, of high grade material, and are enclosed by a guard.

The tank is of cast iron, and all air passing to it flows through a check valve of special design. The tank is 20 inches long and nine inches diameter. The capacity of the tank is equivalent to 5.5 gallons of water. It is tested to a safety pressure of 250 pounds. A safety valve is placed behind the manometer and may be set to a pressure up to 125 pounds, and the valve is stated to be very accurate in its action and will not require attention.

One of the qualities of the equipment is that all wires between the motor and the switch are



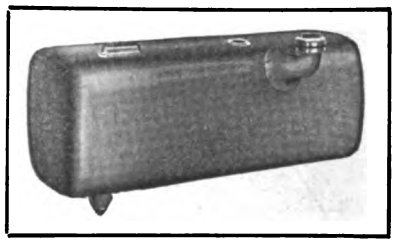
Minimax Garage Pumping Outfit Marketed by Herz & Co.

carefully protected against damage or leakage of current. Connection to the supply of electricity is by a cord and a lamp socket. The equipment includes a starting switch and suitable length of steel covered hose to connect with the tire, etc. The maker states that the Minimax will inflate several tires from the supply in the tank and that the cost of operating is but a few cents a day. The workmanship and material are first class in every respect. Price list and complete details of the Minimax equipment will be forwarded on request.

JASCO LEAKLESS TANK.

After experimenting for over a year, Janney, Steinmetz & Company, Philadelphia, has perfected a series of square dies to make a seamless, leakless, drawn, bolster shaped underhung tank. The growing practise of carrying the fuel tank at the rear of the chassis and the advantages derived therefrom has led the company to produce various sizes, the most popular being 13 inches wide by 13 high and from 30 to 36 long, according to the location of the hanging straps of the chassis. The tank is also produced 12 inches high and 14 wide and in convenient lengths to accommodate the hanging straps.

All models are supplied with standard fittings made by the company, including brass goose neck extension filler, outlet with sediment cup, up-feed tube for pressure service and gasoline indicator to show contents. The company is continuing its line of cylindrical or round tanks and in all diameters.



New Jasco Seamless Tank.

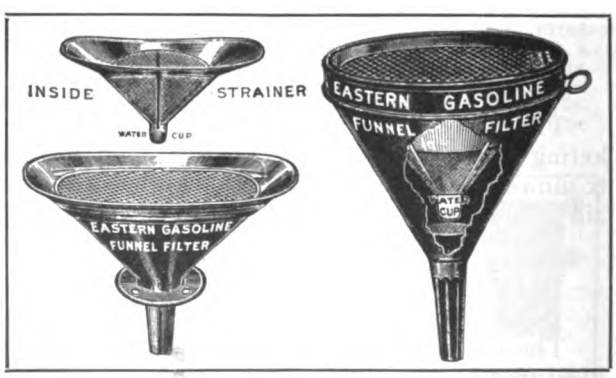
FLEXMETOS.

The United Metal Hose Company, 510 West 24th street, New York City, maker of flexible metal hose and tubing, is marketing a new type of flexible metal tubing for conveying gasoline from the garage pump to the tank of the motor car. It is termed Flexmetos, of four-wall interlocking construction, and is covered with a special braiding. It is made in various sizes and with suitable fittings.

EASTERN GASOLINE FUNNEL FILTER.

The Eastern Oil Tank Company, 146 Fletcher street, Lowell, Mass., is manufacturing the Eastern gasoline funnel filter, a part sectional view of which is shown herewith, also the inside strainer. The maker states that the design is very efficient in separating water and other foreign substances from the fuel and that its construction permits of easy disassembly and replacement.

As will be noted by the illustration the gasoline is filtered through a mesh and an inside strainer is included, the latter catching all water. The maker states that the funnel can be used in rainy weather without any water reaching the tank and that splashing of fuel is prevented. The



Eastern Gasoline Funnel Filter for Separating Water and Other Foreign Substances from the Fuel.

funnel filter is made to be carried easily in the car, assuring the use of clean fuel when purchased on the road, etc.

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NEW FORD PLUG.

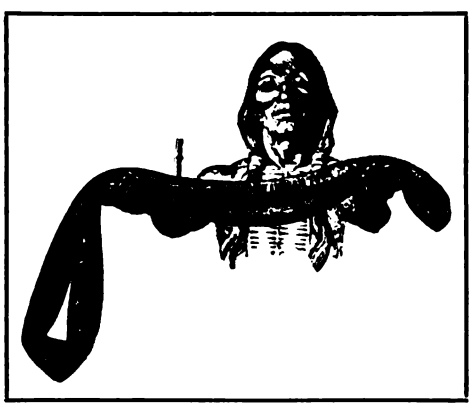
The Splitdorf Electrical Company, Newark, N. J., which is marketing a true high-tension magneto for the model T Ford motor, has brought out a spark plug designed especially for this engine, which is shown in an accompanying illustration. It is constructed to withstand the burning effect of magneto currents and high voltages of induction coils, the electrodes being constructed of a heat resisting material.

Splitdorf Ford Magneto Plug.

The plug embodies the same principles as the Common Sense plug made by this concern, the centre electrode being protected by a lateral winding of white India mica over which is a protector of special porcelain. The last named is hexagon shaped. Gas tight features are obtained by the use of a copper and asbestos gasket and a vulca-bestian gasket. The sparking points are extra heavy, and one of the qualities emphasized in the design is that the gap is not increased by the intense heat of the magneto spark.

INDIAN INNER TUBE.

The B. F. Goodrich Company, Akron, O., maker of Goodrich tires, is placing a new inner tube in the market, which is said to possess a number of distinctive features. It is termed the Indian, and it is explained that it gets this name from the fact that it is a reddish brown in color.

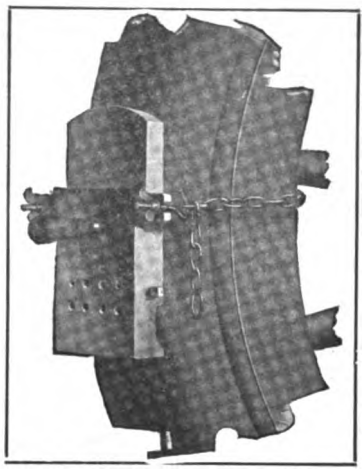


New Goodrich Indian Inner Tube.

The new tube is slightly heavier than the gray tube made by this concern, and it is stated that, by reason of a new process in curing, it has sufficient tensile strength and elasticity to withstand the constant road jars. The maker claims that in matter of elasticity it will remind the motorist of the sling shot days of his boyhood, in that it appears to possess the ability to stretch unduly and still return to its original form.

NEW WIZARD VULCANIZER.

The National Motor Supply Company, Cleveland, O., well known maker of vulcanizers, is manufacturing a new model known as the Wizard automatic steam vulcanizer. It has a hollow body partly filled with water and sealed at the factory. A fire box filled with asbestos packing is cast in the bottom of the vulcanizer, and upon pouring a predetermined amount of gasoline in the receptacle, the fuel is absorbed by the packing. When the fluid is ignited, it burns with a blue flame and no smoke, a series of draft holes being open to the firing chamber, as will be noted by an accompanying illustration, which shows the Wizard attached to a casing. As the temperature is automatically controlled, the vulcanizer requires no attention after lighting, and it is stated that perfect vulcanization can be easily obtained in five minutes.

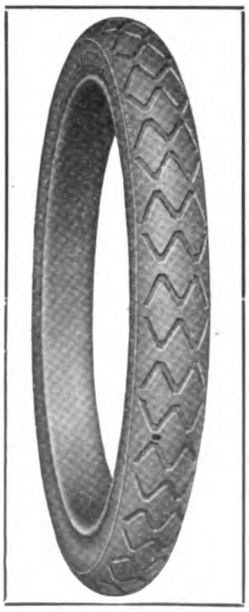


Wizard Steam Vulcanizer.

The Wizard has a vulcanizing face six inches long and three wide. It is curved to conform to a casing against which it is clamped by an adjustable chain held by special retainers. When tubes are to be repaired a plate is employed. The Wizard permits of repairing shoes without removing them from the wheel. The entire equipment is nickel plated and highly polished and is very complete, including rubber, cement, shears, instructions, etc., packed in a neat wood box.

NEW ANTI-SKID TIRE.

The Republic Rubber Company, Youngstown, O., maker of Republic tires and tubes, announces a new type of anti-skid tire called the Republic "W M" tread, which is designed especially for light cars and comes in the following sizes: Thirty by three, 30 by 3.5 and 32 by 3.5 inches. As will be noted by the accompanying illustration the anti-skid tread resembles an M or a W, according to the position of the casing. The same high grade materials and workmanship are incorporated in the new shoe as is characteristic of the products of this company which manufactures the Republic staggered non-skid and plain tread casings. The line of inner tubes includes both the gray and black line. The Republic Rubber Company has branches and agencies in the principal cities of the United States, Canada and Mexico.



The Republic "W M" Tread Tire.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. JANUARY, 1914. NO. 9.

AUTOMOBILE JOURNAL PUBLISHING CO.
Times Building Pawtucket, R. I.
William H. Black, Treasurer. D. O. Black, Jr., Secretary.
Publisher of
THE AUTOMOBILE JOURNAL THE MOTOR TRUCK

Offices in New York, Chicago, Detroit and Boston

SUBSCRIPTIONS.

The United States and Mexico, the year, $2 in advance; Canada and Foreign Countries in Postal Union, the year, $3 in advance. Twenty cents the copy.

CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

BRIGHTER BUSINESS OUTLOOK.

Carefully prepared reviews of the business situation during 1913, as presented by financial interests, set forth that only about two weeks out of the 52 left pleasant memories. These were the two last weeks in December, in which conditions generally were so satisfactory as to presage a distinctly brighter financial outlook for 1914. The general tone of business during the first two weeks of this year has been such as to bear out that prediction.

The automobile industry has again demonstrated its ability to pass through periods of financial stringency with success. No attempt is made to compare 1913 with 1907. The factors which disturbed business and financial interests last year were not such as to bring about conditions which could be regarded as hard times. Merchants and manufacturers in practically all lines were inclined to make purchases in limited quantities and at times it was difficult to secure ready money. In spite of these tendencies, the business done by the automobile industry was the largest in its history.

Those who have watched the financial situation during the past month cannot help but be convinced that there has been an important increase in buying. Merchants are beginning to stock their shelves, and manufacturers are preparing to resume normal production. It is not to be expected that business can recuperate entirely in a month, but the general tendency is strongly upward. This situation is of decided interest to all those engaged in the automobile industry, as having an important bearing upon the sale of motor vehicles, particularly those designed and constructed for business purposes.

THE NEW YORK SHOW.

No automobile show in New York City ever held greater promise for business in the immediate future than that which closed this month. Insofar as the cars on display were concerned, there was little that was strictly new, aside from the body designs. The accessory division presented somewhat different conditions in this respect, although, for the most part, the new devices exhibited were known to the trade through announcement in automobile publications. The advent of the cyclecar also helped to create interest in the exhibition.

The point to which special attention is directed in this instance is the matter of attendance. According to the box office receipts, the number of paid admissions each day was larger than for the corresponding day in any previous year. Although Grand Central Palace is better arranged to handle crowds than Madison Square Garden, it was difficult to make headway among the exhibits any afternoon or evening.

It hardly will be denied that the general public does not pay good money to visit an automobile show unless it is interested in the products on display. For the most part, the cars exhibited could have been viewed at the salesrooms on Broadway at any time during the past few months. That the attendance was so large cannot be attributed to any other reason than that the people who visited Grand Central Palace were interested in the purchase of automobiles, and took advantage of the opportunity afforded to make comparison of the various models offorded for their consideration.

Leading concerns in the principal commercial centres—New York, Chicago, Boston, Philadelphia, etc.—long ago appreciated the value of systematic arrangement of details, and have reorganized their business to meet present day conditions. If concerns doing a large volume of business find it necessary to study the local field and adopt systems which afford proper regulation of the various departments, there can be little doubt as to the efficacy of such methods with the dealer in the smaller city or town. New Year's is a period for making good resolutions. Make a resolution, now, to adopt systematic methods during 1914.

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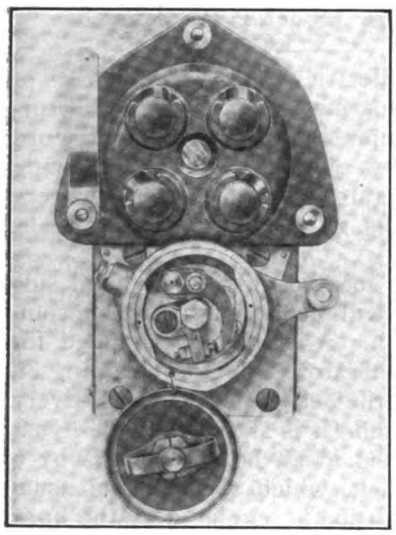
SPLITDORF ANNOUNCES NEW MAGNETO.

THE Splitdorf Electrical Company, Newark, N. J., is marketing a new magneto, termed the EU4, which is of the true high-tension type and designed to meet the demand for an instrument providing a hot spark at all motor speeds as well as to make starting easy.



Splitdorf EU4 True High-Tension Magneto.

The new instrument is water and dust proof and is constructed throughout on a principle of strict utility combined with a neat appearance, and has sufficient reserve energy for a 30 horsepower high speed motor. The design embodies an aluminum base to which the pole pieces are secured, and between the latter revolves the armature on two annular ball bearings. The armature, after being wound, is impregnated with a heat and oil proof compound which the maker states renders it practically indestructible. Mounted over the armature is the condenser, this being clamped between two metal plates, which are secured to the pole pieces.

The magnets are of the best grade tungsten steel and straddle the pole pieces. Water, dust and oil proof qualities are obtained by fitting a cover over the end plates. The circuit breaker is attached to the armature shaft as shown in the illustration and revolves with it. Owing to centrifugal action the platinum points come in contact in a positive manner at high speeds, thus permitting the utilization of a spring with light tension, a construction reducing wear of the cam to a minimum. These and other similar refinements are stated to be the subject of patents and exclusive Splitdorf features. The break in the primary circuit is obtained by a roller coming in contact with a steel cam, separating the platinum points.

The cam holder may be shifted to the extent of 23 degrees, enabling a liberal advance or retard of the spark in timing.

A NEW MOTOR-GENERATOR.

Leece-Neville Announces Combined Lighting and Starting System for Ford Car.

The Leece-Neville Company, Cleveland, O., maker of electric dynamos and motors for automobile lighting and starting, has brought out a system for the model T Ford car, which is a unit system, that is, the generator and motor are combined; and the same attention has been given to details as with the equipment manufactured by this concern for larger machines.

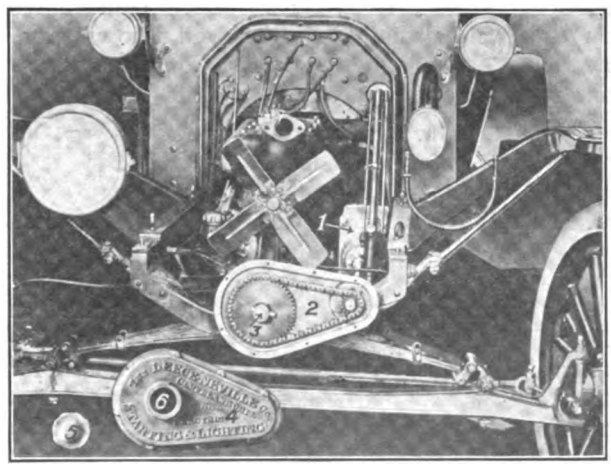
An accompanying illustration shows the Ford system installed and with its components numbered. The motor-generator 1 is mounted in a cradle under the steering column between the crankcase of the engine and the body frame. The cradle is retained securely by bolts, these being fastened to the crankcase and frame, and the installation does not require any fittings or alterations, as the old holes are utilized. New and longer bolts are provided, however, as they are employed to retain the cradle.

The chain case 2 is mounted on the front cross frame member by displacing the front end bearing of the engine, the case being provided with a bearing. The old bolts are used to retain the new bearing cap and case to the cross member. The shaft 3 extends through the hole from which the starting crank has been removed and is coupled direct to the engine shaft. The shaft from the motor-generator runs under the radiator and above the front cross frame member, and to this shaft is keyed a small sprocket. The large or driving sprocket is also keyed to the shaft 3.

Drive is by a one-inch silent chain, which operates in lubricant, insuring quietness, the mechanism being protected by the chain case cover 4, which has a hole 6 to which is fitted the screw cap 5.

The motor starter is operated by simply pushing a button, it cranking the engine at a speed of 150 revolutions a minute. Upon the engine starting, the motor functions as a dynamo, supplying energy for lighting, and charges a storage battery. The unit weighs 47 pounds, the battery 70 and the fittings about 15.

All parts are supplied complete and so arranged as to make installing an easy matter. All wires come cut to the proper length. The accessories are strictly high grade.



Leece-Neville Ford Light and Motor Starting System, a Motor-Generator Employing a Silent Chain Enclosed in a Casing.

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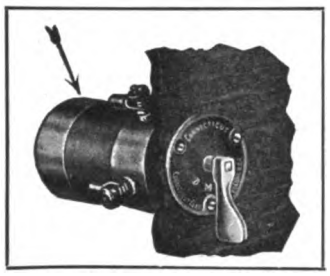
NEAT MASTER VIBRATOR.

Connecticut Is of the Flush Dash Type, Very Compact and Efficient.

The Connecticut Telephone & Electric Company, Inc., Meriden, Conn., well known to the trade as maker of Connecticut coils, dis- is manufacturing a master vibrator which will appeal to the distributors, timers, etc., criminating owner of the model T Ford car because of the neatness and compactness of the design.



The Connecticut Ford Master Vibrator.

As will be noted by the accompanying illustration, the coil is located under the hood, the switch being on the driver's side and mounted flush with the dash. All wires and connections are concealed by this method, making for a clean dash. One of the qualities of the Connecticut master vibrator is the use of the special terminals featured by this concern, which make for absolutely tight connections as well as efficiency.

The maker claims that the product is the smallest vibrator made and that it is the most powerful. Not only is synchronization of the spark obtained and starting made easier, but less current is consumed. The last named quality is important in that more light is obtained from the electric headlights and at low car speeds.

The Connecticut is constructed with the same high grade material and workmanship for which the product of this concern is noted, and the retail price is very moderate. The company has an interesting proposition for the trade, the details of which are given in its bulletin No. 48, which will be forwarded upon request.

The Connecticut Telephone & Electric Company, Inc., has also brought out a special shock absorber for the Ford car, which is constructed on the same principle as the well known Connecticut, although it is lighter. Complete details are given in bulletin No. 46.

IS NOW SALES MANAGER.

C. F. Ames Retires from Cushion Wheel Concern to Enter Tire Field.

Cortland F. Ames, who has been located at 1241 South Michigan boulevard, Chicago, as distributor of the Sewell cushion wheels for motor trucks, has resigned all connections with that product to take the position of sales manager for the Devine Tire Company. His office is now at 2021 Michigan avenue, Chicago.

The Devine Tire Company produces the Devine indestructible fabric tire, which is said to be composed entirely of cotton duck. It is maintained that it cannot be cut, torn or chipped off, under the most severe service, and that it will give maximum traction under all conditions of road surface.

FORD LIGHTING DYNAMO.

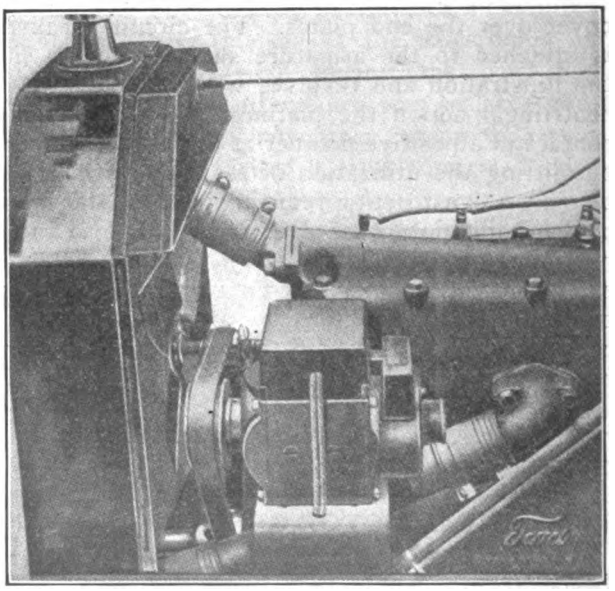
Dyneto Electric Company Marketing Complete Equipment for Model T Ford Cars.

The Dyneto Electric Company, maker of lighting systems for motor cars, is manufacturing a lighting equipment for the model T Ford automobile, which is a complete outfit, including as it does the generator, storage battery, battery box, reflectors, bulbs, tail light, wiring, terminals, etc.

The dynamo is located on the left hand side of the motor, as will be noted by the accompanying illustration. A bracket is supplied for supporting the generator, also for retaining it, and is placed with the belt pulley forward. Every part is made to fit and it is stated that the dynamo may be installed in an hour. Drive is by a one-inch endless belt, which replaces the usual fan belt, and the tension is regulated by the Ford fan belt adjustment.

The Dyneto generator weighs about 23 pounds, and combines in one apparatus a slow speed direct current generator and automatic switch, also automatic means for controlling the output to meet requirements. The dynamo is cut in at a car speed of about 12 miles an hour and at higher ratios the output is automatically controlled. Below car speeds of 12 miles an hour and when the engine is inoperative, the battery supplies current for lighting.

A dash indicator is provided, which shows at all times whether the cells are being charged or discharged, and the switch is a Briggs & Stratton, providing the usual combinations and a dimming attachment. The switch button is in the form of a plug, which can be removed to prevent tampering with the system. The factory is located at Syracuse, N. Y.



Showing Installation of Dyneto Generator on Ford Car and Method of Drive.

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DIXON'S MOTOR GRAPHITE

Don't make the mistake of thinking that **any** kind of graphite will do in your motor car bearings.

There is only one graphite that is a **safe** motor lubricant and that is **Dixon's Motor Graphite**—the natural flake graphite ground to exceeding fineness without loss of its valuable flake quality.

Mix it in the proportion of one teaspoonful of **Dixon's Motor Graphite** to each quart of oil. Shake thoroughly before using and then handle the mixture like ordinary oil.

It will give a peculiarly lasting lubrication that will be new to your experience and that will "tune up" your whole car.

Send for "Lubricating the Motor", No. 49.

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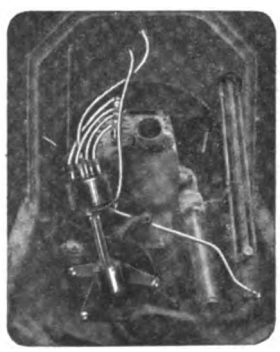

Equip your customers' Ford cars with the ATWATER KENT FORD IGNITION SYSTEM. Your customers can prove the following results on their own car on a make-good-or-money-back basis:—

1. **Perfect ignition at all speeds from 3 to 40 miles per hour.**
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3. **Easier starting in cold weather.**
4. **Vibrator and magneto trouble eliminated.**
5. **Will run idle at lowest possible speed and throttle down to 3 miles per hour on high.**
6. **Increases both power and speed and saves gasoline.**
7. **Lessens sooting of plugs and carbon deposits.**
8. **Quickly and easily installed without altering car in any way. No machine work—no holes to drill—a wrench and screw driver are the only tools necessary.**
9. **Costs much less than a magneto and gives better results on any car.**

Let us send you Circular L describing the ATWATER KENT SYSTEM for Ford and other cars. If you are visiting the National Automobile Shows do not fail to see our exhibit—Booth 8 at the Coliseum, Chicago.

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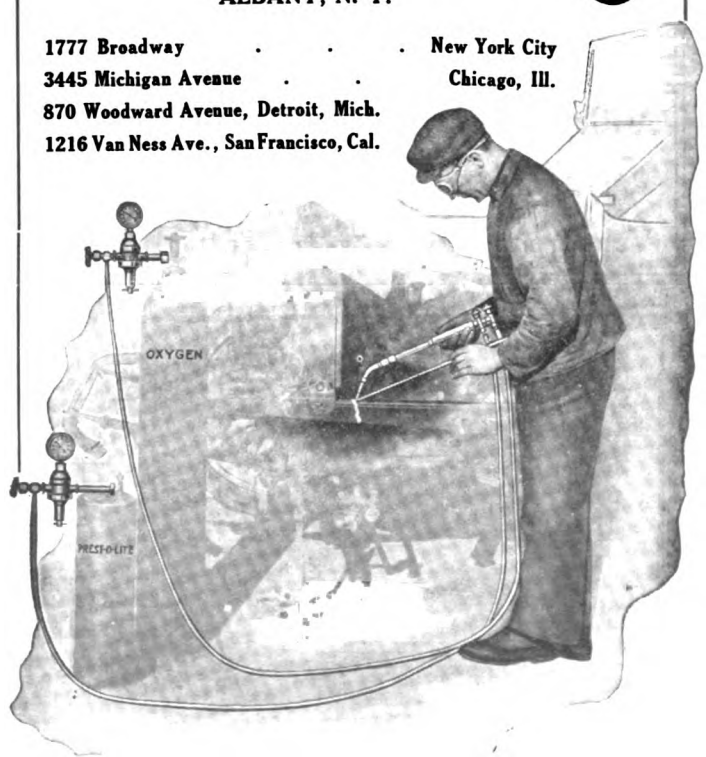

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Hopewell Brothers, Newton, Mass.

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Ask for Catalogue.

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Next issue Feb. 15th.

Accessory and Garage Journal
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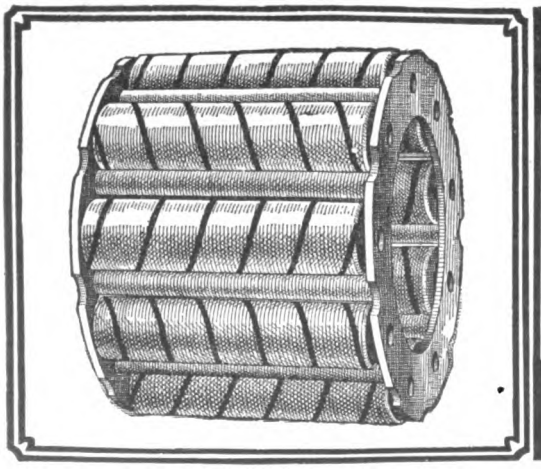

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A Money-Making Opportunity for You

Men, take your pencil and figure this:

Multiply by 4 the number of automobiles in your city. That gives the number of tires in use. Multiply that number by $5.00. What's the answer? $1,000, $5,000, $10,000, $20,000?

The total, whatever it is, is the approximate amount of tire repair business in your city. Let us equip you to do

Tire Repairing

$150.00 to $500.00 will start you off nicely.

Our patented localized steam repair outfits insure your success. Get our catalog No. 12. It's full of expert information.

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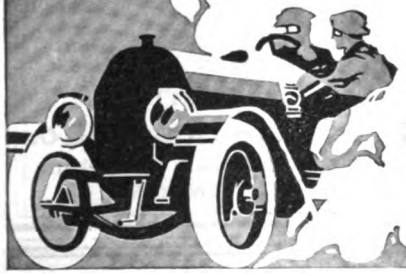

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Master Vibrator For Ford Cars

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"I received my master vibrator for my Ford car and it works perfectly great. I never knew the car to run so smoothly as it does now. Have just convinced my next door neighbor that the "Connecticut" was the proper thing for his car and so he put it on and is mighty well pleased with it too."

"Gives Magneto Service"

The "Connecticut" is the smallest, neatest and most powerful Master Vibrator made for Ford Cars. Fits flush with dash—the coil proper being located under the hood.

Quickly installed. Easy starting. Makes a sweet running motor. More light from your lamps. Sold under a guarantee.

Price $9.00 delivered

Write for Bulletin No. 48.

Connecticut Telephone and Electric Company, Inc.
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Shock Absorbers For Ford Cars

Genuine shock absorbers, exactly the same—only lighter—as those used on the best cars made. These Special Ford Shock Absorbers insure safety, greater speed without discomfort, greater tire mileage and greater life for the car.

Don't experiment—install "Connecticut" Shock Absorbers on your car and save money.

Price $22.50 per set

Write for Bulletin No. 46.

Connecticut Shock Absorber Co., Inc.
Meriden, Conn.

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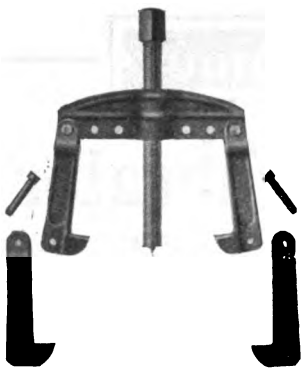

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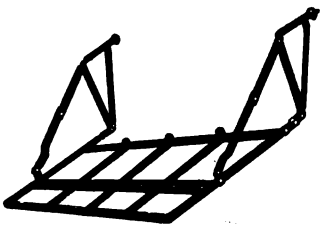

This Rack Will Fit Any 1914 Ford Car

1914 Ford Rack

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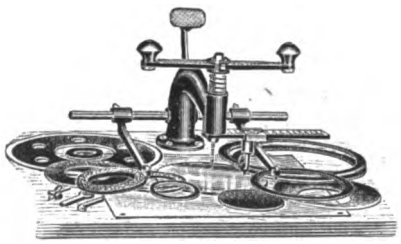

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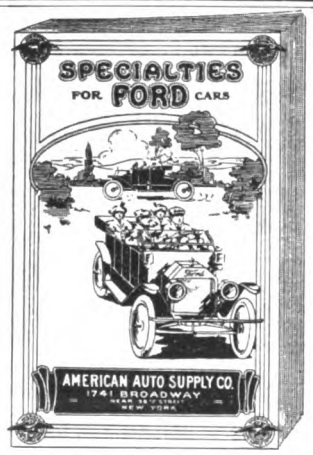

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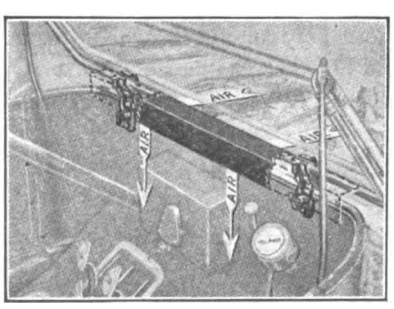

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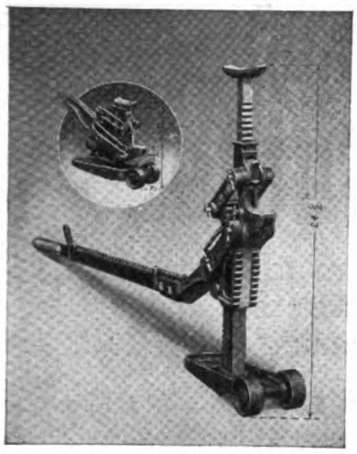

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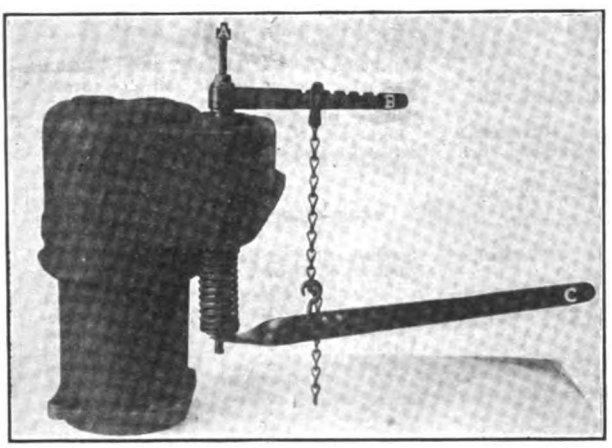

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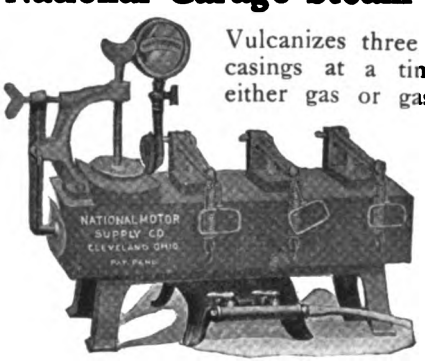

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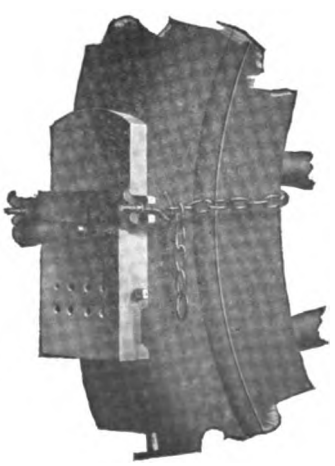

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.
Auto Parts Co., Providence, R. I.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight Sts., Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree St., Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Waite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARS—ELECTRIC PLEASURE.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

American Voiturette Co., Detroit. (Keeton.)
Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Kissel Motor Car Co., 174 Kissel Ave., Hartford, Wis. (KisselKar.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Metz Co., Waltham, Mass. (Metz.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Premier Motor Mfg. Co., Indianapolis. (Premier.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
Owen & Co., R. M., 19 W. 62nd St., New York City. (Reo.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp, Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Anderson Electric Car Co., 458 Clay Ave., Detroit. (Detroit Electric.)
Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

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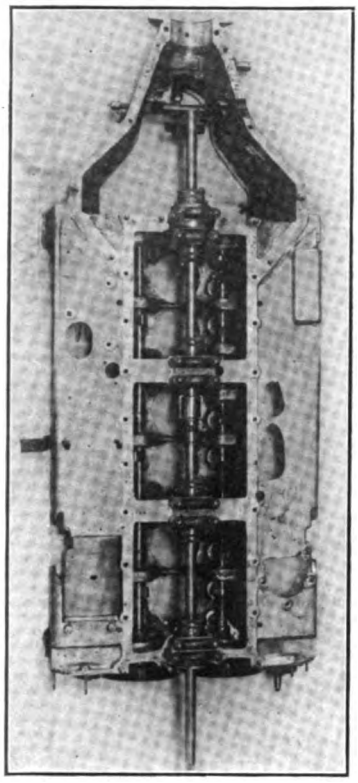

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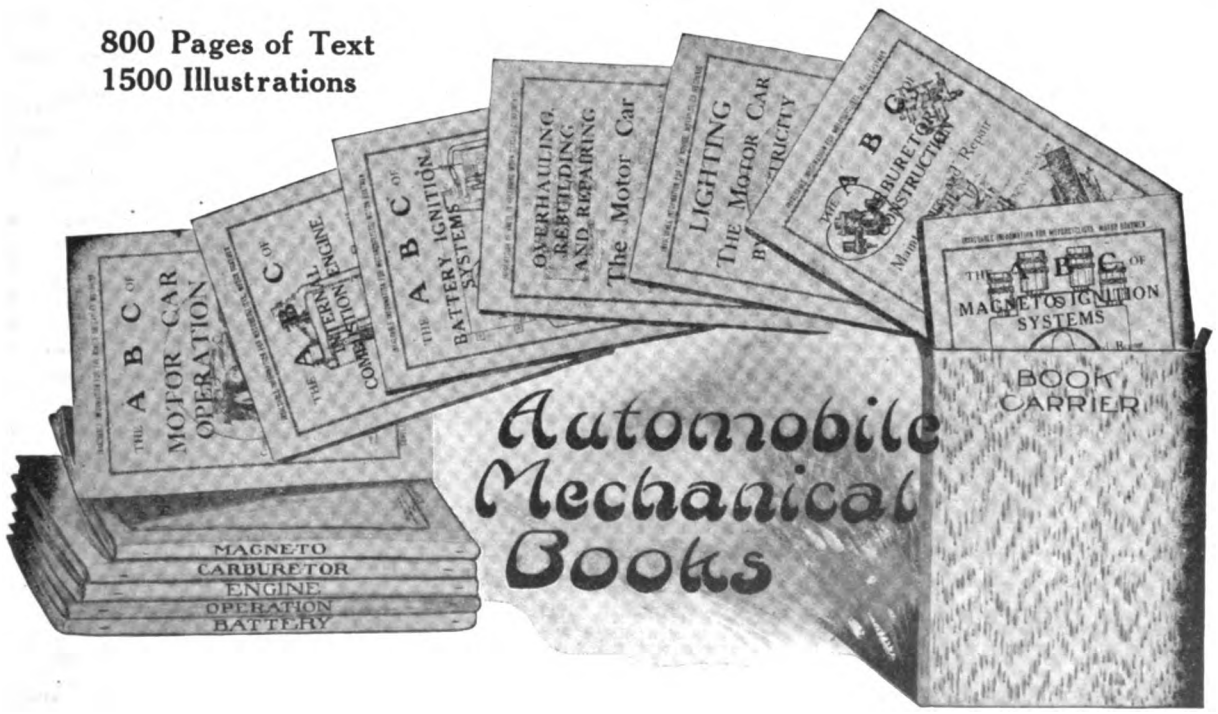

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Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

Miller, Chas. E., 97-103 Reade St., New York. (Brampton.)

Branches: See Accessory Manufacturers and Jobbers.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FIRE EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS AND GASKET CUTTERS.

Brown Co., Inc., Chas. D., 49 Federal St., Boston. (Vellumoid.)

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Oil Pumps.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)

IGNITION APPARATUS.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)

Branch: 1974 Broadway, New York.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Aplco.)

Dean Electric Co., Elyria, O. (Dynalux.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Remy Electric Co., Anderson, Ind. (Remy.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Borne, Scrymser Co., 80 South St., New York. (Colonial.)

Branches: Boston, Fall River, Philadelphia.

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)

Branch: 143 No. Wabash Ave., Chicago.

Haws, Geo. A., 148 Front St., New York. (Panhard.)

Branch: 899 Boylston St., Boston.

Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)

Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.

Refineries: Georgetown, Ky.; Lawrenceville, Ill.

Invader Oil Co., 80 Broad St., New York. (Invader.)

Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 512 Kenois Bldg., 11th and G Sts., N. W., Washington, D. C.

Miller, Chas. E., 97-103 Reade St., New York. (Pan-American.)

Branches: See Accessory Manufacturers and Jobbers.

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)

Northwestern Chemical Co., Marietta, O. (Gear-Silence.)

Standard Oil Co., New York. (Polarine.)

Branches: In all cities.

Texas Company, The, 7 West St., New York.

Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.

Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)

Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.

Eisemann Magneto Co., 225-227 W. 57th St., New York City. (Eisemann.)

Branches: 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.

Heinze Electric Co., Lowell, Mass. (Heco.)

Marburg Bros., 1790 Broadway, New York. (Mea.)

Remy Electric Co., Anderson, Ind. (Remy.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LISTS.

Owners' Auto List Co., Albany, N. Y.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol)

METERS, ETC.

Kent Mfg. Co., Atwater, 4937 Stenton Ave., Wayne Junction; Philadelphia (Kent Pocket.)

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTORCYCLES AND SUPPLIES.

Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Aplco.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Remy Electric Co., Anderson, Ind. (Remy.)

PACKING, FIRE.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O.

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PULLERS, WHEEL AND GEAR.

Crane Puller Co., Arlington, Mass.

PUMPS, OILS AND GREASE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Brown Co., Syracuse, N. Y. (Brown Impulse.)

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Shawver Co., Springfield, O.

REAMERS.

Martel Motor Co., Jamaica Plain, Mass. (Martel Aligning.)

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, Birmingham, Ala.; London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

SELF-STARTERS. (See Motor Starters.)

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.
J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Hopewell Brothers, Newton, Mass. (Paos.)
Branch: 1974 Broadway, New York.
Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)
Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.
Heinze Electric Co., Lowell, Mass. (Heco Priming.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Mosler, A. R. & Co., P. O. Box M, Mt. Vernon, N. Y. (Split Fire.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.
Standard Co., The, Torrington, Conn. (Black Eagle.)

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

SPEEDOMETERS, RECORDERS, ETC.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Electric.)
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)
Stewart-Warner Speedometer Corp., Chicago. (Auto-Meter.)
Branches: 116 Edgewood Ave., Atlanta, Ga.; 925 Boylston St., Boston; 720 Main St., Buffalo; 2420 Michigan Ave., Chicago; 807 Main St., Cincinnati; 2062 Euclid Ave., Cleveland; 1518 Broadway, Denver; 870 Woodward Ave., Detroit; 330½ North Illinois St., Indianapolis; 1613 Grand Ave., Kansas City; 748 S. Olive St., Los Angeles, Cal.; 1902 Broadway, New York; 302 N. Broad St., Philadelphia; 5940 Kirkwood Ave., Pittsburg; 14 N. Seventh St., Portland, Ore.; 36-38 Van Ness Ave., San Francisco; 611 E. Pike St., Seattle, Wash.; 3923 Olive St., St. Louis; 559 Yonge St., Toronto, Can.

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)
Perfection Spring Co., No. 1 Plant, 2414 Superior Ave., N. W.; No. 2 Plant, East 65th and Central Ave., Cleveland.

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TAIL LIGHT DETECTORS.

Harding Specialties Co., Inc., 755 Boylston St., Boston. (Boston.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 271 East South St., Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS, TIRE INFLATING.

Prest-O-Lite Co., 271 East South St., Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)
Shawver Co., Springfield, O. (Tools.)

TIRE CASES.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.
Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)
Gaulois Tire Corp., 1926 Broadway, New York. (Gaulois.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

TIRES—CUSHION.

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)
Polack Tyre & Rubber Co., 246 W. 59th St., New York City. (Polack.)
United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TROUBLE FINDERS.

Hopewell Brothers, Newton, Mass. (Vibrator.)
Branch: 1974 Broadway, New York.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

VALVE GRINDERS.

Wall, J. H., 290 Hope St., Bristol, R. I. (Ford.)

VALVE LIFTERS.

Winsor Mfg. Co., Providence, R. I.

VARNISHES, ETC.

Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VENTILATORS.

Wattles, C. B., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

Vanderpool Co., Springfield, O.
Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Co., 309 W. South St., Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.
Cutter, George A., Taunton, Mass.

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INSIST UPON Mosler SpitFire

RED TAG Plugs

PACKED IN THIS BOX & TAGGED FOR YOUR PROTECTION

We put a **RED GUARANTEE TAG** on every box containing a genuine Mosler **Spit Fire** platinum pointed plug This is not merely a selfish bid for your business. It is for your protection a means of identifying the best and most durable platinum pointed plug on the market. It distinguishes the genuine from the imitation — the superior from the inferior.

Look for the **RED TAG** and don't accept substitutes.

HAVE SAVED HUNDREDS OF THOUSANDS FROM ALL KINDS OF IGNITION TROUBLES

MADE TO FIT ANY ENGINE ANY THREAD

010 **A.R. MOSLER & Co., MT. VERNON, N.Y.** 8S

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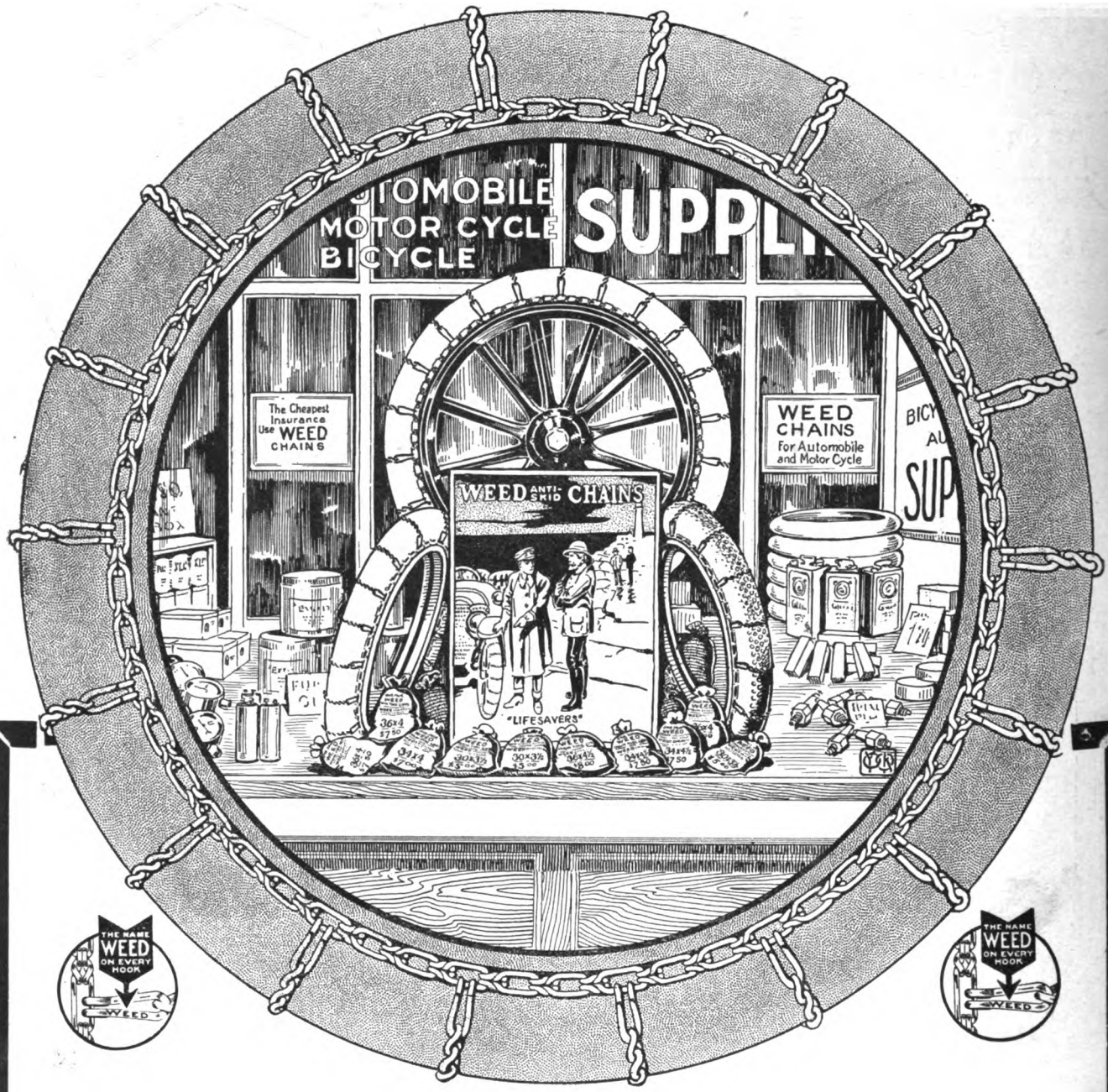

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Weed Anti-Skid Chains

IN YOUR WINDOW *NOW.*

If you stock assorted sizes of **Weed Chains,** we will furnish free a 30x3½ tire with the understanding that you are to equip it with **Weed Chains** and display it in your window.

In making out the requisition for your tire it is absolutely necessary that you mail us the following coupon properly filled out.

WEED CHAIN TIRE GRIP CO., 28 Moore Street, New York

Dear Sirs:—

We buy **Weed Chains** from .....

.....

and regularly carry assorted sizes in stock.

Please send us free one 30x3½ tire as advertised. We agree to equip it with **Weed Chains** for display in our window.

Name ..... Address .....

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$2 th YE

THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., FEBRUARY, 1914. NO

PANHARD OIL

Bulletin No. 3 For Dealers

Probably you are tired of hearing about oil. It is hard to realize any great difference in quality when nearly all oils look alike, even though prices vary widely. Besides, cheap oils often carbonize no more than the better grades.

BUT---If one of your customers finds he needs new bearings after a season's run, it's ten to one he will blame the car you sold him or the repair job you did for him, though it is usually really the fault of poor lubrication.

Panhard Oil was first produced in 1904. While other brands have come and gone, Panhard has held its own,---always uniform, always the best. It will help the cars you sell and the jobs you repair to make good and satisfy your customers. Isn't this your main object?

Write for details of our selling plan, and prices at the nearest distributing point.

GEORGE A. HAWS, - - 148 FRONT ST., NEW YORK

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

Garagemen, Repairmen, Dealers in Accessories and Supplies, Mechanics, Owners, Students and Operators

Should Have These Books. No Others Like Them. Practical, Useful and Right Up-To-Date. All Copies Indexed. All Plainly Written. A Life Time of Knowledge and at a Price Within the Reach of All

10 Automobile Mechanical Books 10

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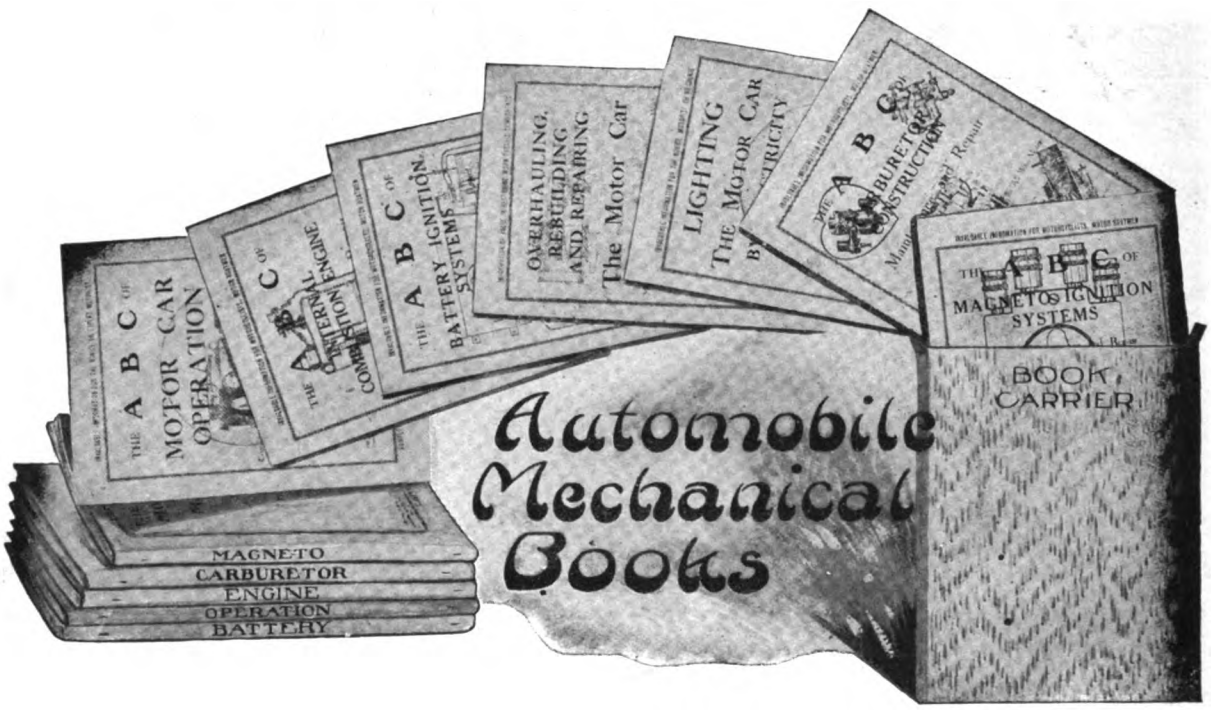

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(Working Plans and Specifications of All Standard Models—American and Foreign Motors Described)

The Automobile Journal Publishing Company

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PUBLISHER'S PAGE

Garage System Prize Competition

FIRST AWARD, $25 SECOND AWARD, $15 THIRD AWARD, $10

For several years the Accessory and Garage Journal has published descriptions and forms of accounting systems that might be practically used or adapted by those conducting garages and public service stations, with a purpose of showing the possibilities for economy through simplified record. These systems are in use, and were published to demonstrate results from practical application. For the purpose of stimulating the interest of the trade and those engaged in general garage business, the Accessory and Garage Journal purposes to continue the publication of such systems as are adaptable, and to obtain practical suggestions from its readers offers the above stated awards to those who will submit accounting methods which can be applied by those who desire to utilize them.

The value of such records as will result in economies can be understood by every man in business. The publication of methods that serve a useful purpose will undoubtedly benefit the industry materially, from the fact that the Accessory and Garage Journal reaches every garage owner and manager in America.

Those Submitting Systems in This Competition, Must Conform to the Following Conditions

Bookkeeping Record covering the storage and care of vehicles, Repair Department, Shop Stock Room, Sales of Accessories and Supplies, Vulcanizing Department (or provisions for having this work done), Battery Charging Department (if any). Descriptions or analysis should be concisely written and accompanied by pages of all books, all forms, tags, sales slips, and cards included in the system, or by forms ruled to conform to the records in use, each form being accompanied by an explanation of its use attached to it. If drawn forms are submitted, sizes should be given.

The decision of the Editor of the Accessory and Garage Journal as to the merits of the systems will be final. The systems that have merit, and yet not awarded prizes, will be retained for publication and paid for at the rate of $5 each. Those systems not receiving an award, and which are not desired, will be promptly returned to those submitting them.

All systems, to receive consideration, must be received on or before May 1, and the announcement of the awards will be made in the May issue of the Accessory and Garage Journal.

Address all correspondence to
EDITOR, ACCESSORY AND GARAGE JOURNAL,
Times Building, Pawtucket, R. I.

THE ANNUAL EQUIPMENT NUMBER
OF THE
Accessory and Garage Journal
Will Be Published April 25

To those in the industry engaged in buying and selling, this edition will have special value and importance. It will be a trade buyer's reference for the year to come. In this number will be included all that is standard and new in car equipment and supplies, what is new in garage and public service station machine and hand tools and labor saving utilities.

For advertisers this number will have all the advantages of a trade directory, and will be issued from a mailing list that reaches every interest in the industry and trade.

This will be a manufacturer's and tradesman's issue.

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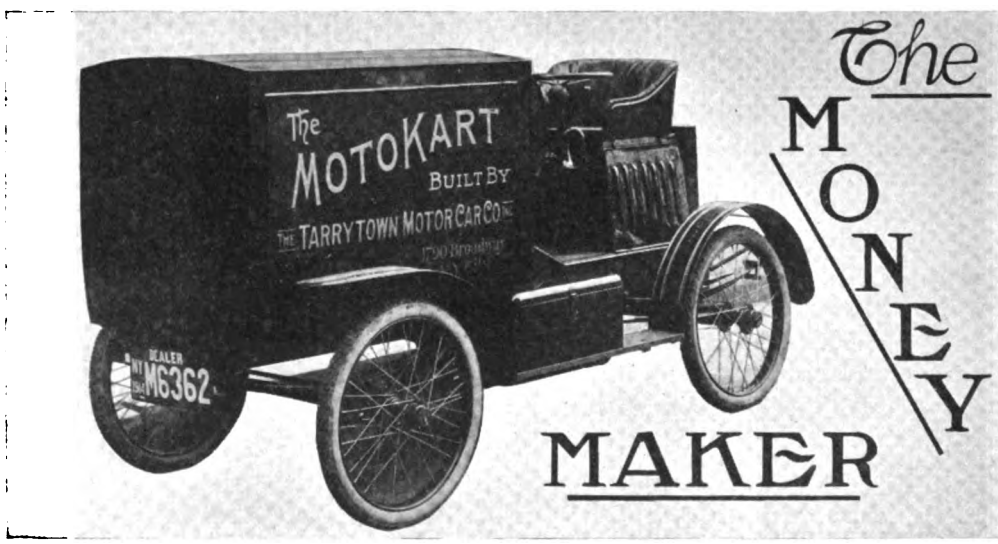
$365 THE MOTOKART $365

DEALERS' PROPOSITION



The worth while dealers, the dealers who "get there" in any line are specialists, selecting lines of merit which they know from previous experience will enjoy a widespread and constant demand; they secure the exclusive rights for certain territory, concentrating their time and efforts upon logical prospects and making money.

We have specialized upon light delivery problems. The MOTOKART is not a cycle car, it is not a miniature pleasure car converted to commercial usage, it is the only car of its type embodying a four-cycle water-cooled engine, built exclusively for commercial purposes. A chassis ideal for pleasure usage can never successfully be made the basis for a delivery car; the difference in requirements is too radical. We know nothing about pleasure cycle cars, but have devoted ourselves exclusively to the purpose of producing the best parcel delivery car at a universally acceptable price.

We solicit agency applications from live men who recognize the coming of the parcel car, its unlimited field, tremendous possibilities and wide adaptability.

We want sales representatives everywhere so that we can directly refer the daily increasing flood of consumer inquiries now being received in response to our general advertising campaign.

There are over 800,000 butchers, grocers, bakers, florists, cleaners and other similar tradesfolks, all with light merchandise to deliver, in the United States. How many are there in your town?

SEE SPECIFICATIONS ON FOLLOWING PAGE.

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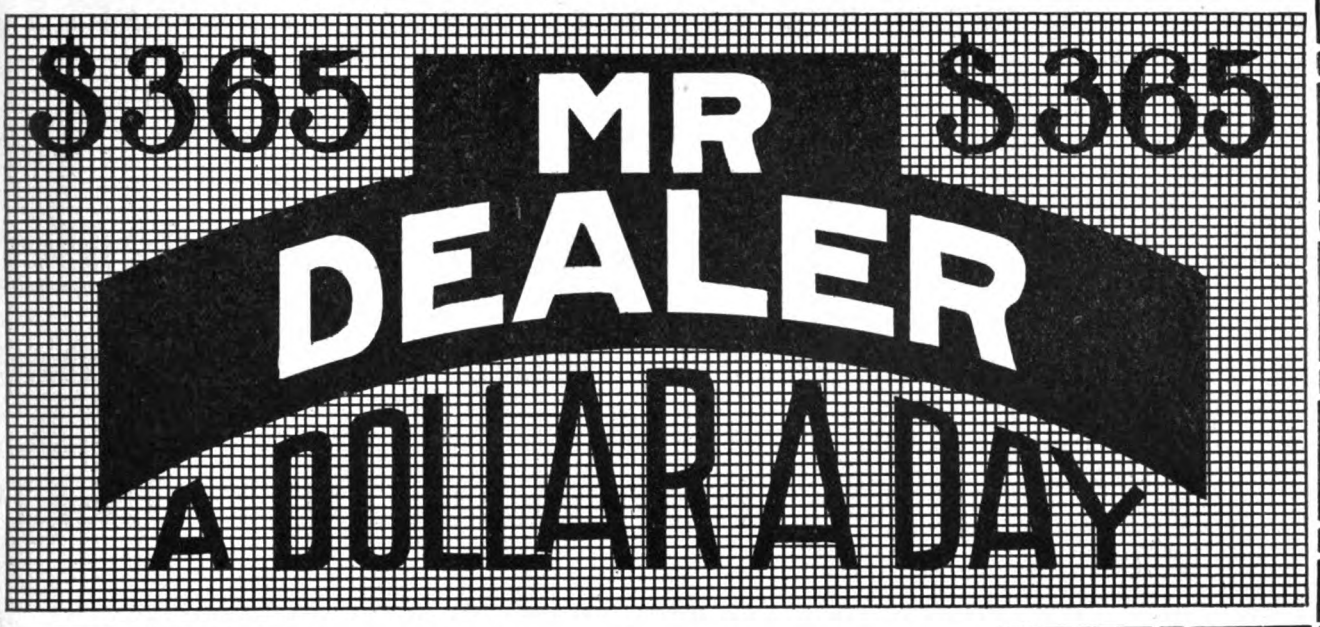

FOR A YEAR

SPECIFICATIONS

ENGINE—Two-cylinder, four-cycle, 3⅝x4. Water cooled. 10 to 12 H. P., developing a speed of 4 to 25 miles per hour upon the flat and capable of negotiating any reasonable grade.

WHEELBASE—69″, comparatively short, facilitating the handling of vehicle in crowded streets.

TREAD—44″, somewhat narrower than the regulation tread, but ample for good roads.

WHEELS—Wire construction, ball bearing, light, resilient and free running.

FRAME—Pressed steel channel, liberal section and gauge, insuring strength and rigidity.

TIRES—Motorcycle, non-skid type, 26x2½, size while ample assures low tire maintenance cost.

BODY—Steel panel construction, combining durability with light weight.

VEHICLE DIMENSIONS—Length over all 106″, height over all 56″, width over all 52″. The above dimensions render possible in the majority of cases the storage of car in store after business hours, eliminating garage expense.

BOX DIMENSIONS—Length 51″, height 32″, width 32″. This size is standard, but can be modified to suit special requirements at extra proportionate price.

FRICTION DRIVE—Giving a multiplicity of speeds and removing that bugaboo of commercial automobiles, transmission and drive gear troubles.

SPRINGS—Regular semi-elliptic, assuring ease of carriage and removing possibility of damage to even the most delicate mechandise.

CAPACITY—400 pounds.

COLOR—Maroon, special lettering or design at paint shop cost.

PRICE—Standard specifications as above $365.

Note the price, **$365.00**—a dollar a day for a year—and if you recognize that the MOTOKART has a field, the only unexploited spot in the automobile industry write us at once and we will submit agency proposition.

Tarrytown Motor Car Co., Inc.

1790 BROADWAY, NEW YORK FACTORY: TARRYTOWN, NEW YORK

Address All Correspondence to New York Office

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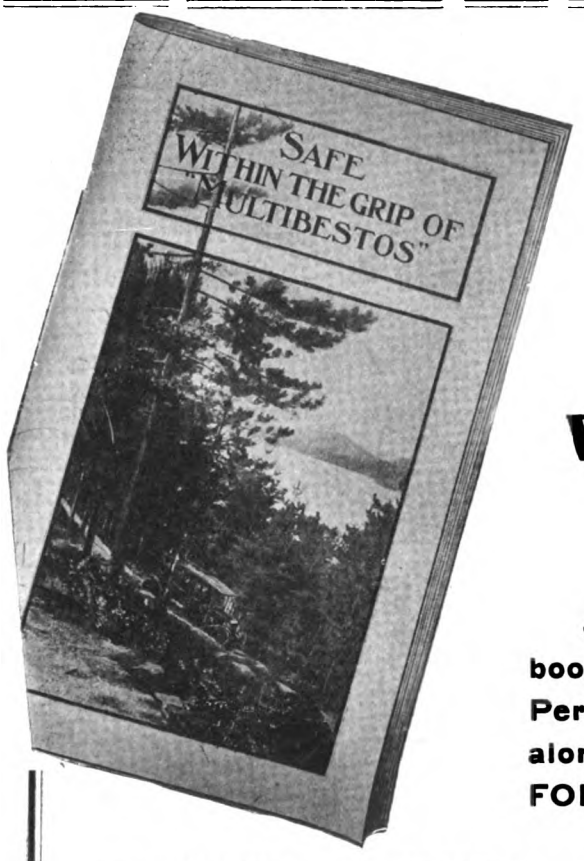

To Every Garageman, Dealer and Repairman

WE NEED YOUR HELP TO DO IT

Just tear off coupon and send it along--the booklet will be on your desk by return mail. Perhaps some friend would like one--send along his or their names also--BUT DON'T FORGET--DO IT NOW.

WHY THIS BOOKLET SHOULD BE IN YOUR HANDS

We take it you are interested in automobiles primarily TO MAKE MONEY. THIS BOOK SHOWS A WAY. We also assume that satisfied customers are what you seek. THIS BOOK HAS SOME VITAL FACTS. And, finally, the knowledge that IN YOUR HANDS probably LIES THE SAFETY OF YOUR CUSTOMERS may interest you.

If So You Need This Booklet--- Its Message Is For You

TEAR COUPON AND MAIL

Please send a copy of "Safe Within the Grip of Multibestos" to me at the following address

Standard Woven Fabric Co.
Framingham, Mass.

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Street and Number.....

Town and State.....

Signed.....

THE GRIP
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STANDARD WOVEN FABRIC COMPANY
FRAMINGHAM, MASS.

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., FEBRUARY, 1914. No. 10

SPARK PLUG MAKERS ORGANIZE IN CHICAGO.

Inter-State Motor Company to Operate Plant in Muncie---New Columbus Buggy Company Is Formed---Cleveland Men to Make Kerosene Cars---Other News.

SEVENTEEN of the 31 spark plug manufacturers licensed under the Canfield patent, held by the A. R. Mosler Company, Mount Vernon, N. Y., formed the Association of Spark Plug Manufacturers in Chicago during the progress of the automobile show in that city. The new association decided on a definite policy, which is represented by the following:

To foster the interests of those engaged in the trade or business of manufacturing spark plugs or parts thereof.

To procure uniformity and certainty in the customs and usages of such trade or business.

To reform abuses relative to such trade or business.

To secure freedom of its members from unjust or unlawful exactions.

To diffuse accurate and reliable information as to the standing of merchants and others dealing with the members, and as to the condition and development of the trade or business in which the members are engaged in the United States.

To advocate the enactment of just and equitable laws affecting the members.

To settle differences between the members.

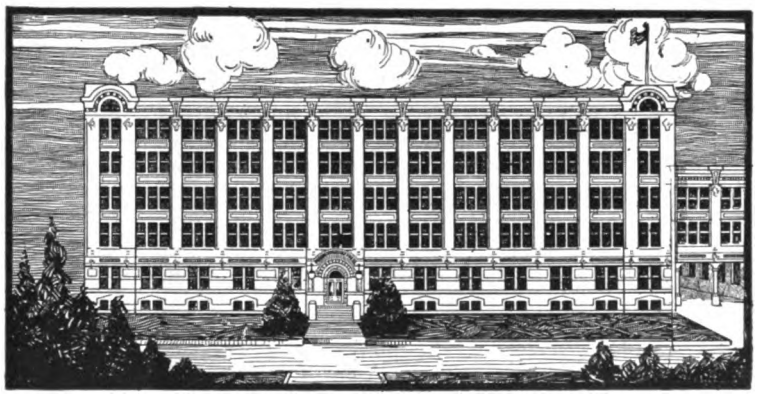
To promote a more enlarged and friendly intercourse among the members.

Only two officers appear to have been elected at this meeting, these being J. W. Fisher of the Silvex Company, New York City, as secretary, and A. R. Mosler as treasurer. A committee consisting of R. E. Mills, Rajah Company; R. A. Stranahan, Champion Spark Plug Company; Albert Champion, Champion Ignition Company; Emil Grossman, Emil Grossman Manufacturing Company, and E. M. Benford, Benford Manufacturing Company, was appointed to investigate and report on all matters relating to the spark plug industry and to bring to the notice of the association all infringers of the Canfield patent, those who are conducting their business on a false basis, or, in other words, misrepresenting their products, and those who are in any way harmful to either the industry or the consumer's welfare.

HANDSOME OFFICE BUILDING.

New Departure Manufacturing Company Soon to Celebrate Its Silver Anniversary.

Some 25 years ago, the New Departure Manufacturing Company, Bristol, Conn., maker of New Departure ball bearings, etc., started business in a small room containing less than 60 square feet. It is now about to celebrate its silver anniversary by opening the handsome new administration building shown in an accompanying illustration. The present plant occupies nearly 60 acres, with several millions of dollars invested in machinery, operated by 2000 skilled workmen, busy day and night a greater part of the time, showing a splendid growth in business.



New Administration Building of the New Departure Manufacturing Company, Bristol, Conn.

Beginning Jan. 1, changes were effected in the organization, which are expected to still further develop the possibilities of the plant. Albert F. Rockwell retains the position of president, but has been relieved of certain managerial duties. Secretary DeWitt Page has been appointed gen-

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eral manager and Treasurer Charles T. Treadway becomes chairman of the board of directors.

MRS. HACKETT LEFT PENNILESS.

Well Known Tire Sales Manager's Widow and Child in Extreme Need.

Circumstances resultant from the death of William J. B. Hackett, sales manager of the Cataract Tire & Rubber Company, at his home in Boston, Dec. 19, are such that the Accessory and Garage Journal is impelled to make them known, because there is no doubt that those who knew and appreciated Mr. Hackett in life will be disposed to manifest their friendship in a manner that will benefit his widow and a three-year-old daughter.

The Late William J. B. Hackett.

Mr. Hackett was an extremely likeable man, enterprising and industrious, and was but 28 years of age when he succumbed to an illness that had continued eight months. His sickness exhausted his resources and when he died Mrs. Hackett and the baby were left without even sufficient funds to defray the burial expense. Mrs. Hackett has no people to whom she can turn for assistance, and she is penniless and in great need of substantial aid.

Mr. Hackett was widely and favorably known, and there are undoubtedly those who will consider the circumstances in which his widow and child have been placed a reason for contributing liberally to her relief. Those who wish to assist her can send contributions to Paul M. Foss, attorney-at-law, 31 State street, Boston, Mass., or to Mrs. Gertrude C. Hackett, 19 Norway street, Boston.

INTER-STATE PLANT SOLD.

Purchase Price Was $215,000—New Company Formed to Take Over Production of Cars.

Frank C. Ball, a well known glass manufacturer, has purchased the factory and grounds of the Inter-State Automobile Company, Muncie, Ind., for $215,000. Charles A. Finnegan was bidding against Mr. Ball, with whom was associated Thomas F. Hart, principal owner and general manager of the Inter-State company. Mr. Finnegan some time ago bought the property of the E. R. Thomas Motor Company, Buffalo, N. Y. Mr. Finnegan submitted a sealed bid of $155,000 and Mr. Ball a sealed bid of $150,000. These were rejected and an auction conducted.

Mr. Ball announces the organization of the Inter-State Motor Company, which will operate the plant. The following are the directors: George A. Ball, E. B. Ball. Frank C. Ball, J. M. Maring, Theodore F. Rose, F. D. Rose and B. W. Twyman. The last named has been installed as general manager in charge of production and sales.

COMPLETES REORGANIZATION.

New Columbus Buggy Company Starts Business in Columbus, O., with Capital of $500,000.

The New Columbus Buggy Company, Columbus, O., was incorporated recently with capital of $500,000, all common stock. It is understood that this stock is held by about 85 per cent. of the creditors of the former concern, who have been operating the plant for the past eight months. It is further stated that the claims against the old company amounted to $464,000, which will be taken up, leaving a balance of $36,000 for organization expenses.

The officers of the new company are: President, George W. Lattimer; vice president, E. R. Sharp, secretary, D. N. Postlewaite; treasurer, George W. Bright. The board of directors is composed of the following: O. A. Miller, George W. Bright, George W. Lattimer, E. R. Sharp, F. O. Schoedinger, Robert H. Jeffery and T. J. Cavanaugh.

TO BUILD KEROSENE CARS.

Richard Automobile Manufacturing Company Is Organized in Cleveland, O., for That Purpose.

The Richard Automobile Manufacturing Company has been organized in Cleveland, O., for the purpose of producing a kerosene burning car, designed by Francois Richard, a French engineer, who has been in this country for a number of years. The company has capital of $250,000, and it is understood that F. M. Brady of the Cleveland Brick & Clay Company, and G. C. Gordon of the Park Drop Forging Company, are associated with Richard in the enterprise.

An experimental car is said to be under construction in New York City. The machine will utilize a carburetor and a motor designed especially to utilize the cheaper fuel, and Richard states that he expects that with a four-cylinder, four-cycle motor, having horsepower of 90, he will get 30 miles to the gallon of kerosene. The car will be produced in one chassis model, of 128-inch wheelbase, and with a seven-passenger touring body.

NEW FACTORY READY.

Teetor-Hartley Motor Company to Take Over Business Heretofore Conducted by Older Concern.

The Teetor-Hartley Motor Company, Hagerstown, Ind., has its new factory building completed and preparations are being made for its immediate occupancy. It is a three-story structure, 144 feet long by 66 feet wide. The management remains unchanged, the following officers having been re-elected at the first of the year: President, J. H. Teetor; vice president, H. W. Keagy; secretary, C. N. Teetor; treasurer, W. E. Immel.

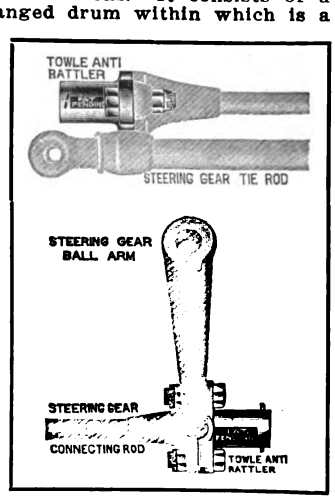
All business heretofore carried on by the Light Inspection Car Company will be taken over by the new organization, and an official announcement has been made that the offices and business of the company will continue to be conducted at Hagerstown. The concern produces the well known Teetor T head motor, invented by C. N. Teetor in 1898, and a line of inspection cars used on railroads.

TOWLE ANTI-RATTLER.

Towle Manufacturing Company Issues Warning to the Trade on Its Patented Ford Device.

The Towle Manufacturing Company, Portland, Me., maker of the Towle anti-rattler for the Ford steering gear, is issuing a warning to the trade not to manufacture, sell or handle any attachment infringing on the patent rights of its device. Letters patent No. 1,084,567 were granted Jan. 13.

The Towle anti-rattler is constructed both for the steering gear connecting rod end and the tierod, as shown in accompanying illustrations. It consists of a casting composed of a flanged drum within which is a socket held in place by a stiff spring. The tension of the spring is adjustable by means of a threaded plug screwed into the bottom end of the casting and held in place by a slot through which a cotter pin is passed. The flange of the casting is designed to permit of using the regular bolts and other section of the connecting rod and without fitting or alteration.



Towle Anti-Rattler for Ford Steering Gear.

The Towle anti-rattler, as the name implies, is designed to prevent rattling and to eliminate any lost motion due to wear of the original parts. The spring holds the ball snugly in place, and also serves as a shock absorber, preventing vibrations from being communicated to the hands of the driver. Wear is compensated for by adjusting the screw plug. The company calls attention to patents pending in England and Canada.

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ANNOUNCES FORD SYSTEM.

Gray & Davis Perfects Starting and Lighting System Which May Be Installed on Used Cars.

Gray & Davis, Inc., Boston, Mass., announces that it has designed and perfected a starting and lighting system for Ford cars, which is extremely simple and compact, and can be installed by any mechanic or garage in a few hours. It may be installed on any used Ford car, as well as new machines.

This new system was designed and developed by Alexander Churchward, chief engineer of the company, and it is expected its announcement will cause widespread interest.

EUCLID MOTOR CAR COMPANY.

Men Prominent in the Industry Organize Cyclecar Concern in New Haven, Conn.

E. S. Cameron, organizer of the Cameron Manufacturing Company, New Haven, Conn., has recently entered the cyclecar industry, together with Frank S. Corlew, formerly sales manager of the Cameron company; E. A. Scheu, general manager of the Invader Oil Company, and Charles F. Kellom, Philadelphia. These men have formed the Euclid Motor Car Company, for the purpose of manufacturing a cyclecar of that name, which will be sold for $395.

The little vehicle, which will have a 40-inch tread and 96-inch wheelbase, will be manufactured at the Cameron plant in West Haven. The company's general office will be located at 80 Broad street, New York City.

DISCOVERS NEW FUEL.

Will Require Special Carburetor, as It Is Too Heavy for Those Now in Use.

H. T. Cauller of Trenton, N. J., claims to have evolved a new automobile fuel, which he says can be produced with less expense than gasoline and possesses three times the power and efficiency of any fuel now used.

The new fuel is described as a jelly like substance, and the inventor says it will be necessary to construct a special carburetor, as it is too heavy to be carburetted successfully with the present instruments. He has filed an application for a patent.

MOTORCYCLE PLANT SOLD.

Bosch Magneto Company Buys Brockton Factory and Disposes of It Again.

The property of the American Motor Company, Brockton, Mass., which was sold under mortgagee's sale Jan. 20, was purchased by the Bosch Magneto Company, New York City, and immediately transferred to G. M. Green and William T. Marsh, the latter treasurer of the first named concern.

It is understood that steps are under way for a reorganization of the company. Mr. Marsh is authority for the statement that the name of the new concern will be the Sterling Manufacturing Company.

GENERAL NEWS OF THE MANUFACTURERS.

The Metropole Motors Corporation, New York City, is looking for a new factory site, as the company has outgrown its present quarters in Long Island City. The company employs between 250 and 400 skilled mechanics and makes a $1500 automobile.

Edsel Ford, Detroit, Mich., son of Henry Ford, president of the Ford Motor Company, will head the new company for the manufacture of a light weight, low priced electric automobile. This new car will be designed to take a battery made exclusively by the Edison Storage Battery Company. It is expected that these cars will be ready for the market some time during the next year. They will be manufactured in Detroit and will sell for about $600.

The General Motors Company, Pontiac, Mich., reports that the first four months of the current fiscal period, which began Aug. 1, 1913, produced gross sales of $25,307,941, against $20,252,389 for the same months of 1912. This is an increase of $5,055,552. During August, September, October and November the company sold 18,078 cars, which compares with 13,508 in the same period of 1912, an increase of 4570 cars.

The Driggs-Seabury Ordnance Corporation, Sharon, Penn., has been awarded a contract for the manufacture of 3000 Twombly light cars by the Twombly Car Corporation, New York City. The order will necessitate a large increase in the factory force.

Barthel & Daly, 42 Broadway, New York City, importer of Schafer ball bearings, announces that Charles E. Wade of the Charles E. Wade Sales Company, Detroit, has been appointed sole selling agent in the Middle West. Mr. Wade was formerly selling agent for the Rhineland Machine Works Company.

The Platt & Washburn Oil Company, New York City, is a strong factor in the automobile oil field. This company was incorporated in 1885 and has for some time been working to develop a superior line of motor lubricants refined from the best Pennsylvania crude oil. From practical research in shop and laboratory these oils are said to show splendid results in efficiency and economy in the lubrication of pleasure cars and especially motor trucks.

S. F. Bowser & Company, Fort Wayne, Ind., recently held its annual convention of the Pacemakers Club. A. Z. Polhamus, general manager of the company, announced that sales for 1913 had fallen just a trifle short of the $4,000,000 mark. Six thousand dollars were distributed among the salesmen for increasing the volume of business.

The Augusten Rotary Valve Engine Company, Marshfield, Wis., has received its letters patent on its new motor, and is now engaged in the manufacture of several demonstration models in various sizes, preparatory to beginning a large production for the market.

The Knoohook Rubber Company, St. Louis, Mo., has purchased the stock of the Holtzmann Auto Supply Company at Campton avenue.

The Superior Motor Specialty Company, Philadelphia, controls a double-contact ignition device to be used on automobiles. This concern is capitalized for $250,000 and the plant is located on Fourth street.

The Sandusky Auto Parts & Motor Truck Company, Sandusky, O., held a meeting recently and Edward S. Stevens, attorney, was appointed trustee. An effort will be made to bring about the sale of the plant. The validity of the $117,500 worth of bonds issued to creditors is to be tested. It is contended that they constitute avoidable preferences. The total liabilities, it is said, may exceed $300,000.

The Thomas B. Jeffery Company, Kenosha, Wis., recently sold 6000 cars in 60 days. The Jeffery Company ushered in the New Year with the factory working New Year's Day, to fill orders for immediate shipment. This company is the maker of the Jeffery four and six.

The Stafford Motor Car Company, Kansas City, Mo., will increase its output this year to about 125 cars, according to announcements made recently. Two models will be built, a five-passenger touring car and a two-passenger roadster, both with four-cylinder, valve-in-head motor rated at 40 horsepower. The new models will have a wheelbase of 115 inches and the cylinder bore will be 4.25 by 5.125.

The United Electric Light & Power Company, New York City, has established an electric bureau for the purpose of furthering the sale and use of electric vehicles in that city, and co-operating with companies distributing vehicles and their accessories, as well as with the garages and owners of vehicles. The bureau will collect transportation and operating data and make it a point to interest owners of horse-drawn vehicles in "doing it electrically." David E. Tobias is the manager.

The Power Gas Products Company, Minneapolis, Minn., has opened general offices in the Plymouth building. The company manufactures a liquid designed to increase the gasoline mileage for automobiles and motor boats.

The Stewart-Warner Speedometer Corporation, Chicago, has opened a large number of additional branches. The company has already opened 53 service stations and proposes to increase the number to 100.

The Winton Motor Carriage Company, Cleveland, O., has opened a branch house at Los Angeles, Cal.

The Cole Motor Car Company, Indianapolis, Ind., has established a distributing agency at Parkersburg, W. Va., and E. E. Wilson is manager.

The Stegeman Motor Truck Company, Minneapolis, Minn., has been reorganized.

The Century Electric Car Company, Detroit, will establish an agency at 410 Newbury street, Boston, Mass. The company proposes to open agencies in all of the principal cities throughout the United States.

The Poughkeepsie Utilities Corporation, Poughkeepsie, N. Y., has taken over the interests of the National Automobile Rim Company, and will start a new factory in that city in the spring. The present factory is located in Milwaukee, with a large storehouse in Cleveland.

The W. Dewees Wood Plant of the American Sheet Steel Company, McKeesport, Penn., has started 10 additional sheet mills on account of the present heavy demand for sheet iron for automobile body construction. These new plants employ about 600 men. It is said that the bulk of the present output of this plant is on orders from automobile manufacturers.

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The Invader Oil Company of New York City has concluded arrangements with the James Bailey Company, Portland, Me., which will handle its products for the state on an exclusive selling basis for 1914. Arrangements have also been made with George Collins, 284 Columbus avenue, Boston, Mass., to take care of all local business in that district.

The Detroit Steering & Windshield Company, Detroit, has changed its name to the Metalwood Manufacturing Company.

The Crown Motor Car Company, Louisville, Ky., manufacturer of the Crown cars, is planning to remove to Hamilton, O.

T. A. Hoover and E. G. Parsons, Fresno, Cal., have formed a partnership and the company will be known as the Hoover-Parsons Spring Company, to manufacture springs for automobiles.

The Pacific KisselKar Branch at San Francisco, Cal., held an automobile show recently. The occasion was the opening of the company's new service building, the largest on the Coast.

The Paige-Detroit Motor Car Company, Detroit, maker of Paige cars, has opened its new factory. The main building is 816 feet long and 60 feet wide, three stories in height, and there is a wing of 120x60 feet. One of the unique features of this new equipment is that occupancy is had without one dollar to be paid out of the profits of the cars built in the future.

The Portage Rubber Company, Barberton, O., has decided to build an addition to its plant at a cost of $25,000.

The White Company, Cleveland, O., maker of White pleasure cars and trucks, was recently the "victim" of a pleasant surprise party, when 84 merchants, bankers, lawyers, farmers and men in other walks of life from Des Moines and Oskaloosa, Ia., in charge of O. F. Shee, Central Iowa distributor for White products, arrived at the factory in two special railway cars. The officials of the company soon recovered from the surprise sufficiently to escort the party about the plant, show them everything there was to see, and get them to pose for a picture, which last named is reproduced herewith. In addition, they were entertained by a tour of the city in White omnibuses, and by a luncheon at the Cleveland Athletic Club.

Delegation of Iowa Men Which Recently Tendered the Officials of the White Company, Cleveland, O., a Novel Surprise Party.

The Hyatt Roller Bearing Company, Newark, Detroit and Chicago, is distributing a handsome folder, containing a reproduction of Sun Yat Sen, provincial president of China, and Vice President Drake of the Hupp Motor Car Company, Detroit, in a Hupmobile on the streets of Shanghai, China. Of course, attention is called to the fact that the car in question is fitted with Hyatt roller bearings.

The Maccarr Truck Company, Scranton, Penn., which moved recently from Allentown, where it had been operating since 1904, is having new and up-to-date machinery installed in its new manufacturing plant recently completed.

The McCormick Manufacturing Company, Dayton, O., and the Eastern Machine Screw Corporation, New Haven, Conn., have taken out spark plug licenses under the Canfield patent, held by A. R. Mosler & Co., Mount Vernon, N. Y.

The Titan Storage Battery Company, Baltimore, Md., has leased three buildings in Newark, N. J., which, when equipped, will be utilized for the manufacture of storage batteries. The buildings acquired were a part of those which at one time were occupied by the Titan Steel Works. Henry Keith of New York is president of the company.

The H. Lund Smith Company, Paterson, N. J., manufacturer of windshields, tops and other equipment, has purchased the plant of the Paterson Manufacturing Company of that city. The latter concern manufactures leather and fabric novelties, and the acquirement of the plant will permit the H. Lund Smith Company to produce slip covers, hood and tire covers and similar specialties.

The Electric Auto-Lite Company, Toledo, O., engaged in the manufacture of electric starting and lighting devices, has increased its capital stock from $100,000 to $225,000.

The U. S. Ball Bearing Company, Oak Park, Ill., announces that since Jan. 1 the product of the company is being marketed by its own sales force, with headquarters at the home office in Oak Park. The company had been represented by Denton & Flagg.

The Lyons-Atlas Company, Indianapolis, Ind., has issued the Lyons-Atlas News, which will be published as a regular house organ by the company. It is well edited and contains a number of articles of interest to dealers and owners of Lyons-King cars.

The Presto Inter-Rim Company, Boston, Mass., has made arrangements with the Cleveland Welding & Manufacturing Company, Cleveland, to manufacture the Presto rim. The Cleveland company was one of the pioneers in the rim field, and is equipped to build the Presto rims in large quantities. The Presto Inter-Rim Company has also closed with the American Distributing Company, Jackson, Mich., to handle the sale of the rims in the West.

The Timken Roller Bearing Company, Canton, O., has found it necessary to build a large addition to its plant. The new structure is one story high, with a ventilator above its centre for light and ventilation.

The Doehler Die Castings Company, Brooklyn, N. Y., recently made arrangements for a branch factory at Toledo, O., and already has found it expedient to double the capacity first provided for in the plans. Instead of only having 10,000 square feet, the new structure will provide 20,000 square feet, under the general management of H. B. Griffin, vice president of the company.

The Republic Rubber Company, Youngstown, O., maker of the well known Republic Staggard Tread tires, has recently placed upon the market a tire designed especially for the Ford cars.

The Wasatch Motor Manufacturing Company, Salt Lake City, Utah, will erect a factory on State street, for the manufacture of its trucks.

The Way Muffler Company, Philadelphia, Penn., is considering the establishment of its plant at Wilmington, Del. The company has taken the matter up with the Chamber of Commerce.

The Rex Ignition Manufacturing Company, New York City, has had its Rex spark plug licensed by A. R. Mosler & Co., Mount Vernon, N. Y., under the Canfield patent, No. 612,701.

The Anderson Electric Car Company, Detroit, Mich., manufacturer of Detroit electric cars, has been working overtime for two months and orders for December were 20 per cent. in advance of the same month in 1912.

The Goodyear Tire & Rubber Company, Akron, O., will add 2500 men to its payroll and thus restore its normal force to 8000.

The Henry B. Johnson Economizer Company, Philadelphia, has opened its new factory for the manufacture of a fuel saving device for automobiles. The plant is located at 1510 Brandywine street.

The Haney Rescue Apparatus Company, Tampa, Fla., is to establish factory buildings in that city to cost about $75,000, and to be equipped with $75,000 to $100,000 worth of machinery for manufacturing automobiles, trucks, fire apparatus and outside fire elevators.

The Willard Storage Battery Company, Cleveland, O., has moved its Detroit branch from 1191 Woodward avenue to 736-740 Woodward avenue.

The Schaefer Sales Corporation, Detroit, manufacturer and distributor of the Tell-Tale gasoline gauge and Kum-A-Long tire chain attaching device, has moved its office from the Elks Temple building to 605 Woodward avenue.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

PLEASURE CAR AGENCIES WANTED.

9865—Minnesota House is interested in securing a good line of pleasure cars ranging in price from $1550 to $2250.

9869—California Company would consider the agency for pleasure cars selling around $1100 or $1200.

9872—Colorado Firm is desirous of securing the agency for pleasure cars selling from $400 to $800.

9873—Tennessee Dealer is in the market for pleasure cars selling from $500 to $1000.

9876—Pennsylvania Company would represent makers of pleasure cars ranging in price from $1200 to $2700.

9879—Illinois House would like to secure the agency for pleasure cars selling around $750.

9883—Texas Concern wants the agency for pleasure cars selling from $1225 to $2750.

9886—Nebraska Dealer is in the market to secure the agency for a good line of pleasure cars ranging in price from $500 to $1200.

9888—Texas Company is desirous of obtaining the agency for pleasure cars selling from $1100 to $3000.

9890—Canadian Company wants an agency for a pleasure car selling at $500.

9892—Missouri Firm is interested in securing the agency for pleasure cars selling up to $1200.

9896—Pennsylvania Concern is anxious to secure the agency for pleasure cars selling from $495 to $4000.

9899—North Dakota House is in the market to represent pleasure cars ranging in price from $400 to $2000.

9903—Wisconsin Company would like to secure the agency for pleasure cars selling from $300 to $450.

9904—Nebraska Dealer is in the market for pleasure cars listing at $890 to $2225.

9907—Canadian House is desirous of securing a line of pleasure cars selling from $2000 to $4000.

9909—California Concern is in the market for pleasure cars selling below $800.

9913—Nebraska Company wants the agency for pleasure cars selling from $1000 to $4000.

9917—Wisconsin Firm would like to secure the agency for pleasure cars ranging in price from $500 to $2000.

9922—Nebraska Firm is interested in securing the agency for pleasure cars selling between $600 and $1200.

9927—Vermont Dealer wants to obtain the agency for pleasure cars selling from $500 to $1500.

9931—Michigan Firm is desirous of securing the agency for pleasure cars selling between $500 and $1000.

9932—Massachusetts Company is in the market to represent a first class line of automobiles at all prices.

9935—Iowa Dealer would like to secure the agency for pleasure cars selling from $800 to $1250.

9939—California Company is in the market to secure the agency for a good line of pleasure cars selling from $300 to $3000.

9942—New York House is interested in pleasure cars selling from $500 to $5000.

9947—Iowa Dealer would like to take the agency for pleasure cars selling from $800 to $1000.

9950—Ohio Dealer is interested in securing the agency for pleasure cars selling between $350 and $500.

9951—West Virginia Company would represent makers of pleasure cars selling from $500 to $1200.

9954—Nevada House is interested in securing the agency for pleasure cars selling between $350 and $5000.

9958—Illinois Dealer is desirous of securing the agency for cars listing in price from $500 to $1000.

COMMERCIAL CAR AGENCIES WANTED.

6054—California Dealer is interested in securing the agency for power wagons listing at $500 to $1500.

6058—Canadian Company wants the agency for commercial vehicles selling from $500 to $1500.

6059—Wisconsin Concern is open for an agency proposition involving power wagons selling from $750 to $1200.

6061—Massachusetts House would take the agency for power wagons in all grades and prices.

6064—Pennsylvania Firm would consider an agency proposition for power wagons selling from $1325 to $4000.

6067—Missouri House is in the market to represent commercial cars selling from $700 to $1200.

6069—Minnesota Dealer is interested in securing the agency for commercial vehicles listing at $700 to $2000.

6086—California Concern is in the market to represent commercial cars selling at $1800.

6073—Canadian Firm is open for an agency proposition involving power wagons selling from $500 up.

6077—Pennsylvania Company is interested in securing the agency for power wagons selling from $1650 up.

6079—Colorado Dealer would consider an agency proposition for power wagons selling from $600 to $1200.

6082—California Company would take the agency for power wagons selling from $1000 to $1650.

6083—Minneapolis House is interested in securing the agency for commercial vehicles selling between $1325 and $1575.

6088—California Dealer is interested in commercial vehicles selling from $300 to $4000.

6091—West Virginia Company is open for an agency proposition involving power wagons selling from $1400 to $2000.

CYCLECAR AGENCIES WANTED.

1729—Iowa Dealer is anxious to secure the agency for a good cyclecar, representing a company which can actually make deliveries and which can at this time or in within the next 60 days place demonstrators in the hands of the dealers. Deliveries is what is wanted, not promises. This firm can use 1000 cars up to Nov. 1, for the State of Iowa and other central western states.

1733—Iowa Dealer is seeking information relative to a line of cyclecars selling at about $375.

1738—California Dealer wants descriptive literature on all leading makes of cyclecars.

ACCESSORY AGENCIES WANTED.

7821—Canadian Dealer wants to hear from makers of up-to-date lines of pleasure car and motor truck equipment, accessories and supplies.

7823—Nebraska Company wants information relative to automobile equipment, accessories and supplies.

7826—Ohio Firm would like to secure a line of automobile accessories and supplies; also a good line of power wagon equipment.

7829—Canadian Company is in the market to represent a first class line of automobile equipment, accessories and supplies of a reliable make.

7833—California Dealer wants to hear from an up-to-date line of pleasure car accessories and supplies.

7836—California Company wants a good line of automobile and power wagon accessories, equipment and supplies.

7839—Illinois House wants catalogues covering automobile accessories and supplies.

7844—California Firm wants a first class line of automobile and power wagon equipment, accessories and supplies.

7851—Ohio Concern is interested in securing a line of automobile and power wagon accessories.

7856—Minnesota House is in the field for an up-to-date line of automobile accessories and supplies of a standard make.

7858—Ohio Firm wants a first class line of automobile equipment, accessories and supplies.

7861—California Company is interested in securing an up-to-date line of pleasure car equipment, accessories and supplies.

7864—Ohio Concern wants information relative to automobile accessories, equipment and supplies.

7869—Nevada Dealer is interested in securing pleasure car and motor truck accessories, equipment and supplies.

7870—Illinois House wants Ford self-starters.

7873—New York Company is in the field to represent an up-to-date line of automobile accessories and supplies.

7764—Pennsylvania Firm is interested in securing the agency for pleasure car equipment, accessories and supplies.

7866—West Virginia Company wants a first class line of automobile accessories and supplies. Is also interested in power wagon equipment.

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7767—California House is in the market to represent pleasure car accessories and supplies.
7771—Colorado Company is anxious to secure the agency for automobile equipment, supplies and accessories.
7770—Tennessee Dealer would handle a good line of pleasure car accessories and supplies.
7765—Pennsylvania Concern is in the market to represent a good line of automobile and power wagon equipment.
7768—Texas Dealer is interseted in automobile supplies.
7769—Texas Firm is interested in tires, tubes and automobile supplies of all kinds.
7772—Canadian House is in the market for automobile accessories and supplies of all kinds.
7775—Illinois Dealer is desirous of securing the agency for automobile accessories and supplies.
7778—Ohio House is looking for a good line of pleasure car accessories.
7781—Michigan Company is in the market for a first class line of automobile accessories and supplies.
7784—Missouri Dealer wants agency for pleasure car equipment, accessories and supplies.
7788—Kansas Concern is looking for a first class line of automobile equipment.

GARAGE EQUIPMENT WANTED.

8781—Massachusetts House wants information relative to garage equipment and supplies.
8785—North Dakota Company is interested in garage equipment and supplies.
8786—California Firm is in the market for garage equipment, including machinery and supplies.
8788—Vermont Company requests information relative to garage equipment and supplies.
8791—Nebraska Dealer seeks information regarding garage equipment and supplies.
8793—California Concern wants garage equipment and supplies.
8796—Canadian House is anxious to secure equipment for an up-to-date garage.
8799—Ohio Dealer wants garage equipment and supplies.
8802—Pennsylvania Company is in the market for garage equipment and supplies.
8806—Tennessee Dealer is in need of garage supplies of standard makes.
8810—California Company is desirous of securing garage equipment and supplies.
8816—Pennsylvania Dealer wants complete garage equipment.
8820—Michigan Firm is interested in garage equipment and supplies of a standard make.
8822—Texas Dealer is in the market for garage equipment.
8825—Illinois Concern seeks information relative to garage equipment and supplies.
8826—Missouri House is interested in garage equipment and supplies.
8829—New Jersey Firm is desirous of securing garage supplies.
8833—California Company wants garage equipment in general.
8837—Iowa Firm seeks information relative to standard garage equipment.
8840—Nebraska Company is anxious to secure garage supplies.
8845—Canadian Dealer requests information relative to garage equipment and supplies.
8847—California Dealer is interested in garage equipment and supplies.
8850—Ohio Dealer is in the market for garage equipment and supplies.
8855—California Company seeks information relative to garage equipment and supplies.
8859—Minnesota Dealer is in the market for garage supplies.
8862—Iowa Dealer requests information relative to garage equipment.
8865—Ohio Company seeks information relative to standard garage equipment.
8866—California Dealer wants garage equipment and supplies.
8867—West Virginia Firm wants garage supplies of reliable make.
8868—New York Company requests information relative to garage supplies.
8870—Illinois Dealer is in the market for garage supplies.
8874—Nevada Company is in the market for garage equipment and supplies.
8876—Iowa Dealer wants up-to-date garage equipment and supplies.

REPAIR SHOP AND MACHINE TOOLS.

6478—New Jersey Dealer wants information relative to machine tools, repair shop supplies and equipment.
6481—Nebraska House is desirous of securing up-to-date machine tools and repair shop supplies.
6485—Canadian Concern wants machine tools of all makes, also repair shop supplies and shop equipment.
6488—Massachusetts Company wants information relative to machine tools, repair shop supplies and shop equipment.
6491—North Dakota House is in the market for machine tools, repair shop supplies and shop equipment.
6493—California Company wants information relative to machine tools, repair shop supplies and shop equipment.
6497—Vermont Company wants machine tools, repair shop supplies and shop equipment.
6499—Texas Company will purchase machine tools, repair shop supplies and shop equipment.
6502—California House will purchase machine tools, repair shop supplies and shop equipment.
6506—Pennsylvania Dealer is in the market for repair shop equipment.
6509—Illinois Concern is desirous of securing up-to-date machine tools, repair shop supplies and shop equipment.
6513—Ohio Dealer wants information relative to machine tools.
6518—Missouri House wants information relative to repair shop supplies and shop equipment.
6522—Nebraska Concern wants machine tools, repair shop supplies and shop equipment.
6525—California Company seeks information relative to machine tools, repair shop supplies and shop equipment.
6529—Canadian House is interested in machinists' tools, bolts, ball bearings, taper pins, cotter pins and repair shop equipment of standard make.
6531—Ohio Company wants repair shop supplies and shop equipment.
6535—Colorado Dealer is desirous of securing up-to-date repair shop supplies and shop equipment.
6538—Tennessee House is in the market for a standard line of repair shop supplies.
6540—California Dealer is desirous of securing up-to-date repair shop supplies, machine tools and repair shop equipment.
6543—Ohio Company wants information relative to repair shop supplies.
6548—Iowa Concern will purchase repair shop supplies of standard makes.
6551—Minnesota Company is desirous of securing up-to-date repair shop supplies.
6558—Ohio Company will purchase repair shop supplies of an up-to-date make.
6560—California Firm is in the market for a standard line of repair shop supplies and repair shop equipment.
6564—Ohio Firm wants information relative to machine tools.
6568—New Jersey House would purchase repair shop supplies.
6572—New York Dealer is interested in securing machine tools, repair shop supplies and a welding outfit.
6575—Nevada Company is desirous of securing up-to-date machine tools, repair shop supplies and repair shop equipment.
6578—West Virginia Company wants information relative to repair shop supplies.
6580—Illinois House wants information relative to repair shop supplies and shop equipment.
6583—Iowa Firm will purchase repair shop supplies, machine tools and repair shop equipment.

AGENCY TERRITORY OPEN.

2152—Canadian Firm has territory open in middle and western Canada.
2137—New York House wants representatives in the states of New York, Colorado, Kansas, Nebraska, Ohio, Indiana and Illinois.
2140—Canadian House has territory open in western Canada.
2145—California Dealer has territory open in the East.
2148—Colorado Firm has territory open in and around Denver.
2151—New York Concern has territory open all over the United States, Canada, Porto Rico, Cuba and Europe.
2158—Canadian Company wants representatives in Winnipeg, Calgary, Regina, Saskatoon, Edmonton, Vancouver, Victoria and Montreal.
2163—Ohio Company has territory open in that state for small pleasure cars.
2165—Nevada Firm has territory open for small cars or cyclecars.
2169—Utah Company wants representatives in Denver, Col.; Butte, Mont.; Boise, Idaho; Portland, Ore.; Seattle, Wash.; San Francisco, Cal., and also in the State of Nevada.

SPECIAL OPPORTUNITIES.

1816—Pennsylvania Company is interested in the purchase of a 1.5-ton truck to transport men to and from an out-of-town contract.

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CONTEMPLATED BUILDING OPERATIONS.

CONTRACTS AWARDED.

F. D. Pierce, Walnut street, Worcester, Mass.; one-story garage, 45x58, for S. M. Hubley, 73 Central street.

E. J. Cross & Co., 82 Foster street, Worcester, Mass.; two-story garage, 45x60, for the Worcester Baking Company, Mason street.

Patterson & Shaw, 30 East Reliance street, Pittsburg, Penn.; one-story garage,$6000, for W. A. Harbison, Farmers' Bank building.

Otto Peterson, Sabina, Kan.; one-story garage, 100x120, $13,000, for G. S. Hudkins.

A. J. Farinacci, Cleveland, O.; one-story brick garage, 40x120, $6000, for J. C. Schiffer, 1710 Detroit avenue.

D. H. Doyle, 5436 Kenmore avenue, Chicago, Ill.; one-story garage, 25x150, $12,000, for Edward Ropp.

O. E. Desmond, 429 Plymouth court, Chicago, Ill.; one-story garage, $2500, for Robert Watt.

Charles W. Clonser, 1367 Locust street, Reading, Penn.; two-story garage, 14x15, for Nathan Heydt, 1033 Amity street.

M. N. Pierson, 210 Parkside drive, Peoria, Ill.; two-story garage, 60x140, $8000, for H. Moody, 2008 Main street.

Edward Goldbach, Spring street, Pittsburg, Penn.; two-story garage, 75x70, $10,000, for Phillip Erney, Carrick, Penn.

J. W. Dubkelberger, 8312 Seminole avenue, Philadelphia, Penn.; two-story stone garage, 37x27, $3400, for Frank Clemens.

T. V. Jackson & Son, Fullerton, Neb.; one-story garage, 50x120, $7000, for Kraner & Abel.

Wise & Apson, 36 Pearl street, Hartford, Conn.; two-story garage, 35x70, for Dr. G. C. Williams, 990 Prospect avenue.

William Gruhler Company, Philadelphia, Penn.; one-story brick garage, 24x29.8, for Mrs. Benjamin Miller, 137 West School street.

Forbes L. McKenzie, 7 Water street, Boston, Mass.; one-story garage, $8500, for William W. Partridge and Frank P. Anthony, Everett, Mass.

Fournier & Mentro, 26 Fallman street, Oswego, N. Y.; private garage, for Miss L. E. Phoenix, West Spencer street.

M. Fenstad, 1272 Laurel street, St. Paul, Minn.; one-story garage, 81x150, $12,000, for W. A. Tilden, 276 Sherburne avenue.

N. E. Keller, 506 Jackson street, Topeka, Kan.; one-story garage, 38x85, $5000, for A. Marburg, 931 Harrison street.

J. A. Vickery & Son, 46 Cornhill street, Boston, Mass.; one-story garage, 27x35, $3500, at Waban, Mass., for D. M. Hill, 60 Federal street, Boston.

E. W. Carlson, 185 South Main street, New Britain, Conn.; one-story garage, 25x25, for O. J. Cooley, Stafford road.

R. C. Ballinger & Co., Philadelphia, Penn.; two-story frame garage, for W. T. Harris, Villanova, Penn.

Charles M. Heh, 1345 Park avenue, Pittsburg, Penn.; one-story garage, $1500, for M. A. Hanlon, 6350 Frankstown avenue.

E. T. Long & Co., 28 North State street, Wilkesbarre, Penn.; garage, 25x58, for F. M. Kirby, South River street.

Sheboygan Auto & Supply Company, 816 Niagara avenue, Sheboygan, Wis.; one-story garage, 50x60, $3000.

A. A. Bechtel, Easton, Penn.; two-story garage, 55x80, $4000, for Easton Auto Company.

E. A. Peabody & Son, Bay State building, Lawrence, Mass.; one-story garage, 57x27, $3500, for the Uswoco Mill Company.

Harpen & Buttendorf, 143 North boulevard, Oak Park, Ill.; two-story garage, 24x38, for W. S. Herrick.

N. Dashiells & Sons, Baltimore, Md.; one-story garage, $2000, for E. Edward May.

W. Fatzler, 118 Market street, Newark, N. J.; two-story garage, 68x59, for Mrs. Gussie Devine, 14 Park place.

PLANS AND SPECIFICATIONS.

M. H. Rourke, 16 Chestnut street, Allston, Mass.; one-story garage, 20x25, $2500, at Boston, Mass.

E. T. Bates, 1450 Irving street, N. W., Washington, D. C.; five one-story garages, 18x38.

A. W. Kershner, 210 West Walnut street, Shamokin, Penn.; two-story garage, 50x90.

Burt Townsend, Philadelphia, Penn.; brick and frame residence and garage, 46x32, $8000, to be erected near Newark, Penn.

Seward G. Dobbins, Atlantic City, N. J.; two-story brick concrete and stele garage, 50x150, at 3807 Atlantic avenue.

George Boyd, 1822 Erie avenue, Philadelphia, Penn.; garage, $4000, to be erected at Mount Pleasant avenue.

Edward T. Parker, Philadelphia, Penn.; three-story and basement brick and hollow tile residence and garage to be erected at Atlantic City.

Henry Baton, Philadelphia, Penn.; one-story garage at 13th and Rockland streets.

A. C. Wolf, 827 Rose building, Washington, D. C.; two-story garage, $15,000.

J. F. Breslin, 286 Quail street, Albany, N. Y.; two-story garage and dwelling, 60x60, $7000.

A. F. Beekman, 254 Main street, New Rochelle, N. Y.; two-story garage and grocery warehouse, 125x100, $20,000.

George Edmonson, 232 Thrush street, Peoria, Ill.; one-story garage, 50x112, $10,000.

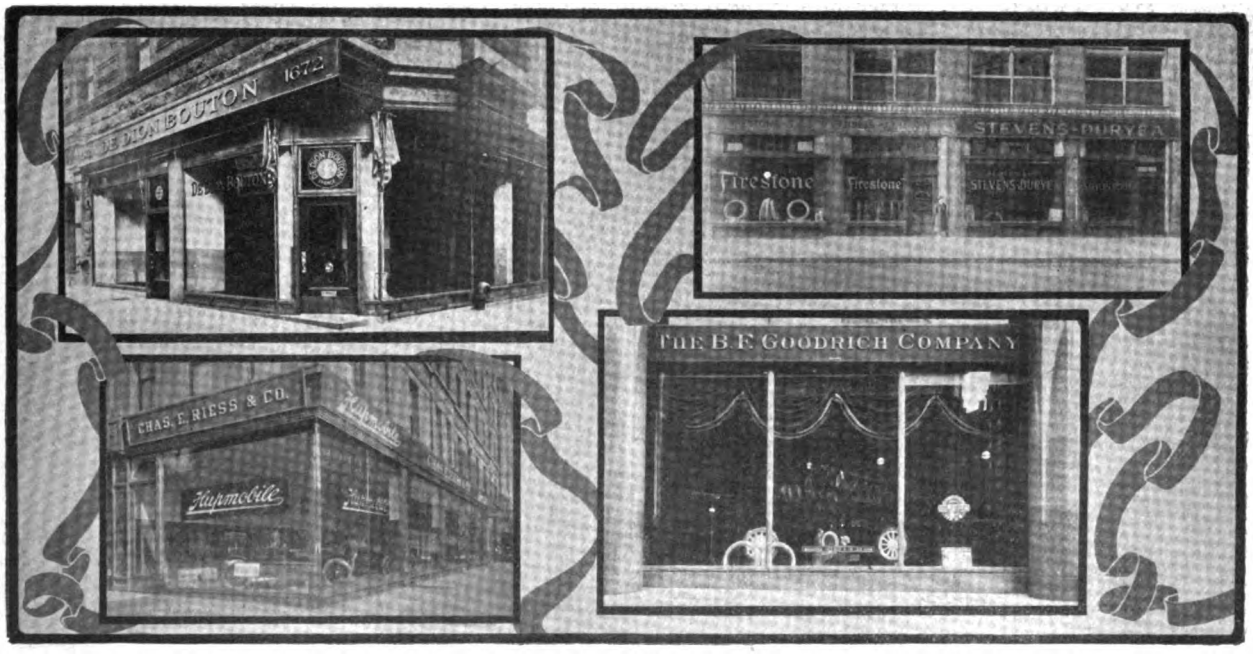
Harry Gill, 2515 Germantown avenue, Philadelphia, Penn.; one-story brick garage, 58x85, to be erected at Erie, Penn.

James O'Connell, 127 Boerum place, Brooklyn, N. Y.; one-story garage, 25x59, $5000.

William McFerren, Hooperston, Ill.; salesroom, 24x80, $15,000.

Mrs. J. Pompa, Larimer avenue, Pittsburg, Penn.; two-story garage and apartment building, $10,000.

Frederick Graupner, Wagner and Tabor streets, Phil-



Some New York Agencies: Upper Row, E. Lascaris, De Dion-Bouton; Firestone Tire & Rubber Company, Firestone Tires, and A. G. Spaulding & Bros., Stevens-Duryea; Lower Row, Chas. E. Riess & Co., Hupmobile, and B. F. Goodrich Company, Goodrich Tires.

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adelphia, Penn.; 1.5-story brick garage, 17x20, at 5215 North Broad street.

L. N. Levy, 128 Broadway, New York City; two-story garage, 25x100, $8000.

James Carmadela, Bedford avenue, Brooklyn, N. Y.; two-story garage with side exit, 88x158, $7000.

Eastwick Motor Car Company, 120 West North avenue, Baltimore, Md.; one-story garage, $10,000.

Scott Auto Company, Norfolk, Neb.; one and two-story garage, 22x60.

Pearsons Auto Company, Sevea City, Ia.; one-story garage, 44x60, $5000.

John C. Morgan, Prentiss street, Watertown, Mass.; one-story garage, 48x125, $8000.

Corn Hill Realty Company, Utica, N. Y.; two-story garage, 110x122, $10,000.

Dr. Henry C. Diamond, Rydal, Penn.; two-story garage, $5000.

Mrs. M. Borse, De Kalb street, Norristown, Penn.; one-story garage, 30x20, $1500.

Willard M. Douglass, 75 State street, Albany, N. Y.; two-story garage and residence, 29x62, $16,000.

Edward Vanderwest, 2 Montgomery building, Muskegon, Mich.; one-story garage and showroom, 66x140, on Western avenue.

W. J. Dibble, 805 Penn avenue, Wilkinsburg, Penn.; two-story garage, $15,000.

George Stickle, Union street, Newark, N. J.; one-story garage, 35x47, $2000.

Dr. H. V. Mynderse, 225 State street, Schenectady, N. Y.; one-story garage, 46x100, $5000.

Harry G. McMurtrie, 1012 Walnut street, Philadelphia, Penn.; one-story garage, $3000, at Warberth, Penn.

NEW PUBLIC GARAGES.

William Fennel, St. Louis, Mo., has obtained a permit to establish a garage and repair shop at 5014-16 Florissant avenue.

M. Schlessinger, New York City, has taken a 21 years' lease of the three-story and basement garage to be erected at 52-62 North Moore street.

Henry Spafard, Hebron, Conn., is having a concrete garage built. It will have all the latest improvements.

M. L. Fiendel, Lowell, Mass., is erecting a first class garage on Gorham street. There will be accommodation for 300 cars.

Jesse Phillips, Davenport, Ia., is erecting a garage, 30 by 72 feet, on North Marion avenue. The new building will be fitted with modern machinery. A repair shop will also be conducted.

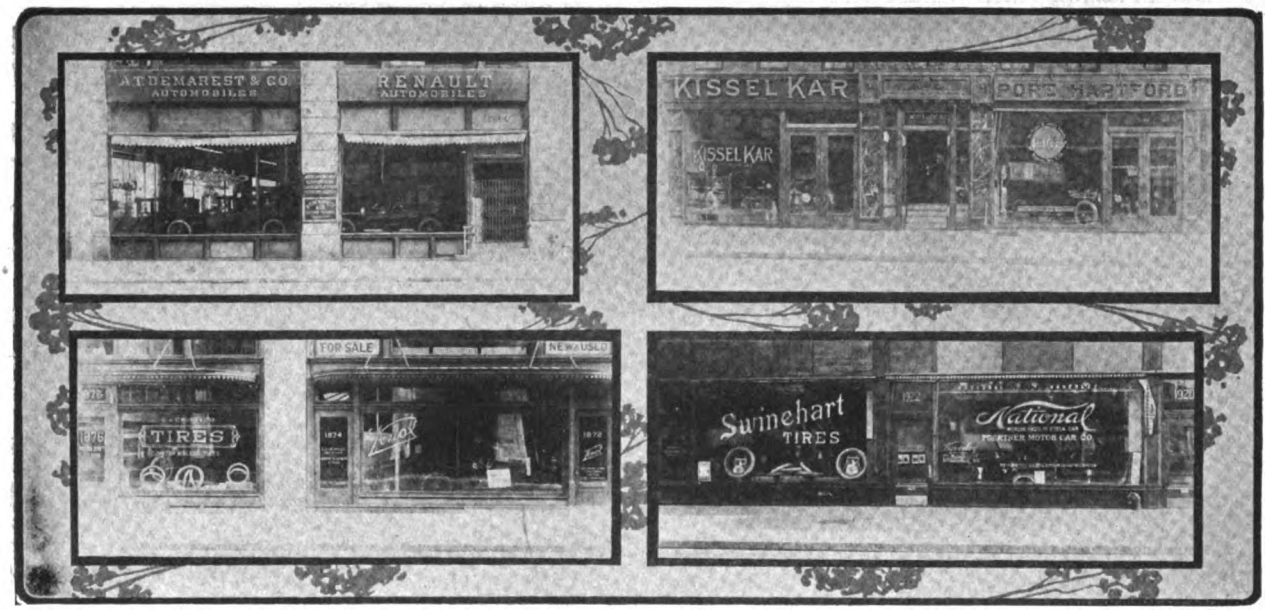
H. F. Bierkamp, Durant, Ia., contemplates erecting a garage in the early spring. The structure will be two stories high and built of cement.

C. H. Wakeman, Lestershire, N. Y., is building an up-to-date garage in the rear of his machine shop on Broad street. The building is of fireproof construction and will possess all the modernized appointments of a first class garage.

William J. Payne, Pittsburg, Penn., is building a three-story brick garage at Allan avenue and Industry street. The building will be 50 by 100 feet and will cost about $10,000.

Southern Motor Car Company, Florence, S. C., is having an up-to-date garage built.

G. Caplain, Pittsburg, Penn., has been granted a permit to erect a two-story brick garage at Townsend and Clark streets, to cost $15,000.



Car and Accessory Houses in New York: Upper Row, A. T. Demarest & Co., Renault, Mercedes, Etc.; Kissel Motor Car Company, KisselKar, and Stratton Motor Car Company, Pope-Hartford and Jeffery; Lower Row, C. J. Cross & Co., Dayton Airless Tires; Knox Automobile Company, Knox; Swinehart Tire & Rubber Company of New York, Swinehart Tires, and Poertner Motor Car Company, National, and Waverley Electric.

Martinsville Automobile Company, Martinsville, Ind.; one-story garage, 88x132.

Mrs. John Erhart, 672 Bellevue avenue, Detroit, Mich.; garage, 22x22.

Jacob Mewrer, 266 Lincoln place, Brooklyn, N. Y.; two-story garage, 30x50, $8000, at Belle Terre, L. I., N. Y.

Ernest Forst, 744 Albany street, Schenectady, N. Y.; two-story garage, 21x60, $4000.

G. E. Abel, 258 West Marion street, Marion, O., two-story garage, 47x115.

Dr. Longras Golden, 69 Chestnut street, Boston, Mass.; one-story garage, 22x22, $3000, at Roxbury, Mass.

Pabst Brewing Company, Milwaukee, Wis.; one-story garage, $10,000, at Chicago.

Hugh P. Skelly, 660 First avenue, New York City; three-story garage, 25x98, $9000.

Seward G. Dobbins, Atlantic City, N. J.; three-story garage, 50x105, $40,000.

W. S. Chadavoyne, Warren place, Newark, N. J.; one-story garage, 30x73, $4000.

E. G. Hirdman, Needham, Mass.; one-story garage, 20x24, $10,000.

De Pue & Metcalf, Moville, Ia.; one-story garage, 50x100, $6000.

William F. Baker, Milford, Mass.; one-story garage, 40x80.

Cross Coal Company, Lawrence, Mass.; one-story garage, 40x45.

Timothy J. O'Brien, 121 Howard street, Lawrence, Mass., one-story garage, 50x100, $10,000.

Davis & Upton, Fayette, Ia., is having plans prepared for the construction of an up-to-date garage.

E. B. Steece, Hartley, Ia., has started the erection of a new garage, which will be modern throughout. The new building will be 24 by 116 feet.

The Schofield Auto Company, Provo, Utah, is having a first class garage of brick and steel erected on First North street.

D. F. Gruber, Mount Pleasant, Penn., is building a modern garage and will equip it with the latest machinery and equipment.

Wiker & Wallis, Bel Air, Md., is erecting a fireproof garage on the Hartford pike. It will be modern throughout.

The Elmira Motor Car Company, Elmira, N. Y., is having a new and modern garage built at 110 East Church street.

William Smith & Son, Freeport, N. Y., is having an up-to-date garage built on North Main street and will enlarge its automobile business.

Frank L. Dickinson, Inglewood, Cal., has purchased land on Los Angeles avenue and will build a new garage.

The Central Motors Company, Owensboro, Ky., will build a garage which will be modern throughout.

Edwin J. Thomas, Youngstown, O., is having a large and modern garage built on Elm street.

Ingraham Bros., Anaheim, Cal., is having an up-to-date garage built on North Los Angeles street at a cost

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of $6500. It will have the latest machinery installed.

The Newhouse Realty Company, Salt Lake City, Utah, is having a large and modern garage built, at a cost of $25,000. The contract was awarded to the Campbell Building Company.

M. Seaton, Chicago, Ill., will build a new three-story brick garage at 1707 Estes avenue, to cost $75,000. It will be modern throughout.

John W. Bancroft, Cedar Falls, Ia., has purchased the property on West Second street and will build a new and up-to-date garage on the site.

The Doepke Company, Cincinnati, O., will build a new and up-to-date garage at 3425 Burnet avenue, at a cost of $10,000.

Benjamin Smith and Ernest Woodham, Fairfield, Me., have leased property and have started work on a new garage and repair shop.

F. A. Storer, Cambridge, Mass., is contemplating the erection of a new public garage at 35 West street.

Dana Sanborn, Lynn, Mass., has started plans for a new public garage to be erected at 13 Newhall street, to cost $12,000.

Adam Bunker, South Bethlehem, Penn., will receive bids for the erection of a new modern garage of brick, 60 by 74 feet, at 60 Birch street.

The Kennerly Garage, Mesa, Ariz., is having a new and modern building erected.

The Puente Garage, Puente, Cal., is contemplating the erection of a new building.

A. H. Boyce, Seneca Falls, N. Y., has purchased property valued at $4000, on which he will erect a large garage.

George Kienard, Reading, Penn., is erecting a new garage and repair shop.

The Thomas Bros. Company, Youngstown, O., is having a large modern garage erected on the North side. The company will do a general automobile business, and a vulcanizing plant, machine shop, etc., are included in the plans.

The Co-Operative Motors Company, Long Beach, Cal., is having an up-to-date garage erected on American avenue. The cost for the garage alone will be $45,000. The most modern machinery and equipment will be installed.

Jacob Brack, San Francisco, Cal., is building a first class garage on East 18th street. The building will cost $15,000.

American Garage Company, Washington, D. C., is having an up-to-date garage built on M street. The building will be modern in every detail, including an electric elevator.

Howard McClory, Cincinnati, O., is preparing plans for the erection of a public garage on Linn street.

Beekman Garage, Corning, N. Y., is building an up-to-date modern garage on Water street.

W. W. Partridge and Frank P. Anthony, Everett, Mass., are erecting a concrete and stone garage on Corey street. It will be modern throughout and will cost $10,000.

Penn Garage Company, Nanticoke, Penn., is building an up-to-date garage on Locust street.

Graham & Seale, Lebanon, Tenn., is building a garage and repair shop and will install the latest type of equipment and machinery.

Thompson & Harriman, Milwaukee, Wis., is erecting an up-to-date garage on Farwell avenue. It is estimated it will cost $75,000.

Tunxis Garage Company, Unionville, Conn., is having a modern garage built on Farmington avenue.

A. C. Velton & Son, Tomah, Wis., is having a garage and machine shop built. It will be modern in every respect.

Bierschwale & Company, Comfort, Tex., will build a garage which will be modern throughout.

The Schas Auto Company, Fargo, N. D., is having a new modern brick garage erected. It will be located on N. P. avenue.

Walter M. Rose, Los Angeles, Cal., is having a new three-story brick garage built at a cost of $8000.

The Jordon Automobile Company, Willimantic, Conn., is having a new modern garage building erected.

ADDITIONS AND IMPROVEMENTS.

The A. M. Meister & Sons Company, Sacramento, Cal., is to enlarge its repair shop facilities. Overland cars are handled by this company.

The Auto Transfer Company, Milwaukee, Wis., will enlarge its present quarters. A new repair shop with modern machinery will be installed.

The Allen Motor Car Company, Easton, Penn., is planning a new and larger salesroom and garage.

The Hotel Brown Garage Company, Middletown, N. Y., is erecting a large addition to its garage on Henry street.

The Jamestown Garage Company, Oswego, N. Y., has had plans prepared by Joseph Mason for a new four-story addition to its present garage at Cherry and Second streets.

Van Lennep Bros., Auburn, Cal., is to have its garage enlarged and general improvements made.

The Central Iowa Company, Nevada, Ia., is to have a large addition to its modern garage on Lincoln highway.

Bender & Kippley, Dixon, Cal., is having its garage on A street remodelled and enlarged.

J. Newton Smith, Waterloo, Ia., is remodelling and extending his salesroom at the corner of East Ninth and Sycamore streets, where he will show the new line of Jeffery cars in addition to the Winton line, for which he also has the agency.

The Hansen Auto Company, Dixon, Ia., is having improvements made to the garage in preparation of an expansion in business.

Charles Johnson, Floyd, Ia., is building a 40-foot addition to his modern garage.

The Rouzer Garage, Salisbury, N. C., is having an addition built, which will facilitate work in the repair department and make it one of the leading garages in the state.

Nicholas Miller & Son, Dodgeville, Wis., is completing work on a garage building, which will include a repair shop and salesroom.

Noecker & Brehmer, Circleville, O., is enlarging and remodelling its garage on West Main street and is installing a vulcanizing and tire repair shop. It is agent for Ford cars, Indian motorcycles and a general line of accessories.

The Courtenay Motor Car Company, Courtenay, N. D., is having extensive improvements made to its garage. A machine shop is being installed.

The Monroe Garage Company, Monroe, N. Y., is having extensive improvements made to its garage on Lake street.

R. M. Collins, Summit, N. J., is having an addition made to his garage on Bank street.

The Summit Garage, Summit, N. J., is having extensive improvements made to its garage on Union place.

The Shackelford Garage, Newport News, Va., is undergoing a complete renovation. Plans call for an addition of two stories and the installation of an elevator. The firm is located at 329 25th street.

The Standard Motor Car Company, New Bedford, Mass., is having its building remodelled.

The Overland Company's Garage, Lincoln, Neb., is being enlarged and remodelled.

The Beverly Garage, Staunton, Va., is having extensive improvements made to its building.

The Park City Auto Repair Company, Bridgeport, Conn., is planning to enlarge its garage.

The Placer Machine & Auto Company, Auburn, Cal., will have a large addition erected to its garage.

The Kaiser Motor Car Company, Columbus, O., has contracted for the erection of a large extension to its present garage and salesroom at 30 West Main street. The addition will give the company an area of 10,000 square feet.

MISCELLANEOUS NEW GARAGES.

Deward Robbins, Atlantic City, N. J., is having plans prepared for the erection of a large modern garage, and bids will be asked in the near future.

The Crompton Company, Arctic, R. I., is building a one-story garage which will be modern throughout.

M. M. Burke, Washington, D. C., is erecting a new brick garage on North Main street.

Mrs. Mary L. Blinn, Toledo, O., is having plans prepared for the erection of a one-story brick garage on Bancroft street.

W. M. Bigelow, Salem, Mass., has secured permission to erect a garage of the latest type.

Frank and Herbert Cottrell, Browntown, N. J., are erecting a modern fireproof garage.

Pitney C. Haven, Lakewood, N. J., is having a modern fireproof garage built on Fourth street.

G. S. Wicks, Baltimore, Md., is building an up-to-date garage on West North avenue.

Edwin J. Thomas, Youngstown, O., is having a garage built on Elm street, which will be up-to-date in every respect.

John Chapek, San Luis Obispo, Cal., is erecting a modern garage.

Fisher Leonard, Canton, Ill., is having a first class garage built on South Main street.

William Ives, Salem, Mass., is erecting a large and modern garage and will install all the latest type of machinery and equipment.

Office Toilet Supply Company, Buffalo, N. Y., is to build a garage and laundry plant, costing $50,000.

Art Wilkinson, Rewey, Wis., is building a modern garage.

Goold & Di Vall, Montfort, Wis., is contemplating the erection of a first class garage costing $7000.

Harry Bardo and A. T. Smith, Atalissa, Ia., are building a modern garage on the River-to-River road.

Davidson & Wilkin, Pleasant Hill, Mo., is planning to build an up-to-date garage at the corner of Paul street and Lake avenue, at a cost of $6000.

C. O. Peterson, Chicago, Ill., is erecting a modern garage at 6237 Wayne avenue. It will cost $6500.

E. W. & F. L. Johnson, Chicago, Ill., is having a one-story garage built on Cottage Grove avenue, to cost $5000.

F. L. Fisher, Pittsburg, Penn., is having plans prepared for the erection of a garage on Townsend street, costing $15,000.

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J. F. Ringer, Reading, Penn., is to erect a new garage on Tulpehoeken street.

The Ohio & Pittsburg Milk Company, Pittsburg, Penn., is having a new garage and stable built.

The Comstock Hotel, Fargo, S. D., is having a new and modern garage built, 120 by 80 feet.

William J. Snoddy, Lafayette, Ind., contemplates building a garage on Sixth street.

H. Blanchard Earnest, Burlington, N. J., will erect a new modern garage.

Jacob Roth, Erie, Penn., is building an up-to-date garage on 10th street.

Edwin Kelly, Wildwood, N. J., is having a new garage built.

P. F. Tregashes, Little Rock, Ark., will erect a new garage.

J. H. Gillen and M. W. Coulter, Homestead, Penn., are having plans prepared for a large and modern garage to be erected on Seventh avenue.

George Lininger, Greencastle, Penn., is having a modern garage, 60 by 240 feet, erected in Carlisle street.

The Peter Breidt Brewing Company, Elizabeth, N. J., will build a modern garage at a cost of $14,280, at its plant on Pearl street.

M. Ball, Fargo, N. D., will erect a new modern garage at a cost of $50,000. Mr. Ball is interested in the Ball Auto Company of that city.

Meeker & Claussen, Hammond, Ind., is having a large and modern garage built on West street.

The Robinson Machine Company, Columbus, O., has awarded the contract for the erection of a new modern garage to cost $10,000. Work will be commenced shortly.

F. D. Weed, Omaha, Neb., is having a garage built which will be modern throughout. It is located on Farnam street.

W. Ashby Jones, Sr., Richmond, Va., will build a two-story brick garage costing $12,699. It will be modern throughout.

Andrew Jackson, Oconomowoc, Wis., is having a new and modern garage erected on South Main street.

The Scoville Manufacturing Company, Waterbury, Conn., has been granted a permit for the erection of a frame and brick garage on East Main street.

MISCELLANEOUS OPERATIONS.

The City of Rochester, Rochester, N. Y., is considering the erection of a municipal garage to cost $10,000.

The Pierce-Arrow Agency, St. Louis, Mo., is to erect an up-to-date automobile store on Euclid avenue. It will cost about $25,000 and will include a showroom.

The Bennet Estate will erect a new building at the corner of North and Main streets, Fall River, Mass., to be used for automobile purposes.

David Gray, Detroit, Mich., will shortly begin the erection of a garage on Randolph street, opposite the new Detroit Athletic Club, which will be run under the control of the club and will be exclusively for the club members.

The State Hospital, Hazelton, Penn., is planning to erect a large addition to its garage.

Western Massachusetts Cadillac Company, Inc., Springfield, Mass., will soon built a garage, 65x125 feet.

Nicholas Miller & Son, Dodgeville, Wis., is erecting a garage and factory. The factory will be given over to the manufacture of hay tools and machinery. The garage will also include salesrooms.

The Uncle Sam Motorcycle Company, Philadelphia, Penn., has let the contract for the construction of a one-story brick garage and salesrooms at 2520 North Broad street.

Oakford & Fahnestock, Peoria, Ill., is having plans prepared for the erection of a three-story structure, to be used as a garage and barn.

Hazen & Franks, Philo, Ill., has purchased an old livery stable and will convert it into a modern garage.

PERSONAL NEWS OF THE INDUSTRY.

F. A. Seeman is president of the reorganized Interstate Automobile & Supply Company, Davenport, Ia.

H. D. Stratton, formerly with the Lincoln Motor Sales Company, Seattle, Wash., has become manager of the Imperial Auto Agency of that city.

R. R. Schweitzer is head of a company recently formed to take over the machine department of the Renstadt Company at Tucson, Ariz.

George H. Bowler, formerly sales manager of the F. B. Stearns Company, has become sales manager and second vice president for the Dayton Rubber Manufacturing Company, Dayton, O.

James L. Geddes, president of the Kelly-Springfield Motor Truck Company, Springfield, O., is making a trip of inspection through the western field, as a result of which the territory served by the northwest branch in Seattle, has been enlarged to include the states of Washington, Oregon, Idaho and Montana and the province of British Columbia. Location of an assembling plant at Seattle is a possibility within the next two years, says Mr. Geddes.

James L. Geddes, President, Kelly-Springfield Motor Truck Company.

H. H. Edge, who for the past 2.5 years has been superintendent of the Locomobile Company of America, Bridgeport, Conn., has been promoted to the position of factory manager in full charge of production. Mr. Edge has had long and valuable experience in the manufacture of quality machine products in addition to automobiles. He succeeds E. F. Russell, resigned.

Edward McK. Hunt has been appointed district sales manager by the Stewart Motor Corporation, Buffalo, N. Y., for Connecticut, New York City, New Jersey, Eastern Pennsylvania and Virginia. During the past year Mr. Hunt has been one of the moving spirits in the Ingle-Hunt Motors Company, Newark, N. J., distributor in Northern New Jersey for Stewart delivery trucks.

T. M. Conroy has become superintendent of the Garford Company, Elyria, O. He was formerly connected with the Gramm Motor Truck Company, Lima, O.

Frank Drage, Fort Wayne, Ind., has joined the sales force of the Gramm-Bernstein Motor Truck Company. He was formerly distributor of Modern, Federal and B. A. Gramm's trucks.

J. J. Martin has been appointed district manager for the Middle Western States by the Stewart Motor Corporation, Buffalo, N. Y. His headquarters will be at Chicago. For the past year and a half Mr. Martin has been connected with the Commerce Motor Car Company, Detroit.

L. P. Fortin, sales manager for the Menominee Truck Company, Menominee, Mich., is on an extended tour through the West.

Theodore Millington, Detroit, has been appointed representative for the Pressed Steel Welded Products Company of New York City.

Arthur Beharrell, Lowell, Mass., is now manager of the Fisk Tire Company of that city. He was formerly connected with the Studebaker Corporation.

George H. Connor, formerly with the Rambler and Buick branches in Boston, Mass., and later manager of the Chevrolet Motor Company's branch in New York City, has returned to Boston to join the W. L. Russell Company, agent for the Regal and Haynes cars.

C. C. Evans, Seattle, Wash., has been appointed manager of the truck sales department of the Northwest Buick Company. He was formerly sales manager of the Mitchell Lewis and Staver company's branches in that city.

Frank P. Cavanagh, Chicago, Ill., has been appointed manager of the motor supply department of the Ph. Gross Hardware Company, Milwaukee, Wis., to succeed Louis J. Conne, who resigned to establish the Western Motor Supply Company. Mr. Cavanagh was formerly president of the Cavanagh Automobile Company of Chicago, and later was manager and buyer for the motor supply department of Montgomery Ward & Co.

Charles E. Duryea is now associated with Cresson & Morris, Philadelphia, a very large machine concern, which is bringing out a cyclecar of Duryea's design.

Clarence A. Earl has resigned as second vice president and general manager of the Corbin Screw Corporation to fill a similar position with the Hendee Manufacturing Company, Springfield, Mass.

Joseph Tracy has made arrangements with the Manhattan Automobile Club whereby his motor testing laboratory at East Rutherford, N. J., will become the official laboratory of the club.

J. S. Bradstreet, Gardiner, Me., has secured a partnership in the Stutz Motor Car Company, Boston, Mass. M F. Chase, the local manager, completed the deal which secured for Mr. Bradstreet an interest in this company.

Samuel Wallace, Jr., New York City, who has had practical experience in transportation, delivery and trucking work covering a period of 27 years, has joined the staff of J. M. Harlinger, transportation engineer, 1790 Broadway.

G. Hilton Gantert, Philadelphia, has been appointed sales manager of the American Automobile Company, which recently took over the local representation of the Moline-Knight cars.

A. F. Bement, Toledo, O., advertising manager of the Electric Auto-Lite Company, has not been appointed sales manager, as reported recently, that position being held by Mr. Minger.

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J. Ritchie Purnell, Kenosha, Wis., has been appointed assistant sales manager for the Thomas B. Jeffery Company.

E. LeRoy Pelletier, one of the best known advertising men in the industry, has been appointed advertising counsel for the Lozier Motor Company, Detroit, in addition to acting in the same capacity for the Maxwell Motor Company of that city.

E. LeRoy Pelletier, Advertising Counsel for Lozier and Maxwell Companies.

R. E. Malone, Waupun, Wis., is now connected with the C. A. Shaler Company and will hereafter call on the accessory trade in the interest of Shaler vulcanizers. Mr. Malone was formerly connected with the Auto Steam Vulcanizer Company.

A. H. McIntyre, who has a wide acquaintance in the automobile trade of New England, has joined the Stutz Motor Car Company, Boston, as wholesale manager. His territory will include the states of Maine, New Hampshire and Vermont, and his knowledge of the trade and trade conditions in these three states will, no doubt, result in a number of agencies for the Stutz car.

George S. Atwater, Boston, Mass., has accepted a position as sales manager for the Century Rubber Company, Plainfield, N. J. This company recently reorganized its entire managing, producing and selling forces, and will enter the field under the new policy of catering to the large jobbing trade exclusively.

Samuel J. Morris, vice president of the Standard Motor Car Company, Columbus, O., died recently at Homewood, Ala., while on a hunting trip.

Victor T. Chambers, Sacramento, Cal., is manager of the Sacramento Rubber Company's branch in that city.

The Columbus Auto Trades Association, Columbus, O., has elected the following officers: President, H. J. Schwartz; vice president, Frank J. Girard; secretary, George Voglesong; treasurer, Lewis M. Browne.

F. J. Arling, Jr., Oklahoma City, Okla., is manager of the branch house of the Goodyear Tire & Rubber Company in that city. He succeeds Frank H. Casebeer, who has been appointed manager of the St. Louis district.

William C. Poertner, New York City, has been chosen head of the Motor Dealers' Contest Association, succeeding John C. Wetmore, who was the first president of that organization. The action took place at the annual meeting held in the rooms of the Manhattan Automobile Club.

Edward Flanagan, New York City, has joined the sales force of the Republic Rubber Company. He was formerly connected with the Stewart-Warner Speedometer Corporation and is well known to the trade.

Frank G. Carrie is the new manager of the Marmon branch in New York City, located at 1885 Broadway. The showrooms are spacious, affording every opportunity to display the cars to every advantage.

George W. Hipple, has become sales manager and an official of the A. Elliott Ranney Company, New York City. About a year ago he bought an interest in the Whiting Motor Company of New York, Newark and Philadelphia, but disposed of his interests to join President Toback in the Ranney Company.

Charles W. Cathout has become affiliated with the C. T. Silver Motor Company, New York City. Mr. Cathout has been elected treasurer of the Silver Company and will also manage the sales department. He formerly handled the Jackson car in that city.

J. W. Diederich, chief engineer of the Universal Motor Truck Company, Detroit, has tendered his resignation.

Clifford E. Golder, formerly president and general manager of the Curtis Automobile Company, Milwaukee, Wis., has been appointed manager of the commercial vehicle department of the Milwaukee KisselKar branch.

Harry R. Cox, formerly with the D. C. Walker Automobile Company, Baltimore, Md., has become associated with the sales staff of the Chesapeake Motor Company, 1931 North Charles street.

W. R. Darrah, Philadelphia, Penn., has joined the sales force of the E. C. Johnson Company, Broad and Spring Garden streets.

R. R. Ferguson has accepted a position with the Lyons-Atlas Company, Indianapolis, and will travel through the South Atlantic states. He was formerly identified with the Locomobile and National companies.

William J. Foster, New York City, has assumed charge of the used car department of the Stewart Automobile Company on West 54th street.

Fred W. Hauger is now identified with the E. L. Peacock Automobile Company, Oakland, Cal., as general manager. He was formerly connected with the Haynes Auto Sales Company, acting as manager in that city.

Col. C. L. Hewes has been elected vice president and general manager of the Pacific Motor Car Company, San Francisco, Cal., succeeding A. W. Bradbury, resigned.

Olvin H. Lufkin has become associated with the J. W. Maguire Company, distributor of the Pierce-Arrow motor cars and trucks, 741-45 Boylston street, Boston. Mr. Lufkin has been in the automobile business since 1904 and is well acquainted with all its branches, both cars and trucks.

W. H. Stevens, National agent, Boston, Mass., has been elected president of the Bay State Automobile Association. Mr. Stevens has been prominent as an automobile salesman and distributor for 10 years. He has been chairman of the runs and tour committee of the club and has directed the annual club run very successfully.

M. A. Stuart, who for the past year has represented the White Company as city salesman in Dallas, Tex., has been transferred to Houston. The move is in the nature of a promotion and a well deserved one.

Charles G. McGregor, manager of C. T. Silver Motor Company's Brooklyn branch, died recently at his home. Mr. McGregor, who was one of the most successful men in the Brooklyn motor field, leaves a widow and four children.

H. R. Fletcher has been appointed district sales manager by the Stewart Motor Corporation, Buffalo, N. Y., and will look after the interests of the Stewart in northern and western Pennsylvania, New York, and the provinces of Quebec and Ontario in Canada. During the past year Mr. Fletcher has been connected with the E. V. Stratton Company, Albany, N. Y., in charge of the Stewart division.

Harry L. Archey, one of the most widely known automobile men in Indiana, has taken the agency for the Haynes car, and Robert L. Hosea, Haynes sales manager for Southern Indiana, will make his headquarters at that agency.

Robert Lurie, formerly with John M. Brisden Company, New York City, has resigned his position as sales manager and is now connected with the Drouet & Page Company, agent for Palmer-Singer and Regal cars at 1890 Broadway.

Edward M. Wise, formerly connected with the Garford Company, Elyria, O., and later with the Willys-Overland Company and also the Carl Electric Vehicle Company of Toledo, O., has become manager of the automobile accessories department of the Toledo Rubber Company.

L. E. McKenzie, Kokomo, Ind., has joined the Haynes Automobile Company. He was for many years identified with the Studebaker Corporation, Detroit.

G. M. Berry has become assistant to Vice President C. S. Jameson of the Willys-Overland Company, Toledo, O.

H. G. Norris, is the new manager of the branch of the Goodyear Tire & Rubber Company at Grand Rapids, Mich. E. Paul Dowse, who opened the branch two years ago, has been appointed manager of the Goodyear interests in Toledo, O.

Ralph K. Smith, for several years travelling salesman for the Pope Manufacturing Company, Hartford, Conn., in its motorcycle department, has been appointed eastern district manager for the Miami Cycle & Manufacturing Company, Middletown, O., maker of Flying Merkel motorcycles.

William McKinley Sheets, who has been representing

Two Flying Merkel Motorcycle Salesmen: At Left, Ralph K. Smith; at Right, William McKinley Sheets.

the Flying Merkel interests in the East, has been promoted to have charge of the sales in Indiana, Kentucky, Arkansas and some portions of Tennessee, Illinois and Michigan.

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W. H. Radford, formerly consulting engineer and factory manager of the Warren Motor Car Company, has opened an office at 500 Moffatt building, Detroit, and is working on designs for a low priced car which will be placed on the market as soon as the experimental models are completed.

W. H. Radford, Now Engaged in Designing a New Low Priced Car.

John Frederick Strough, Canton, O., accountant of the Timken Roller Bearing Company, was married in Kalamazoo, Mich., Jan. 3, to Miss Frances Marion McKinney.

Thomas A. Doyle has severed his connection with the Ford Motor Company, Detroit, and has taken the agency for Saxon cars for Michigan. He hopes to open retail salesrooms in Detroit soon.

Bernard Ginsburg, general manager of the Detroit Auto Specialties Company, Detroit, has been elected president of the Public Library Commission of Detroit for the ensuing year.

Cyrus E. Mead, vice president of the Mead Engine Company, Dayton, O., and designer of the Mead rotary valve engine, was killed in an automobile accident recently. Mr. Mead played an important part in the development of the rotary valve motor, and before entering upon consultation work in Dayton he had extensive experience in street railway, electric and gas lighting and producer gas power plants.

Frank X. Mudd, a member of the Chicago Automobile Club and Chicago Motor Club, has been appointed chairman of the touring information board of the American Automobile Association. He succeeds Howard Longstreth of Philadelphia, who has been at the head of this committee for the past three years.

William Sparks, Jackson, Mich., president of the Sparks-Withington Company, has been elected president of the Chamber of Commerce of that city.

Carl Flinterman, Detroit, has been appointed general manager of the Detroit Pressed Steel Company. The action was taken at the annual meeting of the company.

S. W. Rushmore of the Rushmore Dynamo Works, Plainfield, N. J., has sailed for Italy, to place contracts for the concern's starting system with foreign car manufacturers. The Rushmore system has already been adopted by the Fiat and Lancia companies as regular equipment. After visiting the Italian factories, Mr. Rushmore intends to visit Paris and London.

W. H. Van Dervoort, President, Moline Automobile Company.

W. H. Van Dervoort, president of the Moline Automobile Company, East Moline, Ill., has such faith in the Moline-Knight engine, which recently underwent a world's record test in the laboratory of the Automobile Club of America, that he has posted $10,000 in a challenge to all makers of poppet valve motors, regardless of price, piston displacement or number of cylinders, to repeat the performance.

Charles T. Lawton, Boston, Mass., has severed his connection with the Bi-Motor Equipment Company to become associated with the Wetmore-Savage Company of that city.

Leighton Dunning, formerly connected with the engineering department of the General Electric Company, New York City, is now in charge of the laboratory and testing plant of the American Bronze Company, Berwyn, Penn.

H. S. Wood, Brooklyn, N. Y., has been appointed manager of the Firestone Tire & Rubber Company.

Henry J. Snider, Boston, Mass., has accepted a position as salesman with the Lawrence & Stanley Company, which handles the Mitchell cars in Boston and surrounding territory.

E. B. Brokaw, Findlay, O., has been elected president of the United States Auto Lock Company of that city.

B. A. Rhoades has been elected president of the Stoddard-Dayton Maxwell Repair Company, which was recently organized at Dayton, O. E. Gerspacher is secretary-treasurer.

L. C. Dodge, manager of the Boston branch of the Oldsmobile Company, has been transferred to San Francisco and his place in the Hub has been taken by F. A. Gross, who was sent there from the factory.

W. H. Gray, until recently sales manager of Gray & Davis, Inc., has been made general manager of the company, with headquarters in Boston. Mr. Gray, while exercising general supervision over the organization, will keep in close contact with the sales end of the business and direct the selling policy of the organization as heretofore.

Frederick E. Moskovics, one of the best known automobile men in the industry, has joined the organization of Nordyke & Marmon Company, Indianapolis, manufacturer of the Marmon motor car.

Alden M. Blake, district manager for the Willys-Overland Company in Western Missouri, died recently at Marysville, Mo., of heart disease. He was one of the best known and most successful men in the automobile business in Kansas City.

Aaron De Roy, president of the Aaron De Roy Motor Car Company, Studebaker distributor in Pittsburg, Penn., has been elected president of the Pittsburg Automobile Show Association, vice W. N. Murray, who declined re-election.

W. N. Murray, Retiring President, Pittsburg Automobile Show Association.

William G. Rankin, Providence, R. I., formerly in charge of the automobile supply department of Belcher & Loomis, has associated himself with A. E. Goodby, where he will have charge of the automobile supply department.

W. L. Walls, Detroit, is now with the Detroit Cyclecar Company, acting in the capacity of sales manager.

Harry Allen, New York City, has joined the Field Omnibus Company of that city, as designing engineer and factory supervisor. He was formerly chief draftsman of the Pope Manufacturing Company and held that office for nine years.

A. C. Westfall, traffic manager of the Cadillac Motor Car Company, Detroit, was elected chairman of the Detroit traffic committee of the National Automobile Chamber of Commerce.

J. B. Dudley has been appointed sales manager of the Lincoln Motor Car Company, Detroit, which is manufacturing a car to sell at $500.

Jack L. Glazier, Portland, Ore., will have charge of the truck department of J. W. Leavitt & Co.'s branch in that city. Mr. Glazier was formerly manager for the Speedwell Motor Company in San Francisco, Cal.

Giles H. Stillwell, who has been a director of the H. H. Franklin Manufacturing Company and the Franklin Automobile Company, Syracuse, N. Y., and vice president of the latter concern, recently gave up active engagement with these companies to assume his new duties as corporation counsel of the city of Syracuse. President H. H. Franklin of the Franklin Company gave a dinner in honor of Mr. Stillwell, which was attended by the officers and directors.

Edward Knauss, Boston, is having a lively demand for the K. P. foot rest heater, a very useful accessory in cold weather. This simple and effective device is sold at a popular price. Mr. Knauss is located at the Motor Mart, Park square.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR DEALERS AND AGENTS.

H. G. Raymond & Co., Fort Wayne, Ind.; $20,000; automobiles and accessories. Howard G. Raymond, Chester G. Schiefer, William W. Bogart.

Pacific Electric & Automobile Company, Everitt, Wash.; $7500; automobiles; J. F. Reardon, F. D. Stockbridge, W. F. Knowles.

Carr Motor Company, Houston, Tex.; $10,000; pleasure cars; R. C. Carr, R. E. Gorgee, A. G. Ruggles.

Burns-Thomas Company, New Haven, Conn.; $2500; automobiles; Edward J. Burns, William H. Thomas, Jr., Elmore S. Shuster, Joseph Kegelmeyer.

Brazos Valley Ford Company, Bryan, Tex.; $3500; motor cars; M. R. Newnham, H. O. Boatwright, B. M. Barker.

Frint Motor Car Company, Appleton, Wis.; $5000; automobiles and accessories; L. D. Frint, H. F. Heckert, S. C. Shannon.

Hine-Morrin & Zimmerman Company, New Britain, Conn.; $10,000; automobiles; A. C. Hines, F. Zimmerman, William J. Morrin.

Rabbitt Auto Sales, Ltd., Winnipeg, Man.; $10,000; automobiles.

Matthews Sales Company, Dobbs Ferry, N. Y.; $1000; automobiles; H. A. Matthews, H. E. Matthews, John McLaren.

Stanley Steamer Auto Company, Milwaukee, Wis.; $15,000; automobiles; F. S. Durham, W. W. Burgett, J. C. Coxe.

A. C. Thompson Auto & Buggy Company, St. Paul, Minn.; $50,000; automobiles and accessories; A. C. Thompson, J. W. Thompson, A. E. Boyeson.

Wollaeger Sales Company, Milwaukee, Wis.; $30,000; automobiles; John Wollaeger, Arthur M. Mueller, Margaret Mollerus.

Enid-Ford Company, Enid, Okla.; $5000; automobiles and accessories; C. C. Buchfield, L. Bertwell, J. A. Ratliff.

Hawkins Motor Car Company, Spokane, Wash.; $25,000; automobiles; H. G. Hawkins, M. D. Hawkins, Richard Howard.

Maxwell Motor Sales Corporation, Delaware, Ind.; $10,000; automobiles; C. H. Pelton, W. E. Flanders, W. M. Anthony.

National Motor Car Company, Kansas City, Mo.; $3000; pleasure cars; H. F. Sudin, H. E. Hunt, L. E. Gaskell.

Stegeman Motor Truck Corporation, Chicago, Ill.; $10,000; motor trucks; F. H. Burkland, R. C. Flodin, E. Burland.

Laidlaw Company, Eddyville, N. Y.; $300,000; automobiles; Clarence E. Eaton, Lloyd H. Reed, Charles L. Hepburn.

C. P. Rockwell, Inc., Boston, Mass.; $30,000; automobiles, parts and accessories; C. Perry Rockwell, E. J. Wall, A. P. Teele.

J. G. Riga & Sons Company, Springfield, Ill.; $25,000; automobiles; Joseph G. Riga, Joseph C. Riga, Hurley M. Riga.

Pelham Motors Company, Queens, N. Y.; $100,000; automobiles; H. R. Callisen, F. H. Page, K. A. Siemers.

Bright Auto & Repair Company, Elmhurst, Ill.; $500; automobiles; George Bright, Ralph H. Mears, Harvey J. Bright.

ACCESSORY AND SUPPLY HOUSES.

Smith Tire Valve Company, Boston, Mass.: $10,000; James H. Smith, Reginald L. Robbins, E. Dwight Fullerton.

Helix Tube Company, New York City; $250,000; automobile and bicycle accessories; G. C. Howard, J. D. Gabler, C. S. Houghton.

Mutual Auto Supply Company, Cleveland, O.; $10,000; E. P. Strong and others.

Ross Motors Company, Muncie, Ind.; $25,000; to manufacture and sell automobile accessories and gasoline engines; Victor M. Hancock, Edward T. Ross.

Robison Machine Company, North Vernon, Ind.; $3000; to deal in automobile accessories; Martin W. Brogan, Ida M. Brogan, A. A. Miller.

Consumers Tire & Rubber Company, St. Catharines, Ont.; $800,000; to manufacture and deal in automobile tires; A. W. Marquis, W. M. Marquis.

Bittel-Leftwich Tire Service Company, St. Louis, Mo.; $25,000; to deal in automobile tires; C. G. Bittel, B. O. Leftwich, C. C. Guenther.

Neil-Smith Electric Tool Company, Cincinnati, O.; $30,000; to manufacture and deal in electric tools; J. W. Neil, E. F. Smith, R. K. LeBlond, C. M. Bigger, J. G. Neil.

Panama Rubber Company, St. Louis, Mo.; $12,000; to manufacture and deal in all kinds of rubber goods; C. G. Schwartz, G. G. Giese, F. W. Sanner.

Jones Auto Lock Company, Tacoma, Wash.; $250,000; to manufacture safety locks; J. T. Powers, John D. Fletcher.

Boltless Arch-Bar Truck Company, Buffalo, N. Y.; $10,000; R. S. Kent, F. C. Lee and others.

City Machine & Tool Company, Toledo, O.; $50,000; Isaac Kinsey and others.

Canadian Michelin Tire Company, Ltd., Montreal, Can.; $40,000.

Noble Refining Company, Cleveland, O.; $25,000; to refine oils and manufacture lubricants; L. A. Ritzman, C. L. Ficker, Frank Korella, L. E. Long, A. L. Ritzman.

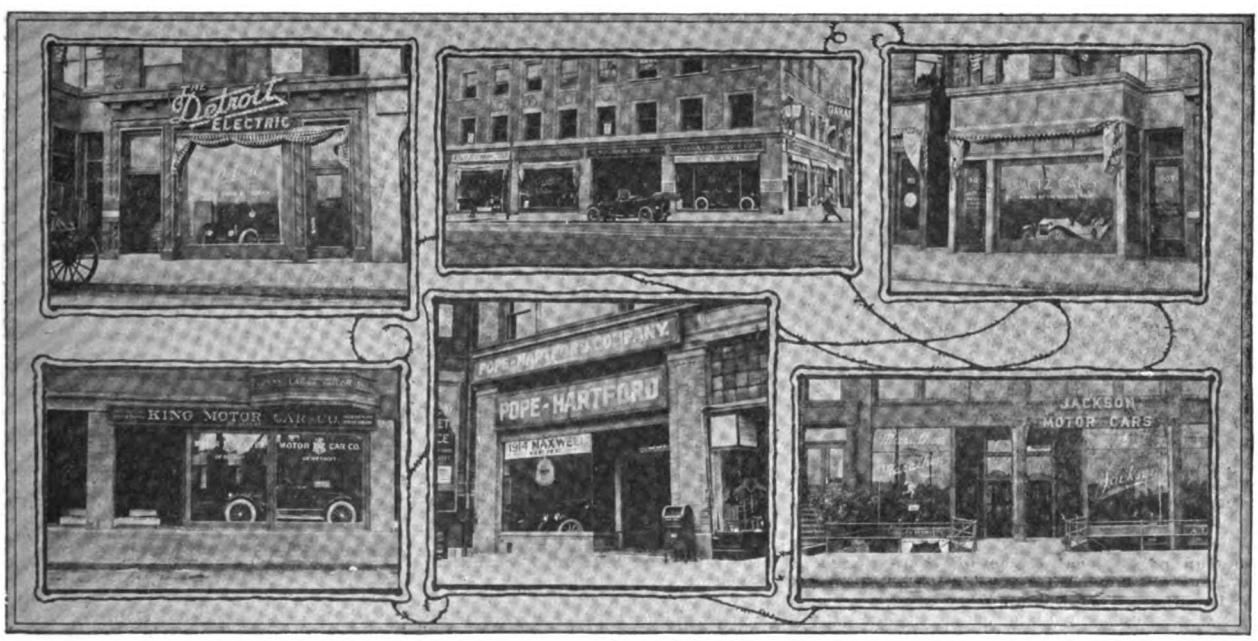
Uno-Lamp Company, Chicago, Ill.; $2500; to manufacture lamps; O. R. Barrett, P. H. Truman, H. M. Gillespie.

Blodgett Sales Company, Pittsburg, Penn.; $1000; to deal in automobile supplies; P. L. Logan, E. M. Diebold, W. E. Ament.

Giant Tire & Rubber Company, Omaha, Neb.; $20,000; B. W. Jewell, R. W. Parker, R. W. Morrison, John T. Yates, J. E. Fitzgerald.

New State Auto Company, Tulsa, Okla.; $2000; to deal in accessories and supplies; Fred J. Shaw, Minnie M. Shaw, Guy M. Davis.

St. Louis Pneumatic Valve Company, St. Louis, Mo.; $30,000; to deal in automobile supplies; Joseph N. New-



A Group of Boston Car Agencies: Upper Row, Left, Detroit Electric, Boylston Street; Centre, Cole, Stearns and Oakland, Massachusetts Avenue; Right, Metz, Boylston Street—Lower Row, King, Pope-Hartford and Maxwell, and Jackson and Marathon, Boylston Street.

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sone, G. A. Brown, E. T. Klippel, William F. Cole, Frances M. Van Deusen, E. Houser, John N. Van Deusen, William P. Hill, William C. Millford, J. Daniel.

Oriental Rubber & Supply Company, Brooklyn, N. Y.; $10,000; to deal in tires and rubber accessories; Homer G. Martin, C. Roy Gedney, F. Lucey.

Polack Rubber Company, Chicago; $2500; to deal in automobile tires; G. B. Cohen, A. Gross, M. Polack.

Tire Company of America, Chicago; $10,000; to deal in automobile tires; M. J. Golden, Issie Johnston.

A. R. Biggs Iron & Motor Company, Williamston, N. C.; $25,000; to deal in motors; S. B. Biggs, J. W. Biggs and others.

Shephard Plating Works, Racine, Wis.; $5000; general plating and metal business; W. H. Shephard, P. Ruetz, F. Thompson.

DeVere & Strang, New York City; $10,000; to manufacture and deal in machine supplies; F. M. DeVere, E. L. DeVere, K. P. Strang, F. M. Strang.

Wagner Sales Corporation, New York City; $5000; to deal in starters and motor car devices; M. Morris, J. C. Eichenbaum, A. F. Wagner.

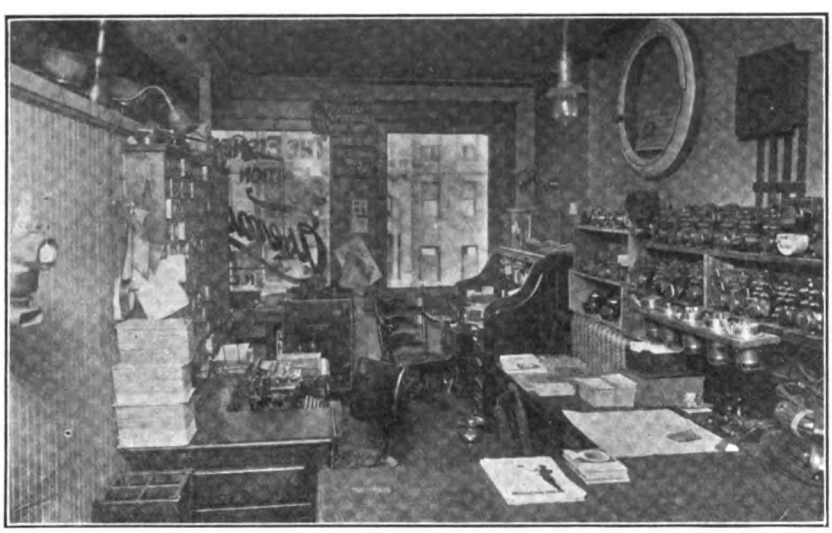
Self-Compressed Indestructible Automobile Tire Company, Pierre, S. D.; $100,000; to manufacture and market tires; J. W. Kennedy, W. H. Farnsworth, Guy Barnes.

Auto Accessories Association, New York City; $10,000; to deal in automobile accessories; Samuel Falk, H. C. Falk, E. E. Braendle.

The Gebhard-Rowley Hydro-Carbon Vaporizing Company, Buffalo, N. Y.; $100,000; to manufacture and deal in machinery; E. Gebhard, J. M. Rowley, J. F. Rowley.

The Motor Car Spring Company, New York City; $75,000; to deal in automobiles, accessories, etc.; Stephen Otter, Benjamin Frankel, Joseph Prosky.

The John C. Funk Air Company, Philadelphia, Penn.; $100,000; to manufacture an air spring shock absorber for automobiles, etc.; W. F. P. Lofland.



Section of General Office of Eisner-Lenk Company, Ignition and Electrical Specialist of Boston—The Company Is Opening Branches in Leading Cities of New England.

GARAGES AND REPAIR SHOPS.

Wadsworth Auto Repair Shop, New York City; $2000; to repair automobiles; J. D. Flynn, George Beverley, James Farrell.

Central Garage, Trenton, N. J.; $50,000; to conduct a general automobile business. William P. Culberey, Oliver O. Moore and others.

Model Garage, Union, S. C.; $6000.

Ford Auto Repair Company, Babylon, N. Y.; $35,000; A. C. Schmidt and others.

Howard Auto Tire & Repair Company, New Haven, Conn.

Diagonal Garage, Brooklyn, N. Y.; $1000; to operate a salesroom and repair shop; Jacob Schneider, Mary E. Schneider, Robert E. Burton.

McQuown Auto Company, Punxsutawney, Penn.; $5000; to operate a garage and salesroom; H. Ward McQuown, Robert Bridge.

Oakland Garage Corporation, Brooklyn, N. Y.; $1000; to operate a garage and salesroom; Herman C. Schaefer, Estelle M. Schaefer, Christopher Schaefer.

Ninth Avenue Garage Company, McKeesport, Penn.; $15,000; G. Baehr, W. H. Baehr, G. L. Baehr, Jr.

Cairo Auto Sales Company, Cairo, Mo.; $2500; to sell, rent and repair motor cars; J. P. Glynn, J. J. Glynn, A. D. Teer.

Watkins Garage, Watkins, N. Y.; $35,000; to deal in automobiles and maintain a garage; George S. Hice, Newton J. Baxter, W. Gail Royce and others.

Johns-Tucker Company, North Yakima, Wash.; $5000; to conduct a retail business and machine shop; A. A. Johns, Bismark Tucker.

Broadway Garage, Lynn, Mass.; $1000; George E. Crosby, Sarah E. Swan, William O. Swan.

Stoddard-Dayton-Maxwell Repair Company, Dayton, O.; $10,000; B. A. Rhodes and others.

UNCLASSIFIED.

Lexington-Howard Company, Connersville, Ind.; $150,000; to manufacture motor driven vehicles; E. W. Ansted, J. E. Huston, F. I. Barrows.

Worton Motor Car Company, Ironton, Minn.; $50,000; to manufacture and deal in automobiles; Garfield Murphy, Carl Dandrea, Primus D. Kreitter.

Plowboy Tractor Company of Arizona, Phoenix, Ariz.; $300,000; to manufacture engines, tractors and machinery; E. F. Essig, George H. Graham, A. Essex.

Bay City Auto & Sales Company, Bay City, Tex.; $7500.

Kerosene Karburetter Kompany, Aberdeen, S. D.; $500,000; W. B. McLaughlin, J. S. Tilney, George J. Hinds, Edward M. Skinner, H. G. Fuller.

Knuckey-Mysing Auto Company, New Orleans, La.; $10,000; W. A. Knuckey, W. F. Mysing and others.

Motor Gasoline Company, Muskogee, Okla.; $25,000; J. M. Givens, E. C. D. D'Yarmett, W. E. D'Yarmett.

Fort Wayne Supply Company, Fort Wayne, Ind.; $50,000; Jeremiah M. Cramer, John A. Brewer, Harry H. Criswell.

Wentworth, Fosdick Company, Boston, Mass.; Frank Wentworth, Harry Fosdick, Edwin J. Carruthers.

Utah-Idaho Auto Company, Logan, Utah; $25,000; Morgan Knapp, J. P. Griffin, Wilford O. Johnson, John Everton, W. H. Stewart.

Steel Klug Motor Car Company, Lansing, Mich.; $100,000; E. S. George, S. T. Craple.

Somerset County Automobile Association, Somerville, N. J.; F. G. Thomas, Dr. George Voorhees, Dr. Ely, Dr. Naylor, John Case.

Morgan Auto Company, Sioux City, Ia.; $50,000.

Durand Auto Company, Durand, Mich.; E. Henry, A. E. Van Slyke.

Cycle Manufacturing Company, Chicago, Ill.; $15,000; George A. Chilton, D. C. Thorsen, Philip Lawrence.

Bergman Bros., New York City, $2000; H. Weinstein, M. Bergman, T. Bergman.

Columbian Auto & Motor Car Company, Port Richmond, N. Y.; $5000; J. A. Wisely, S. F. Leman, E. T. Shortt.

McGraw Tire & Rubber Company, New York City; $1000; R. F. Hobron, W. L. Levy, M. Davidson.

Ajax Auto Service, New York City; $5000; A. G. McKever, J. J. Bradley, J. P. Shinnick.

Trenton Motor Car Company, St. Louis, Mo.; $10,000; J. L. Nugent, A. F. Becker and others.

United Auto Supply Company, Waco, Tex.; $5000; R. S. Keyser, S. Zeve, S. W. Wexler.

Henderson Gasoline Company, Nowata, Okla., $200,000; W. O. Strother, J. Wood Glass, F. P. Peterson.

Automobile Club of San Antonio, San Antonio, Tex.; $8000; W. A. Herring, Emil Frank, H. G. Staacke, Dr. Frederick Fielding, John B. Carrington.

Bond Auto Company, St. Louis, Mo.; $10,000; H. M. Bond, C. Kist, C. Bond.

Automobile Funding Company of Seattle, Seattle, Wash.; $500,000; F. W. Clay, C. A. Bradley.

Seattle Motor Speedway Corporation, Seattle, Wash.; $200,000; J. C. Hayward, Harry W. Doherty, A. B. Simmernacher, Howard S. Amon, R. G. Dennev.

Rex Oil & Refining Company, Oklahoma City, Okla.; $50,000; L. M. Pierucci, M. Luty, N. Boyce.

Horn Auto Supply Co., Omaha, Neb.; $25,000; to deal in automobiles and accessories; Charles E. Fanning, F. J. McShane, Jr., William H. Horn.

Renton Auto Tire Company, Renton, Wash.; $4000; Hugh B. Campbell, James L. Morfoot, Jesse F. Spurfeon, Joe Wood.

Sullivan Automobile Company, South Charleston, O.; $5000; F. J. Sullivan and others.

Motor Service Company, Washington, D. C.; $15,000; Thomas J. Raumstine and others.

Davis-Sparger Auto Company, Nashville, Tenn.; $5000; Daniel Murray, Marion M. Cish, George L. Grant.

Waterhouse-Sands Motor Company, Seattle, Wash.; $100,000; Frank Waterhouse, P. E. Sands, Joseph Waterhouse.

Mebane Motor Car Company, Mebane, N. C.; $25,000; W. A. Murray and others.

Brasher Motor Car Company, Columbus, O.; $10,000; L. A. Brasher, E. G. Dillow, H. B. Walker, A. J. Hatch, G. D. Armstrong.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham.
Moon, O. M. Graham.
Huntsville.
Moon, O. M. Graham.
Mobile.
Maxwell, Central Auto Co., 216 St. Michaels St.
Moon, A. W. Brooks.

ARIZONA.

Phoenix.
KisselKar, Edward Rudolph.
Maxwell, W. D. Tremaine.
Oakland, A. G. Woodill.
Paige, A. W. Newton.
‡Imp, Phoenix Garage Co.
Tempe.
Studebaker, S. Z. Earle.

ARKANSAS.

Bentonville.
Maxwell, Bohart-Powelson Hdw. Co.
Helena.
Cole, B. L. Lyford.
Little Rock.
Jeffery, J. T. Lloyd Co.
Marathon, Ketcher & Co.
Marvel.
Oakland, E. R. Garner, Jr.
Pine Bluff.
Overland, F. G. Smart.

CALIFORNIA.

Arbuckle.
Chalmers, Pioneer Co.
Artisia.
Maxwell, E. A. Wheelock.
Brawley.
Oakland, Bryden & Shank.
Chico.
Chalmers, Pioneer Co.
Haynes, T. H. Morgan.
Colton.
Maxwell, J. Z. Adamson.
Corona.
Ford, E. C. Roberts.
Covina.
Maxwell, C. R. Young.
Oakland, C. H. Hoffman.
Davis.
Chalmers, Pioneer Co.
Eureka.
Oakland, Eureka Auto Co.
Gilroy.
Maxwell, McKinney Bros.
Le Moore.
Haynes, Hancock & Meyer.
Lindsay.
Haynes, D. O. Bishop.
Los Agtos.
Haynes, W. H. Main.
Los Angeles.
Empire, Lynn C. Buxton.
Westcott, The C & S Auto Co.
*Stewart, Chalmers Los Angeles Co.
Madera.
Haynes, Sledge & Reed.
Marysville.
Moon, Pioneer Co.
Montrose.
Maxwell, Rainbow Route Auto Co.
Orange.
Oakland, M. Eltiste & Co.
Pomona.
Haynes, Arthur L. Wood.
Redondo Beach.
Maxwell, C. A. Wheeler.
Ripon.
Maxwell, Ripon Garage.
Riverside.
Maxwell, Edward L. Pequequat.
San Bernardino.
Haynes, H. F. Gausner.
San Diego.
Perfex, M. S. Buckley & Co.
San Francisco.
Marathon, Linz-Sanborn Motor Co.
National, Linz-Sanborn Motor Co.
Packard, Rene J. Marks Co.
Velie, Reliance Auto Co.
San Luis Obispo.
Haynes, California Garage.
Santa Cruz.
Haynes, Hubbs & Brisac.
Sherman.
Maxwell, W. A. Nicholl.
Stockton.
Oakland, A. Bonzie.
Turlock.
Maxwell, A. C. Rapp.
Vallejo.
Haynes, Vallejo Carriage Works.
Visalia.
Maxwell, James L. Robertson.

COLORADO.

Denver.
Moon, Vreeland Bros.
‡Imp, Imp Cyclecar Co.
Dolores.
Marathon, H. C. Wallace.
Lafayette.
Maxwell, M. Humphries.
Loveland.
Maxwell, Anderson, Griffin & Alsbury.
Pueblo.
Moon, N. W. Lundy.
Salida.
Maxwell, Ideal Auto Co., 129-31 W. Third St.

CONNECTICUT.

Hartford.
Chevrolet, New England Garage.
Locomobile, Buick Garage Co.
Metz, A. N. Barrett, 37 Mulberry St.
Mystic.
KissellKar, L. S. Doyle.
New Haven.
‡Imp, Universal Truck Co. of New Haven, 185 Grand Ave.
Norwalk.
Maxwell, F. E. Lockwood & Co.

DISTRICT OF COLUMBIA.

Washington.
Flyer, Husten-Flyer Auto Sales Co., 710 14th St., N. W.
*Garford, G. P. Kurtz.

FLORIDA.

Bartow.
Oakland, F. M. Bass.
Plant City.
Maxwell, E. B. Parrish & C. L. Crabb.
Ponce De Leon.
Maxwell, L. H. Hughes.
Sebastian.
Maxwell, I. G. Hardee.
St. Petersburg.
Haynes, G. B. Haines.
Tampa.
Maxwell, Pexa & Kallauner.

GEORGIA.

Arlington.
Maxwell, R. H. Bostwick.
Atlanta.
‡Imp, Southern Imp Cyclecar Co.
Bainbridge.
Haynes, Caldwell Motor Car Co.
Gray.
Maxwell, G. W. Glausier.
Moultrie.
Maxwell, R. M. Morrison.
Rochelle.
Maxwell, Rochelle Auto Co.
Valdosta.
Maxwell, J. N. Swindell.

ILLINOIS.

Anna.
Metz, R. Tuthill.
Ashton.
Moon, W. Petersmeyer.
Batavia.
Oakland, Foster Garage Co.
Bloomington.
Oakland, Thomas F. Stuart.
Champaign.
Maxwell, Otto O. Harris.
Chicago.
KisselKar, McDuffee Auto Co., 25th St. & Michigan Ave.
Saxon, Saxon Motor Co. of Illinois.
‡Imp, H. O. Pence & Paul Wargny.
‡Zip, Graham Automobile Co.
Crystal Lake.
Oakland, William Meyer.
Elkville.
Meteor, E. Bass.
Galatea.
Maxwell, Hall & Quick.
Gillespie.
Haynes, C. P. Hamlin.
Metz, C. P. Hamlin.
Hammond.
Haynes, E. B. Leavitt.
Harvard.
Haynes, Manley Hardware Co.
Henry.
Moon, J. E. Barry.
La Harpe.
Haynes, J. F. Fox.
Manteno.
Ford, O. C. Shreffler & Son.
Pocahontas.
Metz, S. E. File.
Princeton.
Oakland, Hans Sanburg.
Quincy.
Maxwell, Machinery & Motor Co.
Rock Grove.
Ford, A. N. Windecker.
Springfield.
Franklin, City Garage, Fourth & Jackson Sts.
Troy Grove.
Maxwell, Troy Grove Garage.
Vanduser.
Metz, J. H. Joyce.

INDIANA.

Clinton.
Haynes, Clinton Auto Co.
Cloverdale.
Ford, W. E. Gill & Ott Sherrill.
Indianapolis.
Haynes, H. L. Archey, 425 N. Meridian St.
Monon.
Maxwell, Thacker's Garage.
New Albany.
Oakland, J. O. Endrie, Jr.
New Paris.
Maxwell, Werner & Mishler.
Richmond.
Westcott, Theno Auto Co.
Salem.
Maxwell, Salem Motor Co.
South Bend.
Apperson, Coliseum Garage & Machine Co.
K-R-I-T, Coliseum Garage & Machine Co.
Terre Haute.
Haynes, Clinton Auto Co.

IOWA.

Ackley.
Marathon, J. R. Croot.
Allerton.
Oakland, B. McAuto Co.
Ames.
Oakland, O'Brien Motor Co.
Ohio, George Bader.
Aplington.
Oakland, Meyer Bros.
Avoca.
Oakland, Avoca Auto & Supply Co.
Bancroft.
Oakland, J. H. Devlin.
Bradgate.
Oakland, B. H. Berger Co.
Britt.
Oakland, Castle & Co.
Buffalo Center.
Oakland, J. F. Buggy.

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Burlington.
Maxwell, Sutter & Gamble, 115 N. Main St.
Cedar Rapids.
‡Imp, Imp Cyclecar Company of Iowa.
Charles City.
Oakland, O'Harrow Auto Co.
Westcott, Theno Auto Co.
Clare.
Oakland, William Fox.
Clarence.
Marathon, H. D. Kenneman & Son.
Clarinda.
Oakland, O. B. Holton & Son.
Collins.
Oakland, Korte & Korte.
Cresco.
Oakland, Wentworth & Burr.
Davenport.
Stanley Steamer, Walter J. Horn, 809 Fourth St.
‡Zip, Fred Wernentin, Jr.
Dayton.
Oakland, Burnquist Hardware Co.
Decorah.
Haynes, Peter Johnson & Sons.
Des Moines.
Davis, Reynolds & Olsen.
Haynes, Lagerquist Carriage Co.
Marathon, Means Auto Co.
Dubuque.
KisselKar, Lippert Auto Co., 1525 Washington St.
Dumont.
Oakland, Pfaltzgraff Bros.
Dyersville.
Marathon, Andres J. Mormon.
Eagle Grove.
Marathon, William Plechter.
Earling.
Oakland, F. E. Wilmerding.
Edgewood.
Oakland, L. B. Blanchard.
Eldorado.
Maxwell, W. P. Lauer.
Elkdale.
Marathon, George E. Bennett.
Fort Dodge.
Buick, Duncombe Auto Co.
Westcott, P. J. Tierney.
Garden Grove.
Oakland, Roberts & Herwith.
George.
Oakland, Jacob Burns Garage.
Gowrie.
Oakland, Gowrie Auto Co.
Gravity.
Oakland, C. S. Oswald.
Greenfield.
Maxwell, Chambers Auto Co.
Griswold.
Oakland, G. S. Schuler.
Guthrie Center.
KisselKar, Central Auto & Machine Co.
Hanlontown.
Oakland, J. O. Kaas.
Horton.
Oakland, F. E. Boyd.
Indianola.
Oakland, Dale Smith.
Iowa Falls.
Oakland, W. G. Gohring.
Jamaica.
Oakland, George W. Heater.
Jefferson.
Oakland, R. S. Richardson.
Keokuk.
KisselKar, Central Auto & Machine Co.
Laurens.
Oakland, McAtee & Sons.
Lisbon.
Oakland, George Staab.
Lone Rock.
Oakland, E. C. Bell.
Mason City.
Haynes, J. Lyons.
New Hampton.
Crow Elk-Hart, Leichtman Motor Car Co.
New London.
Buick, Murray Bros.
New Sharon.
Marathon, Burt Beal.
Northwood.
Oakland, I. O. Kasa.
Ocheyedan.
Marathon, Ocheyedan Auto Co.
Onancook.
Oakland, John W. West.
Ottumwa.
Haynes, Wappelo Auto Co.
Pochanotas.
Oakland, Nuller & Nelson.
Postville.
Oakland, H. J. Shutte.
Rockford.
Oakland, W. H. Talbot.
Rolfe.
Oakland, White Bros.
Ruthven.
Oakland, Edward Anderson.
Salbra.
Jeffery, Snow Auto Co.
Shreveport.
KisselKar, J. Lowe, 114 Milan St.
Sioux City.
Marathon, Adams Auto Co.
Oakland, E. A. Christensen.
Westcott, Hoeven Auto Co.
‡Imp, Thomas Murphy.
Stacyville.
Oakland, Berbig & Smith.
Stanhope.
Oakland, Craig-Olson Co.
Sumner.
Oakland, E. W. Ferrand.
Wallingford.
Oakland, A. O. Kasa.
Wankee.
Marathon, W. P. Kent.
Webster City.
KisselKar, Buell & Co.
Winthrop.
Oakland, Winthrop Auto Co.
Woodbine.
Maxwell, Tague Bros.

KANSAS.

Center.
Oakland, I. R. Watts.
Centralia.
Jeffery, E. F. Norris.
Hutchinson.
Jeffery, L. W. Eaton.
Metz, A. A. McKee.
Cartercar, A. A. McKee.
Newport.
Oakland, P. A. Martens.
Newton.
Oakland, Newton Garage & Auto Co.
Okaloosa.
Overland, S. McCright.
Ottawa.
Overland, John Nelson & Co.
Parsons.
Overland, Chapman Sales Co.
Princeton.
Overland, Blouch & Lawney.
Topeka.
Cole, Cole Motor Co., 206 W. Sixth St.
K-R-I-T, Cole Motor Co.
Overland, John J. Johnson.
Troy.
Oakland, Yates & Minter.
Wichita.
‡Imp, Kansas Cyclecar Co.

KENTUCKY.

Cynthiana.
Haynes, Cynthiana Carriage Co.
Frankfort.
Oakland, Frankfort Motor Car Co.
Glasgow.
Buick, Bradford Bros.
Lawrenceburg.
Buick, Strange, Hawkins & Witherspoon.
Louisville.
Mitchell, Ruby Carriage Co.
Studebaker, Bywater-Ortner Motors Co.
Maysville.
Maxwell, Mike Brown.
Monticello.
Oakland, Rex G. Carpenter.
Owensboro.
Oakland, Weill & Braynham.
Simpsonville.
Maxwell, Farmer's Supply Co.
Williamstown.
Maxwell, O. P. Elliston.

LOUISIANA.

New Orleans.
Haynes, G. F. Spence.
McFarlan, Case Sales Co., 840 Baronne St.
‡Imp, C. B. McConklin.
Shreveport.
KisselKar, Lowe & Feist, 114 Milan St.

MAINE.

Augusta.
Haynes, W. S. Ladd.
Bangor.
Oakland, Brown & White.

MARYLAND.

Baltimore.
American, Randall Mfg. Co.
Ford, Eastwick Motor Car Co.
Oldsmobile, Auto Sales Co.
Pullman, Automobile Service Co.
Stearns-Knight, Columbia Motor Co.
*Garford, G. P. Kurtz.
‡Imp, Imp Cyclecar Co. of Md.
‡LaVigne, Gilbert A. Wehr.
Bel Air.
Maxwell, C. Robie Grafton.
Cambridge.
Maxwell, Charles T. Mace.
Frederick.
Haynes, Chester Kemp.
Warwick.
Maxwell, R. B. Merrit & Son.

MASSACHUSETTS.

Boston.
Jeffery, C. P. Rockwell, Inc.
Pathfinder, Pathfinder Motor Car Co.
Saxon, Whitten-Gilmore Co.
‡Imp, C. P. Blake.
Cambridge.
*Wagenhals, M. B. M. Co., 4 Monroe St.
Groton.
Maxwell, J. F. Peabody.
Lawrence.
Moline-Knight, Harrison Turner.
Pittsfield.
Franklin, Pittsfield Carriage Co.
Maxwell, Phillip A. Lowe.
Springfield.
Haynes, Springfield Automobile Co.
Pullman, Hampden Auto Co.
Worcester.
Stearns-Knight, Adams & Knight, 118 Broad St.

MICHIGAN.

Battle Creek.
Maxwell, United Motors Co.
Bay City.
Chevrolet, G. & G. Auto Sales Co., 1009 Washington Ave.
KisselKar, G. & G. Auto Sales Co.
Detroit.
Saxon, Thomas J. Doyle, 268 Jefferson Ave.
Grand Rapids.
KisselKar, Frank F. Oswald.
Overland, Grand Rapids Overland Co.
‡Imp, Glenn H. Downs.
Greenville.
Maxwell, Hansen & Lyman.
Ida.
Maxwell, Ida Garage.
Ironwood.
Oakland, Nikula & Makela.
Kalamazoo.
‡Imp, F. W. Canley & Son.
Manistique.
Overland, E. J. French.
Muir.
Maxwell, Sykes & Dilley.
Rockwood.
Oakland, Austin B. Chapman.
Romulus.
Maxwell, John Petrasky.

MINNESOTA.

Albert Lea.
Maxwell, Jensen, Peterson & Hatterberg.
Appleton.
Maxwell, Appleton Auto Co.
Benson.
Maxwell, Edward Arneson.
Brandon.
Maxwell, Larson & Drexler.
Chaska.
Maxwell, Ese Bros., Third and Walnut Sts.
Cyrus.
Jeffery, H. C. Estby.
De Troff.
Jeffery, John J. Byrne.
Fairmont.
Oakland, A. H. Welchin.

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Gaylord.
Maxwell, Mueller Bros.
Giffon.
Jeffery, Johnson & Johnson.
Goodhue.
Jeffery, Davis & Johnson.
Granite Falls.
Maxwell, Arthur A. Winter.
Hutchinson.
Jeffery, W. W. Sivright.
Iona.
Haynes, C. Gehlsen.
Kenneth.
Paige, G. A. Knowlton.
Lanesboro.
Jeffery, G. J. McMaster.
Madison.
Maxwell, J. F. Jacobson Imp. Co.
Mankato.
Ford, H. H. Perrin.
Minneapolis.
Downing, Portland Auto Co.
Empire, Stimson Automobile Co.
Jeffery, P. J. Downes.
King, Martin Motor Sales Co.
Maxwell, Ballard Auto Co.
Mercer, Choate Auto Co.
Oldsmobile, J. Fawkes Auto Co.
Pullman, Portland Auto Co.
White, Merritt J. Osborn.
*Kelly, Skollett Co.
*Palmer-Moore, Motor Truck Sales Co.
‡Imp, Martin Motor Sales Co.
Minnesota Lake.
Maxwell, Peter Kremer Hdw. Co.
Morris.
Maxwell, Stone Imp. Co.
Morton.
Maxwell, Mertz & Hale.
New York Mills.
Maxwell, John H. Mursu.
Redwood Falls.
Jeffery, John Pearson.
Roscoe.
Crow Elk-Hart, Western Minnesota Auto Co.
Shakopee.
Ford, A. L. Hurr.
St. Paul.
Chevrolet, H. B. Allen.
Thief River Falls.
Jeffery, Tessum Feed, Grain & Supply Co.
Waterville.
Jeffery, G. W. Christman.
Winnebago.
Jeffery, E. O. Gulbronson.
Winona.
Jeffery, Nick Steffes.
Wood Lake.
Jeffery, W. O. Dillingham.

MISSOURI.

Bethany.
Crow Elk-Hart, B. P. Sigler.
Brookfield.
Oakland, Byron K. Newcomb.
Cameron.
Oakland, R. H. Holloway.
Cape Girardeau.
Hupmobile, Southeastern Motor Co.
Columbia.
Jeffery, West & Vanatta.
Crisfield.
Crow Elk-Hart, L. S. Nock.
Edina.
Maxwell, Crabbe & Kelly.
Farmington.
Metz, John L. Swind.
Hagerstown.
Oakland, Edward Strock.
Kansas City.
Empire, Western Motor Co.
King, Interstate Auto & Supply Co.
Packard, W. J. Parrish.
Pathfinder, Western Motor Co.
Read, A. Garnier.
*Mack, C. F. Rouze.
*Saurer, C. F. Rouze.
‡Imp, Motor Cycle and Cyclecar Sales Co.
Lancaster.
Meteor, W. O. Stacey.
Laurel.
Oakland, S. T. Baublitz.
Manchester.
Marathon, Manchester Auto Supply Co.
Poplar Bluff.
Richmond, Reliable Motor Co.
Salisbury.
Jeffery, Stamper & Shannon.
Oakland, Glen Purdue.
Skidmore.
Oakland, C. E. Graves.
St. Joseph.
Lozier, Armstrong Auto Co.
Oakland, Robertson Auto Co.
St. Louis.
Brown, Meyer Motor Co.
Diamond T, Meyer Motor Co.
Marathon, Lindell Auto Sales Co.
Mercer, J. L. Nugent.
Oldsmobile, C. G. Cabanne.
Speedwell, Meyer Motor Co.
*Garford, Capen Motor Car Co.
†Van Auken, Rauch & Lang St. Louis Co.
Valley Park.
Dorris, A. Stigerwald.
Wyaconda.
Crow Elk-Hart, Kerner Bros.

MONTANA.

Helena.
Hupmobile, F. B. Sheriff.
Hingham.
Maxwell, Hingham Garage Co.
Lewiston.
Jeffery, F. J. Robinson.

NEBRASKA.

Atkinson.
Maxwell, C. E. Havens.
Bloomfield.
Haynes, H. A. Dahl.
Brunswick.
Maxwell, Rose & Rasmusson.
Dodge.
Jeffery, A. Schlosser.
Freemont.
Moon, A. Keyen.
Hordville.
Oakland, Hordville Implement Co.
Leigh.
Maxwell, Leigh Motor Co.
Linwood.
Oakland, Stava & Franklin.
Long Pine.
Hupmobile, E. C. Engle.
Loup City.
Maxwell, Blaska & Woznick.
Minden.
Jeffery, Lars Gunderson.
Norfolk.
Maxwell, H. C. Sattler.
Omaha.
Cole, Drummond Motor Co.
Detroiter, T. H. Pollock Auto Co., 1910 Farnum St.
KisselKar, Opper-Van Vleet Co.
K-R-I-T, Opper-Van Vleet Co.
Regal, T. H. Pollock Auto Co.
‡Imp, Nebraska Cyclecar Co., 15th & Harney St.
Orleans.
Oakland, Lindeen Hdwe. Co.
Schuyler.
Jeffery, Schuyler Motor Co.
Wayne.
Maxwell, Grothe & Marsteller.
West Point.
Maxwell, Kerkow & Ickman.

NEVADA.

Reno.
Chalmers, Mack Auto Co.
Haynes, J. E. Threlkel.

NEW HAMPSHIRE.

Manchester.
Pullman, Firestone Garage.

NEW JERSEY.

Asbury Park.
*Groce, John Thomson, Main and Lake Aves.
Atlantic City.
KisselKar, Victor Garage.
Marathon, Atlantic Motor Sales Co.
Maxwell, Bateman Machine Co.
Bridgeton.
Cole, G. C. Westcott.
Camden.
Hupmobile, Reeves Garage & Motor Co.
Lozier, Reeves Garage & Motor Co.
Paige, Reeves Garage & Motor Co.
Delaware.
Maxwell, Duckworth & Quig.
Millville.
Maxwell, Conover & Whitaker.
Newark.
‡Imp, Cyclecar Distributing Co., 223 Halsey St.
‡Mercury, Cyclecar Distributing Co.
‡Packet, Cyclecar Distributing Co.
‡Rocket, Cyclecar Distributing Co.
New Brunswick.
Apperson, Belloff's Garage, 9 Albany St.
Oakland, John Buckelew.
Passaic.
Cole, Duncan Auto Co.
Paterson.
Cadillac, A. Brown Auto Co.
Tranquility.
Oakland, I. L. Labar.
Trenton.
Haynes, Toman Bros.
‡Imp, George B. Yard.
Vineland.
Maxwell, Edson & Unsworth.

NEW MEXICO.

Albuquerque.
Haynes, Albuquerque-Haynes Motor Sales Co.

NEW YORK.

Albany.
KisselKar, Park Garage Co.
Auburn.
KisselKar, Arthur H. Brown.
Babylon.
Maxwell, Capron Co.
Buffalo.
Briscoe, C. F. Monroe.
‡Imp, Ralph E. Brown Motor Car Co.
Carthage.
Overland, Elmhurst Garage.
Concord, S. I.
Oakland, Louis Blum.
Cortland.
KisselKar, T. E. Dye & Son.
Oakland, D. Gladding & Co.
Elmore, L. I.
KisselKar, Hoeffner's Garage.
Fulton.
Haynes, R. D. Piper.
Geneva.
Maxwell, Geneva Auto Co.
Hancock.
Cole, T. F. Simpson.
Little Falls.
Cole, Nellis B. Bronner.
New York City.
‡Imp, A. W. Fisher, 193 West St.
Ogdensburg.
Maxwell, Robert G. Chandler, 119 State St.
Olean.
KisselKar, Lester & Thomas.
Oneida.
Maxwell, Oneida Motor Car Co.
Oneonta.
Cole, James A. Dewar.
Oswego.
‡Imp, Kern Cyclecar Co.
Patchogue, L. I.
KisselKar, Bellman Auto Co.
Peekskill.
Herreshoff, H. F. Griffin.
Plattsburgh.
Maxwell, H. J. Morse.
Sandy Creek.
Ford, Mexico Motor Car & Supply Co.
Springwater.
Maxwell, E. W. Doolittle.
Stamford.
Cole, Robert Hume.
Syracuse.
Stevens-Duryea, S. W. Monroe.
Utica.
Franklin, Franklin Motor Car Co.
Watertown.
Haynes, J. M. Weeks.

NORTH CAROLINA.

Charlotte.
Haynes, Haynes Distributing Co.
Greenville.
Haynes, L. A. Randolph Co.

NORTH DAKOTA.

Fargo.
Cadillac, Horton Motor Co.

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Chalmers, Fargo Auto & Supply Co.
Franklin, Fargo Auto & Supply Co.
KisselKar, Ball Auto Co.
Reo, Fargo Auto & Supply Co.

Grafton.

Ford, M. E. Bye.

Hankinson.

Maxwell, Hankinson Auto Co.

Havana.

Metz, J. H. Anderson.

Velva.

Crow Elk-Hart, Edward Gilbertson.

OHIO.

Athens.

Franklin, C. H. Welch.

Caldwell.

Maxwell, Radcliff & Son.

Columbus.

Crescent, Craighead Motor Sales Co.
Davis, Jacob Renner, 1160 W. Broad St.
Ford, Jacob Renner.
Haynes, P. H. Rogers Motor Car Co.
Jeffery, Central Auto Vehicle Co.
‡Imp, Mercer Auto Sales Co.

Findlay.

Chevrolet, C. L. Fifer.
Hupmobile, C. C. Greeger.

Hillsboro.

Buick, Currie Motor Car Co.
Hudson, Currie Motor Car Co.

Lima.

‡Imp, Lima Cyclecar Co.

Marion.

‡Imp, Ohio Decorating Co.

Minerva.

Maxwell, Minerva Hdw. Mfg. Co.

New Lexington.

Buick, O. C. Dillow & Son.

Niles.

Ford, Cling G. Sigler.

Sandusky.

Haynes, Brost & Weier.
Packard, Brost & Weier.

Springfield.

Franklin, C. E. Jordan.
Haynes, C. E. Jordan.

Tiffin.

Buick, Harding & Harding.
Ford, Harding & Harding.
Maxwell, J. A. Manecke, 28 E. Market St.
Overland, H. J. Cochrel, 20 Sycamore St.
Saxon, Summers & Millers.
Studebaker, Summers & Millers.

Toledo.

Detroiter, W. H. McIntyre.
Jeffery, W. H. McIntyre.
Lyons-Knight, W. H. McIntyre.
Partin-Palmer, L. W. Morris.
Pullman, Bacon Bros.
Saxon, Union Supply Co.

Van Wert.

Maxwell, Gilliland & Garn.

Wellsville.

Maxwell, Wellsville Auto Company.

OKLAHOMA.

Apache.

Maxwell, Heriff & Loflin.

Oklahoma City.

Maxwell, Wheatly & Sharp, 505 N. Broadway.

Pawhuska.

Oakland, Esterbrook & Stephens.

Strong City.

Maxwell, Francis Walker.

Tulsa.

Apperson, J. A. Corray.
‡Imp, Everhart & Stockburger.

OREGON.

Ashland.

Oakland, Morris & Lidstromm.

Astoria.

Cole, J. A. Gilbaugh.

Corvallis.

Oakland, Myers Auto Co.

Eugene.

Maxwell, Independent Garage.
Oakland, Pacific Auto Co.

Grants Pass.

Oakland, J. H. Williams.

Island City.

Oakland, J. G. Quinland.

Portland.

Chevrolet, A. L. Smith.
Maxwell, Pacific Motor Co.
‡Imp, Berger Cyclecar & Supply Co.

Roseburg.

Cole, Joe Blosser.

Salem.

Oakland, Reis & Elgin.

PENNSYLVANIA.

Allentown.

Chandler, Universal Auto Co.
Hupmobile, Allentown Garage.

Ambler.

Haynes, Ambler Garage.

Butler.

Hudson, Huselton Automobile Co.
Overland, Huselton Automobile Co.

Clearfield.

Maxwell, Routch & Swartzle, Second St.

Du Bois.

Haynes, Johnston Garage.

Erie.

Grant, Dickinson Reeves Co.

Lebanon.

Maxwell, Steitz Motor Car Co., 622 Cumberland St.

Linesville.

Maxwell, Linesville Garage Co.

Mount Pleasant.

Haynes, McCurdy Auto Co.

Norristown.

Maxwell, C. R. Henricks.

Philadelphia.

*Koehler, D. Walter Harper Co.
‡Imp, Penn Cyclecar Co.

Phoenixville.

Maxwell, Edward C. Meier.

Pittsburg.

Briscoe, Highland Auto Co.
K-R-I-T, Pittsburgh Haynes Auto Co.
Saxon, Pittsburgh-Chalmers Co.
‡Imp, C. N. Leet.

Scranton.

Partin-Palmer, Conrad Bros.

Shickshinny.

Maxwell, J. D. Woodsworth's Sons.

South Brownsville.

Haynes, Dr. A. C. Smith.

West Sunbury.

KisselKar, W. P. Hilliard & Sons.

Wilkesbarre.

Maxwell, Robert Johnson, 12 N. Main St.

RHODE ISLAND.

Providence.

KisselKar, Nock Auto Co., 486 Broad St.
‡Imp, G. O. Satchell.

SOUTH CAROLINA.

Florence.

Oakland, G. C. Chandler.

SOUTH DAKOTA.

Aberdeen.

Franklin, Aberdeen Auto & Supply Co.

Armour.

Haynes, Loeffler & Edwards.

Claire City.

Maxwell, Claire City Auto & Machine Co.

Hecla.

Maxwell, Sandberg & Dinger.

Menno.

Oakland, G. A. Haisch.

Sioux Falls.

Haynes, C. O. Armstrong.
Maxwell, C. O. Armstrong.

Sissetson.

Maxwell, Tolgen Bros.

Vermillion.

Haynes, Thompson-Lewis Co.

Vienna.

Maxwell, James G. Eggen.

Watertown.

Maxwell, Hanten Machine Co.

TENNESSEE.

Chattanooga.

Maxwell, Chattanooga Motor Car Co.

Johnson City.

Marathon, Johnson Auto Co.

Memphis.

‡Detroit, Memphis Motor Car Co.

Nashville.

Marathon, State Motor Car Co.
Moon, J. H. Lawrence & Sons.
Partin-Palmer, James K. Burton Co.

TEXAS.

Abilene.

*Chase, W. H. Childers.

Amarillo.

Maxwell, W. E. Groendycke.

Annona.

*Chase, Blake Dellinger.

Brenham.

Maxwell, Fred C. Leesch.

Cleburne.

Oakland, Carson Auto Co.
*Chase, Barnes & Adams.

Coleman.

Oakland, W. A. Tray.
*Chase, Gray & Martin.

Colorado.

Oakland, W. J. Phoenix.

Corsicana.

Oakland, Warren & Urban.
*Chase, Hooser & Colquitt.

Dayton.

Maxwell, C. A. Brown.

Decatur.

*Chase, W. B. Man.

Denison.

Oakland, Pearce Auto Co.

Denton.

*Chase, Taylor Hardware Co.

Dilly.

Oakland, W. L. Crawford.

Edna.

Maxwell, J. W. Brickel.

Elcampo.

Maxwell, Oscar Shultz.

El Paso.

Hupmobile, J. S. & E. C. Morrison.

Ferris.

*Chase, L. W. Jones.

Flatonia.

Marathon, Flatonia Auto Co.

Forney.

*Chase, J. T. Dozier.

Fort Worth.

Hudson, Harrison-Vernon Motor Car Co.
Locomobile, Elsing Motor Co.
Packard, Harrison-Vernon Motor Car Co.

Geleste.

Oakland, Wittemore & Hutton.

Gainsville.

*Chase, W. L. Greenhill.

Garden City.

Oakland, E. S. Cobb.

Grand Laline.

*Chase, Griggers & Simpson.

Grapeville.

*Chase, R. L. Lucas.

Greenville.

Oakland, S. R. McWhirter.
*Chase, O. T. Engleman.

Hempstead.

Maxwell, William Wagnon.

Henderson.

Ford, Crow Bros.
Oakland, Lasey & Hightower.

Hillsboro.

Oakland, Newton & Porter.
*Chase, Hillsboro Garage.

Honey Grove.

Oakland, W. L. Dial.

Irving.

*Chase, C. L. Littlepage.

Jacksonville.

*Chase, J. L. Newsome.

Jewett.

Maxwell, Jewett Land Co.

Kaufman.

*Chase, G. C. Smith.

Kemp.

Oakland, H. W. Haynie.

La Grange.

Maxwell, La Grange Auto Co.

Lampasas.

Oakland, Lampasas Auto Co.

Marlin.

*Chase, McClelland & Phillips.

Marshall.

Oakland, L. S. Hawley.

Mart.

Oakland, Jaughn & Garner.

Mason.

Oakland, Eagle Auto Co.

McKinney.

*Chase, C. J. Smith.

Mineral Wells.

*Chase, Peake & Lafiln.

Palestine.

Oakland, John Ormond.

Prosper.

Oakland, A. P. Mahard.

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Richardson.
*Chase, W. E. Dean.
Rosedale.
Moon, B. Ashby.
San Antonio.
‡Imp, Texas Motor Truck Co.
Sonora.
Oakland, W. L. Aldwell.
Stephensville.
Oakland, John Gage.
Taylor.
Moon, Pruitt Auto Co.
Teague.
Oakland, L. R. Boyd.
Texarkana.
Oakland, Auto Co.
Thornton.
*Chase, J. P. Walling.
Trent.
Oakland, R. H. Reaves.
Vernon.
*Chase, E. L. Ladd.
Waco.
Oakland, Clem Bagwell.
*Chase, J. Morgan Auto Co.
Weatherford.
Oakland, Richards & Putnam.
*Chase, Quick Service Garage.
Whitewright.
*Chase, Lloyd Moore.
Wichita Falls.
Hupmobile, Schnell & Weaver.
Oakland, Schnell & Weaver.
*Chase, Jamison Hardware & Implement Co.
Windom.
*Chase, Claude Dowlen.
Wortham.
*Chase, Sneed & Weidner.

UTAH.

Fountain Green.
Ford, A. J. Aguard.
Salt Lake City.
Chevrolet, J. P. Folwer Mfg. Co.
Jeffery, Wright Motor Car Co.

VERMONT.

Barre.
Overland, H. F. Cutler.
Rutland.
Maxwell, R. V. Allen, Kendall Ave.

VIRGINIA.

Marion.
Maxwell, Marion Hdw. Co.
Petersburg.
Haynes, Central Motor Car Co.
Tom's Brook.
Maxwell, Snarr & Miley & Co.

WASHINGTON.

Colton.
Maxwell, Hornburg Auto Co.
Columbia.
Ford, Dahlen Auto Co.
Ellensburg.
Maxwell, Kittitas Automobile Co.
Franklin.
Ford, Dahlen Auto Co.
Garfield.
Ford, Dahlen Auto Co.
Goldendale.
Cole, R. D. Sunderland.
Johnson.
Maxwell, Hornburg Auto Co.
North Yakima.
Jeffery, Levi Z. Kass.
Maxwell, M. D. Baker Motor Car Co.
Port Angeles.
Maxwell, E. F. Stoner.
Seattle.
Haynes, N. J. Morehouse, 301 E. Pike St.
KisselKar, Metropolitan Car Co.
Pullman, Parker Bros. Motor Car Co.
*Four Wheel Drive, E. J. Kennedy.
†Detroit, Broadway Automobile Co.
†*Elwell-Parker, Broadway Auto. Co.
Shelton.
Maxwell, J. C. Pauley.
Spokane.
‡Imp, Brain & Clancey.
Tacoma.
Maxwell, George R. Green.
Studebaker, P. Leonard & Sons.
Umatilla.
Ford, Dahlen Auto Co.
Vancouver.
Jeffery, Sparks Supply Co.
Maxwell, Frank Willcox.

WEST VIRGINIA.

Fairmont.
Maxwell, Standard Garage.
Huntington.
Ford, Motor Sales Co.
Martinsburg.
Haynes, Martinsburg Auto Co.
Parkersburg.
Cole, E. E. Wilson.

WISCONSIN.

Abbotsford.
Maxwell, Gelhaus Bros.
Almond.
Maxwell, Hetzel, Justeson & Brochnow.
Antigo.
Metz, R. Tuthill.
Arena.
Maxwell, Orson E. Holly.
Ashland.
Oakland, Thomas McMahon & Son.
Athens.
Studebaker, Athens Implement Co.
Durand.
Maxwell, Bowman & McMahon.
Eau Claire.
Ford, Taylor Motor Car Co., 615 S. Barstow St.
Overland, Taylor Motor Car Co.
Reo, Taylor Motor Car Co.
Stevens-Duryea, Taylor Motor Car Co.
Glenwood City.
Overland, Jensen & Peterson.
Green Bay.
Maxwell, Conley Judd Motor Car Co.
La Crosse.
Haynes, T. T. Bergh.
Maxwell, Rybold & Weihaupt, 21 S. Front St.
Lone Rock.
Maxwell, B. M. Dewey.
Madison.
Haynes, Knipprath Motor Car Co.
Milwaukee.
Chevrolet, Frint Motor Car Co.
Jackson, Kittleman-Sherman Garage.
National, Hughes Motor Car Co.
Paterson, Wait Automobile Co.
†Century, Mitchell Auto Co.
‡Imp, Cyclecar Sales Co.
Richfield.
Maxwell, Richfield Maxwell Motor Co.
River Falls.
Chalmers, Ramer Garage.
K-R-I-T, Ramer Garage.
Oshkosh.
Franklin, F. S. Hoaglin Auto Co.
Sheboygan.
KisselKar, Sheboygan Auto & Supply Co.
Maxwell, E. & M. Motor Co.
Superior.
Maxwell, Allen Peck & Co.
Studebaker, Allen Peck & Co.

WYOMING.

Rawlins.
Maxwell, Homer A. France.

NEW CONCERNS AND BUSINESS CHANGES.

NEW GARAGES AND REPAIR SHOPS.

The Paris Auto Company, Paris, Ill., will open a new repair shop on North Central avenue.

Colburn & Son, Alturas, Cal., is preparing to open a garage in that town.

Charles A. Bowers, Whittier, Cal., has opened a repair shop at 126 North Washington avenue.

B. W. Livingston & Sons, Lestershire, N. Y., is conducting a garage on Baldwin street.

The Piqua Auto Sales Company, Piqua, O., has located its business at 431 Main street. A modern vulcanizing plant will be installed. Walter R. Snyder is the proprietor.

Campbell & Mong, North Baltimore, O., has opened a garage on North Main street.

R. E. Reynolds, Charles City, Ia., will open a garage on Water street.

Harris & Cate is preparing to open a new garage in Umatilla, Fla.

The Acorn Automobile & Storage Company, St. Louis, Mo., has leased the building at 3213 Olive street and will open a storage and repair shop.

The Bond Motor Company, Fargo, N. D., is located in its new modern garage at 219 N. P. avenue. The company handles the Jackson and Hupmobile cars.

The Pacific Car Company, Seattle, Wash., is now located in the new building on Harvard avenue. Repair and overhauling depots have been installed.

Louis A. Pachecho, Oakland, Cal., has opened a repair shop and general auto business and will operate under the name of the Louis Pachecho Automobile Company.

The White Garage, Creston, Ia., has been opened at 316 West Montgomery street. Robert S. Harshaw is the proprietor.

The Aylmer Motor Company has opened an up-to-date garage in Fargo, N. D.

The Briscoe Motor Company, Fredericksburg, Va., has opened a garage and salesrooms at Commerce and Winchester streets in the building formerly occupied by Boulware's garage. The company handles the Buick car.

Myers & Winkley, Marion, Kan., has leased the garage adjoining the Record office. It handles the Ford car.

Graham & Seale is planning to open a new garage in Lebanon, Tenn., in the near future.

J. P. Wouten, Abilene, Tex., has purchased a garage here and will call it the Auto Mart.

N. M. Cory and Homer Stanley, Oskaloosa, Ia., have opened a new garage and automobile agency on South First street.

I. T. Bogard, West Jefferson, O., has leased a portion of the building now occupied by the Novelty Sign Company, Kenton, O., and will open a garage, handling automobile supplies and accessories. The garage will have the unique name of "The Only".

J. J. Carson, Findlay, O., has purchased the Sterling barn at Bowling Green and will convert it into an up-to-date garage, where he will conduct a general automobile business.

A. A. Linfor, Clarion, Ia., has leased a building and will open a garage.

J. H. Sprague, Clinton, Ia., has opened a new and modern garage on South Quincy street, and is now ready for business.

Erich and Lewis Charlson, Randall, Ia., will open a garage in the near future.

The Commercial Auto Repair & Storage Company, 161 East Larned street, Detroit, Mich., has opened a new and spacious garage. The building offers accommodations for the storage of 150 cars and the repair of all makes of cars.

Clifton Friend, Lancaster, O., has opened a garage and tire vulcanizing works at 531 East Main street.

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Edward Coffey, Plattsburg, N. Y., has opened a new auto supply and repair shop at 67 Clinton street.

Mankin & Connell, Philadelphia, Penn., has opened a magneto service station at 1416 Vine street.

GARAGE TRANSFERS.

The Western Michigan Cadillac Company, Grand Rapids, Mich., has succeeded the Central Auto Company, taking over the garage now being erected on Legrave avenue, which, it is expected, will be ready for occupancy about March 1. No change has been made in the personnel of the company, each member continuing to devote his energies to the Cadillac.

H. DeCamp, Gaffney, S. C., has purchased the Holmes garage on Limestone street and will change the name to Gaffney garage.

M. E. Rafferty & Son, Sullivan, Ill., has purchased the Manley-Wilkins garage at Mount Carmel, Ill., and will conduct the business in an up-to-date manner.

Charles Davis and J. Harvey Rinker, Martinsburg, W. Va., have entered the garage trade in that city. They have purchased the Shenandoah garage.

W. J. Damoth, Grand Rapids, Mich., has purchased the garage of Edwin Mosher at Lake street and Diamond avenue, southeast.

Huhn & Magee, Glendora, Cal., has sold the Central garage to T. S. De Weese. The latter has taken charge and will operate it.

William Tennill, Taylor, Tex., has purchased the Dan Nowlin garage, better known as the Star garage, on East Fifth street. Barney Benefiel will be in charge of the repair department.

The Barringer Garage Company, Charlotte, N. C., is to take over the garage and supply end of the business of

Harry S. Houpt, Inc., New York Lozier Agency.

the Osmond L. Barringer Company. It will be located at 7-11 West Eighth street.

I. W. Phillips & Sons, Orlando, Fla., has purchased the garage of the Orlando Automobile Supply Company in that city.

The Norton Taxi Motor Company, Providence, R. I., has acquired the property and business of the Narragansett Hotel garage, the purchase having been made by Michael W. Norton. The business will be conducted at the present quarters.

E. C. Washington, Fresno, Cal., connected with the Washington Carriage Works, has purchased the Enterprise garage at Madera City, Cal.

Paul J. Scholz & Co., which operates a large and up-to-date garage in Whiting, Ind., has turned over its automobile business to William Zimmerman, who operates a garage on the boulevard. The two garages will be consolidated under his management, as Scholz & Co. has found it impossible to take proper care of its automobile business, because of other large interests requiring attention.

G. H. Crosby, Pomona, Cal., has sold his garage on Main street to H. A. Bowman and Lee Williams.

Comly S. Nagle, Pottstown, Penn., has purchased garage of Paul Dunlap, previously known as Dunlap & Cunningham, 115 High street, and has taken possession.

Ralph Sifford, Anna, Ill., has purchased the Hoffner garage and plans to reopen it soon.

The Jordan Auto Company, Willimantic, Conn., has purchased the automobile business of E. P. Chesbro Company, Main street.

M. Cornell & Co., Grafton, W. Va., has purchased the garage of the Grafton Motor Company, and will put in a full line of machinery and cars.

Wilbur Hunter and Harry Meyer, St. Marys, O., have taken over the auto supply store of Charles Wirtz, and will operate it in connection with their garage business.

George Hiner, Manhattan, Kan., has sold the Golden Belt garage to Leonard Anderson and William Strassen. Cole and Maxwell cars are being handled by **Mr. Hiner,** who retains the agency for these lines.

Charles M. Dodd, Houston, Tex., has purchased the Texauto Company on Main street and will conduct the business as a garage in the future. He will also conduct an automobile exchange.

The Genesee Motor Car Company, Syracuse, N. Y., has taken over the garage building at 428-434 East Jefferson street and will remove at once.

William Busick, Fort Morgan, Ia., has purchased the garage of the Hawkeye Company and will operate the business hereafter.

L. F. Baumann, Trenton, N. J., has taken over the garage at 210 West Hanover street and will handle a full supply of automobile accessories. A first class repair shop with new up-to-date machinery has also been added.

The Chalmers-Syracuse Company and the Onondaga Motor Company, Syracuse, N. Y., have merged and will occupy a new garage at 547 South Clinton street.

M. G. Hastings, Potsdam, N. Y., has become owner of the Island garage on Maple street and is installing new machinery and making other improvements in the building. The new owner will handle the Buick cars.

Shank Bros., Huntington, W. Va., has purchased the M. & M. garage and will operate it in the future.

Charles Kentopp, Falls City, Neb., has purchased the Central garage from William McDougal.

C. E. Drace, Pomona, Cal., has taken over the Pomona garage.

Haley & Sheraton, Everett, Wash., has purchased the garage and business of the Ferrell Auto Company, and will continue business in the old and new places.

D. Johnson, Meadville, Penn., has purchased the Robert garage on North street and will engage in the automobile business. The name has been changed to the Universal garage.

MISCELLANEOUS BUSINESS CHANGES.

The Hickman-Lauson-Diener Company, Milwaukee, Wis., agent for the Ford cars, has secured temporary quarters on Chestnut street.

The Binghamton Motor Car Company, Binghamton, N. Y., has leased a store building at 59 North avenue and will open an automobile and supply store.

The Erie Taxicab Company, Erie, Penn., will be located in a new building which will be erected at 14th street. The company's former garage at 120 West 12th street was destroyed by fire.

The Brown-Rowan-Buck Auto Sales Company, Indianapolis, which has the Studebaker agency in Indianapolis and vicinity, has taken over the parts department conducted by the Studebaker Corporation heretofore.

The Crown Motors Company, Chicago, formerly at 1303 Jackson boulevard, has opened salesrooms at 1712 Michigan avenue.

Walton & McFarland, Philadelphia, Penn., accessory dealer and distributor of the Peerless tire, trading under the firm name of the Century Auto Company, North Broad street, has dissolved partnership. Mr. McFarland, however, will continue business under the same firm name.

The Lynn Car Company, Lynn, Mass., handles the Buick and Metz cars for that territory. Herbert Kay is interested. The company has a service station at Silver Lake place.

The City Garage & Sales Company, Inc., and the Albert N. Phillips Electrical & Machine Works, Pittsfield, Mass., have been consolidated and will hereafter be under one roof at 501 North street. A. C. Johnson will have charge of the automobile department of the combined concerns. The garage has a capacity of 150 cars.

T. Whittle, Waterloo, Ia., has taken over the stock and business of the Black Hawk Company, at 417 Fifth street.

The Meely Rubber Company, Philadelphia, has sold its Washington, D. C., branch to the Firestone Tire & Rubber Company, Akron, O. It will be continued as a Firestone branch under the management of J. J. Haas.

The Oklahoma Motor Company, Oklahoma City, Okla., has sold its assets to Thompson & Bruington, which has moved to 126 West Grand avenue.

Frank S. Pattridge and Neil C. Cornell have entered into partnership to handle the Firestone-Columbus cars and trucks in Oneonta, N. Y.

The Great West Motor Car Company, Winnipeg, Man., will handle the Imperial and K-R-I-T cars in the provinces of Manitoba, Saskatchewan, Alberta and British Columbia. Arrangements are being made for a garage and showrooms and the manager is said to be a man well known in automobile circles in Winnepeg and Western Canada.

The Mandigo Auto Repair Company, Pittsfield, Mass., has rented the Ford repair shop in the rear, but still retains the vulcanizing, tire and accessory departments.

Denton & Anderson, Cleveland, announces that it is the successor to Denton & Flagg of Cleveland, Chicago and Detroit, in the same offices.

The Castle-Monson Company, Detroit, will be known

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to the trade hereafter as the F. E. Castle Company, 870 Woodward avenue. This comes as a result of F. E. Castle having purchased Mr. Monson's interests in the business. The company represents a number of large automobile accessory factories.

The Morgan & Torrenga Auto Company, Lafayette, Ind., will hereafter be known as Morgan, Torrenga & Snoddy.

E. A. Christiansen & Co., Sioux City, Ia., has purchased the entire stock and good will of the business heretofore conducted as the Inter-State Auto Supply Company. The concern acts as distributor for Maxwell, Oakland and McFarlan cars.

W. J. McCarthy, Bridgeport, Conn., has taken the agency for McGraw tires, manufactured by the McGraw Tire & Rubber Company, East Palestine, O.

A. B. Lanes, Camden, N. J., has taken over the management of the Palace garage on Haddon avenue. A full line of accessories and supplies will be carried.

The Kemco Electric Sales Company, Milwaukee, Wis., has opened offices at 454 Jackson street, where it will distribute Kemco fan type generators in that state.

The Excelsior Sales Company, Virginia, Minn., is the name of a new firm that will locate there.

The John V. Wilson Company, Boston, Mass., has secured the agency for the A. V. shock absorber. The address of the company is 320 Pleasant street.

Louis and Edward Roesch, Seattle, Wash., have opened salesrooms at 1112 East Madison street. They handle the Velie car.

H. Ross Maddocks, Boston, has secured salesrooms at 175 Pleasant street, where he will exhibit Stewart trucks and the new Twombly car to much better advantage than in his old quarters.

T. A. Riggs, Portland, Ore., who recently took the agency for King cars, has opened salesrooms at 72,078 Grand avenue, where all models will be on display.

The B. F. Wade Tire & Rubber Company, Los Angeles, Cal., has acquired the sales rights for the "Tyrian" tire

Owens Automobile Company at Sixth and Court streets.

Alexander C. Sutherland, Goshen, N. Y., formerly deputy county clerk, has entered the automobile business in that city.

A. H. McGraw, Syracuse, N. Y., who has handled bicycles and motorcycles for over 22 years in that city, has taken on automobiles. He has secured the Metz agency and will continue at his former location on West Jefferson street.

A. Hanton Chace, Los Angeles, Cal., has taken the agency for the Acme Torsion springs at 1044 South Olive street.

William Faats, Oswego, N. Y., owner of the Binghamton garage, has leased a building on North avenue and will open a salesroom for automobiles.

Haley & Sheraton, Everett, Wash., distributor for the Ford cars, will purchase the business of the Ferrell Auto Company. The concern will also handle the Buick and Cadillac cars.

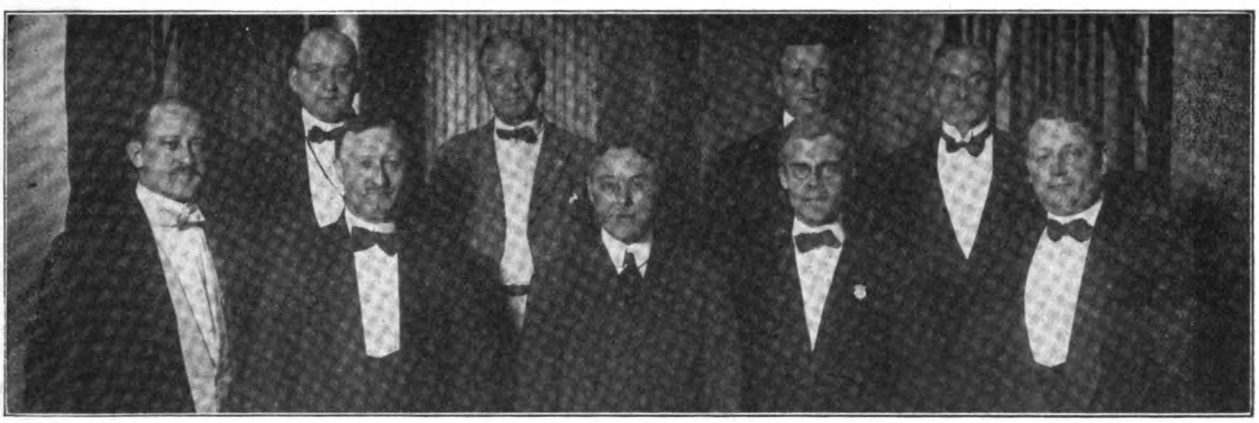
The Hartford Automobile Exchange, Hartford, Conn., will deal in second hand cars. The company is located in the Hartford National Bank building.

The M. & M. Sales Company, Reading, Penn., has taken the agency for the Prowodnik tires.

Bradley J. Saunders, Birmingham, Ala., formerly interested in the East Lake Land Company, has entered the automobile business, having taken over the agency for the Hudson cars. A company has been formed by him to be known as the Saunders Motor Car Company, and will be located at 422 South 20th street.

The Oregon Garage & Supply Company, Greenwood, S. D., has opened for business in the old quarters of the Greenwood garage on Maxwell avenue. O. M. Dantzler is president of the company and A. H. Jennings is manager. The company has the agency for Buick and Chevrolet cars.

The Western Motor Supply Company, Milwaukee, Wis., is the name of a new automobile firm located at 408 Jefferson street. The company will handle all lines of au-



Officials of the Buffalo Automobile Dealers' Association, Buffalo, N. Y., Including George H. Dreybus, Manager; Charles F. Monroe, Treasurer; John J. Gibson, Secretary; Howard B. Smith, Director; Arthur W. Halle, Director; Ralph E. Brown, President; Edward C. Bull, Director; Gustave C. Miller, Vice President.

in that territory. The company is located at 512 West Eighth street.

The East Nashville Auto Company, Nashville, Tenn., has been sold to J. L. Gaston and Thomas H. Christian. The new firm will begin business with a complete stock of automobile supplies.

The Belvidere Cycle & Supply Company, Belvidere, Ill., has opened a salesroom at 205 South State street. In addition to handling motorcycles the company will deal in automobile accessories.

Benjamin Smith and Ernest Woodman, Fairfield, Me., are about to enter the trade. They have leased a site and are erecting a building for their business.

Robert C. Crowthers, Cincinnati, has re-entered the trade, this time as a distributor of Lexington and Howard cars. He is located at 1815 Reading road.

Bowen & Crain is the name of a new concern at Redlands, Cal.

The Wichita Automobile Company, and the Wichita Garage Company, Wichita, Kan., have consolidated their business and will continue as a single company in the garage and salesroom at 231-37 North Lawrence avenue. The company will continue to handle the Pierce-Arrow, Chalmers and Reo, and the Waverley electric lines.

The Jawer's Auto Supply Company, Philadelphia, has opened an agency for tires, accessories and supplies.

The Brunn Carriage Manufacturing Company, Buffalo, N. Y., distributor for the Peerless and Hupmobile cars, has also taken the agency for the A. V. shock absorber.

L. C. Lessenich, Sioux City, Ia., owner of the Pioneer Automobile Company, has sold his stock to S. C. Brown.

George J. Bohen, Sacramento, Cal., representing Cuyler Lee of San Francisco, has opened headquarters at 3308 K street.

The Tyler Automobile Company, Pueblo, Col., agent for the Overland cars, has opened headquarters with the

tomobile, motorcycle and cyclecar supplies, and act as a jobber of automobile equipment as well.

The Bacon Wain Motor Sales Company, Toledo, O., has established salesrooms in a building at 1017 Jefferson avenue. The company is agent for the King, Empire and Pullman cars. It will also retain a repair shop at 840 Dorr street.

The Fisher Automobile Company, Indianapolis, Ind., has taken the agency for Hess-Bright ball bearings and will also handle all of the renewal business.

The DeLancy-Cope Tire & Rubber Company, Kansas City, Mo., is the name of a new tire firm located there, and quarters have been obtained at 407 East 15th street. The firm will be the local distributor for the Motz, Portage and Polack tires.

Newell & Eccles, St. Louis, Mo., has opened offices and salesrooms at 3104 Locust street, where it will do business as agent of the Empire gasoline economizer.

M. E. Le Bon and H. Mowbray, Brookline, Mass., have purchased the Corey road garage in that city and will conduct it in a high class manner, giving their patrons the very best of service.

The Jeffery Auto Sales Company, San Francisco, Cal., announces that its new display rooms at the service building, 56-72 12th street, are now in first class condition. The entire line of cars is shown here, and to much better advantage.

James Bennett, Rippey, Ia., has bought the business of the Graham Auto Company.

George H. Wike and Edward Keller, Barry, Ill., have entered the trade there. They will handle Maxwell cars.

S. W. Wexler, general manager of the United Auto Supply Company, New Orleans, La., will open an accessory store in Tucson, Ariz.

Allen & Hardy, Monticello, Ark., has opened an automobile supply store.

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REPORTED CHANGES IN TRADE ADDRESSES.

W. J. Marshall Auto Company, Detroit, from 703 Woodward avenue to 807 Slatten avenue.

Lincoln Motor Car Works, Chicago, from 319 North Albany avenue, Station D, to 926 South Homan avenue.

Bell & Waring Steam Vehicle Company, Inc., New York City, from 1748 Broadway to Phillipsburgh building, Yonkers, N. Y.

Anti-Rust Paint Company, Akron, O., from Second National building to 404 Broadway, Youngstown, O.

Hers & Co., New York City, from 295 Lafayette street to 245 West 55th street.

F. F. Merrel, Quincy, Mass., from 556 Washington street to 10 same street.

Progressive Auto Storage & Repair Shop, New York City, from 1876 Broadway to 102 West End avenue.

J. Henry Yockel, New York City, from 127 East 83rd street to 1058 Washington avenue.

A. H. O. Helwig, Detroit, from 747 18th street to R. D. No. 1, Anchorville, Mich.

United Motor New York Company, New York City, from 7 West 61st street to 16th street and East avenue, Long Island City, L. I.

John S. Harrington, Worcester, Mass., from 36 Central street to 55 Virginia street Springfield, Mass.

Gulf Motor Company, New Orleans, La., from 436 Baronne street to 1329 St. Mary street.

Manhattan Garage, New York City, from 53 East 84th street to 303 West 122nd street.

Schacht Motor Car Company, Cincinnati, O., from 2822 Spring Grove avenue to 703 First National Bank building.

Wahl Motor Sales Company, Detroit, Mich., 3089 East Grand boulevard to 214 Congress street.

Werner-Service Manufacturing Company, Jersey City, N. J., from 460 Mercer street to 263 Fremont street.

Energine Refining & Manufacturing Company, Cleveland, O., from 2005 Euclid avenue to 242 Arcade.

W. E. Teeter, Battle Creek, Mich., from 67 East Jackson street to 18 same street.

Robert S. Kennedy, New York City, from 640 Broadway to 1777 same street.

Burke Valve Company, Cleveland, O., from 233 Arcade to 5213 Windsor street.

Cleveland Builders' Supply Company, Cleveland, O., from Hipp building to 1031 Leader building.

Peerless Rubber & Tire Setter Company, Toledo, O., to 391 Humboldt street, Detroit, Mich.

Midland Manufacturing Company, Saginaw, Mich., to Morgantown, W. Va.

Steel Cushion Tire Company, New York City, from Marbridge building to 1 West 34th street.

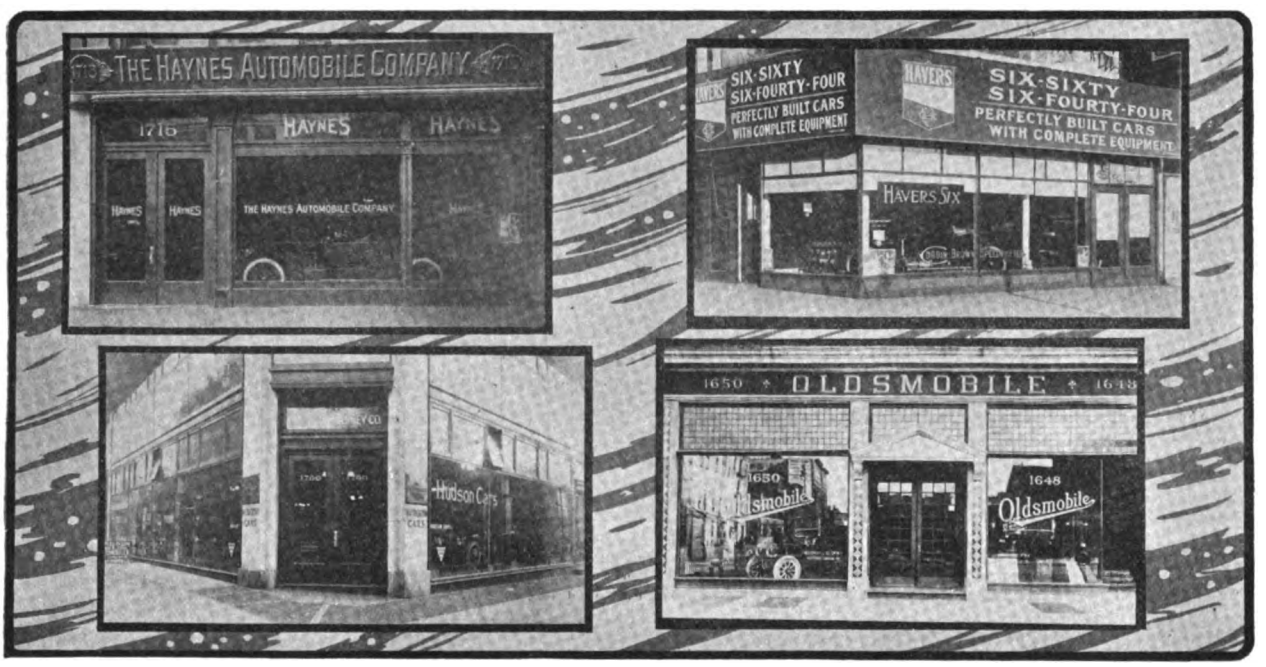
Nyberg Auto Agency, New York City, from 200 West 34th street to 28 West 63rd street.

R. V. Motorcycling Company, Cleveland, O., from 7706 Lake street to 4107 Franklin street.

Clifton Auto Garage, Cleveland, O., from 18,506 Delcort street to 1389 Sloane avenue.

No Shammy Funnel Company, Cleveland, O., from 5723 Hugh street to 1217 Huron road.

A. C. Danver Company, Providence, R. I., from Hospital and Borden streets to 20 Broadway, Pawtucket, R. I.



A Quartette of New York Car Agencies: Upper Row, Haynes Automobile Company, Haynes, and K. C. Pardee, Inc., Havers; Lower Row, A. Elliott Ranney Company, Hudson, and Cutting, Larson Company, Oldsmobile.

Boyle Motor Car Company, Lexington, Mo., to 4529 Warnell road, Kansas City, Mo.

Higgins Machine Company, Santa Barbara, Cal., from 418 State street to Carpinteria, Cal.

La Motor Car Company, New Orleans, La., from 745 Baronne street to 746 St. Charles street.

Paul D. Messner, Harrisburg, Penn., from 1119 Montgomery street to 1118 James street.

S. G. Sweetzer, Harrisburg, Penn., from 105 Market street to 1002 same street.

A. T. Nobles, New Orleans, La., from 1423 Baronne street to 1618 same street.

Ajax Battery Company, Chicago, Ill., from 1610 Michigan avenue to 1508 same street, Central station.

Artisan Brass Company, Chicago, Ill., from 1452 North Clark street to 218 North Jefferson street, Canal station.

Cleveland Electric Storage Battery Company, St. Louis, Mo., from 410 South Seventh street to 108 North 12th street.

Specialty Sales Company, Racine, Wis., from Box 177 to 15,110 Clifton boulevard, Lakewood, O.

Johnstone Auto Lock Company, Cleveland, O., from 2001 Euclid avenue to 716 Williamson street.

E. H. Bryant Company, Cleveland, O., from 1841 Euclid avenue to 5211 Windsor avenue.

Aull-Sides Klean Company, Cincinnati, O., from 317-330 East Fifth avenue to 1932 West Eighth street.

Welton Auto Fender Company, Columbus, O., from 20 West Spring street to 25 Columbus Arcade.

L. & M. Supply Company, Cleveland, O., from 2362 Euclid avenue to Carrollton, O.

Abbott Motor Sales Company, Toledo, O., from 1520 Madison avenue to 1010-12 same street.

McCarthy, Sutherland & Roberts, New York City, from 1876 Broadway to 102 West End avenue.

Eldridge & Hall, Sumter, S. C., to Orangeburg, S. C.

H. W. Cooper's Auto Garage, Sumter, S. C., to Maysville, S. C.

Lewis Garage, Providence, R. I., from 258 Waterman street to 258 Waterman avenue.

Walter F. Magill, New York City, from 30 Church street to Hotel Cadillac, 43rd street and Broadway.

Sherry Auto Cab Company, New York City, from 649 St. Nicholas avenue to 561 West 169th street.

D. L. Ormsby, New York City, from 447 West 151st street to 2208 Avenue G, Galveston, Tex.

Thos. Potter, Sons & Co., New York City, from 41 Union square to 25 Madison avenue.

El Arco Radiator Company, New York City, from 6 East 31st street to 54th street and West End avenue.

Reliance Manufacturing Company, New York City, from 253 Broadway to 84 Chambers street.

Myranda Motor Car Company, St. Louis, Mo., should be Myronda Motor Car Company, 302 Dolph building.

Barger Auto Company, Cleveland, O., is now W. H. Barger Company, 5017 Euclid avenue.

Essenkay Company, Chicago, Ill., is now Essenkay Products Company, 543 Orleans street.

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AUTOMOBILE PATENTS GRANTED RECENTLY.

Motor, Harry W. Bolens, Port Washington, Wis.; No. 1,081,946. Filed May 26, 1911.

Carbon Removing Process, Harley M. Eller, Wollaston, Mass., assignor to Norfolk Manufacturing Company, Boston, Mass.; No. 1,081,950. Filed Jan. 27, 1913.

Means for Reversing Motor, Alan Ernest Leofric Chorlton, Manchester, England; No. 1,082,068. Filed March 18, 1913.

Lamp Bracket, Henry Alexander Goff, Englefield, England, assignor to John Drake, Egham, England; No. 1,082,079. Filed Jan. 23, 1912.

Resilient Tread, Philip W. Pratt, Boston, Mass.; No. 1,082,096. Filed March 23, 1912.

Motor, Malcolm W. Quiggle, Brooklyn, N. Y.; No. 1,082,138. Filed Feb. 17, 1912.

Device for Preventing Excessive Pressure in Pneumatic Tires, Walter H. Van Winkle, Newark, N. J.; No. 1,082,182. Filed July 15, 1911.

Spring, Adolphe Vermersch, Lille, France; No. 1,082,217. Filed Sept. 16, 1912.

Stretcher or Bed for Automobiles, Ralph Leonard Bradley, Stellacoom, Wash.; No. 1,082,223. Filed May 9, 1913.

Cooling Apparatus, Edgar de Normanville, Bayswater, England.; No. 1,082,233. Filed April 28, 1913.

Motor, Enoch Prouty, Chicago, Ill.; No. 1,082,237. Filed Jan. 9, 1908.

Demountable Rim, Robert W. Ashley and Frank Oberkirch, New York City; No. 1,082,299. Filed Feb. 19, 1912.

Enclosure for Motor Car Body, August and Conrad Geissel, Philadelphia, Penn.; No. 1,082,316. Filed April 5, 1913.

Spring Wheel, Edmond R. White, Plattsburg, N. Y.; No. 1,082,380. Filed March 26, 1913.

Two-Cycle Motor, James Leonard Campbell, Barryton, Mich.; No. 1,082,402. Filed July 10, 1912.

Lifting Jack, Samuel Craig, Decatur, Ill.; No. 1,082,412. Filed Nov. 19, 1912.

Fender, Julius Didschunelt, Camden, S. C., assignor of one-fourth to Leguel A. Wittkowsky, same city; No. 1,082,415. Filed Sept. 10, 1913.

Motor Plow, Orville E. Pattison, Winamac, Ind.; No. 1,082,440. Filed July 6, 1910.

Automobile Skid, Forrest G. Smith, Fitchburg, Mass.; No. 1,082,449. Filed Nov. 30, 1912.

Resilient Tire, Charles F. Strohn, Carthage, Mo.; No. 1,082,453. Filed Oct. 21, 1911.

Folding Top, Arthur Nolan Chenoweth, Waterbury, Conn., assignor of one-half to W. Richard Upson, same city; No. 1,083,273. Filed Aug. 27, 1912.

Windshield, Frank J. Falter, Norwalk, O.; No. 1,083,276. Filed Dec. 7, 1911.

Auto Sled, Michael Weidner, Lake Henry, Minn.; No. 1,083,312. Filed Oct. 2, 1912.

Spring Wheel, Lawrence W. Brown, Clinton, Mo.; No. 1,083,316. Filed May 11, 1912.

Detachable Rim, Arthur Frederick Gunstone, Bath, England, assignor to Captain Motor Wheel Company, Ltd., Bristol, England; No. 1,083,321. Filed April 14, 1910.

Lubrication Mechanism for Combustion Engines, Vincenzo Lancia, Turin, Italy; No. 1,083,329. Filed March 23, 1911.

Lubricating System, Harvey F. Maranville, Akron, O., assignor to Perfection Spring Company, Cleveland, O.; No. 1,083,332. Filed June 29, 1910.

Detachable Wheel, Leon Montupet, Paris, France, assignor to La Societe Montupet & Cie., Nogent-les-Viergenes, Oise, France; No. 1,083,334. Filed Aug. 2, 1912.

Resilient Wheel, William A. Genringer, Allentown, Penn.; No. 1,083,396. Filed March 10, 1913.

Steering Wheel Mechanism, James E. Hanger, Jr., Atlanta, Ga., assignor of one-half to James H. Fenner, Jamestown, N. Y.; No. 1,083,399. Filed Dec. 4, 1909.

Gasoline Tank, William H. Smith, St. Paul, Minn.; No. 1,083,413. Filed Aug. 5, 1912.

Motor, Mark B. Crist, Pittsburg, Penn., assignor, by mesne assignments, to Colonial Trust Company, trustee, same city; No. 1,083,433. Filed April 20, 1910.

Tire Inflation Apparatus, Otto Ebert, Ironton, O.; No. 1,083,440. Filed Sept. 23, 1912.

Starting Device, Charles L. Montroy, Coahoma, Miss.; No. 1,083,457. Filed Sept. 27, 1912.

Wheel, Charles F. Womeldorf, Washington, D. C., assignor of one-half to William H. Rickard, Harrisonburg, Va.; No. 1,083,513. Filed May 19, 1913.

Speed Controlling Device, Sanford Keith Evans, Elmsford, N. Y.; No. 1,083,525. Filed March 26, 1913.

Electric Searchlight, Jean Gallay, Geneva, Switzerland; No. 1,083,530. Filed Jan. 6, 1913.

Air Tube for Pneumatic Tires, William R. Blowers, Toronto, Ont.; No. 1,083,584. Filed July 5, 1913.

Turntable, Joseph J. Grammes, Lakewood, O.; No. 1,083,609. Filed Aug. 4, 1913.

Tire, Paul Richter, Berlin, Germany; No. 1,083,632. Filed Feb. 8, 1912.

Non-Skidding Device, William Wenom, Kirkwood, Mo.; No. 1,083,644. Filed April 30, 1913.

Resilient Tire, Darwin H. Donachy, Williamsport, Penn., assignor of forty-nine one-hundredths to D. Tuttle Mahaffey, same place; No. 1,083,670. Filed Dec. 14, 1912.

Motor, Russell Scott Ellis, Philadelphia, Penn.; No. 1,083,673. Filed March 12, 1913.

Speed Controlling Device, Willis J. Perkins, Grand Rapids, Mich.; No. 1,083,701. Filed July 12, 1911.

Wheel, Gerome F. Tadini, New York City; No. 1,083,709. Filed Jan. 20, 1913.

Shock Absorber, Joseph Dunn, Philadelphia, Penn., assignor of one-half to Leon Courtin, same city; No. 1,083,734. Filed May 28, 1913.

Control Lever Locking Device, James W. Boult, Spokane, Wash.; No. 1,083,793. Filed Aug. 8, 1912.

Tire, Carter J. Butts, Boston, Mass.; No. 1,083,798. Filed May 25, 1911.

Rotary Valve, Otto Ernst, Larchmont, N. Y.; No. 1,083,812. Filed April 9, 1912.

Number Displaying Device, William Falke, Ithaca, Neb.; No. 1,083,813. Filed Oct. 9, 1912.

Fender, Domizio Ghezzi, New York City, assignor of one-half to Angelo Zerbarini, same city; No. 1,083,824. Filed June 10, 1913.

Non-Skid Tire Shoe, Herman Strongson, New York City; No. 1,083,869. Filed Feb. 15, 1913.

Tread Attachment, John W. Marston, Jr., Mobile, Ala.; No. 1,083,886. Filed July 2, 1912.

Starting Mechanism, Edmond Fillettaz, Lyons, France; No. 1,083,929. Filed Aug. 2, 1912.

Electric Spark Producing Apparatus, George W. Wacker, New York City, assignor to J. S. Bretz Company, same city; No. 1,083,964. Filed Aug. 10, 1908.

Pneumatic Suspension, John Williamson, New York City, assignor of one-half to Warren Y. Huff, Brooklyn, N. Y.; No. 1,083,969. Filed March 26, 1912.

Resilient Wheel, Alfred R. Wylie and James G. Wright, Big Spring, Tex.; No. 1,083,970. Filed Nov. 11, 1912.

Taximeter, Walter Lewin, Aberdeen, Wash.; No. 1,084,018. Filed July 31, 1911.

Tire, James McNamee, Amsterdam, N. Y.; No. 1,084,025. Filed Sept. 30, 1909.

Fender, Richard E. Morrow, Broken Arrow, Okla.; No. 1,084,026. Filed Nov. 12, 1912.

Carburetor, Frank S. Pierce, Minneapolis, Kan.; No. 1,084,028. Filed April 22, 1912.

Horn, Victor E. Tollefson, Elk Point, S. D.; assignor by mesne assignments to International Automobile Supply Company; No. 1,084,675. Filed June 5, 1912.

Resilient Tire, Daniel H. Deery, Bridgeport, Conn.; No. 1,084,731. Filed Feb. 6, 1913.

Motor, Richard H. Morrow and James Morrow, Waukegan, Ill.; No. 1,084,749. Filed March 17, 1910.

Electric Ignition Plug, Leon Auguste Mazellier, St. Pierre le Moutier, France; No. 1,084,808. Filed Feb. 9, 1911.

Igniting Device, John Glen Newman, Milson's Point, near Sydney, New South Wales; No. 1,084,815. Filed Dec. 16, 1912.

Cushioned Suspension, William L. L. Pelitz, Selkirk, N. Y.; No. 1,084,819. Filed June 29, 1912, continued from May 22, 1911.

Tractor and Trailer Combination, Theodore Pescatore, Liege, Belgium; No. 1,084,820. Filed July 6, 1911.

Spark Plug, Charles W. Beck, Rockville Center, N. Y.; assignor by mesne assignments to Michigan Motor Specialties Company, Detroit; No. 1,084,838. Filed March 17, 1910.

Steering Gear, William A. Campbell, Maricopa, Cal.; No. 1,084,844. Filed Oct. 21, 1911.

Tire, Cristina Mabel Liged, London, England; No. 1,084,864. Filed Dec. 26, 1912.

Spring Wheel, Gloster J. Garrett and Herbert C. Garrett, Richmond, Ind.; No. 1,084,882. Filed April 12, 1913.

Muffler, Edward Holzwarth, Miller, S. D.; No. 1,084,883. Filed May 20, 1913.

Pneumatic Tire Casing Repair Device, Joseph N. Newsom, St. Louis, Mo.; assignor of one-fourth to Frank Niemann of St. Louis and one-fourth to Louis W. Hottel, Chicago; No. 1,084,895. Filed Jan. 29, 1912.

Shock Absorber, Carl P. C. Bretschneider, Philadelphia, Penn.; No. 1,084,925. Filed Aug. 20, 1913.

Carburetor, Elmer Nice, Philadelphia, Penn.; No. 1,084,954. Filed Nov. 26, 1912.

Anti-Slipping Device, Howard J. Otis, Walton, Ore.; No. 1,084,957. Filed Aug. 20, 1913.

Transmission Gearing, John S. Peters, Scottdale, Penn.; assignor of one-half to Charles H. Loucks, same place; No. 1,084,959. Filed May 10, 1913.

Motor, John E. Stevens, Kewanee, Ill.; No. 1,084,977. Filed June 20, 1912.

Automobile Sleigh, William John Wright and Robert Hichens Hockin, Oak Lane, Manitoba, Can.; No. 1,084,997. Filed Feb. 5, 1913.

Carburetor, Herbert Austin, Bromegrove, England; No. 1,085,003. Filed July 25, 1913.

Tire, Reuben Davis S. Bennett, Springfield, Mo.; No. 1,085,010. Filed Sept. 19, 1912.

Spark Plug, Adolfo de Clairmont, Toledo, O.; assignor to the Toledo Automobile Devices Company, same city; No. 1,085,024. Filed Aug. 21, 1911.

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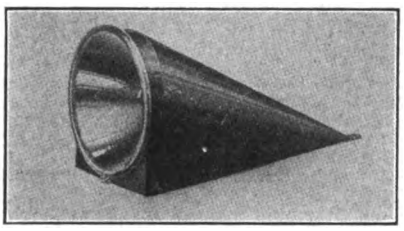
ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

J-M LOBSTER EYE.

Adjustable Electric Headlight for Fender.

The H. W. Johns-Manville Company, New York City, is marketing the J-M lobster eyes, which are made



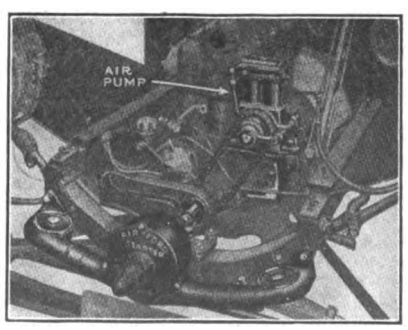
in two styles, these differing in the size of lamps employed. The lobster eyes consist of a lamp fitted with a stamping so that they can be attached to the top of each front fender in line with the radiator. The style C fits loosely in the stamping and can be turned in any position over an arc of 30 degrees so as to throw the light directly in front of the car or at a distance as desired. When the proper adjustment is obtained, the lamp is permanently set by means of a small screw. A six-inch reflector is utilized, and the wires are led through suitable tubing to the lobster eye. All leads are concealed.

KELLOGG FORD STARTER.

Spins Crankshaft by Use of Compressed Air.

The Kellogg Manufacturing Company, Rochester, N. Y., maker of power tire pumps, etc., has brought out a compressed air starting system for the model T Ford car. It comprises in combination a pump and starting mechanism, storage tank, gauge, starter button and pump control. As shown by an accompanying illustration, the installation involves the addition of a small bracket at the front of the car, which does not detract from its appearance.

The unit comprises a cylinder, the piston of which is actuated by air entering from the tank and at high speeds. A chain connected with the piston operates a drum in the housing mounted at the front of the car. This chain makes one complete turn around the drum. The fan belt pulley is replaced with a combination pulley, sprocket for driving the pump, and a clutch which automatically engages with the motor when the starter is operated. The application of the air is gradual, but the power developed during the balance of the piston travel is such as to spin the motor. A spring returns the drum, preparing for a second application of energy. It is automatically performed.



All working parts are fully enclosed, and provision is made for inflating tires. Control of the pump for storing compressed air is by a button, and a similar member operates the starter. Several starts are held to be possible with one charging of the tank.

AUTO SIGNALITE.

Rear Signalling Device Operated by a Lever.

The Auto Signalite, made by the Auto Signalite Company, 735 Seventh avenue, New York City, differs from the conventional types of signalling devices in that a small lever is utilized to operate it. The lever is operated by the driver slightly in anticipation of stopping, turning to the right or left, or continuing in the original direction.

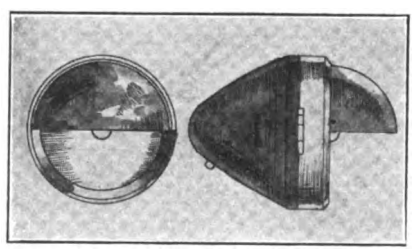
Combined with the signal is a tail light and number plate bracket, these being compactly arranged in a cylin-

der having dimensions of 5.5 by 12.5 inches. The company states that the installation can be made easily and that the Auto Signalite can be attached to any part of the rear of the vehicle. An electric light illuminates the words, "Stop", "Right", "Left" and the red light.

BROWN HEADLIGHT.

Mechanically Controls and Deflects Rays of Light.

The Brown Company, Syracuse, maker of power tire pumps, has brought out the Brown deflecting

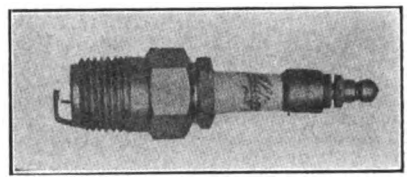


headlight, which, as the name implies, is a device for controlling the light rays and without the usual dimming arrangement. The control is mechanical, the movement of the shutter being obtained by the use of an individual, compact motor. The operating switch may be located as desired. A semi-dome metal deflector or shutter, the drop of which may be regulated, acts on the horizontal and upward rays to the extent of changing their course, forcing a large number of them downward and ahead. This eliminates the glaring effect without sacrificing efficiency and conforms to the ordinances prohibiting the use of blinding headlights.

ALDING SPARK PLUG.

Is High Grade, Moderately Priced and Guaranteed.

The Alsten & Goulding Company, 36 Foster street, Worcester, Mass., is producing a high grade spark plug,



called the Alding, which is marketed at a low price and carries a liberal guarantee. While designed for service with all types of internal combustion engines, it is especially serviceable for the model T Ford motor.

The company states that any motorist purchasing an Alding plug, and not finding it satisfactory, can return same for replacement. The mileage is unlimited. The porcelains utilized in the Alding are made from a secret formula from the best imported clays, and are hand turned. They are constructed to be as nearly heat proof as possible, and any that crack with heat will be replaced free of charge. All parts are interchangeable, and the porcelains are inexpensive. The Alding is made in various threads, and retails for 75 cents.

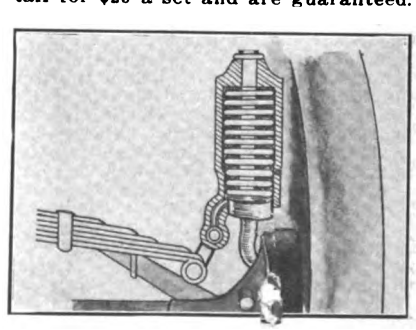
K-W ROAD SMOOTHERS.

Designed Especially for Model T Ford Automobiles.

The K-W Ignition Company, Cleveland, O., is manufacturing the K-W road smoothers for the model T Ford automobile and the company states that they are not shock absorbers. It is held that the tires may be pumped up to the maximum pressure without affecting the resiliency, as the K-W has a cushion effect, taking up vibration, shocks, etc.

The smoothers come four to a set, being utilized both front and rear, and, as will be noted by an accompanying illustration, comprise a simple arrangement of a spring hanger with an additional coil spring which is substituted for the regular Ford spring hangers. The K-W springs support the regular members and it is held that they are anti-synchronous with them, but do not retard their action.

It is stated that the smoothers may be attached without drilling or any other alterations. All that is necessary is to relieve the springs of the weight of the car, displace the spring hangers, place the smoother in position and shackle the end of the main spring to the K-W device. They retail for $25 a set and are guaranteed.



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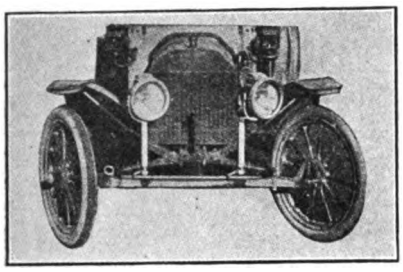
SAFETY FIRST HEADLIGHTS.

Automatically Turn with Front Wheels, Eliminating Glare.

The Headlight Support Company, Detroit, is manufacturing the Safety First turning headlights for which a



number of practical advantages are claimed. They are of the moving type, being actuated by connections to the tierod of the machine so that when the steering wheel is rotated the headlights are turned in the same direction as the front wheels. The supports are fastened to the frame in much the same manner as the conventional method of attachment.

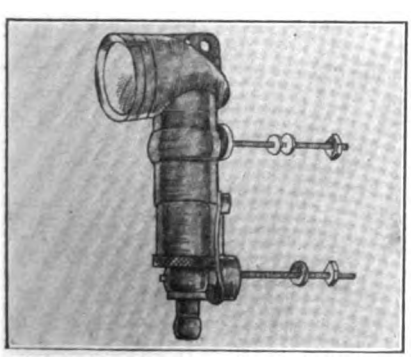
The particular advantage emphasized by the Safety First device is that in rounding curves and turning corners the road is lighted on the side not illuminated by fixed headlights. Another feature claimed is that in meeting an approaching car the lights may be so turned as to eliminate the glaring effect.

ROFFY ELECTRIC LAMPS.

Eliminate Glare—Are Attached to Radiator.

The Roffy-Grace Corporation, 1926 Broadway, New York City, is introducing the Roffy lamp, which presents a number of interesting features, among them being the elimination of glaring effects, the inventor stating that the non-blinding quality does not impair the efficiency of the light. The Roffy lamp is not only a neat, compact design, but its light weight permits of installation on the radiator, two .1875-inch bolts being employed. These are inserted between the fins. The company states that the method of locking prevents vibration and that the radiator cannot be damaged by the bolts which retain the lamps in place.

Glare is eliminated in the Roffy design by the use of a conically shaped achromatic light beam with sharply defined edges, so projected that the upper boundary is parallel with the ground. This light is rectified for chromatism, aberration and diffraction, producing an even field of white light. It is stated that the rays will illuminate for about 1.5 city squares, and since the upper edge of the light beam is never more than 4.5 feet from the ground, there is no glare into the eyes of persons on the highway or in approaching vehicles.

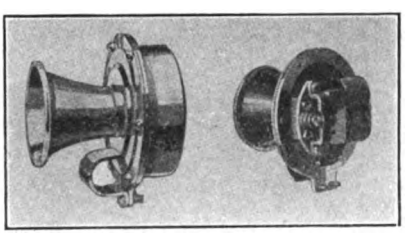


The lamp itself is tubular. Located at the bottom of the tube is a mushroom shaped tungsten bulb, above the flattened portion of which is a plano convex condensing lens that collects the rays. Above this lens is a double convex lens, which converges the light beam upwards against a mirror placed at such an angle that the light beam is reflected horizontally through the projection lens.

MAXI II HORN.

Compact and Designed Especially for Use with Motorcycles.

The Dean Electric Company, Elyria, O., which concern markets a number of electric horns, is producing a new type termed the Maxi II, which is designed especially for motorcycles. It is a popular priced signal; provides a sharp, abrupt, penetrating sound, and it is stated it requires but

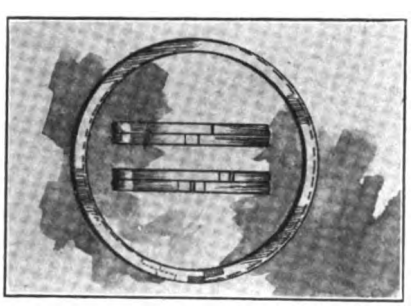


little current to operate. A special lever type push button is included in the equipment, it being mounted on the handlebar close to the grip. It is of the quick acting type and easily operated. The finish of the Maxi II is baked enamel and the switch is nickelled. Suitable length of flexible cord and clips accompany each horn. The company is marketing a battery case which holds two No. 1 flashlight cells, capable of operating the horn for a considerable period. The connections of the case permit of the use of one or both cells as desired.

DUPLEX PISTON RING.

Maker Claims Oil and Gas Tight Features.

The Duplex piston ring is manufactured by M. L. Dunham, 140 West



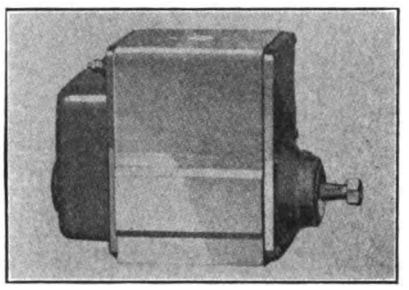
52nd street, New York City, and the maker states that when fitted to a piston the gas cannot pass the rings; that smoking is eliminated and that the efficiency of the motor is improved. One of the qualities claimed for the Duplex is that wear does not affect the joints. It is also stated that it remains sealed at all times.

It is further held that the tension of the ring is balanced or even, and that its gas tight feature is obtained with a very light pressure. When in service the ring has an outward tension, also a double spiral tension; that is, the free ends not only exert a force outwardly, but expand radially in opposite directions around the cylinder wall, and will fit themselves to a worn or new cylinder.

ELYRIA-DEAN DYNAMO.

Lighting System Adapted to the Small Motor Car.

The Dean Electric Company, Elyria, O., is manufacturing a dynamo lighting system especially adapted to



the small car, which is termed the Elyria-Dean II. The company states that each element is made to do the work most efficiently, cutting down the weight to a minimum, and obviating complications in mounting and wiring. The system was brought out to meet the demand of owners who desire other than a standard equipment and of large output capacity.

The dynamo is very compact and has a self-contained reverse current cut-out, and the equipment includes a combined lighting switch, current indicator and connecting rack, and a 40 ampere-hour capacity storage battery. The dynamo is cut in at 700 revolutions a minute of the armature, and carries all lights dim at 1000 revolutions, and bright at 1400. The drive ratio of the Elyria-Dean is 2:1.

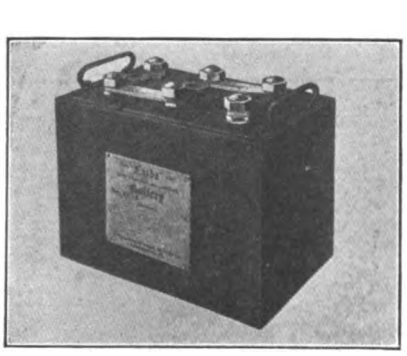
The output is controlled by a special arrangement of the windings and by a particular design of the magnetic field, a construction which the company states eliminates moving and adjustable parts. The action of the dynamo, as well as the reverse current cut-out, is shown at all times by a special indicator located in the dash switch.

EXIDE TYPE X BATTERY.

New Design for Service with Motor Starters.

The Electric Storage Battery Company, Philadelphia, is producing a new type of battery for service with electric motor starters, termed the Exide type X. It is designed to meet the exacting requirements of starting motors and lighting systems, is very compact and is constructed with the same care characteristic of the product of this concern.

Individual cells are utilized, and these are closed at the top by means of a cover having an inner sealing flange and an outer flange which encloses, supports and protects the top edge of the bar. The maker states that the covers will not catch and retain dirt or water, and that it can be cleaned easily. An important feature is the gas vent and filling aperture, which is so arranged as to limit the amount of water that can be used.



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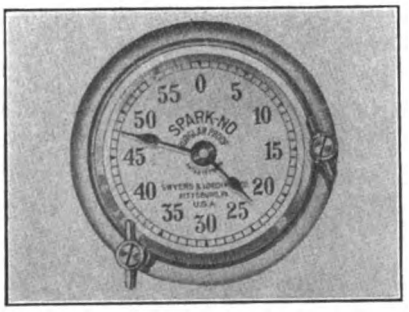
SPARK-NO LOCK.

An Ingenious Device for Locking the Ignition.

The Spark-No automobile lock is marketed by the H. W. Johns-Manville Company, New York City, and is



an ingenious device for locking the ignition of the motor car and preventing use of the machine by others than those intended. It is attached to the dash, and the hands are moved over a calibrated dial by means of two little knobs. These are used for starting for battery and running for magneto, and one of the qualities is that it is impossible for any one riding with the driver to discover the starting combination.

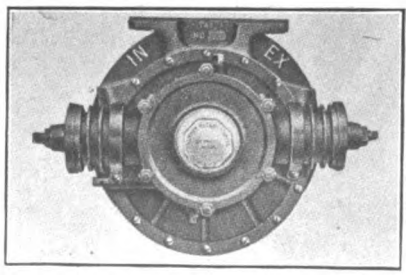
If anyone attempts to steal the car, not only is the ignition cut out, but an alarm is sounded by a bell. The signal is also sounded if one tampers with the lock. The action of the device is similar to a combination lock, but differs in that the combination operates a switch, and this switch cannot be closed unless the hands are properly set on the dial.

THURBER AIR STARTER.

Air Pump and Starter Combined in a Unit Construction.

The Thurber Rotary Starter Company, 685 Atwater street, Detroit, has brought out a new model Thurber rotary starter, which is operated by compressed air. The pump employed is of the high pressure type and one of its features is that it is built with the starter, a unit construction. The starter is mounted at the front of the machine, on a cross frame member, and being very compact, does not detract from the appearance of the car. The pump is held to be very efficient in its action and makes it possible to carry a pressure of 250 pounds at all times. The air is stored in a drawn steel tank located out of sight beneath the body. The system includes a gauge mounted on the dash, which indicates the supply of air in the tank, and provision is also made in the dash plate valve for an outlet for connecting a hose for the purpose of inflating tires, cleaning, etc.

Two control units are mounted in the floor or toeboard, these comprising the starting button and pump control pedal. The gasoline motor is started by depressing the button, which actuates a rod connected to a double control valve, permitting air to flow from the tank to the starter which, being attached to the crankshaft, spins the last named member.

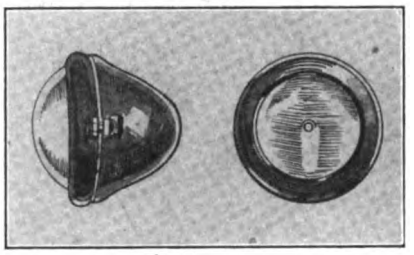


Upon the engine starting under its own power a clutch disengages the starter, which remains idle until another start is desired. The tank is refilled by depressing the pump control pedal.

NON-BLINDING HEADLIGHT.

New Gray & Davis Light Has Novel Features.

Gray & Davis, Inc., Boston, has brought out a non-blinding type of headlight which is held to provide a bright beam for distance and a diffused light for the foreground. The latter quality is obtained by the use of a semi-circular, frosted front glass, which is held to be stronger than the usual construction and to diffuse a "fan ray", making the radiator and front wheels plainly visible to an approaching vehicle. With the bulbs lighted and lamps viewed from the front, they have an appearance of a frosted globe glowing with

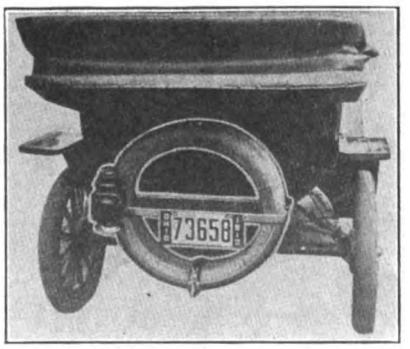


light and showing a relatively small bright spot. The last named provides a long, slender "pencil ray", which is thrown directly on the road far ahead.

SLY FORD TIRE HOLDER.

A Combined Lamp, Number Plate and Shoe Support.

Smalley Daniels, Detroit, with offices at New York City and Boston, is marketing the Sly lamp, number plate and tire holder, which is designed for the model T Ford automobile. The maker states that it includes several valuable features not embodied in other designs, in that it combines a number plate holder and



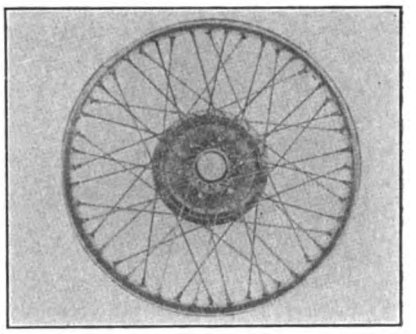
lamp bracket, compact tire holder and a thief proof lock.

The tire holder is attached to the rear of the chassis, is of pressed steel black enamelled, and is so formed as to provide a snug cradle for each tire. It is stated that the design is such as to prevent chafing of the tires. Straps are also eliminated. One of the qualities of the holder is that either tire may be removed in 10 seconds without disturbing the other casing. The lock is a part of the construction. It is stated that the design can be attached in a few minutes and that it improves the appearance of the machine, in that it helps cover the open space below the body.

FORD WIRE WHEEL.

Stanweld Design Bolts to Wheel Flange.

The Standard Welding Company, Cleveland, O., is manufacturing a neat design of wire wheels for attachment



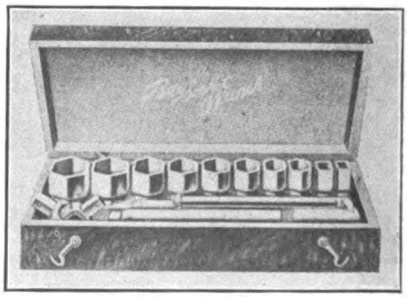
to model T Ford cars, and one of the qualities of the design is that it may be applied to both front and rear wheels by utilizing the old wooden wheel flange and bolts. The hub of the Stanweld is a steel stamping, the spokes are reinforced at both ends, and the three-cross method of lacing is employed. The finish is two coats of black enamel, baked on. Among the features emphasized in the wheels is lightness. They come complete for attachment, and their application does not involve any other work than removing the old flange and bolts, and displacing the wooden wheel. Special tools are not required.

RAY SOCKET WRENCH.

Equipment Includes 30 Steel Sockets, Extension, Etc.

The Ray socket wrench is manufactured by the Packer Auto Specialty Company, Chicago, for which Ralph Waldt, 1790 Broadway, New York City, is distributor. The maker states that the wrench will fit every nut and bolt on a car, and may be utilized in places difficult of access with the conventional tool. The wrench proper is sturdily constructed and when utilized with the universal joint provided with each outfit, it is claimed that work may be accomplished at any angle up to 90 degrees.

The complete equipment includes, in addition to the wrench, which is nickelled and highly polished, a long extension bar, two short extension bars, one large and one small screw driver bit, one universal joint, one four-inch spark plug socket and 30 case hardened cold drawn steel sockets. These are graduated in sizes and fully guaranteed. This equipment comes in a wooden case, and the maker states that it will perform a variety of work as well as eliminate the necessity of carrying a large number of conventional tools. The company also manufactures a small set which differs from the larger member in that 11 sockets are provided in addition to the spark plug member. The smaller outfit comes either in a leather case or an oak box. The larger set retails for $10.



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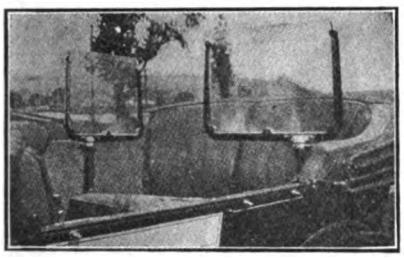
CLARK WINDSHIELD.

Is Fitted to Tonneau and Is Adjustable as Desired.

The Clark adjustable tonneau windshield is manufactured by A. N. Clark & Son, Plainville, Conn., and, as the



name implies, is designed to protect the occupants of the rear seats from draughts, rain, etc. One of its qualities is that it may be adjusted as desired, and another feature is that it may be folded when its service is not required, as in warm weather. It is made with a variety of bases to fit any car, and is attached to the seat under the cushion, coming up between the seat arm and the cushion. One windshield is used on either side of the car.

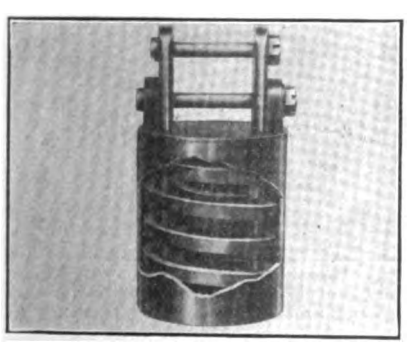
The Clark design is made of aluminum, finished in black, and is not only light, but is substantially constructed. It is pointed out that its use does not interfere with the exit or entrance of passengers, and that communication with the occupants of the front seats is not interfered with.

HARTFORD CUSHION SPRING.

Principle Involves Use of Double Spring.

The Hartford cushion spring is manufactured by the Hartford Suspension Company, Jersey City, and the maker states that it is not a shock absorber, but a spring construction, which makes easy riding over moderately rough or other roads where the usual spring would cause discomfort. The Hartford design comprises a pair of double-acting spiral springs which are attached to the rear shackles, capable of absorbing vibrations not taken care of by the usual shock absorbers.

The Hartford design consists of a spring within a spring, the larger or quick acting member moving freely up and down as the automobile spring expands and contracts. The inner spring serves as an auxiliary member to the other and is slower in its action. The two operate as compression members until a certain point is reached on the return, when it is held that a perfectly easy movement, free from abruptness, is obtained. The components of the cushion spring are housed in a neat metal casing and being compact the design does not detract from the appearance of the car. They are made in five models, including a special design for model T Ford machines, the types varying only in their carrying capacity. They



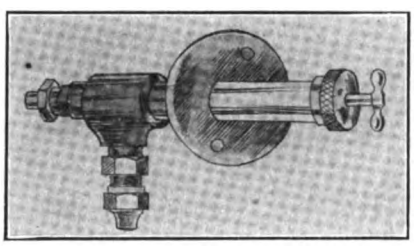
are sold under a guarantee, and it is stated that they can be attached in 30 minutes. The maker states that only the finest grade of steel is incorporated in Hartford cushion springs.

ZERO PUMP PRIMER.

Mixes Air and Gas for Starting a Motor When Cold.

The Zero pump primer is marketed by the Ideal Brass Works, Tenth street and Canal, Indianapolis, Ind., is attached to the dash, and the maker states that it automatically mixes the proper proportions of fuel and air for starting a cold motor. It is connected to main line of supply and the fuel is drawn into the mixing chamber or body of the pump, by the outward stroke of the plunger.

The downward stroke injects a small spray of fuel and air into the intake manifold above the carburetor, and the maker states that the mixture will ignite easily. The de-

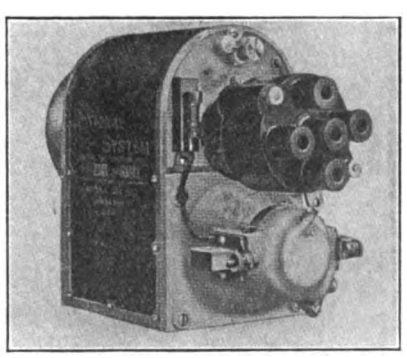


vice is provided with an automatic needle valve for opening and closing the line when the plunger is operated. It retails for $3.

NATIONAL GENERATOR.

Includes Timing Mechanism for Ignition Purposes.

The National Coil Company, Lansing, Mich., is manufacturing what is termed its type A generator, which is constructed to supply a large output at low motor speeds, and to carry the average lamp load at eight to 10 miles an hour. The output of the lighting dynamo is automatically regulated, and the maker states that overcharg-



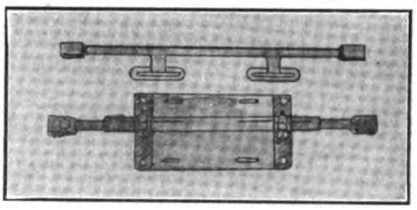
ing of the battery is prevented at high speeds. One of the qualities of the National is the provision made for increasing the output in cold weather and when the machine is used in city service. Augmenting the output is rendered possible by the changing of a screw plug switch on the front plate of the generator.

Ignition is provided by the type A generator unit, a synchronized spark being developed by the use of a closed circuit transformer of compact design. The National dash unit comprises an ammeter, reverse current relay, fuse panel, ignition and lighting switches. These are compactly and neatly grouped. The usual dimming feature is included. The company states that its reverse current relay regulates very closely.

LEE LICENSE HOLDER.

Includes Truss Rod to Prevent Vibration.

The Wm. O. Lee Company, Port Huron, Mich., is marketing the Lee lamp truss rod and license holder. It



is made in two styles, the No. 1 being designed for used cars and the second a special for automobile manufacturers. The former is adjustable, rods sliding into either side of the holder proper, and being locked by a clamp having a locking bolt. This permits the use of the design on different machines.

The device is fitted by slipping the ends of the rods over the lamp bracket, suitable eyes being provided. The clamping members are then secured. The maker states that the parts will not work loose, and that the truss will prevent vibration of the lamps, as the brackets are held in a rigid position. Means are also included for securing the number plate. The lamp truss rod and number plate holder is constructed of high grade material and is nicely finished. The No. 1 retails for $1.75 and the No. 2 for $2.

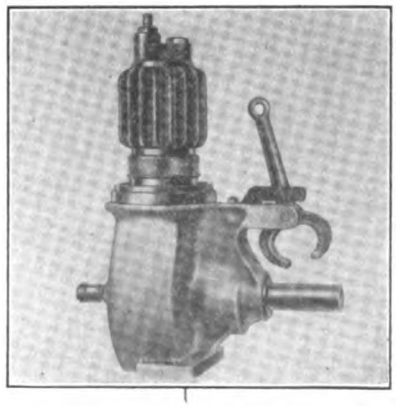
STEWART AIR PUMP.

The One-Cylinder Design Having a Clutch, Etc.

The Stewart-Warner Speedometer Corporation, Chicago, has brought out a new type of one-cylinder pump to meet the demand for a high grade, popular priced unit. It is an air-cooled design and the fins provide ample cooling surface. The air is protected by a double ball valve, insuring operation even if one becomes clogged with dirt, etc. The bore is 1.4375 inches, stroke 2.5. The piston is extra long and is provided with oil conductors, insuring lubrication.

The pump requires no surplus oil in the crankcase, the piston being lubricated by means of a wick system, or wipe, in contact with the piston. Oil is dropped from this wick from the outside of the pump. The bottom of the crankcase is open, so that any free oil drops out. The maker states that it is impossible for any lubricant to be carried with the air into the tires. A clutch, tire gauge and 13 feet of hose with connections are supplied with each pump.

The Stewart Warner Speedometer Corporation also manufactures a four-cylinder pump for air motor starters and for inflating tires. It retails for $25, the smaller at $15.



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MACHINERY, TOOLS, EQUIPMENT AND SUPPLIES.

THE Cox Brass Manufacturing Company, Albany, N. Y., has brought out the Cox combination welding and decarbonizer outfit, which, as the name implies, provides an equipment for removing carbon by the oxygen process and for welding broken parts. It has several advantages, the most prominent of which is, perhaps, the saving of time. Ordinarily the work is sent outside, which generally results in delays, and, in addition, the profit accruing to the garage man is very small, this usually being a percentage. And it sometimes happens that a small repair is desired in a hurry by the customer and that the welding company is not able to handle the work.

Cox Welding Equipment in Service.

With the Cox outfit the welding work may be performed quickly by the repairman, and the company states that the operation of the equipment can be learned in a very short time by the average mechanic. One of the qualities emphasized by the apparatus is that it will do the work thoroughly, welding broken parts made of brass, steel, iron, bronze, copper and aluminum. With the equipment it is obvious that many repairs formerly requiring considerable time with old methods can be made quickly.

The process of welding is well known. The principle of the method is the use of a small concentrated flame of a temperature approximating 3600 degrees Fahrenheit, applied directly to the metals to be welded.

The Cox dual equipment comprises a highly polished oak case, nickel trimmed, with cover and handle as shown in the accompanying illustration. The case contains a welding torch with six interchangeable tips, sufficient to perform welding on all kinds of work; one oxygen reducing and regulating valve, with gauge and shut-off; one acetylene reducing valve, with gauge and shut-off, fitted with special coupling for attaching to Prest-O-Lite gas tank; 12 feet of acetylene hose, 12 feet of oxygen hose and a complete assortment of welding rods for welding copper, brass, iron, bronze, steel and aluminum. The wrenches, goggles, etc., are packed in a special, convenient case.

In addition there is included a decarbonizing torch and swab for removing carbon from motor cylinders by the oxygen process. The last named provides the dual equipment to which reference is made above.

The Cox Brass Manufacturing Company calls especial attention to the low cost of the apparatus, which is marketed as a unit or separately. A special gauge for showing the supply of oxygen on hand is listed at a slight extra cost. The company supplies complete instructions for the use of both systems, and maintains a free service department for the benefit of its customers. One of the features of the department is the expert information supplied for repairs out of the ordinary.

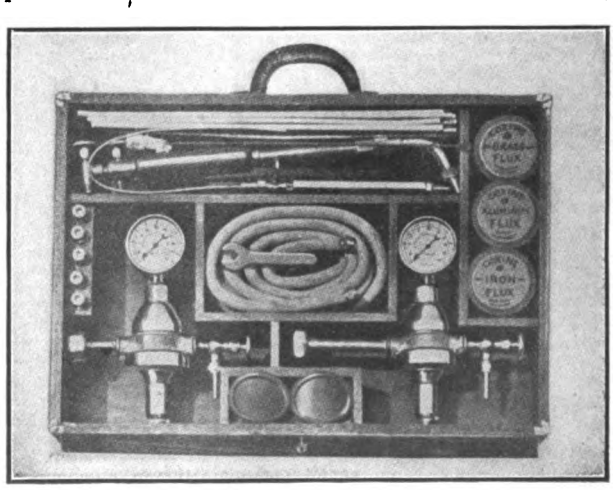
The company calls especial attention to the regulator or reducing valves, stating that they are so constructed as to automatically reduce the pressure of the oxygen from that of the tank of 1800 pounds, and that of the acetylene tank from a pressure of 200 pounds, to a low, workable pressure of from zero to 25 pounds. The pressure is regulated to an even consistency and does not vary from a set amount. Complete details and price lists will be forwarded upon application to the company.

COMMON SENSE BORING TOOL.

W. W. Blakely, 100 Leicester Court, Detroit, is manufacturing the Common Sense boring tool, made in two parts, and designed for service on milling machines, lathes, etc. The shank and barrel are integral, and the dial and holder are combined. The tang of the tool does all of the driving and calibration is by the vernier system reading in thousandths. Throwing the two eccentrics opposite each other centres the bar, and changing the inner eccentrics' position enlarges the cut, giving a total expansion of .5 inch or more. It is made with .625, .75 and .875-inch boring bars. A toolmaker's size is also made. Prices and particulars will be forwarded by the maker on request.

UNIVERSAL HACKSAW MACHINE.

Power hacksaws are time savers in the repair shop and service station, as not only is considerable time wasted in cutting metal by the hand tool, but with large pieces it is not always easy to make an accurate cut. The West Haven Manufacturing Company, West Haven, Conn., produces a line of hacksaw frames and blades,



Case Containing Tips, Valves, Etc., Utilized with Cox Combination Welding and Decarbonizing Outfit.

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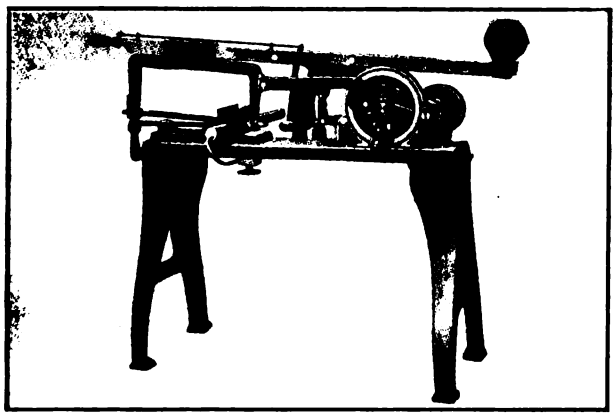
and is marketing the Universal hacksaw machine shown in an accompanying illustration. It has a capacity of six-inch solids, and one of the qualities of the equipment is the quick return of the stroke, this being 3:1. The blade also lifts entirely from the work on the return stroke.

The machine is designed especially for economy and speed. There are two fixed strokes, a five and a seven-inch, and only one adjustment is required; that is, for work above five inches in diameter or square. The maker states that the adjustment may be made in the short time of 15 seconds. Another feature of the machine is that the automatic lift is adjustable for wear. It is stated that the automatic stop is absolute, and that the pulley can be lubricated without throwing off the belt. The company calls special attention to the shafts of the machine, stating that these are silent, and being on the bed of the machine make for maximum service. All parts are interchangeable.

The size of the pulley employed is six by 1.75



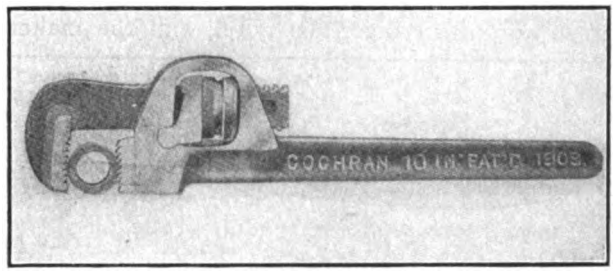
Universal Power Hacksaw Machine Having Rapid Return of Stroke and Being Capable of Cutting Solids up to Six Inches in Diameter.

inches and the speed is 240 revolutions a minute. The length of the saw blades is 12 and 14 inches. The floor space required is 52 by 16 inches; height of work vise, 28 inches, and height over all, 42 inches. The net weight is 240 pounds; gross, 300. All castings are numbered, making for convenience when ordering spare parts. The company issues a catalogue of its products, which will be mailed free on request. The West Haven Manufacturing Company makes a specialty of hacksaws, producing them to meet all requirements, such as cutting solid metals, tubing, etc.

COCHRAN PIPE WRENCH.

The Cochran Pipe Wrench Manufacturing Company, 78th street and Woodlawn avenue, Chicago, is marketing the Cochran pipe wrench shown in an accompanying illustration. It is warranted to give 50 per cent. more service than conventional designs, and the guarantee is very liberal. One of the qualities of the tool emphasized is that the compression strain is exerted on that part of the member which is the strongest.

The frame and handle are one solid piece, and a rocker replaces the usual pin, eliminating opportunity of shearing stresses. The jaw is of the hook type and is with the inserted jaw, drop forged from the best grade of tool steel. The



Cochran Pipe Wrench Having a Solid Frame and Movable Hook Jaw.

rocker and adjusting nut are also constructed of high grade material.

The maker claims a perfect grip and release by its construction, and states that the tool cannot be injured by a side pull, owing to its solid frame construction. It is guaranteed not to crush or lock on pipe. The Cochran wrench is made in six, eight, 10, 14, 18, 24 and 36-inch sizes, taking from .125-inch wire to .5-inch pipe for the smallest size, and upwards for the larger wrenches. All parts are standard and interchangeable.

MOORE CHAIN HOIST.

The Chisholm & Moore Manufacturing Company, Cleveland, O., maker of chain hoists and trolleys, is marketing the Moore anti-friction chain hoist shown in an accompanying illustration. It is produced in capacities ranging from one-half to 10 tons and is provided with an improved automatic brake which locks the load at all points and yet permits of a very free and smooth lowering movement.

The brake is adjustable, permitting of lowering the load more freely, and all friction surfaces require no oiling as they are self-lubricating. The locking device is released by a slight reverse pull on the hand chain. The maker states that it has less working parts than any other hoist except the direct differential, and that spur gears are utilized.

Moore Anti-Friction Chain Hoist.

The chains are made of the highest grade material and are tested and stretched to gauge on a pull of 100 per cent. greater than the maximum load they are intended to carry. The height of lift varies from eight feet for the half-ton hoist to 12 feet for the 10-ton member. By utilizing two extra feet of both main and hand chain an additional foot of lift may be obtained. The company will forward catalogue free upon request.

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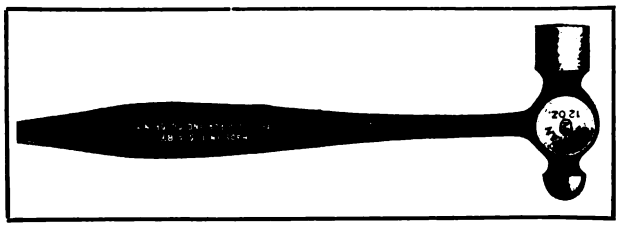
SPARTON HAMMER.

The Drop Forging Company, Jersey City, N. J., is manufacturing the Sparton hammer, shown in an accompanying illustration, and the maker



Sparton Hammer, Combining Screw Driver, Tire Iron, Etc.

calls attention to the design, stating that it is particularly adapted to motor car work where a hammer, screw driver and tire iron are constantly required. It is also claimed that it has the essential qualities of a general utility tool.

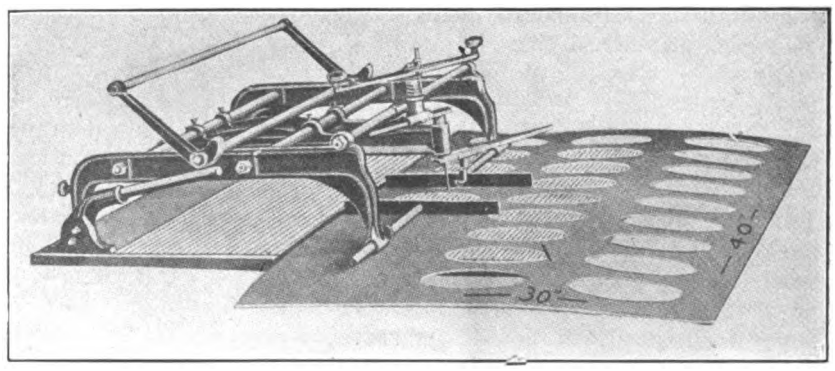
The Sparton is a one-piece drop forging of tool steel, properly hardened and tempered, and the metal is so distributed as to provide a good balance. The hammer head is so shaped that it gives an easy and positive grip when the tool is being used as a screw driver or as a tire iron. The manufacturer claims a scientifically developed design of strength and durability, and the workmanship and material are guaranteed. The Sparton combination tool is moderately priced.

STARR OVAL CUTTER.

Cutting circular gaskets, etc., is a simple matter compared to oval members, and generally considerable time is required with the latter in order to obtain perfect work. The Shawver Company, Springfield, O., is marketing a practical device, for cutting ovals, termed the Starr-Springfield cutter, which is shown herewith. The No. 1 tool will cut any size circle up to 15 inches, and oval up to 15 by 22 inches. The No. 2 cuts circles up to 22 inches and ovals to 22 by 34 inches.

The bars are graduated by inches and fractions of fourths, permitting the operator to set the machine instantly to cut the size of opening previously determined. The machine is equipped with an automatic stop, limiting the downward movement of the knife, making it impossible to cut into the table top. The four corners have adjustments for raising or lowering, so that the machine may be levelled to conform to the table surface.

A quick acting clamp is provided for holding any thickness mat board up to .25 inch, and is quickly adjusted to any size opening. When the machine is not at work the clamp and its components rise from the table, a feature the maker states is not found in any other oval cutter. The complete equipment includes a cutting board, one wheel glass cutter, one embossing wheel, one knife for cutting 23-degree bevel edge, one knife for cutting a square edge, one stub knife for cutting long, narrow ovals, and a wrench.



Starr-Springfield Oval Cutter, Which Will Also Cut Circles up to 15 Inches.

RAD-FIX RADIATOR COMPOUND.

Rad-Fix is manufactured by the Radiator Fix Company, 121 Massachusetts avenue, Boston, and as the name implies, it is compounded to repair leaky radiators. One of the qualities emphasized in it is that it is a filtered solution and will pass easily through the screen of the radiator. It is a chemical solution and the maker states that its action on lead, copper and brass causes crystallization of the metals on the outside of the radiator, forming a permanent weld.

It is left in the cooling fluid and is held to possess cleansing properties as well as to improve the cooling. Rad-Fix is stated to boil at 260 degrees Fahrenheit, considerably above water, an advantage in service on mild days, and to freeze at 26 degrees, six below that of water. Rad-Fix is sold in gallon cans and is accompanied by a strong guarantee.

NATIONAL TELESCOPE PUMP.

The National Motor Supply Company of Cleveland, O., has just placed on the market a new pump of the spark plug style, which is termed the National Telescope pump. It is designed along novel lines and differs from those marketed in a number of particulars, as will be noted by the accompanying illustration. The body is made from close grained cylinder iron and is carefully machined inside. A floating piston, containing a metal piston ring, has a brass tube attached to its upper side. As the piston in the engine cylinder moves up and down the compression and suction move the piston in the pump in a like manner, causing the brass tube or piston stem to slide in and out at the top of the pump.

The compression chamber is between the walls of the brass tube and outside body. As the piston moves downward the fresh air is drawn in through the hole in the top of the pump, passes the valves through the piston and enters the compression chamber to break the vacuum, as is shown by the arrows in the illustration.

The two parts of the piston head are machined from a solid steel bar, making for dura-

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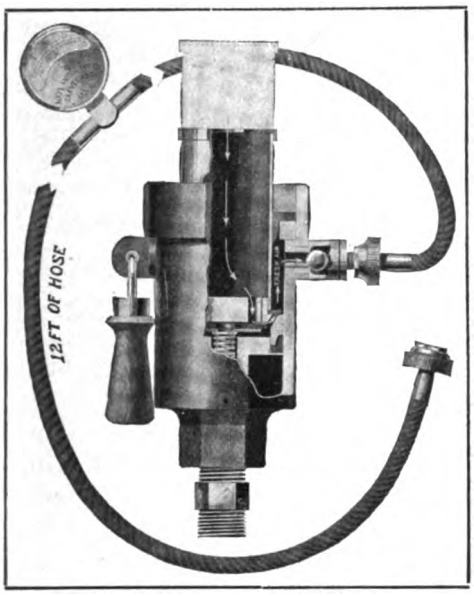
bility. The best of material is employed throughout and all parts are machined to very close limits. A feature of the National is a neat wooden handle for tightening or loosening it in the cylinder. The pump comes equipped with 12 feet of woven cover hose and a dial pressure gauge when ordered. A half and .875-inch nipple is supplied with each, and metric sizes when desired. The pump is moderately priced.



National Telescope Pump.

GEMMER MOTOR STARTER.

The Gemmer Starter Company, 112 Ford building, Detroit, has brought out a new air motor starting system for both new and used cars, and the design presents interesting features, among which is the elimination of the distributor and piping to the cylinders, a construction generally employed with starting systems utilizing compressed air. It is the invention of G. A. Gemmer, formerly of the Gemmer Manufacturing Company, who conducted a series of experiments to obtain a compressed air motor starter which could be utilized without a distributor valve, tubing, etc.

The Gemmer air starter shown herewith, resembles the electric motor starter in appearance and some idea of its compactness may be obtained from the dimensions, which are given as eight inches long, eight high and four wide. One of the qualities of the Gemmer unit is that it may be utilized as a compressor for storing a tank or as an air motor to spin the crankshaft of a gasoline engine.

These qualities are obtained by driving the Gemmer through a suitable train of gears as a compressor, energy being supplied by the motor car's engine, and by reversing the operation the unit may be utilized to rotate the crankshaft of the motor. When used as a compressor the Gemmer may be driven at from 100 to 1600 revolutions a minute as desired, but when reversed, the ratio of drive is about 7:1, spinning the crankshaft at a speed of 150 to 225 revolutions a minute.

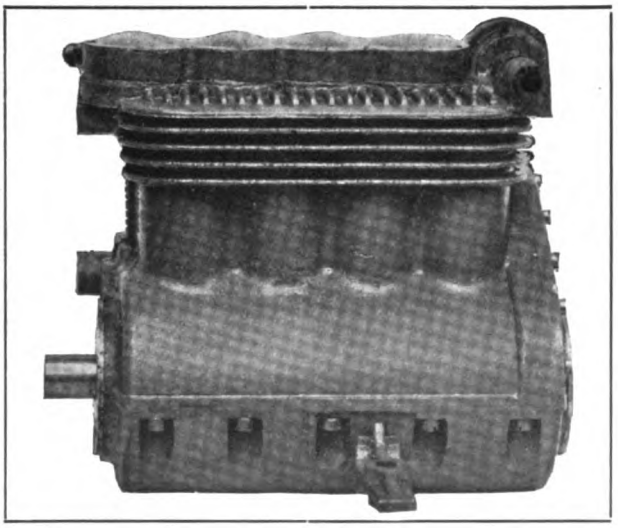
The operation of the combined unit is very simple. Depressing a button by the foot engages a clutch and gearing, setting the compressor into motion and charging a tank. When the dash gauge indicates the desired pressure, say 200 pounds, the clutch is released and the unit is inoperative until replenishing the supply of air in the tank is required or the unit is utilized for starting.

For starting, a button is depressed, permitting air to flow from the tank to the unit, and it continues to spin the crankshaft of the motor until the engine starts under its own power, whereupon disengagement is made automatically. The unit is stated to be very efficient as a compressor, the maker claiming it will replenish the supply of air in the tank in five minutes. There is but one controlling valve, that located on the dash, and it is held to be positively leak proof. The piping plan is very simple, one pipe leading from the unit to the valve and from the latter to the tank. Particular attention has been paid to connections, etc., and it is stated that the pressure in the tank is maintained under all conditions.

The motor-compressor is constructed of high grade material and on principles indorsed by sound engineering practise. The pistons, rings, etc., are ground accurately to size, and the crankshaft is a drop forging of ample dimensions. All working parts are fully enclosed and dust proof. The mechanism is lubricated automatically from the crankcase.

The net weight of the Gemmer air starting system is about 55 pounds, and the inventor states that it is very economical of air, and that a large number of starts are possible with the tank filled. The design includes hose, etc.

The following suggestion for starting seized pistons is made by a repairman: Place about a pint of kerosene in each cylinder, then jack one of the front wheels so that it clears the ground by at least two inches. Next place a jack under the starting handle with the clutch section engaging with the crankshaft. Lower the jack under the wheel until the jack under the handle carries the weight of the machine. It is stated that this method will start the most obstinate piston.



Gemmer Air Motor Starter, Which Operates as a Compressor and Is Reversed to Spin Crankshaft of Gasoline Engine.

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THE ACCESSORY AND GARAGE JOURNAL
Devoted Exclusively to the Automobile Trade and Allied Interests

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THE BIG BOSTON DISPLAY.

From the very inception of the automobile industry the annual Boston show has been the largest of the year in number of makes on display, in attendance and in total sales. For several years it has been the largest automobile show in the world, when the number of individual vehicles on exhibit is considered. And this year, when every show is a big show—bigger and better than ever—those in charge of the arrangements for the Boston display, headed by that veteran manager, Chester I. Campbell, promise some interesting surprises.

New England is, and always has been, the greatest motor vehicle market in the world. Boston is within easy access of every town and city in the six states. The increased interest in motor cars and motoring in the Maritime Provinces of Canada in recent years has added the population of that section to the list of those making up the record attendance. Boston, therefore, occupies a unique position as distributing centre, and there is every reason to believe that Manager Campbell and the association which he represents will be able to maintain for it the supremacy so long held by the Boston show.

And it ought not to be forgotten that the Boston commercial vehicle display is the only exhibition of that character of national prominence scheduled for 1914. The importance of New England in a commercial and manufacturing way makes this section of the Boston automobile show of decided interest to the industry. Manufacturers and dealers should make every effort to take full advantage of this splendid opportunity.

THE STEEL MARKET.

There will be little disposition to question the statement that the condition of the steel market is regarded as an important indication of business conditions generally. At the close of business, Jan. 31, the United States Steel Corporation, which does considerably more than half of the steel business in this country, reported an increase in unfilled orders on the books of its subsidiary companies of 331,572 tons. This is the first time an increase has been reported by this concern since Dec. 31, 1912.

At the beginning of the year the United States Steel Corporation was operating at less than 40 per cent. of its total capacity. At the close of the first month in the year the operations were in excess of 75 per cent. of the total ingot capacity. These facts, taken in connection with the condition of the metal market generally, are sufficient justification for the optimistic predictions made just previous to the close of 1913.

BIG GAIN IN EXPORTS.

Once in a while some one starts a story that the automobile industry has about reached the point where the supply is to exceed the demand. The cry was first raised in 1907, but the manufacturers produced more cars in 1908 than they ever had before. A few months ago, so-called business interests were absolutely certain that the maximum output had been reached. It is interesting, in this connection, to read the advance report of the bureau of statistics, Department of Commerce, Washington, D. C., respecting the value of cars and parts shipped abroad during 1913.

The detailed figures are not at hand at this writing, but the advance report indicates that there was a gain of nearly $5,000,000 over the previous year. In round numbers, $28,000,000 worth of cars and parts were shipped abroad by American manufacturers in 1912, and $33,000,000 in 1913. During each month of the year, 1913, with the exception of November, there was a decided gain in the value of pleasure and commercial vehicles, over the corresponding month of the previous year. The demand for American made automobiles is by no means confined to the United States, it would appear.

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BIG ORDERS FOR STEEL IN JANUARY.

At the close of business Jan. 31, 1914, the United States Steel Corporation reported unfilled orders on the books of its subsidiary companies aggregating 4,613,680 tons, which was an increase of 331,572 tons during the month. This was the first increase in unfilled orders since Dec. 31, 1912, when the backlog was 7,932,164 tons. The net loss in orders during 1913, as noted in the annual review, was 3,650,056 tons.

The indication is that the company's subsidiaries booked orders for rolled products in January aggregating aproximately 1,057,000 tons, while the shipments were about 725,000 tons, being approximately the same as the output, while the production of steel ingots was a little over 1,000,000 tons. At the beginning of the year the United States Steel Corporation was operating less than 40 per cent. of its total capacity, and at the end of the first month operations were in excess of 75 per cent. of ingot capacity.

The average operations of the open hearth furnaces and Bessemer converters in January were considerably over 60 per cent., indicating that the average daily production in ingots was about 39,000 tons and that rolled steel products were produced at the rate of about 28,000 tons a day, during the 26 active days of the month. New orders were taken at the rate of a little under 40,700 tons a day; that is, the new business exceeded the output and shipments by about 12,700 tons a day.

EXPORTS AGGREGATE $33,299,567.

Gain of Nearly $5,000,000 in Value of Motor Vehicles and Parts Shipped Abroad in 1913.

Advance reports from bureau of statistics, Department of Commerce, Washington, D. C., showed total value of motor vehicles and parts shipped abroad by American manufacturers during 1913, was $33,299,567. The figures for 1912 were $28,308,118, indicating a gain of $4,991,449.

Passenger cars to the number of 25,880, valued at $25,342,644, and 1009 commercial vehicles, valued at $1,686,807, were exported in 1913, as against a combined export of pleasure and commercial cars, numbering 23,720, and valued at $23,703,989, in 1912, and 15,807 cars, valued at $15,924,361, in 1911. Exports of parts, exclusive of engines and tires, aggregated $6,270,116 during 1913, as against $4,604,129 in 1912.

ANNUAL MEETINGS.

Croce Automobile Company, Asbury Park, N. J., has elected the following officers: President, Samuel A. Reeves; vice president, Albert Robbins; secretary-treasurer, Harry A. Watson. The Croce Automobile Company was incorporated in September, 1912, with a capital stock of $250,000, to manufacture motor trucks.

The Vacuum Oil Company, Rochester, N. Y., is to hold a special meeting of its stockholders the end of this month, to act upon a resolution to extend corporate existence 50 years. The annual meeting will be held at the same time.

The La Crosse Motor Truck Company, La Crosse, Wis., has elected the following officers: President, Fred Noetzel; vice president, Herbert Lewis; secretary and treasurer, F. Ristow.

The Keystone Vehicle Company, Reading, Penn., has elected the following directors: Robert E. Brooke, George Brooke, Edward C. Nolan, J. Bennett Nolan, John L. Coxe, F. Burmeister, John H. Herb and H. P. Burmeister. The directors have chosen the following officers: President, John H. Herb; treasurer, J. E. Ely; secretary and general manager, H. P. Burmeister.

The F. B. Stearns Company, Cleveland, manufacturer of Stearns-Knight cars, held its meeting recently and re-elected the following officers: President, Frank B. Stearns; vice president, Roy F. York; secretary and treasurer, E. McEwen.

The Rubbermix Manufacturing Company, Toledo, O., at its annual meeting elected the following officers: President, E. A. McLain; vice president, G. R. Reiter; secretary, Douglas McLain; treasurer, George Grasser.

DIVIDENDS DECLARED.

Fisk Rubber Company, Chicopee Falls, Mass.; quarterly, first preferred, 1¾ per cent.; payable Feb. 1.

Kelly-Springfield Tire Company, New York City; quarterly, 1½ per cent.; preferred; payable April 2.

Peerless Motor Car Company, Cleveland, O.; quarterly, 1¾ per cent.; preferred.

Rauch & Lang Carriage Company, Cleveland, O.; quarterly, 1¾ per cent., preferred; 2 per cent., common; payable Jan. 1.

United States Rubber Company, New York City; quarterly, 2 per cent., first preferred; quarterly, 1½ per cent., second preferred; quarterly, 1½ per cent., common; payable Jan. 31.

Studebaker Corporation, Detroit; quarterly, 1¾ per cent., preferred; payable Feb. 20.

Chalmers Motor Company, Detroit; 1¾ per cent., preferred; 2½ per cent., common; payable March 1 to stockholders of record Feb. 20.

Standard Oil Company of New York, New York City; $2; payable March 16.

FINANCIAL NOTES.

The Buffalo Auto Station Company, Buffalo, N. Y., has increased its capital stock from $10,000 to $75,000.

The Yaeger Motor Car Company, Louisville, Ky., has increased its capital stock from $6000 to $8000.

The Motor Car Manufacturing Company, Indianapolis, has found it necessary to increase its capital stock from $150,000 to $250,000.

The Hartford Rubber Works Company, Hartford, Conn., has increased its capital stock from $1,000,000 to $2,000,000.

The Timken Detroit Axle Company, Canton, O., has decreased its capital stock from $1,000,000 to $942,500.

The G & J Tire Company, Indianapolis, has increased its capital stock from $1,000,000 to $2,000,000.

The Long Manufacturing Company, Detroit, has increased its capital stock from $300,000 to $400,000.

The Auto Lite Company, Toledo, O., has increased its capital stock from $100,000 to $225,000.

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison:

	Jan. 19		Jan. 26		Feb. 2		Feb. 9			
	High	Low	High	Low	High	Low	High	Low	Jan. 19	Feb. 14
Antimony, lb	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
Iron, fdy. S., ton	10.50	10.50	10.50	10.50	10.50	10.25	10.50	10.50	10.50	10.50
Iron, fdy. N., ton	12.25	12.25	12.50	12.25	12.50	12.50	12.75	12.50	12.25	12.75
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	19.00	19.00	20.00	19.00	21.00	20.00	21.00	21.00	19.00	21.00
Steel, open hearth, ton	19.00	19.00	20.00	19.00	21.00	20.00	21.00	21.00	19.00	21.00
Beams and chan., 100 lbs	1.31½	1.31	1.31	1.31	1.36	1.31	1.36	1.36	1.31½	1.36
Copper, elec., 100 lbs	14.40	14.25	14.60	14.40	14.70	14.60	14.65	14.60	14.25	14.65
Copper, lake, 100 lbs	14.62	14.32	14.62	14.62	14.87	14.75	14.75	14.75	14.50	14.75
Lead, 100 lbs	4.07½	3.97½	4.07½	4.07½	4.15	4.07½	4.15	4.00	4.07½	4.00
Tin, 100 lbs	38.85	37.45	40.12	38.90	41.00	40.37	40.75	40.25	37.45	40.50
Rubber, fine up-river Para	.75	.74	.77	.75	.76	.75	.78	.76	.75	.78
Tire, scrap	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½
Gasoline, auto., 200 gals	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22¼	.22½	.22¼
Petroleum, Kan. cr., bbl	1.03	1.03	1.03	1.03	1.05	1.03	1.05	1.05	1.03	1.05
Petroleum, Penn. cr., bbl	2.50	2.50	2.50	2.50	2.50	2..50	2.50	2.50	2.50	2.50
Linseed oil, raw	.52	.52	.52	.52	.52	.52	.52	.52	.52	.52
Rapeseed oil, refined	.62	.62	.59	.59	.59	.59	.59	.59	.62	.59
Lard oil, prime	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Fish oil, Menhaden, br	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
Sulphuric acid, 60	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Cyanide potash, lb	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
Cotton seed oil, bbl	7.06	6.90	7.07	7.00	7.06	7.00	7.10	7.00	6.90	7.10
Sea Island cotton	.21	.21	.21	.21	.21	.21	.21½	.21½	.21	.21½
Silk, raw, Japan	4.32½	4.05	4.35	4.32½	4.42½	4.40	4.42½	4.42½	4.05	4.42½
Silk, raw, Italy	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15	5.15

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QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to the automobile securities, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed during each week of the past month, and in comparison with the conditions existing at the same time last year. It will be noted that, in most instances, there has been a steady increase in prices, particularly when comparison is made with 1913. The tone of the automobile securities market is especially good, and affords additional grounds for optimistic predictions concerning the possibilities for business by all connected with the industry during the 1914 season.

	Jan. 19		Jan. 25		Feb. 2		Feb. 9		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com	195	..	195	..	200	..	200	..	165	185
Ajax-Grieb Rubber, pfd	98	101	98	101	98	101	98	101	95	100
Aluminum Castings, pfd	97	100	97	100	97	100	97	100	98	100
Borne, Scrymser	305	325	305	315	330	350	320	330	..	..
Case, J. I., pfd	91	95	91	94½	92	95	93½	95	..	..
Chalmers Motor, com	..	92	..	92	..	92	..	92	..	..
Chalmers Motor, pfd	93	95	93	95	93	94½	92	94	..	..
Firestone Tire & Rubber, com	246	..	244	252	246	252	260	..	355	362
Firestone Tire & Rubber, pfd	104	..	105	..	105	107	105	107	106	108
Garford Co., pfd	80	90	80	90	80	90	80	90	105	107
General Motors, com	45	48	45½	47½	55¼	59	56⅝	57	34	35
General Motors, pfd	84¾	86	84⅞	85½	89	91	88	89	78	79
Goodrich, B. F., com	24	24½	22⅞	23	25¾	26	24½	25	55	56
Goodrich, B. F., pfd	80½	82⅝	86¾	87½	91	92	90	91	103	104½
Goodyear Tire & Rubber, com	235	242	225	235	220	230	215	225	460	470
Goodyear Tire & Rubber, pfd	98	..	98	100	100	102	98	100	104	105
Gray & Davis, pfd	90	100	90	100	90	97	90	97	..	..
Hayes Mfg. Co	..	..	..	..	..	..	..	..	..	90
International Motor, com	..	5	..	5	..	5	..	5	5	15
International Motor, pfd	..	15	..	15	..	15	..	15	25	40
Kelly-Springfield Motor Truck, com	..	..	40	60	40	60	40	60	..	..
Kelly-Springfield Motor Truck, pfd	..	..	90	105	90	105	90	105	..	..
Kelly-Springfield Tire, com	48	50	52	54	59	60	51	52	23	25
Kelly-Springfield Tire, pfd	114	118	121	125	126	128	120	125	70	80
Lozier Motor, com	..	15	..	15	..	15	..	15	..	..
Lozier Motor, pfd	..	80	..	65	..	65	..	65	..	..
Maxwell Motor, com	4	4¼	4	5	4½	5	5¼	5¾	..	..
Maxwell Motor, 1st pfd	26	27	27½	28½	26½	27½	27	28	..	..
Maxwell Motor, 2nd pfd	7	7½	8	9	8	8½	9	9½	..	..
Miller Rubber	124	130	124	130	124	130	124	130	195	200
New Departure Mfg., com	120	125	120	125	120	125	..	125	..	..
New Departure Mfg., pfd	100	103	102	104	102	104	103	106	..	..
Packard Motor Car, pfd	95	100	95	100	95	99	94	98	103	105
Palmer & Singer Mfg., pfd	..	65	..	65	..	65	..	65	..	..
Peerless Motor Car, com	15	25	15	25	15	25	15	25	..	..
Peerless Motor Car, pfd	75	80	75	80	75	80	75	80	..	..
Pope Mfg. Co., com	..	2	1	2	1	2	1	2	29	32
Pope Mfg. Co., pfd	..	12	8	12	8	12	8	12	75	78
Portage Rubber, com	..	40	..	40	..	40	..	40	..	..
Portage Rubber, pfd	..	90	..	90	..	90	..	90	..	..
Reo Motor Car	14¾	15½	14⅞	15⅝	16	16½	18	19	20½	21¼
Reo Motor Truck	6½	7½	6½	7½	7	7½	7½	8½	11½	12¼
Rubber Goods Mfg., pfd	105	115	105	115	105	115	105	115	105	108
Russell Motor Car, com	..	40	..	40	40	50	..	40	..	..
Russell Motor Car, pfd	..	70	..	70	..	90	..	90	..	..
Splitdorf Electrical	40	50	40	50	40	50	40	50	..	..
Stewart-Warner Corp., com	51½	52½	52	53	52	54	55	57	..	..
Stewart-Warner Corp., pfd	94	96	94	98	96½	..	98	100	..	..
Studebaker Corp., com	25	25½	26	26½	28½	28¾	28½	30	34	35
Studebaker Corp., pfd	75	76½	77	77½	85	86½	85	87	92	93
Swinehart Tire & Rubber	69	71	62	62½	69	71	69	71	104	105½
Texas Co	146¼	146½	146	146⅞	145½	146⅝	146½	147	..	..
U. S. Rubber, com	60⅝	60¾	59¾	60⅛	59½	60	59	59½	67	67½
U. S. Rubber, 1st pfd	102½	103	102⅜	102½	102	102½	101½	101⅞	107	107½
Vacuum Oil	199	202	213	216	213	216	210	213	..	..
White Co., pfd	105	110	105	110	105	110	105	110	105	108
Willys-Overland, com	61	63	64	66	62	64	66	68	70	71
Willys-Overland, pfd	88	91	92	95	91	95	91	95	98¼	99½

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of February were as follows:

Pennsylvania dark	$2.50	Ragland	$ .70
Second sand	2.50	Illinois above 30°	1.45
Tiona	2.50	Illinois below 30°	1.45
Mercer black	2.00	Kan. & Okla.	1.05
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.80
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.49	Caddo, La., 38°	1.05
South Lima	1.44	Caddo, La., heavy	.78
Indiana	1.34	Spindletop	1.06
Princeton	1.40	Canadian oil	1.89
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .85
Kern County, light	.65	heavy	.85
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	30½	30	20½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	20¼	20	19¾
73 a 76°	29½	29¼	29
Stove	23	22¾	22½
Auto, 68-72°	25½	25¼	25

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	13	a	13½
Tank wagon delivery	..	a	9
Fuel, 31°	9¼	a	..
Fuel, 34°	10¼	a	..

Naphtha.

Auto in wood	..	a	20
Auto in garages, steel bbls	..	a	16
V. M. & P. deod., in steel	..	a	14
V. M. & P. deod., in wood	..	a	16

Gasoline

86°	..	a	29½
74-76°	..	a	25¼
67-70°	..	a	22¼
Stove	..	a	21

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NEW LOCATIONS AND REMOVALS.

The Elliott Motor Company, Suffolk, Va., has moved into its new and spacious building on Washington street.

Wolflin Bros., Amarillo, Tex., agent for Buick cars, will remove into its new garage at the corner of Polk street.

Robert Ver Plank and Joseph Buch, Trenton, N. J., owners of the Trenton House garage, will remove into new quarters on South Warren street as soon as improvements have been completed.

The Knight Garage and Bradford Automobile Company, New Haven, Conn., will occupy the new building being erected at 249 George street. It will cost $50,000.

E. A. Zolle, Minneapolis, Minn., manager of the Pathfinder Motor Company, has removed into new quarters at 217 South Sixth street.

The John & Arthur Supply Company, Boston, Mass., will remove to new quarters at 117 Massachusetts avenue. The former address was 749A Boylston street.

Wentz & Rosauer, Hamilton, Ia., is now located in its new building at North Chestnut avenue.

The Nolan Tire & Rubber Company, Birmingham, Ala., has moved into its new building on Avenue D.

The Keystone Auto Top Company, Philadelphia, Penn., has located its business at 661 North Broad street. The company handles the Jiffy automobile curtains.

The St. Louis Stearns Auto Company, St. Louis, Mo., has moved into its new quarters at 3030 Locust street.

The Van Allen Tire Company, Houston, Tex., will remove to a new location in the near future.

The Brice Auto Company, Minneapolis, has removed into larger quarters at 1410 Hennepin avenue. The company handles the Grant and Detroiter cars.

The Pontiac Motor Car Company, Pontiac, Ill., has moved from the old Armor building on West Madison street to its new garage on Washington street.

The Chalmers Company, Philadelphia, Penn., has moved into its new quarters at 252 North Broad street, which will facilitate better handling of its stock.

The Heydt-Haast Company, Reading, Penn., agent for the Hudson Six cars, has completed its up-to-date building at 415 Washington street and will move into it at once.

The Missouri Auto Specialty Company, St. Louis, Mo., will remove to larger quarters at the corner of 19th and Locust streets.

S. A. Foster, Hartford, Conn., Rambler dealer, has removed from Elm street to 343 Trumbull street. The old location is now occupied by Russel P. Tabor, Reo distributor, as a service station.

The Morristown Automobile School, Morristown, N. Y., has taken over the property near Sussex avenue, now in course of erection, at a cost of $63,000. A garage will be located on the first floor.

The Central Motor Car Company, Reading, Penn., has completed a first class fireproof garage on Pearl and Chestnut streets.

H. B. Perrin & Son, Mankato, Minn., has greatly enlarged its salesroom and garage and added the Ford car agency to its other lines.

Laudahn Bros., Buffalo, N. Y., has enlarged its business. This firm repairs tires, tubes, etc., at 1114 Main street.

Drane & McKee, Corsicana, Tex., has completed the large additions to its garage and is now able to take care of 75 cars. It also has added a large stock of accessories and supplies.

The Pedneau Garage & Machine Works, Raleigh, N. C., plans to establish a garage and machine shop business on Elm street.

Frank Eisenshon, Keosauqua, Ia., has finished his new garage at Douds, and several new livery automobiles have been installed. The building is of steel and concrete, and presents a neat appearance.

Folkens & Siebrands, George, Ia., have discontinued the garage business there and will reopen in Sioux Falls, S. D., under the name of the Siebrands-Folkens Auto Company.

Harvey Sellers and Peter Addriotti, Richmond, Cal., will remove to Kinsburgh, Cal., and will open a garage there.

The Page Garage, De Smet, S. D., has added a repair shop to its garage and also increased the storage capacity to double its former proportions.

The Arkansas Valley Auto Company, Pueblo, Col., has erected a two-story fireproof garage, 38 by 120 feet, at Seventh and Court streets. A novel feature is the "Radiator" front. The centre of the building presents a Ford radiator, made in the brick, on each side of which is located a lamp to represent a headlight.

FIRES OF THE MONTH.

Auto Supply Company, Daytona, Fla.; garage.

Coe Brass Company, Torrington, Conn.; garage damaged by gasoline explosion.

Karlem Garage, Monroe, Wis.; garage and automobiles; $300,000.

Monroe Manufacturing Company, Monroe, Wis.; garage and wagon factory; $125,000.

Clinkscales & Crowthers, Clemson College, S. C.; livery stable, garage and contents.

John Ruggles, Anita, Ia.; garage.

W. H. Pattermole, Northville, Mich.; garage; $9000.

George Brecht, Ogontz, Penn.; garage; $2500.

San Marcos Auto Company, San Marcos, Tex.; garage.

Owen D. Sherley, Pen-Mar park, Hagerstown, Md.; garage; $8000.

Fred Norris, West Springfield, Mass.; garage.

Suffolk Garage, Lynn, Mass.; $75,000.

Auto Repair Company, Baltimore, Md.

Liquid Filler Company, Baltimore, Md.

Moore & Munger, 602 West 52nd street, New York City; 50 automobiles and damage to other property; $100,000.

Grant Garage, Emwilliam place, Ossining, N. Y.; garage.

Lintott Garage, Railroad avenue, Nashua, N. H.: garage damaged by an explosion.

Samuel Goldberg, 32 Lansing street, Utica, N. Y.; garage.

Herbert Clarke, 2031 North 29th street, Philadelphia, Penn.; damage to garage and automobiles; $5000.

Vulcan Iron Works, 106 Bayard street, Brooklyn, N. Y.; garage, $10,000.

C. P. Shaw, Chatwood, Westchester, Penn.; garage; $2000.

Island Garage, 1425 Jefferson avenue, Detroit, Mich.; garage and 10 cars destroyed; $20,000.

Dr. Dunton, Paris, Ont.; garage; $2000.

Stationary Marine Engine, Motor & Supply Company, Port Washington, L. I.; boats and airships, also factory completely destroyed; $250,000.

William B. Houghton, Springfield, Mass.; garage.

The Standard Motor Car Company, New Bedford, Mass.; factory and machines; loss not stated.

Wakefield & Boston, Cedarville, Cal; garage and machinery; $4800.

Dixie Auto & Welding Company, Shreveport, La.; garage and machinery; $33,000.

Overland Motor Company, Chicago, Ill.; salesroom.

Charles W. Miller, Quincy, Mass.; garage; $15,000.

Erie Taxicab Company, Erie, Penn.; $10,000.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

12,357, Automobile Chassis—The American consul at Madrid, Spain, reports that a public competition is announced for the purchase of three automobile chassis, the cost of each of which is not to exceed $2700, for use in the fire department to carry life saving apparatus and fire extinguishing materials.

12,369, Engines for Small Parcel Cars—An American consular officer in the United Kingdom reports that a firm of engineers in his district has requested to be put in touch with American firms manufacturing light, single-cylinder, two-stroke engines, suitable for use in small parcel cars.

12,321, Motorcycle—A report from an American consul in the West Indies states that an inquiry has been made at his office for a motorcycle, with a view to purchasing one as a sample and then establishing an agency. Descriptive catalogues, prices and proposed terms addressed to the consulate in question will be promptly turned over to the person making the inquiry.

12,428, Motor Trucks—A well known firm with establishments in India, the Red Sea coast and East Africa, informs an American consulate that it desires to purchase one or more gasoline motor trucks, capacity three tons, the rear wheels protected by flat iron tires. Correspondence should be in English, and illustrations of motor trucks and prices should be sent directly to the firm in question.

12,439, Graphite—A prominent British firm, which states that it has had previous experience in purchasing graphite and furnishes references, informs an American consulate that it would like to hear from American firms desirous of securing a purchasing representative in Madagascar.

12,228, Motor Cars and Cycle Accessories—A well known and reliable sporting goods firm in South Africa informs an American consul that it wishes to establish trade relations with a firm having a complete line of motor cars and cycle accessories. Exclusive territory is desired and complete details in every particular should be submitted when communicating with this firm, as it is very essential that as little time as possible be lost in negotiations.

12,452, Agricultural Machinery, Automobiles and Motor Boats—A firm in a European country informs an American consular officer that it desires to get into touch with American exporters of gasoline and crude oil tractors, steam plows, thrashing machines, reapers, binders, automobiles, motorcycles and motor boats. Correspondence should be in German.

12,460, Light Cars and Cyclecars—An automobile engineer desires to secure the names of manufacturers of light cars and cyclecars.

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DEALERS IN VANCOUVER, B. C.

The following list gives the names and addresses of the dealers in motor vehicles and accessories in Vancouver, B. C.:

A 1 Auto Service, 1018 Alberni street; Archibald Garage Company, 1230 Georgia street; Auto at all Hours, 520 Hornby street; Auto Clearing House, Ltd., 1805 Beach avenue; Autos for Hire, 822 Pender street, West; Auto Radiator & Lamp Company, 551 Seymour street; Acme Auto Repair Shop, 1076 Main street; Automatic Machine Works, 140 Front street, East; Automobile Livery & Repair, 824 Pender street, West; Auto Stand, Georgia and Howe streets.

B. C. Auto Service, 801 Georgia street; Begg Motor Company, Ltd., 1062 Georgia street; C. E. Berg, 520½ Hornby street; Big Five Auto & Taxi Service, 726 Hastings street, West; Boyd & Hyndman, 300 Seymour street; Broadway Garage, 1445 Broadway, West; Burtwell Garage, 1195 Davie street; Black Bros., 1115 Homer street.

W. S. Cameron, 1270 Granville street; Canada Cycle & Motor Company, 833 Pender street, West; Canada West Garage, 1460 Howe street; Canadian Auto Specialty Company, 1262 Granville street; Canadian Automobile Company, 1233 Hornby street; Canadian Dry Battery Company, Ltd., Pender and Dunlevy streets; Central Motor & Machine Shop, 1112 Seymour street; Chalmers Automobiles, 833 Pender street, West; Compressed Gas Company, Ltd., 571 Howe street; Colonial Import Company, 1123 Pender street, West.

Dissette Motor Company, 1254 Hornby street; Dominion Motor Car Company, 1233 Georgia street; H. C. Drummond, 1960 Robson street; Dodman & Sanders, 1460 Howe street.

Electrical Service Station, 1462 Georgia street; Empress Automobile Livery, Pender and Abbott street; Excelsior Autocycle & Supply Store, 1366 Pender street, West.

B. Filmer, Pender and Beatty streets; Fitzherbert Bros. & Metcalfe, Ltd., 837 Hastings street, West; Ford Motor Company of Canada, Ltd., 1129 Howe street; Fordshaw Ford Auto Company, Ltd., 1285 Pender street, West; Fox Motor Truck Company, Ltd., 632 Seymour street; G. C. Frame, 401 Columbia street; Fraser Street Garage & Motor Transfer, 6184 Fraser street; A. S. French Auto Co., 1027 Pender street, West; Fourth Avenue Auto Repair Shop, 1698 Fourth avenue, West.

Georgia Street Auto Stand, 800 Georgia street; Globe Garage & Machine Shop, 1254 Hornby street; Grandview Auto Repair & Storage Co., 1656 First avenue, East.

Hastings Park Auto Company, 2684 Eaton street; Adam Hicks, 150 Sixth avenue, West; Hillcrest Garage, 3349 Main street; Hoffmeister Bros., Ltd., 1155 Pender street, West.

Independent Auto & Taxi Company, 340 Abbott street.

Lurie Automobiles, Ltd., 931 Pender street, West.

Marine Garage Company, Eburne, B. C.; Maritime Motor Car Company, Ltd., 1560 13th avenue, West; McLaughlin Motor Car Company, Ltd., 1219 Georgia street; M. McMahon, 564 Howe street; Metropolitan Motor Car Company, Ltd., 1256 Granville street; John Millen & Sons, Ltd., 526 Hornby street; Monarch Garage & Repair Company, Ltd., 636 Howe street; C. H. Moore, 1026 Dunsmuir street; Mt. Pleasant Garage, 2745 Kingsway; Ohio Electric Cars, 833 Pender street, West; Modern Auto Engineering, 2342 Main street; Morley & Scott, 83 Pender street, West; Milton & Martin, 2169 Fourth avenue, West; Munnoch & Stratton, rear of 1323 Haro street.

Ohio Electric Cars, 833 Pender street, West; Oxo Welding & Machine Company, 85 Pender street, West.

Packard Motor Cars, 1233 Georgia street; Pierce-Arrow Trucks, 1219 Georgia street.

Quick Service Auto Company, 630 Dunsmuir street.

Russell Motor Car Company, Ltd., 823 Pender street, West; Roote Auto Top Company, 1276 Granville street.

S. Shave, 1018 Alberni street; E. W. Stark, 941 Pender street, West; Harry R. Sayer, 929 Pender street, West.

Taxi Cab Company, Ltd., 1027 Seaton street; Terminal City Motor Company, 2242 Fourth avenue, West; H. J. Tucker, 808 Pender street, West; Tudhope Motors, Ltd., 1531 15th avenue, West; Tait Tire Company, 1049 Granville street.

United Motor Agency of B. C., 940 Richards street.

Vancouver-Ohio Electric Car Company, 833 Pender street, West; Vint & Johnson, 1930 Bridge street.

A. Walker Auto Company, 1800 Georgia street; H. W. Welsh Auto Company, 833 Pender street, West; Winton Auto Livery, 651 Howe street; Winton Motor Car Company, 1249 Granville street.

WITH THE CYCLECAR MAKERS.

The International Cyclecar Company has been organized by Fred K. Parke, formerly general manager and vice president of the Universal Motor Truck Company, Detroit, and Charles A. Trask, formerly designer of the Economy cyclecar, made in Indianapolis, Ind. Offices have been opened in the United States Rubber building, 1790 Broadway, New York City, and it is understood that the factory will be located in Providence, R. I.

The Liberty Motor Company has been organized by Joseph Anglada, New York City, for the production of the Liberty cyclecar designed by him. The factory will be located in New York. The officers are: President, Joseph Anglada; secretary, C. S. Ackley; treasurer, A. W. Drake.

The J. H. Sixelman Company, 61 Penrose street, Cleveland, O., is announcing the Fidelia, seating tandem, with wheelbase of 96 inches, tread of 38 and weight of about 425 pounds. The motor is a two-cylinder DeLuxe, rated at 10-12. Ignition, Bosch magneto. Carburetor, Schebler. Transmission, friction; three forward speeds and reverse. Final drive, V belts. Wire wheels, 28 by three-inch tires. Price, $395.

T. E. Buckles, Manchester, Okla., is experimenting with a design which will seat two persons side by side. The wheelbase is 96 inches and tread 36. The motor is a two cylinder DeLuxe. Ignition, Bosch magneto. Carburetor, Schebler. Transmission, friction. V belt drive. Wheels are of steel, 26 by 2.5-inch tires. Price, $350.

The Continental Engine Manufacturing Company, Milwaukee, Wis., announces the Continental. Two passengers, tandem. Wheelbase, 96 inches; tread, 32. Motor, four-cylinder; bore, 2.68 inches; stroke, 2.93. Lubrication is either by circulation or non-circulating splash. Ignition, optional. Carburetor, Schebler. Transmission, friction. Final drive, chain or belt. Wire wheels, with 30 by three-inch tires.

William B. Engler, Pontiac, Mich., announces the Engler. Two passengers, tandem. Wheelbase, 110 inches; tread, 36. Motor, V type, air-cooled, rated at 10 horsepower. Transmission, friction. Final drive, V belts. Wire wheels, with 28 by three-inch tires.

M. C. Whitemore, Dayton, O., presents the Arrow. Two passengers, tandem. Wheelbase, 100 inches; tread, 36. Motor, DeLuxe, two-cylinder. Ignition, Bosch. Carburetor, Schebler. Transmission, planetary. Wire wheels, with 28 by three-inch tires. Price, $375.

The Warren Electric & Machine Company, Indianapolis, Ind., presents the Hoosier. Tandem and side-by-side seating. Wheelbase, 96 inches; tread, 36. Motor, DeLuxe. Transmission, friction. Final drive, V belt. Price, $375.

The Northwestern Motorcycle Works, Chicago, Ill., is introducing the Logan. Two passengers, side-by-side. Wheelbase, 92 inches; tread, 40. Motor, DeLuxe. Ignition, Atwater Kent. Transmission, friction. Final drive, V belt. Price, $375.

The Keller Cyclecar Company, Chicago, Ill., announces the Keller. Two passengers, tandem. Wheelbase, 96 inches; tread, 36. Motor, Wilson, two-cylinder, air-cooled; bore, 3.5 inches; stroke, 3.62 inches. Ignition, Atwater Kent Unisparker. Transmission, friction. Final drive, V belt. Price, $375.

The Ideal Shop, Buffalo, N. Y., offers three options in the seating arrangement. Wheelbase, 96 inches; tread, 36. Motor, DeLuxe. Transmission, planetary. Wire wheels, with 28 by 2.5 inch tires.

COMING EVENTS.

March.

March 2- 4—Truck show, Cincinnati, O.
March 2- 6—Show, Fort Dodge, Ia.
March 2- 7—Show, Utica, N. Y.
March 2- 7—Show, Sioux City, Ia.
March 3- 6—Show, Grand Forks, N. D.
March 4- 7—Cortland, N. Y.
March 4- 7—Show, Tiffin, O.
March 5- 7—Show, Elgin, Ill.
March 7-14—Pleasure car show, Mechanics' building, Boston, Mass.
March 7-14—Show, Hamilton, Ont.
March 9-14—Show, Des Moines, Ia.
March 17-21—Truck show, Mechanics' building, Boston, Mass.
March 21-28—Show, St. John, N. B.

April.

April 9-15—Show, Manchester, N. H.

May.

May 24-25—Targa Florio race, Italy.
May 30—500-mile race, Indianapolis, Ind.

June.

June 9-11—Isle of Man road race.

July.

July 3- 4—Road races, Tacoma, Wash.
July 4—300-mile race, Sioux City, Ia.
July 4—Grand Prix, Lyons, France.
July 13-14—Track meet, Seattle, Wash.
July 25-29—Grand Prix race, Belgium.

August.

Aug. 28-29—Road race, Elgin, Ill.

September.

Sept. 9—Road races, Corona, Cal.
Sept. 9—Grand Prix, Italy.

October.

Oct. 1-10—International show, Berlin.
Oct. 16-26—Automobile Salon, Paris.

November.

Nov. 6-16—Olympia show, London.

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EVERY MAN HIS OWN RADIATOR REPAIRER

Absolutely Harmless GUARANTEED To Repair Leaky Radiators or Money Refunded

NOTE
Do not confuse RAD-FIX with powders and cement compounds that clog the radiator and destroy the cooling qualities.

RAD-FIX

A pure, filtered solution. The only preparation of its kind on the market.

Rad-Fix does not contain glue or cement properties of any kind. **Rad-Fix** is the only product that will pass through the screen of the filler cap. Nothing should go into a radiator that cannot pass through this screen. **Rad-Fix** cuts all rust and cleanses corrosion. **Rad-Fix** performs a permanent weld and produces a practical repair.

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Write for further information

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BEST BY TEST
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Send for Pleasure or Commercial Catalogue.

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HARRIS

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OILS

Because

HARRIS Users Come Back For More.

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New Departure
"TWO-IN-ONE"
Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.
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Vulcanizers for Shop, Garage or private use.

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We have been allowed patent rights on a steering gear anti-rattler for the FORD car known as the

"TOWLE" ANTI-RATTLER

FOR FORD STEERING GEAR

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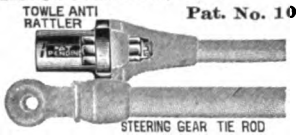

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Patents Pending in England and Canada

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Silence Your Transmission and Differential

Noise in your gears is a danger signal—it means wear—it promises trouble.

Dixon's Graphite Transmission and Differential Grease, No. 677, stops the noise—minimizes wear—removes the trouble—by giving the kind of lubrication no grease alone can give.

The finely ground flakes of natural graphite are carried with the grease to all the gear surfaces, and some of them identify themselves with the metal in a frictionless veneer which stops the grinding and the noise—reduces the wear—saves engine power—makes the car go faster, smoother, longer.

Get acquainted. Send for "Lubricating the Motor", No. 49.

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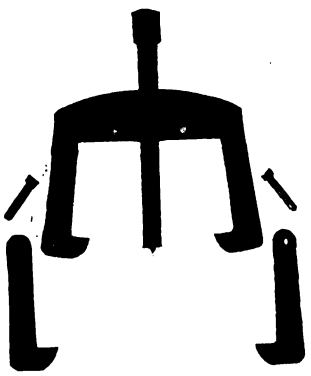

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For Removing Fly Wheels, Propellers, Couplings, Gears, Etc.

New flat pointed screw with **inserted tempered tool steel point.** Will not injure centres no matter what the strain. Works equally well on work that has no centres.

Each Puller furnished with **two sets of new combination hook and extension arms** that greatly increase the range of work.

New screws and combination arms are interchangeable with any Pullers we have ever made.

Write Today for Circular A.

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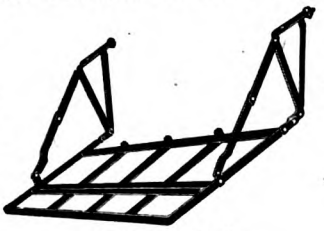
Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



This Rack Will Fit Any 1914 Ford Car

1914 Ford Rack

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

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THE SPRINGFIELD JACK

No. O (Plain Screw)

Very Powerful. The most convenient Jack around a garage for construction and repair work.

Capacity, One Ton. Height, 11 in.

Rise of Screw, 6 in. Weight, 5 lb.

Price $1.50

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This book is absolutely essential for the convenience, comfort and economy of every Ford owner. It shows all the latest and best Ford accessories and parts, with prices and descriptions—a dictionary of Ford information.

Don't delay—Write today

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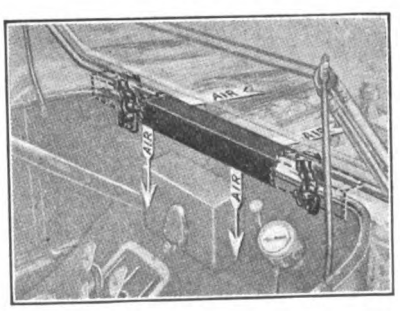
EXCELSIOR ADJUSTABLE VENTILATOR FOR MODEL T FORD



Admits Fresh Air
No Draughts

Excelsior Adjustable Ventilator provides proper ventilation of the front compartment of automobiles, where the excessive heat is unbearable. The **ventilator** admits fresh air but prevents draughts. The opening is adjustable and can be closed. Can be installed in a few minutes.

Black Enamel Finish.

Retail Price $3.00

Write for Discounts and Particulars.

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The Famous Model "T" FORD SPECIAL

Master Vibrator

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Satisfaction Absolutely Guaranteed

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The DANVER OILER produces more lubricating capacity, provides constant circulation, is automatic and prevents smoking and fouled plugs. The only perfect oiler for Ford motors. Its principle is right. Easily fitted. A BIG SELLER.

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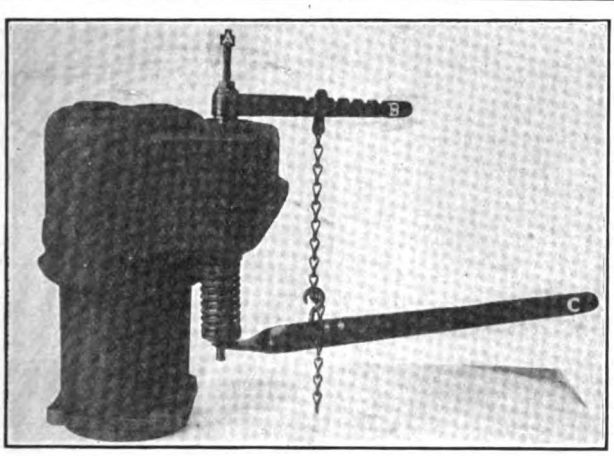

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TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.

LIST PRICE—Enameled black, each $2.50. Nickel plated, each $5.00

Extra barrels, each $1.50.

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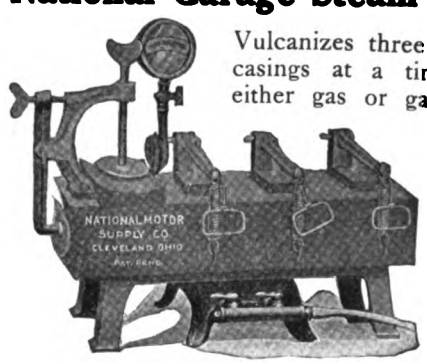
Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

National Garage Steam Vulcanizer

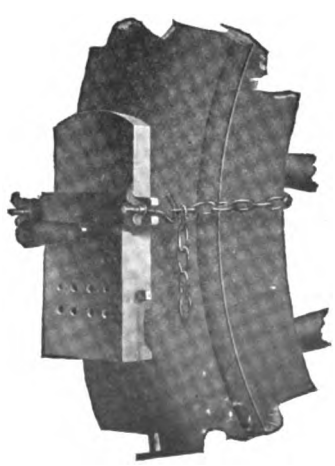


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.
Auto Parts Co., Providence, R. I.
Hopewell Brothers, Newton, Mass.
Branch: 1974 Broadway at 67th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. E., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight Sts., Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree St., Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Weits Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago.; 1786 Broadway, New York City; 805 Woodward Ave., Detroit.
Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Weits Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Russell Mfg. Co., Middletown, Conn. (Russco.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

American Voiturette Co., Detroit. (Keeton.)
Austin Automobile Co., Grand Rapids, Mich. (Austin.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Lexington-Howard Co., 131 Main St., Connersville, Ind. (Lexington and Howard.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Metz Co., Waltham, Mass. (Metz.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Owen & Co., R. M., 19 W. 62d St., New York City. (Reo.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Premier Motor Mfg. Co., Indianapolis. (Premier.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stuts Motor Car Co., Indianapolis. (Stuts.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: 320 Newbury St., Boston; Broadway and 62nd St., New York; 629-633 North Broad St., Philadelphia; 138-148 Beatty St., Pittsburg, Penn.; 610 S. Michigan Ave., Chicago; Market St. and Van Ness Ave., San Francisco; 120-122 Marietta St., Atlanta, Ga.; 74 Victoria St., Toronto, Can.
Willys-Overland Co., Toledo, O. (Overland.)

CARS—STEAM PLEASURE.

White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Commerce Motor Car Co., Detroit. (Commerce.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
Owen & Co., R. M., 19 W. 62nd St., New York City. (Reo.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp, Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., 1707 East Ave., Rochester, N. Y. (Sullivan.)
Tarrytown Motor Car Co., Inc., 1790 Broadway, New York City. (MotoKart.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
White Co., The, 828 E. 79th St., Cleveland. (White.)
Branches: See Cars—Gasoline Pleasure.
Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

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1914 Registration

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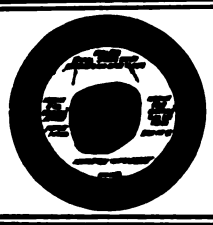

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Accessory and Garage Journal

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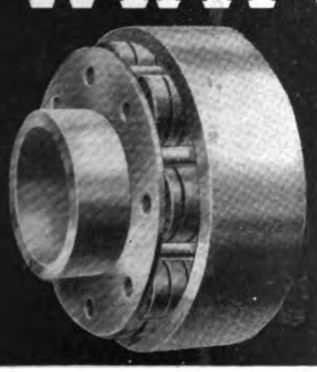

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169 Massachusetts Ave., Boston, Mass. (Telephone—Back Bay 1015.)
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756 Woodward Ave., Detroit, Mich. (Telephone—Grand 4130.)
Fourth & Middlesex Sts., Harrison, N. J. (Telephone—Harrison 2190.)

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Broom & Wade, High Wycombe, England.

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DETROIT MICH. WORKS: NEWARK N.J.

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CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

Miller, Chas. B., 97-103 Reade St., New York. (Brampton.)

Branches: See Accessory Manufacturers and Jobbers.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FIRE EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FORD AUTOMOBILE EQUIPMENT.

Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS AND GASKET CUTTERS.

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HORNS.

Dean Electric Co., Elyria, O. (Tuto.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)

IGNITION APPARATUS.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMP COVERS.

Hopewell Brothers, Newton, Mass. (Hopewell.)

Branch: 1974 Broadway, New York.

LIGHTING SYSTEMS, ELECTRIC.

Apple Electric Co., Dayton, O. (Apelco.)

Dean Electric Co., Elyria, O. (Dynalux.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Remy Electric Co., Anderson, Ind. (Remy.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Borne, Scrymser Co., 80 South St., New York. (Colonial.)

Branches: Boston, Fall River, Philadelphia.

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Harris Oil Co., A. W., 326 South Water St., Providence. (Harris.)

Branch: 148 No. Wabash Ave., Chicago.

Haws, Geo. A., 148 Front St., New York. (Panhard.)

Branch: 899 Boylston St., Boston.

Indian Refining Co., 17 Battery Place, New York. (Distributors of Havoline Oil.)

Branches: Pacific Coast—Kohl Bldg., San Francisco; Western—People's Gas Building, Chicago; Southern—Title Guarantee & Trust Bldg., Birmingham, Ala.; First National Bank Bldg., Cincinnati, O.; Lynchburg, Va.; St. Paul.

Refineries: Georgetown, Ky.; Lawrenceville, Ill.

Invader Oil Co., 80 Broad St., New York. (Invader.)

Branches: 284 Columbus Ave., Boston; 113 Arch St., Philadelphia; 512 Kenois Bldg., 11th and G Sts., N. W., Washington, D. C.

Miller, Chas. B., 97-103 Reade St., New York. (Pan-American.)

Branches: See Accessory Manufacturers and Jobbers.

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)

Northwestern Chemical Co., Marietta, O. (Gear-Silence.)

Standard Oil Co., New York. (Polarine.)

Branches: In all cities.

Texas Company, The, 7 West St., New York.

Branches: Boston, Philadelphia, Chicago, St. Louis, Norfolk, Atlanta, New Orleans, Dallas, El Paso, Pueblo, Tulsa, Houston.

Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)

Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.

Eisemann Magneto Co., 225-227 W. 57th St., New York City. (Eisemann.)

Branches: 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.

Heinze Electric Co., Lowell, Mass. (Heco.)

Marburg Bros., 1790 Broadway, New York. (Mea.)

Remy Electric Co., Anderson, Ind. (Remy.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LISTS.

Owners' Auto List Co., Albany, N. Y.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Kent Pocket.)

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTORCYCLES AND SUPPLIES.

Miami Cycle & Manufacturing Co., 320 Hanover St., Middletown, O. (Flying Merkel.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTOR STARTERS.

Apple Electric Co., Dayton, O. (Apelco.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Remy Electric Co., Anderson, Ind. (Remy.)

PACKING, FIRE.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Northwestern Chemical Co., Marietta, O.

PRIMERS.

Duelec Vaporizing Primer Co., 14 No. Broadway, Yonkers, N. Y. (Duelec Vaporizing.)

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PUMPS, OILS AND GREASE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Green & Swett Co., 787 Boylston St., Boston. (Tri-Phoon Car and Garage.)

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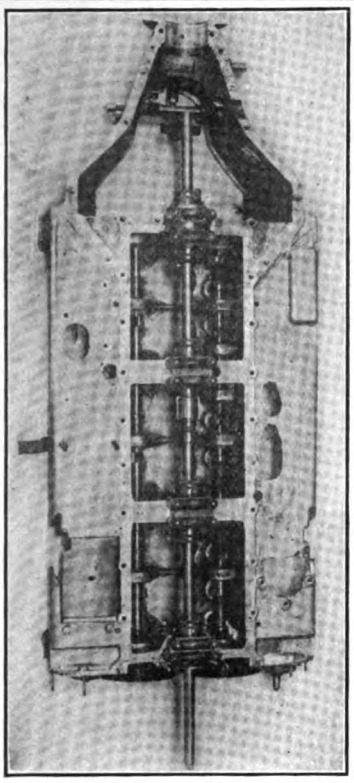

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Shawver Co., Springfield, O.

RADIATOR REPAIRING.

Radiator Fix Co., 121 Massachusetts Ave., Boston. (Rad-Fix.)

REAMERS.

Martell Motor Co., 1928 Columbus Ave., Boston. (Martell Aligning.)

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)

United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, Birmingham, Ala.; London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

SELF-STARTERS. (See Motor Starters.)

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.

J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Hopewell Brothers, Newton, Mass. (Paco.)
Branch: 1974 Broadway, New York.

Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.

Heinze Electric Co., Lowell, Mass. (Heco Priming.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Mosler, A. B. & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)

Silvex Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

SPEEDOMETERS, RECORDERS, ETC.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Electric.)

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

Stewart-Warner Speedometer Corp., Chicago. (Auto-Meter.)
Branches: 116 Edgewood Ave., Atlanta, Ga.; 925 Boylston St., Boston; 720 Main St., Buffalo; 2420 Michigan Ave., Chicago; 807 Main St., Cincinnati; 2062 Euclid Ave., Cleveland; 1518 Broadway, Denver; 870 Woodward Ave., Detroit; 330½ North Illinois St., Indianapolis; 1613 Grand Ave., Kansas City; 748 S. Olive St., Los Angeles, Cal.; 1902 Broadway, New York; 302 N. Broad St., Philadelphia; 5940 Kirkwood Ave., Pittsburg; 14 N. Seventh St., Portland, Ore.; 36-38 Van Ness Ave., San Francisco; 611 E. Pike St., Seattle, Wash.; 3923 Olive St., St. Louis; 550 Yonge St., Toronto, Can.

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TAIL LIGHT DETECTORS.

Harding Specialties Co., Inc., 755 Boylston St., Boston. (Boston.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS, TIRE INFLATING.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)

Shawver Co., Springfield, O. (Tools.)

TIRE CASES.

Hopewell Brothers, Newton, Mass. (Hopewell.)
Branch: 1974 Broadway, New York.

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.

Dayton Rubber Mfg. Co., Dayton, O. (Dayton Airless.)

Gaulois Tire Corp., 1926 Broadway, New York. (Gaulois.)

Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.

United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

TIRES—CUSHION.

Cataract Rubber Co., Wooster, O. (Cataract.)
Branches: Boston, New York, Providence.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)

Polack Tyre & Rubber Co., 246 W. 59th St., New York City. (Polack.)

United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TROUBLE FINDERS.

Hopewell Brothers, Newton, Mass. (Vibrator.)
Branch: 1974 Broadway, New York.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

VALVE LIFTERS.

Winsor Mfg. Co., Providence, R. I.

VARNISHES, ETC.

Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VENTILATORS.

Wattles, C. R., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

Vanderpool Co., Springfield, O.

Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.

Cutter, George A., Taunton, Mass.

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Mosler SpitFire Plugs

Battery and Magneto Types
Made to fit any engine-any thread

ACCEPT NO SUBSTITUTE
Insist Upon The

RED TAG

PACKED IN THIS BOX
& TAGGED
FOR YOUR PROTECTION

IT GUARANTEES

Genuine Platinum Point
Guaranteed Forever

Mosler Vesuvius Plug

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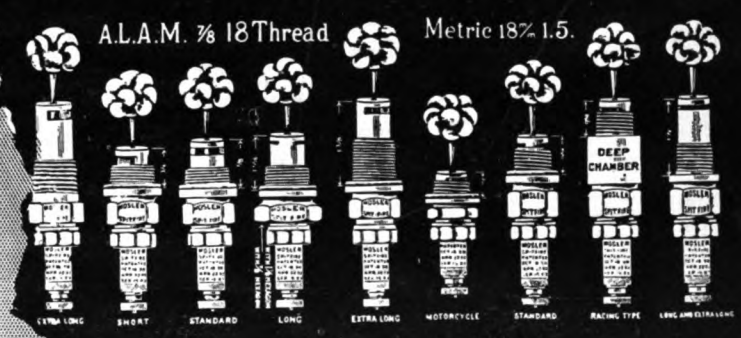

Absolutely Gas Tight
Has No Equal
For Speed and Power
Can Be Taken Apart Easily
And Reassembled Absolutely Gas Tight
The Stone-Insulated Plug Par Excellence
Will Outlast Your Motor

SOLD BY THE LEADING DEALERS
LIKED BY EVERYBODY

A. R. MOSLER & Co.,
P.O. BOX "M"
MT. VERNON, N.Y.

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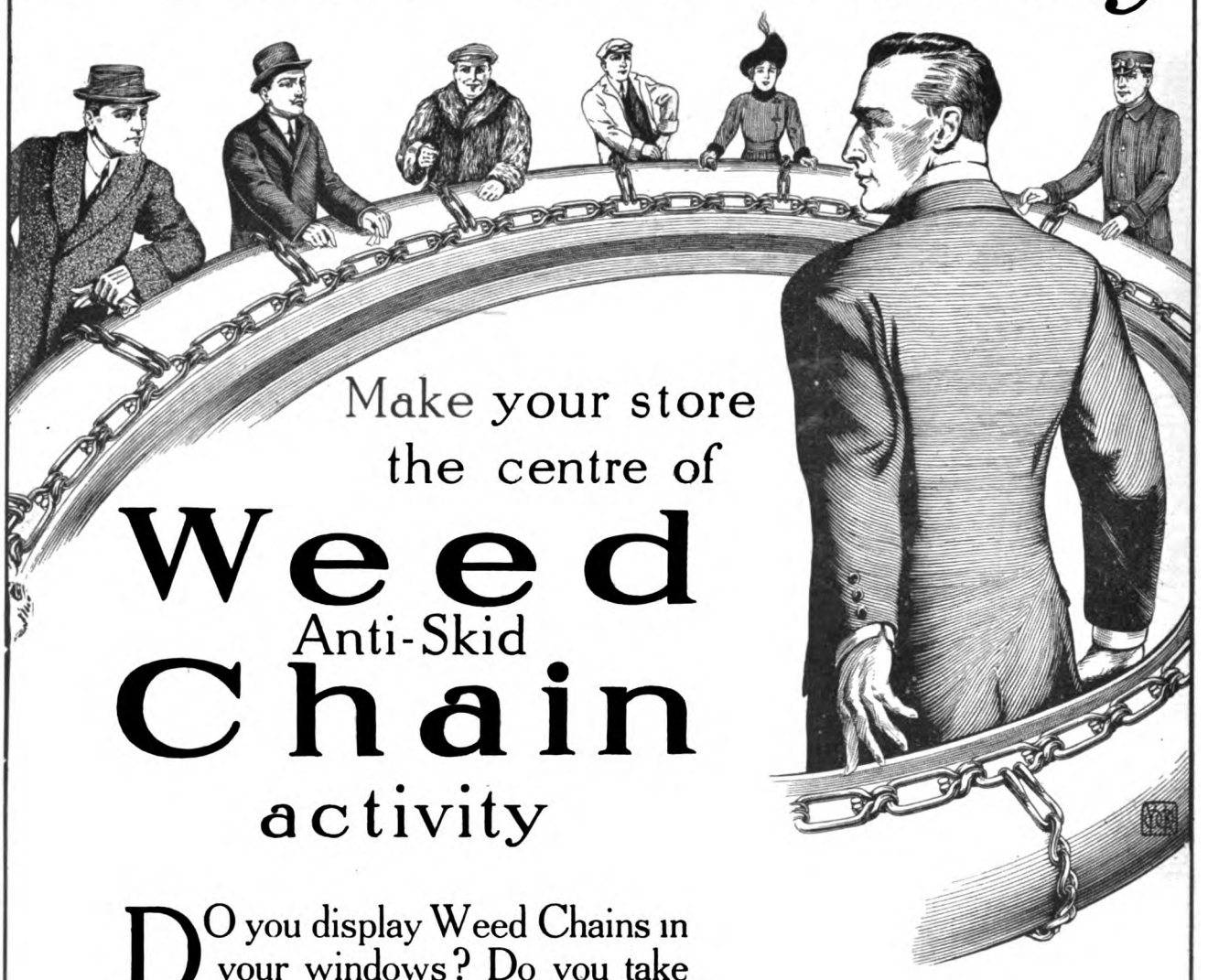
A Good Old Standby



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the centre of

Weed
Anti-Skid
Chain
activity

DO you display Weed Chains in your windows? Do you take advantage of every opportunity to remind the motorists in your community that your store is the hub around which Weed Chain activity whirls?

If you will only say the word, our Advertising Department will explain what *"Weed Service for Live Dealers"* really means in dollars and cents to you. ***We have Papier-mache tires, 30x3½, on which you can display our chains in your windows, and attractive cards, booklets, etc., on which we will imprint your name and address.*** All you have to do is to invest one cent in a postal card on which to assure us that you really desire to *"Make your store the center of Weed Anti-Skid Chain activity" in your community.*

Awaiting your valued inquiry, we are, yours for co-operation,

Weed Chain Tire Grip Company

28 Moore Street - - - - - - New York

Manufactured for Canada by Dominion Chain Company, Limited; Main Office, Shaughnessy Bldg., Montreal, Canada

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NEXT ISSUE, APRIL 25—GUARANTEED TRADE DISTRIBUTION—15,000.

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Industrial News Pages 5-7 Manufacturers 8-9, New Addresses 10, Trade Information Exchange 11-12, Personals 13-15, Financial 17, Quotations 18, Incorporations 19-20, New Buildings 21-23, New Locations 23-24, New Concerns 24-25, New Car Agencies 26-30, Patents 30, Fires 31, New Accessories 32-35, Machinery, Equipment, Etc., 36-38, Agents Wanted and Desirable Lines 40.

THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., MARCH, 1914. N

PANHARD OIL

Dealers' Bulletin No. 4

If poor oils and greases would only show immediately the harm they do, no one would buy them more than once. Unfortunately it takes time for friction to destroy a bearing, or even for a carbon deposit to form.

Still if you are building for a permanent trade, you must sell an oil that will give permanent satisfaction. Sooner or later car owners will learn to place the blame for engine trouble where most of it really belongs,—poor lubrication. Are **you** preparing for that time?

PANHARD OIL is a Pennsylvania product. It was first sold in 1904. While other brands have come and gone, it has more than held its own,—always uniform, always the best. It will help the work you turn out to make good and satisfy your customers. Isn't this your main object?

Write for details of our selling plan. It will appeal to you. We have many distributing centers. One is near you.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

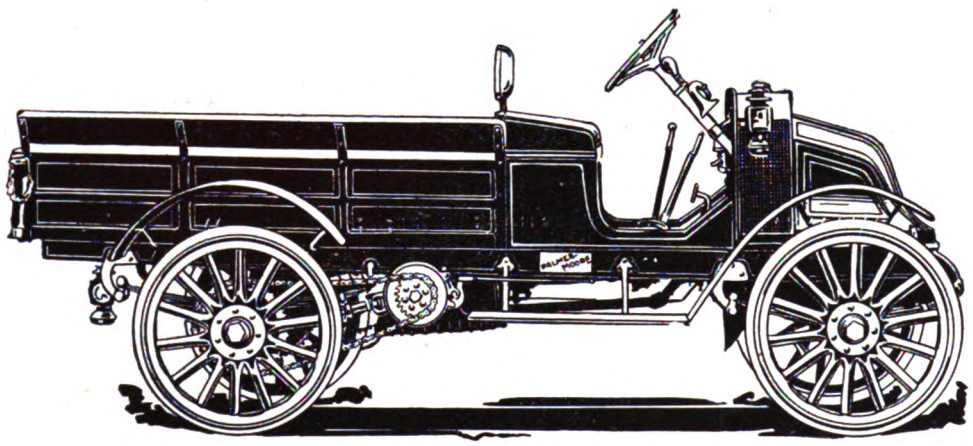
PALMER MOORE

SERVICE DEPENDABILITY

TRUCKS

1600 lbs. Capacity **All Styles of Bodies**

For Your Attention, Mr. Dealer



Open Express (water cooled) with sliding gear transmission. Price, $1,425.

Why you should handle Palmer-Moore Trucks.

1. *Quality* and *appearance* give them a distinction and merit all their own. Palmer-Moore trucks are made solely for dependable service. Their snappy clean cut appearance and smooth running qualities compel attention. They are a real advertisement for the progressive business house.

2. They stand the *most rigid tests* and meet the highest requirements of the light delivery field. Sturdiness of construction, simplicity of mechanism and flexibility of motor are watchwords of Palmer-Moore success.

3. *Liberal commission* and *hearty factory cooperation.* We seek only the best representatives—such that will appreciate our aggressive efforts to increase their business and insure the constant success of our trucks in service.

PALMER-MOORE COMPANY

SYRACUSE, N. Y.

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VEEDOL

Will Be Your Best Business-Builder

A proven oil made from Pennsylvania petroleum, the result of our 30 years of experience with every kind of lubricating oil.

We have tested it not only by every method known to modern science, but also in actual service under the severest conditions in every standard type of car.

VEEDOL will give satisfaction; it will bring in the repeat orders, because your customers will find that it affords the most nearly perfect lubrication with the least carbon deposit.

We do not claim that VEEDOL will eliminate ALL friction; that as it burns it will deposit absolutely no carbon—there will never be a PERFECT lubricating oil.

VEEDOL is the **most nearly perfect** that has ever been produced. Its gravity, viscosity, flash and fire tests; its lubricating value at operating temperatures, make it the ideal internal combustion engine lubricating oil. Car owners will learn these facts as soon as they give VEEDOL a trial. They will be asking for it everywhere. All your customers will be talking about VEEDOL.

We want a responsible representative in every automobile center of the country. There's a big business opportunity for you if there is no agent in your vicinity. Write at once for particulars of our new selling plan. We back up our representatives with the most intensive consumer advertising campaign ever put in operation for a lubricating oil.

Platt & Washburn Refining Co.

1 Broadway **New York City**

Incorporated 1885

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TRADE EDITION

THE ANNUAL BUYER'S AND SELLER'S NUMBER

OF THE

ACCESSORY AND GARAGE JOURNAL

APRIL ISSUE

Analyze the distribution of this edition. The following tabulation emphasizes the quality and worth of the readers. The service and distribution is backed by any guarantee requested by users of space. The figures tell the story. The April number of the Accessory and Garage Journal will accord advertisers the greatest circulation to trade interests ever offered. It is the buying season. It is your time to sell.

11,287 GARAGES
14,988 DEALERS IN VEHICLES
7,954 REPAIR SHOPS
8,465 CONCERNS SELLING SUPPLIES
2,764 DEALERS IN FORD MACHINES
285 JOBBERS IN ACCESSORIES, PARTS, EQUIPMENT, ETC.

The above includes practically every live listed concern in the buying and selling ends of the industry. All leading manufacturers in their respective lines will be reached as well.

To secure the same trade service through any other channels would cost many times what is charged for page space in this edition.

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ACCESSORY & GARAGE JOURNAL

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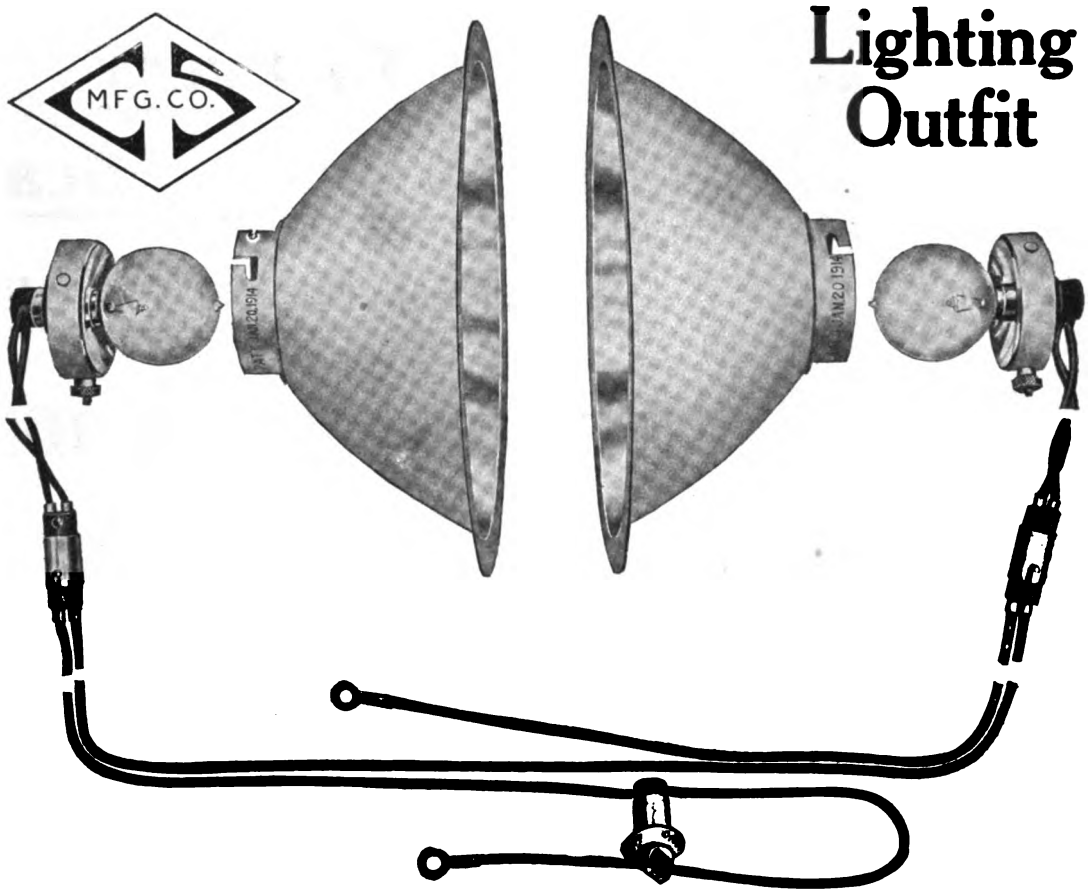

Operating Direct from any Ford Magneto

This Outfit Consists of one pair of C-S Patent Reflectors, Heavily Silver Plated, Together with the Necessary Wires, Bulbs, Switches, Ediswan Connectors, Etc.

Special Proposition for the Trade

Culver-Stearns Manufacturing Co.

Worcester, Mass. **Detroit, Mich.**

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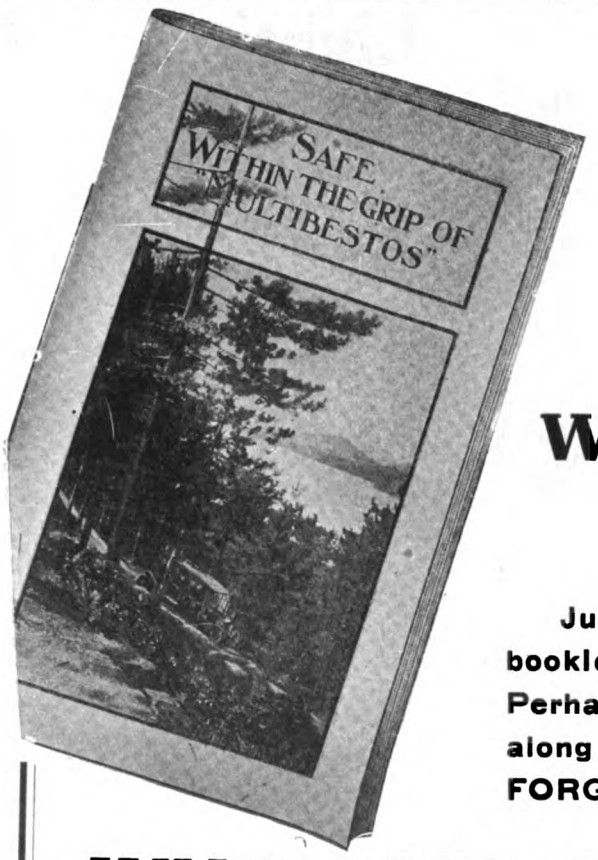

To Every Garageman, Dealer and Repairman

WE NEED YOUR HELP TO DO IT

Just tear off coupon and send it along--the booklet will be on your desk by return mail. Perhaps some friend would like one--send along his or their names also--BUT DON'T FORGET--DO IT NOW.

WHY THIS BOOKLET SHOULD BE IN YOUR HANDS

We take it you are interested in automobiles primarily TO MAKE MONEY. THE BOOK SHOWS A WAY. We also assume that satisfied customers are what you seek. THIS BOOK HAS SOME VITAL FACTS. And, finally, the knowledge that IN YOUR HANDS probably LIES THE SAFETY OF YOUR CUSTOMERS may interest you.

If So You Need This Booklet--- Its Message Is For You

TEAR COUPON AND MAIL

Standard Woven Fabric Co.
Framingham, Mass.

Please send a copy of "Safe Within the Grip of Multibestos" to me at the following address

.....

Street and Number .....

Town and State .....

Signed .....

THE GRIP
MULTIBESTOS
BRAKE THAT GRIPS LINING

STANDARD WOVEN FABRIC COMPANY
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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., MARCH, 1914. No. 11

MAKERS POOL THEIR PATENT INTERESTS.

Kardo Company Becomes Holding Concern for Axle Rights and Will Issue Licenses to Other Manufacturers---General News of the Industry and the Trade.

AN ANNOUNCEMENT of unusual interest to the industry is made in connection with the organization of the Kardo Company, Cleveland, O. It is understood that the concern, which is capitalized for $1,000,000, will be in the nature of a holding company, taking over certain axle patents heretofore held by the Packard Motor Car Company, Detroit; Peerless Motor Car Company, Cleveland, and American Ball Bearing Company, Cleveland. The officers are: President, Alvan Macauley of the Packard company; vice president, Theodore W. French, Peerless; secretary and treasurer, Fred C. Dorn, American Ball Bearing Company. The directors include: F. S. Terry, connected with the National Electric Lamp Company, a General Electric subsidiary; Walter C. Baker of the ball bearing company, and Milton Tibbetts, patent counsel for the Packard company. The published statement of the company follows:

The Packard Motor Car Company, the Peerless Motor Car Company and the American Ball Bearing Company, have, since the earliest days of the industry, independently and at large expense, developed axles that they believe are best suited to their respective trades. The patents on these axles, pertaining as they do to component parts, are so closely corelated and interlaced that the axles of either of the companies cannot be built without infringing the patents of other companies.

This three-cornered patent situation has been a vexatious question for some time, each company claiming that the others and the trade generally infringe its axle patents, and litigation has been frequently threatened. The situation became so acute and disturbing recently that a way was sought to relieve it. Careful study made it evident that the industry, including the three companies whose patents were directly involved, and automobile users generally, were interested in the final outcome and would be benefited by the removal of the menace and the avoidance of expensive and wasteful litigation. It seemed, therefore, that the patents should be so owned that licenses under them might be enjoyed upon reasonable and equitable terms by all manufacturers and users.

The patents are now owned by the Kardo Company. Some licenses under them have been granted and the company is negotiating others at the present time. Of course the usual royalty reservations will be made, and manufacturers will receive licenses that will insure them the right to make and sell to their customers axles that are free from charges of infringement. It is sincerely hoped and confidently expected that no litigation whatever will be necessary to the accomplishment of this constructive work.

New Plant Which Stutz Motor Car Company Will Erect in Indianapolis, Ind.

NEW STUTZ PLANT.

Additional Details Concerning Factory of Well Known Indianapolis Concern.

As stated recently in Accessory and Garage Journal, the Stutz Motor Car Company, Indianapolis, Ind., has begun work on its new plant at 10th street and Capitol avenue, on property recently purchased from Harry S. New. It will adjoin the factory occupied by the former Stutz Auto Parts Company, which is now a part of this concern. An accompanying illustration indicates the character of structure which it is proposed to erect. This will be one of the most up-to-date automobile plants in Indianapolis. It will have a frontage of 80 feet on Capitol avenue and 204 feet on 10th street, and be four stories high. The material will be concrete with brick facing.

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THE AJAX FROM SEATTLE.

Company Organized on Pacific Coast to Produce an Entirely New Six-Cylinder Machine.

The Ajax Motors Company, headed by Seattle men and incorporated under the laws of Arizona, has been organized in Seattle, Wash., for the purpose of producing the Ajax car, a six-cylinder machine, which will be presented in two chassis, one fitted with a poppet valve motor and the other with an engine of the piston valve design. The list of incorporators includes George, Frank L. and Charles L. Parker.

Both engines will be six-cylinder units, with bore of 4.5 inches and stroke of 5.5, cast in pairs. The transmission will afford four forward speeds and reverse. No radius rods will be employed, the drive being through the two rear springs, transmission case, propeller rod housing and a ball and socket joint in the centre of the car. Three styles of bodies will be offered as standard, these being roadster, phaeton and touring, the latter being designed for five and seven passengers.

NEW OFFICERS ELECTED.

Men Named to Head MotoKart Company, Which Takes Over Two Older Concerns.

The MotoKart Company, which was recently incorporated, with factories at Tarrytown and Peekskill, N. Y., and offices at 1790 Broadway, New York City, has elected new officers for the company. This concern took over the business heretofore conducted by the Steinbock Engineering Company and the Tarrytown Motor Car Company. As a result of the consolidation the new officers are: President, A. R. Gormully; vice president, H. E. Steinbock; sales vice president, G. C. Wolfe; treasurer, B. J. Knerr; secretary, E. M. More; purchasing agent, F. C. Sievers.

A. R. Gormully, President, MotoKart Company.

Mr. Gormully, the newly elected president, is well known in the industry. He was born and educated in London, England, and came to Boston in 1892. He has been connected with the Gormully & Jeffery Manufacturing Company, Chicago, and the Electric Vehicle Company, New York City; Maxwell-Briscoe Motor Company, Tarrytown, N. Y., as well as other well known firms.

VULCAN ELECTRIC GEARSHIFT.

The Cutler-Hammer Manufacturing Company to Manufacture and Market That Product.

The Vulcan Electric Gearshift, heretofore made and sold by the Vulcan Motor Devices Company, Philadelphia, Penn., will hereafter be manufactured and marketed by the Cutler-Hammer Manufacturing Company of Milwaukee, Wis., under the Vulcan patents. Roger W. Griswold, president of the Vulcan Motor Devices Company, and W. A. McCarrell, chief engineer, will continue to be actively interested in the manufacture and sale of the product.

ANNOUNCES SINGER CAR.

New Company Is Incorporated Following Receiver for Palmer-Singer Concern.

A petition in bankruptcy was filed by Charles A. Singer, president of the company, Caroline H. Singer and Alexander Gillihand, against the Palmer & Singer Manufacturing Company, Long Island City, N. Y., in the United States district court in Brooklyn, March 3, and Judge Veeder immediately appointed John J. Kuhn receiver, fixing his bond at $10,000 and giving him authority to continue the business.

Soon thereafter announcement was made of the incorporation of the Singer Motor Company, with capital of $200,000, the incorporators being Charles A. Singer, C. A. Singer, Jr., and Harold Callisen. It is stated that this concern will produce the Singer car, a six-cylinder model, following closely the lines of the old Palmer-Singer, and utilizing a T head poppet valve motor. This concern has secured temporary headquarters at room 707, Longacre building, New York City, and a factory on Long Island. It is understood that A. M. Dean, formerly consulting engineer for the Palmer & Singer Manufacturing Company, has been retained in a similar capacity with this company.

TO MAKE WOODWARD PUMPS.

Concern Is Organized in Detroit for This Purpose with Capital of $50,000.

The Woodward Pump Company has been incorporated in Detroit, for the manufacture and distribution of the Woodward Impulse tire pump. The company has capital of $50,000 and the headquarters are located at 222 Third street.

The Woodward pump was placed in the market in 1913 and is said to have met with decided success. It is also stated that the firm of Joseph N. Smith & Co. of Detroit, is largely interested in the new concern and that the pump will be produced in its factory.

The officers of the company are: President, A. Woodward; vice president, E. L. Ackerman; treasurer, C. E. Blaesser; secretary, C. B. Woodward.

NET PROFITS OF $7,140,125.

United States Rubber Company Reports Substantial Increase in Tire Sales.

In view of the change of date for the ending of the fiscal year, from March 31 to December 31, the annual report of the United States Rubber Company, New York City, just made public, covers only nine months. However, the statement shows net sales of $87,349,692, and net profits of $7,140,125. This covers the products of various subsidiary companies, engaged in the manufacture of footwear, tires, mechanical and miscellaneous goods.

Included in the surplus of $1,811,268 are the earnings of certain subsidiaries for the three months ending March 31, 1913, estimated at $764,657. Deducting this and $10,939 applicable to minority interests, there remains a balance of $1,035,672. After adding 4.5 per cent. paid on the common stock, amounting to $1,620,000, the total, $2,655,672, represents the amount available for common dividends for the nine months, equal to 7.37 per cent. on $36,000,000 common outstanding, or at the rate of 9.83 per cent. a year.

TAKES OVER DEAN BUSINESS.

Garford Manufacturing Company Is Being Organized for This Purpose.

According to information from Elyria, O., the sale of all property, assets, patents and good will of the Dean Electric Company of that city has been made to A. L. Garford, who is organizing the Garford Manufacturing Company, with capital stock of $500,000 preferred and $800,000 common to take over the business.

The officers of the new company are: President, A. L. Garford; vice president and general manager, A. G. Bean. The proposition submitted by Mr. Garford provided for the exchange of preferred stock of the Garford Manufacturing Company for bonds of the Dean Electric Company, which were outstanding, amounting to $250,000; all creditors' claims, totalling $427,000, to be put in the form of notes and assumed by the Garford company to be liquidated over a period of five years.

INSURANCE AGAINST THEFT.

Gasolock Controls Fuel Supply, Preventing Operation Except by Holder of Key.

In spite of the severe penalties prescribed for the use of cars by others than those having the right to operate them, the list of machines reported stolen is rapidly increasing, and a large number of cars have practically disappeared, so clever are the bands of organized automobile thieves. As a result many owners are now carrying insurance who formerly did not deem the precaution necessary.

The Headlight Support Company, Dime Bank building, Detroit, is manufacturing the Gasolock, which is held to eliminate the need of insurance, in that it shuts off and locks the fuel supply, one of the most practical

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methods of locking a machine. One of the qualities of the device is that it is easily and quickly operated from the seat. By turning a thumb button the supply of gasoline to the carburetor is shut off and locked until the owner of the key releases the mechanism by means of a Yale key, no two of which are alike.

The Gasolock presents several other practical features. It prevents waste of fuel through a flooding carburetor, and in the event of the latter catching fire because of a backfire, the supply of fuel can instantly be shut off, preventing a serious loss. As the thumb button is convenient the fuel supply may be closed and locked, and without having to stoop and search for petcocks, etc.

The Gasolock is not only neat and compact, but is nicely finished. Nickel and brass are standard and its installation is a simple matter. Two Yale keys are supplied with each lock and the third is kept by the company, filed away with the owner's number, so that in case both keys are lost a wire or letter will bring the extra key without charge and by special delivery.

The Gasolock is not only guaranteed for life, but it can be installed on any car and used over again. It is moderately priced and its cost will pay for the usual insurance. It also is adaptable to motor boats, motorcycles and cyclecars. Descriptive matter and trade prices will be forwarded upon request.

MORE WORKING CAPITAL.

Stockholders of Goodyear Tire & Rubber Company Approve Financial Plan.

Without a single dissenting vote the stockholders of the Goodyear Tire & Rubber Company, Akron, O., at a special meeting held recently, approved the plan of the directors for introducing $4,000,000 of new working capital by the sale of stock. It is understood that already present Goodyear stockholders have subscribed for more than 80 per cent. of the stock to be offered.

Officials of the company stated that additional working capital was made necessary by the growth of the business. Since 1911 this has increased from $13,000,000 a year to $33,000,000, on the basis of $10,000,000 capital stock. The company has just completed additions to its factory sufficient for the handling of a business of $50,000,000.

MOSLER FACTORY SOLD.

Street Improvements Necessitate Erection of New Plant in Another Location.

The factory of A. R. Mosler & Co., Mount Vernon, N. Y., has been sold to the Bronx Parkway Commission for $93,000. It is understood that this property will be utilized for an extension of a boulevard to Kensico. It is further stated that two new factories will be erected by the Mosler concern within six months, but the site has not yet been chosen.

ON HIS WEDDING TRIP.

A. H. Bartsch, Now a Benedict, Establishes a Score of Bosch Service Stations on Western Tour.

According to information from New York City, Alfred H. Bartsch, advertising manager for the Bosch Magneto Company, was married Feb. 10, leaving that night with his bride for Los Angeles, Cal., to witness the Vanderbilt Cup and Grand Prize races.

He joined Chief Engineer V. W. Kleisrath in Los Angeles and together they saw to it that those interested had the usual good Bosch service. On the return trip Mr. Bartsch visited the western distributors and established over 20 Bosch service stations west of Chicago. While in San Francisco he made arrangements for the Bosch exhibit at the Panama-Pacific exposition in 1915.

PURCHASES NYBERG PLANT.

A. C. Barley Expected to Consolidate This with Streator Motor Car Company.

It was announced recently that A. C. Barley of Chicago had purchased the Streator Motor Car Company's plant at Streator, Ill., and that it was expected that this concern would soon resume the manufacture of Halladay cars. Additional information reports that Mr. Barley has also purchased the plant of the Nyberg Automobile Works, Anderson, Ind., the price paid being $7500 in cash and the assumption of liens amounting to $22,000.

It is now understood that it is the intention of the new owner to consolidate the two plants and to produce both the Halladay and the Nyberg for the 1915 season. It is further stated that two very low priced models will be added to the line.

JOINS OAKLAND FORCE.

Fred W. Warner Becomes General Sales Manager, Succeeding J. B. Eccleston.

The Oakland Motor Car Company, Pontiac, Mich., announces that Fred W. Warner has been appointed general sales manager, succeeding J. B. Eccleston, resigned. Mr. Warner was originally connected with the wholesale implement business, but for the past three years has been manager of the Buick Motor Company's Chicago branch.

Six years ago he became associated with the Keating Implement & Machine Company, the oldest house of its line in the southwest, as secretary and sales manager, leaving that connection to go with the Buick.

ANOTHER BRISCOE COMPANY.

Will Produce Argo Machines in Factory Located Just Outside of New York.

The Argo Motor Company has been organized in New York City for the production of a light car in a factory to be located just outside of the city, according to the preliminary announcement. Although it is maintained by the company that the product will not be a cyclecar, but a light automobile, the description would seem to indicate that the motor dimensions and weight were to be such as to place it in the true cyclecar class.

F. D. Dorman, Secretary-Treasurer, Argo Motor Company.

A factory has been acquired in Racine, Wis., for the production of the motor, which is to be a four-cylinder unit, with bore of 2.31 inches and stroke of four, giving a displacement of 67 cubic inches. The weight will be about 700 pounds. The wheelbase is 90 inches, and body will seat two passengers side by side. Thermo-syphon cooling, splash lubrication with pump circulation, cone clutch, sliding gear transmission, shaft drive, full elliptic springs and wire wheels 28 inches in diameter are among the construction details.

The officials of the company are: President and general manager, Benjamin Briscoe; vice president and general sales manager, L. E. Latta; secretary and treasurer, F. D. Dorman.

IS EASTERN REPRESENTATIVE.

W. S. Jewell Will Cover New England, New York, New Jersey and Pennsylvania.

The Marion Motor Car Company, Indianapolis, Ind., has appointed W. S. Jewell eastern sales representative, in charge of the territory of New England, New York, New Jersey and Pennsylvania. He is well known in the trade, having been for some time manager of the New York house handling Marion cars, and his appointment may be looked upon as a distinct advance in his duties and a recognition of his powers.

ORGANIZE NEW COMPANY.

Two Well Known Ignition Salesmen Establish Headquarters in Washington, D. C.

Charles Rubel, for a number of years connected with the Connecticut Telephone & Electric Company, Meriden, Conn., has resigned as sales manager of that concern. He has organized the Rubel Company, with headquarters at 1312 14th street, N. W., Washington, D. C., and has interested Elmer H. Holenthal as a partner. The latter was formerly connected with the Bosch Magneto Company, New York City.

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GENERAL NEWS OF THE MANUFACTURERS.

The Kahlenberg Bros., Two Rivers, Wis., which manufactures gasoline motors for marine purposes, has perfected a compact motor utilizing kerosene, heavy fuels and gas.

The Hauck Manufacturing Company, Brooklyn, N. Y., has invented and patented kerosene hand torches for use in repair shops for preheating in connection with welding, straightening axles, chassis brazing, etc. The company will also put on the market patented furnace burners for attachment to annealing furnaces.

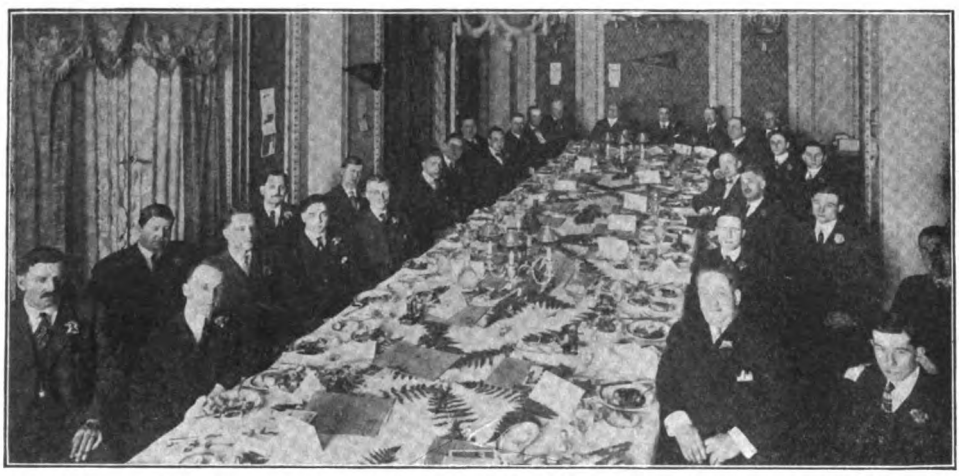
The Dyneto Company, Syracuse, N. Y., has developed an electric lighting and starting system for Grant cars, made by the Grant Motor Company, Findlay, O. It weighs 30 pounds and is of the single-unit motor-generator type, self-regulating by an ingenious arrangement of the windings.

The Lozier Motor Company, Detroit, held its first annual convention recently. More than 50 service men from the establishments of Lozier dealers throughout the country were the company's guests. The service men inspected the factory, tore down and rebuilt the 1914 models and listened to talks by the factory representatives of concerns supplying the Lozier accessories.

The Oakland Motor Car Company, Pontiac, Mich., exceeded all records for a single day recently when the total orders amounted to three train loads of machines. Two train loads were shipped to Omaha and 10 cars of automobiles to Georgia.

The Central Welding & Manufacturing Company, St. Louis, Mo., manufactures a new generator for automobiles, etc. The company is located at 2211 Olive street.

The Spenny Motor Car Company, Holland, Mich., has opened general offices in the Otis building, Detroit, and is



Recent Dinner Tendered to State Dealers and Sub-Dealers by Commerce Motor Car Company of Illinois.

now closing with dealers and agents in various parts of the country who will handle the company's two models. These consist of a four, which sells for $750, and a six, that sells for $3750.

The Purfex Manufacturing Company, Philadelphia, announces the discontinuance of the New York office. The products of this company are marketed under the names of Purfex valve grinding compound, Purfex carbon tablets and the Pillner valve compressing spring tool.

The Federal Motor Truck Company, Detroit, gave an elaborate banquet to its visiting dealers recently. At the close of the dinner the National Federal Dealer's Association was organized to bring the dealers closer together, foster the spirit of co-operation and to improve service to truck owners. The following officers were elected: President, Allan Baker; vice president, William M. Hughson; secretary and treasurer, H. S. Dunlavey; assistant sales manager, C. T. Chenevert, with headquarters in New York City.

The Hendee Manufacturing Company, Springfield, Mass., maker of Indian motorcycles, has had a most prosperous year, with an output of 35,000 mounts from which net earnings of $1,300,000 resulted. The plant has been enlarged with a view of turning out 50,000 of these machines during 1914. Deliveries to date have been 100 per cent. greater than a year ago.

The Kosmath Company, Detroit, has purchased from the receiver of the Miller Car Company the designs and material which the latter had on hand for the 1000 delivery wagons which it was building at the time of the failure. The manufacture of these wagons will be continued by the Kosmath Company.

The Tire Repair Equipment Company, Appleton, Wis., has purchased the stock, machinery, patents and business of the Meili-Blumberg Company, New Holstein, Wis., manufacturing attached sliding clamp vulcanizers. The Appleton company will continue the manufacture of this device under the trade name of Badger steam vulcanizer.

The Craig Center Auto Company has opened its new factory at Pittsburg, Penn.

The Jackson Retail Products Company, Jackson, Mich., which manufactures radiators, fenders, etc., for automobiles, will establish a plant in that city.

The Drednot Motor Trucks, Ltd., Montreal, Que., maker of Drednot trucks, is to be reorganized. The new place of business will be at 143 Wellington street. Vibert S. Ross, an experienced automobile and motor truck engineer, will play an important part in the company's business affairs.

The International Harvester Corporation has just completed two large additions to the plant at Akron, O., which is devoted exclusively to motor truck manufacture.

The Rotary Air Brake Company, Anaheim, Cal., manufacturer of an air brake for motor cars, will erect a factory in Los Angeles. The company also produces engines and airmobiles.

The Beaver State Company, Portland, Ore., has purchased a tract of between five and six acres in the northwestern part of Gresham, Ore., as a site for its motor car factory. Work has commenced on the new building.

The Pierce-Speed Controller Company, Anderson, Ind., is considering the enlargment of its plant.

The Fiat Motor Car Company, Poughkeepsie, N. Y., is having its factory enlarged at a cost of $75,000.

The Brown Clutch Company, Sandusky, O., has been compelled to largely increase its manufacturing facilities. A new building of concrete and equipped with the latest machinery has been added to the plant.

W. C. Hendee Rubber Company, Torrance, Cal., is having its plant enlarged. The cost of the machinery to be installed will be $50,000.

The Commerce Motor Car Company of Illinois, the state sales branch of the Commerce Motor Car Company, Detroit, maker of Commerce business wagons, recently entertained the dealers and sub-dealers throughout that state at a dinner in the Sherman house, Chicago. The purpose of the gathering was to promote the spirit of co-operation and to discuss matters pertaining to the sale of machines in that section. Several executives of the parent company were in attendance.

The Gramm-Bernstein Motor Truck Company, Lima, O., has received plans for a new building to be erected at Seventh and C streets, Tacoma, Wash. The structure will be two stories high, 60 by 120 feet, and of the most modern construction throughout. The first floor will be used as a salesroom, with a complete service department in the rear.

The Moon Motor Car Company, St. Louis, Mo., has issued a report showing its actual gross shipments for the last five months of 1913 to have been $312,005.14, as compared with $237,478.44 for the corresponding period of 1912. According to the company, it is the lightweight six streamline which is making this gain.

The Jackson Eno Rubber Company, Los Angeles, Cal., is installing new and up-to-date machinery at its plant. The company manufactures tires.

The Abbott Motor Car Company, Detroit, has added three departments to its already large and extensive plant, body trimming, top work and painting. The building is now under construction and is to be three stories, of brick, slow burning mill construction, and will be equipped with automatic sprinkler and electric power elevator.

The Gananoque Spring & Axle Company, Gananoque, Ont., has started up the new spring works that it built to replace the old plant which was destroyed by fire last October. The new building is much larger than the old one and is fireproof, being built of stone, brick and reinforced concrete, with steel trusses. The sash is of steel, with wire glass, and the entire factory is equipped with the latest type of modern spring making machinery.

The Mais Motor Truck Company, Indianapolis, which was reorganized after being placed in the hands of a receiver July 9, 1912, recently met and paid its last obligation to Franklin Vonnegut, the receiver, and is now actively preparing for a substantial increase in output. The directors of the new organization are: H. G. Francis, W. M. Pearce, A. S. Lockard, L. A. Caswell, J. S. Sinclair.

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The Pacific Tire & Supply Company, Seattle, Wash., is to erect a large factory for the manufacture of tires. The company has a capital stock of $200,000.

The Puritan Manufacturing Company, Detroit, has started a three-story addition to its plant at 435 Lafayette boulevard, the building being 75 feet by 100 feet in size.

The Keystone Vehicle Company, Columbus, O., will open within a few months a factory at North Columbus, O., for the manufacture of gasoline hearses. The concern will also do repairing on all kinds of cars.

The E. J. Thompson Company, Pittsburg, Penn., has purchased from the Nicola Land Company about 7000 square feet adjoining its present building and will erect another modern four-story building, which it expects to occupy within six months. The new structure will provide a large showroom, new offices and very large elevator, enabling the handling of large trucks, etc., and will cost $80,000. The company manufactures limousine bodies for automobiles.

The Menominee Electric Manufacturing Company, Menominee, Mich., has developed a line of lighting generators for use in connection with cyclecars and is now making shipment.

The National Forging Company, Hamilton, Ont., has taken over the plant of the Swift Motor Car Company, and will use it for the production of automobile and carriage forgings.

The American Ever Ready Company, New York City, has purchased an entire block in Long Island City, upon which will be erected an eight-story factory, 200 by 300 feet.

The V-Ray Company, Marshalltown, Ia., at its recent annual meeting, trebled its capital stock. Dwight H. Denmead acquired one-third interest in the company. Mr. Sinclair and Mr. Hansen each owning a third interest.

The Oakes Pressed Steel Company, Indianapolis, Ind., maker of metal stampings of all descriptions, has found it necessary to remove into the enlarged plant at the corner of Division street and Vandalia railroad, shown in the accompanying illustration. This action is the result of rapidly expanding business activities.

The Fisher Manufacturing Company, Lincoln, Neb., which manufactures the Rim-Grip sub-casing, a device designed to prolong the life of automobile tires, has announced its intention of erecting a second factory on the Pacific Coast. It is the purpose of the company eventually to invade the East, and locate a third plant in some centrally located city on the Atlantic seaboard.

The American Manufacturing Company, Lexington, Tenn., has taken control of the manufacture of the Partin-Palmer motor car at the plant at Ecorse, Mich., recently operated by the Partin-Palmer Car Company, Detroit.

The Dominion Motor Car Company, St. John, N. B., has leased property adjoining the Ford plant at Coldbrook, and will erect a large factory on the site for the manufacture of automobiles.

The New Haven Welding Company, New Haven, Conn., will enlarge its plant and thereby facilitate better handling of its products. The company is located at 67 Broadway.

The Golden West Motors Company, Sacramento, Cal., has the first unit of its large building completed, and the second unit will be ready in the early spring. That portion of the plant now ready for occupancy is 30x100, and the one being rushed to completion is 100x200.

McQuay & Norris, St. Louis, Mo., will soon move into its new factory, which is nearing completion. The company manufactures Leak-Proof piston rings.

The Perfex Company, Los Angeles, Cal., is now located in its new plant at Santa Fe avenue and 52nd street. The entire efforts of the company will henceforth be directed toward the production of a 1000-pound light delivery car for retail merchants. The new plant has a capacity of 30 cars a month.

The Willys-Overland Company, Toledo, O., has ordered payment by check to be made every week, instead of paying its employees twice a month, as heretofore. The National Bank of Commerce, of that city, has made arrangements to cash these checks with a special force which will be kept on hand to pay out the $125,000 of the weekly payroll. Before the new system was inaugurated the bank had to transport $250,000 in cash, guarded by heavily armed policemen, every two weeks to the Overland plant.

The F. L. Moore Truck Company, Torrance, Cal., is now working to its fullest capacity, 125 men being employed. With the new machinery that has been installed it is expected that the output of the factory will approximate close to $100,000 a month.

E. B. Gregg, New Castle, Penn., is said to have bought the plant of the Motor Car Company of that city. The property is valued at $90,000. Mr. Gregg was formerly sales manager of this company and it is understood that he intends to operate the factory in a very short time.

A. C. Barley, Chicago, has purchased the factory of the Halladay Company at Streator, Ill., and is expected to resume the manufacture of the Halladay automobiles.

C. P. Kell, San Francisco, Cal., is interested in a large factory to be erected at Oakland, Cal., for the manufacture of commercial vehicles.

The Corsair Motor Company, Detroit, of which F. V. Whyland is the engineer, has secured office headquarters at 315 Free Press building. The company produces Corsair motors, designed for the cycle and light car trade.

I. D. Rodcap, Detroit, who began in 1908 as production manager of the E-M-F Company and who for the last 2.5 years has been chief engineer, factory manager and purchasing agent of the Alpena Motor Car Company, has become production manager of the Lincoln Motor Car Company of that city.

The Croxton Motor Car Company, Washington, Penn.; has sold its stock to the Universal Motor Company, and the latter company will manufacture the Universal car.

The F. & H. Wire Wheel Company, Columbus, O., has brought out a new rim for automobile wheels adapted for the use of wire spokes. The factory is at 1432 Parsons avenue.

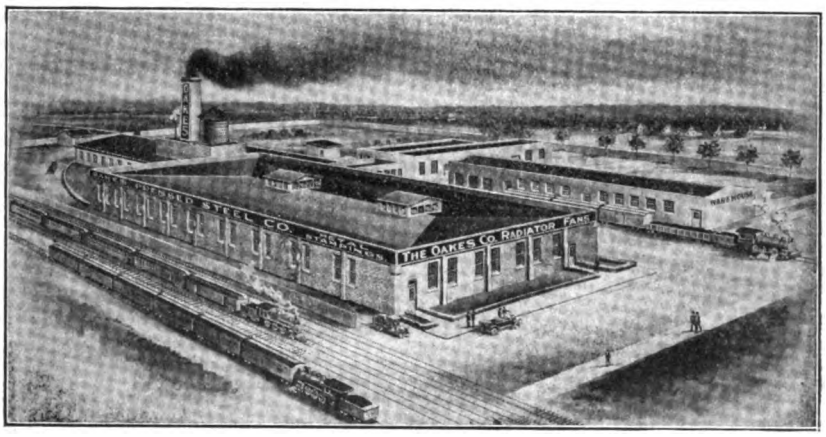
The Motor Car Spring Company, New York City, is to engage in the manufacture of screw machine products, gas savers and other parts for automobiles and motorcycles.

The Belknap Wagon Works, Grand Rapids, Mich., is preparing to increase its line by making bodies for motor trucks, these being designed and constructed to order.

Gray & Davis, Boston, Mass., has completed arrangements by which its lighting and starting outfits will be sold throughout Europe by the Allgemeine Elektricitas Gesellschafts of Berlin, Germany, commonly known as the A-E-G Company.

Hers & Co., New York City, is producing a four-cylinder magneto, intended for cyclecar use, and a very compact distributor for battery ignition systems.

The Lovell-McConnell Manufacturing Company, Newark, N. J., is offering to the cyclecar trade the Klaxet, the smallest electric horn, and the new hand-operated Klaxon.



New Plant of the Oakes Pressed Steel Company, Indianapolis, Ind.

George McCadden, St. Cloud, Minn., is organizing a company to manufacture the piston ring recently invented by him. The company will have $50,000 capital and will lease a building in Minneapolis. Mr. McCadden is proprietor of the McCadden Machine Works.

The New Process Gear Corporation, Syracuse, N. Y., is erecting a three-story, concrete and steel building, 40 by 100 feet, to provide additional facilities for spur and bevel gear work. The new building is to be absolutely fireproof, with brick curtain walls and concrete floors, and will contain entirely new equipment.

Janney, Steinmetz & Co., Philadelphia, manufacturer of the well known Jasco seamless steel, leakless gasoline tanks, is producing these tanks in sizes and shapes suitable for cyclecar productions.

The Pennsylvania Shafting Company, Westchester, Penn., will erect a new plant for the manufacture of Wright taper roller bearings for automobiles. The cost is estimated at $150,000, and will adjoin the present plant.

The Rubber Goods Supply & Manufacturing Company, Akron, O., has changed its name to the Excel Rubber Company. The company is located at 32 West State street, and produces tire accessories.

The Jeffery-Dewitt Company, Detroit, manufacturer of spark plugs, has erected a large addition to its factory No. 3 at Butler avenue and the Grand Trunk railroad. The building will be devoted to the first operation in making the porcelains for the plugs.

The Motor Products Company, Chelsea, Mich., will manufacture a V shaped two-cylinder motor for the cyclecar trade, and will shortly be shipping 50 motors daily. The American Distributing Company, Jackson, Mich., will market the output.

The Packard Motor Car Company, Detroit, has placed with the Hess-Bright Manufacturing Company its contract to cover its annular ball bearing requirements for the period of one year.

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REPORTED CHANGES IN TRADE ADDRESSES.

High Frequency Ignition Coil Company, Los Angeles, Cal., from 1262 Ninth street to Long Beach, Cal.

Manufacturers & Dealers Motor Tire Insurance Company, Philadelphia, Penn., from 703 Hale road, to 80 Maiden lane, New York City.

Eureka Non-Skid Manufacturing Company, Brooklyn, N. Y., from 591 Bugen street to 129th street and Amsterdam avenue, New York City.

Parrish Garage, Philadelphia, Penn., from 823 North 13th street to 1702 North 23rd street.

Fisher Motor Corporation, New York City, from 30 Church street, to 1790 Broadway.

H. E. Fairchild, Passaic, N. J., from 73 Pantisan avenue to Maplewood, N. J.

Fadino Auto Repair Company, New York City, from 561 Fordham street to 265 West 87th street.

Walsh & Darrin, Philadelphia, Penn., from Lombard street, east of 22nd street, to 23 North 34th street.

Franklin Auto Company, San Francisco, Cal., from 402 Golden Gate avenue to 1635 California street.

Los Angeles Cyclecar Company, Los Angeles, Cal., from 612 South Olive street to 757 South Olive street.

F. F. Burnstead & Co., Colorado Springs, Col., to 855 Olive street, Los Angeles, Cal.

D. E. Moulton, Huron, S. D., to Pierre, S. D.

W. S. Brice, Memphis, Tenn., to Brunswick, Tenn.

Rose City Electric Garage, Portland, Ore., from 54 Second street to 822 East Davis street.

Joseph A. Gowamlock, Portland, Ore., from 485 Northrup street to 106 Fourth street.

Enterprise Auto Parts Company, St. Louis, Mo., from 122 Central National Bank building, to 1013 Claredon avenue.

New York Lubricating Company, San Francisco, Cal., from 425 Turk street to 516 Second street.

Motor Sales Company, Minneapolis, Minn., from 720 Phoenix building, to 714 Monroe street, N. E.

Koehler Auto Company, New Orleans, La., from 2314 Iberville street, to 3602 Canal street.

A. T. Wilson Auto Company, Denver, Col., from 1545 Broadway to 801 Broadway.

Kirk A. Lorn, Minneapolis, Minn., from 444 Andrews building to 325 Curtis street.

E. S. Durmock, Tacoma, Wash., box 989, change to Tacoma building, Bowling alley.

King Motor Sales Company, Kansas City, Mo., from 1625 Grand avenue to 1616 Grand avenue.

D. A. Kendall Motor Car Company, Kansas City, Mo., from 7082 15th street to 3226 Prospect street.

Kaw Valley Auto Company, Kansas City, Mo., from 3130 Main street to 1508 Grand avenue.

Kansas City Auburn Auto Company, Kansas City, Mo., from 1708 Grand avenue to 1624 Grand avenue.

Frank Wenstrom, Brooklyn, N. Y., from 651 Bergen street to 623 Bergen street.

G. D. Crain, Louisville, Ky., from Keller building to 1404 Starks street.

Babcock Electric Carriage Company, Toledo, O., from 818 Jefferson street to 133 North Erie street.

Boyle Bros., Solway, N. Y., to Watertown, N. Y.

Detroit Fox Dorr Company, Detroit, Mich., from 564 Porter street to 66 Fort street, East.

C. F. Gilmour, Kansas City, Mo., from 1521 McGee street to Hotel Ponchartrain, Detroit, Mich.

Angsten-Koch Company, Chicago, Ill., from 348 West 55th boulevard to 215 Englewood avenue, Englewood station.

Goodyear Tire & Rubber Company, St. Louis, Mo., from 3935 Olive street to 3003 Locust street.

General Motor Car Company, St. Louis, Mo., from 3925 Olive street to 3003 Locust street.

Packard Agency, Spokane, Wash., from 1022 First avenue to 1124 Sprague avenue.

Morgan & Wright, Minneapolis, Minn., from 911 First avenue to 1522 Hennepin avenue, East.

Motz Tire & Rubber Company, Los Angeles, Cal., from 948 South Main street to 1202 South Grand avenue.

Kent Harrison Auto Company, Los Angeles, Cal., from 117 West 16th street to 665 I. W. Hellman building.

Reliance Motor Truck Company, Pittsburg, Penn., from 210 West Ohio street to Fulton building.

Page-Lester Company, Chicago, Ill., from 140 West Van Buren street to 5925 Wabash avenue.

Anderson Engine Company, Chicago, Ill., from 1349 South Dearborn street to 4036 North Rockwell street.

Dunham Automobile Company, Louisville, Ky., from 4323 Broadway to box 565.

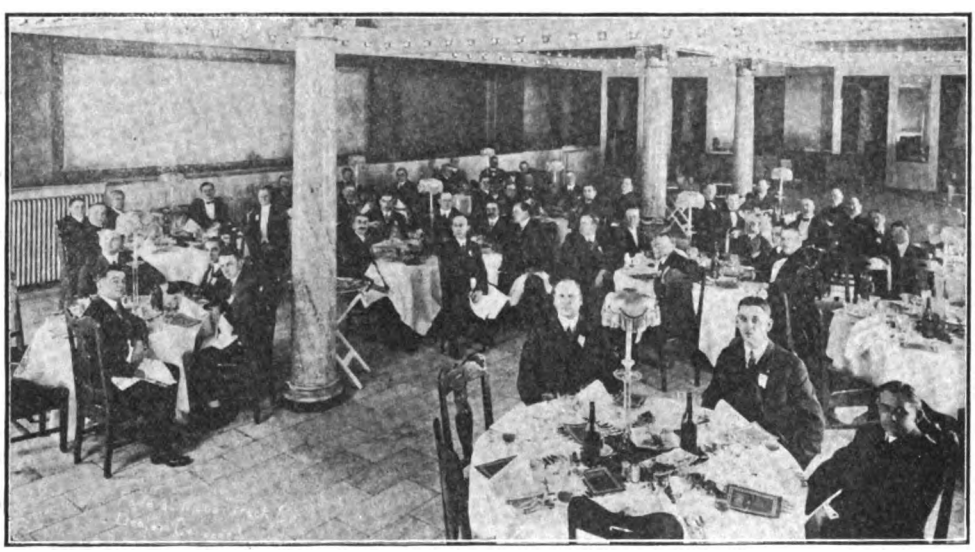
Callahan Atkinson & Company, Baltimore, Md., from 1020 Morton street to 212 North Paca street.

Auto Maintenance Company, Baltimore, Md., from 1016 Morton street to 872 Park avenue.

I. S. Hartridge, Milwaukee, Wis., from 3421 Sycamore street to 263 29th street.

Inter-State Auto & Supply Company, Des Moines, Ia., to Sioux City, Ia.

C. W. Parker, Hillyard, Wash., to Cottage Grove, Ore.



The "Ginger" Dinner of the Salesmen and Officials of the Federal Motor Truck Company, Held Recently at the Hotel Cadillac, Detroit, Mich.

Searchlight Gas Company, Chicago, Ill., from 1121 South Michigan avenue to 1016 Karpen building.

Terminal Garage, Chicago, Ill., removed to 4464 Broadway.

Dubuque Auto & Garage Company, Dubuque, Ia., removed to Duranga, Ia.

Pac Motor Car Company, Spokane, Minn., removed to Colville, Wash.

Nemo Chemical Manufacturing Company, Minneapolis, Minn., removed to Chicago, Ill.

Maxwell-Briscoe Company, Chicago, Ill., from 18th street and Michigan avenue to 1330 Michigan avenue.

Auto Tire & Repair Company, Cincinnati, O., from 907 Race street to 13th and Race streets.

B. F. Goodrich Company, Cincinnati, O., from 1110 Race street to 807 Race street.

National Motor Car Company, Chicago, Ill., from 2430 Michigan avenue to 1051 McCormick building.

Kastner Tire & Rim Company, Chicago, Ill., from 2112 Michigan avenue to room 1047 First National Bank building.

St. Louis Stearns Auto Company, St. Louis, Mo., from 4529 Delmar avenue to 3030 Locust street.

St. Louis Taxicab Company, St. Louis, Mo., from 12th and Chestnut streets to 4535 Delmar avenue.

United Motor St. Louis Company, St. Louis, Mo., from 12th and Olive streets to 3950 Olive street.

Jungclas Auto Company, Cincinnati, O., from 3417 Reading road to 216 East 9th street.

J. G. Kamps, Holland, Mich., removed to 1130 36th place, Los Angeles, Cal.

Auto Repair Company, Newcastle, Penn., moved to Greenville, Penn.

G. A. Schuabel & Son, Pittsburg, Penn., from 3061 Penn avenue to 2410 Penn avenue.

E. M. Strock, Detroit, Mich., from 53 Irwin street to 721 Michigan avenue.

Gibson Motor Starting Company, Indianapolis, Ind., from 1407 North Illinois street to 740 North Penn street.

Star Auto Machine Company, St. Louis, Mo., from 2025 Cassan street to 5910 Etzell avenue.

Lawrence Storage Battery Company, Cleveland, O., from 1709 Bergon street to 1604 East 118th street.

Invader Oil Company, New York City, from 234 Columbus avenue to 80 Broad street.

Imperial Motor Compnay, Washington, D. C., from 1214 V street, N. W., and 1112 Commonwealth avenue to 2003 Georgia avenue, N. W.

Major's Auto Repair Company, St. Louis, Mo., from 3332 Lawton avenue to 4246 West Bell place.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

PLEASURE CAR AGENCIES WANTED.

9959—North Carolina Dealer is interested in securing a good line of pleasure cars selling from $850 to $1500.

9963—Indiana Company is desirous of obtaining the agency for pleasure cars selling from $400 to $1000.

9968—Ohio Firm is in the market for pleasure cars selling up to $800.

9964—Wisconsin Firm would like to secure the agency for pleasure cars ranging in price from $550 to $2000.

9970—Washington Company is interested in securing the agency for pleasure cars selling from $500 to $1500.

9973—Connecticut House wants the agency for pleasure cars selling from $1750 to $6500.

9976—Wisconsin Dealer is in the market for a line of pleasure cars selling from $500 to $750.

9977—Michigan Company is desirous of securing the agency for pleasure cars selling between $500 and $2500.

9979—Wyoming Company is in the market for a line of pleasure cars selling from $750 to $2000.

9983—Missouri House would consider an agency proposition involving pleasure cars selling from $900 to $1500.

9986—Ohio Dealer wants to represent a first class line of pleasure cars selling from $1000 to $2000.

9989—Wisconsin Company is interested in pleasure cars selling from $350 to $3000.

9991—Texas Concern would consider an agency proposition involving pleasure cars selling from $750 to $2000.

9994—Utah House is desirous of securing a line of pleasure cars selling from $800 to $2500.

9995—Texas Company wants to represent a pleasure car selling for about $750.

9998—Alabama Firm is interested in pleasure cars selling from $1750 to $2500.

9999—Washington Dealer wants pleasure cars selling from $750 to $1000.

10,006—Wisconsin Dealer would consider an agency proposition involving pleasure cars selling from $375 to $5000.

10,010—Missouri Company is in the market to represent pleasure cars ranging in price from $500 to $1500.

10,015—Maryland Dealer wants to represent a line of pleasure cars selling from $300 to $1000.

10,019—Arkansas Concern is open for an agency proposition involving pleasure cars ranging in price from $1000 to $1600.

10,023—New Jersey Company would represent makers of pleasure cars ranging in price from $400 to $1800, particularly four and five-passenger touring cars selling around $500 or $600.

10,024—Minnesota Firm is in the market to represent a line of pleasure cars selling from $700 to $1500.

10,029—Ohio Concern is desirous of securing the agency for pleasure cars selling from $1295 to $2375.

10,035—Texas Dealer is in the market to represent a line of pleasure cars selling from $790 to $3200.

10,036—New Hampshire Firm is anxious to secure a line of pleasure cars ranging in price from $400 to $1200.

10,039—Massachusetts Dealer is in the market to represent a line of pleasure cars selling up to $1000.

10,042—Iowa Concern wants the agency for pleasure cars selling from $500 to $3000.

10,046—Kentucky House would like to take the agency for pleasure cars selling from $350 to $475.

10,049—Ohio Firm is in the market to represent a line of pleasure cars selling from $750 to $2500.

10,052—Pennsylvania Company wants to represent a good line of pleasure cars.

COMMERCIAL CAR AGENCIES WANTED.

6055—New Hampshire Company is interested in securing the agency for power wagons listing at $650 to $1000.

6059—Minnesota House wants the agency for commercial vehicles selling from $1000 to $2000.

6062—Maryland Dealer would consider an agency proposition for power wagons selling from $300 to $1500.

6063—Wisconsin House is open for an agency proposition involving power wagons selling from $500 to $1000.

6066—Kansas Dealer is interested in securing the agency for power wagons selling from $300 to $2500.

6069—Wyoming Company is open for an agency proposition involving power wagons selling from $900 to $2000.

6073—Washington Firm would consider an agency proposition for commercial vehicles ranging in price from $500 to $1500.

6077—Pennsylvania Concern wants a line of commercial vehicles.

6081—Wisconsin Dealer is interested in securing the agency for commercial vehicles selling from $1000 to $2500.

6085—North Carolina Company is in the market to represent a line of commercial vehicles selling from $500 to $1500.

6088—Indiana Dealer wants the agency for commercial vehicles selling from $400 to $1250.

6089—Ohio Company would consider an agency proposition for power wagons selling from $900 to $2000.

CYCLECAR AGENCIES WANTED.

1739—Idaho Dealer is seeking information relative to a first class line of cyclecars.

1742—Texas Concern is interested in cyclecars and wants to hear of a good line at once.

ACCESSORY AGENCIES WANTED.

7789—Virginia Dealer is in the market to represent a first class line of automobile equipment, accessories and supplies and power wagon supplies.

7792—Idaho Company wants to hear from up-to-date lines of automobile accessories and supplies.

7795—Ohio Firm wants to hear from makers of up-to-date lines of pleasure car and power wagon equipment, accessories and supplies.

7796—Indiana Dealer is in the market for power wagon and pleasure car equipment, accessories and supplies.

7799—North Carolina Company is interested in securing a line of pleasure car and power wagon equipment, accessories and supplies.

7802—Wisconsin Concern is in the field to represent an up-to-date line of pleasure car and commercial vehicle equipment, supplies and accessories.

7806—Washington Firm is desirous of securing an up-to-date line of pleasure car and commercial vehicle equipment, accessories and supplies.

7810—Connecticut House wants information relative to pleasure car equipment, accessories and supplies.

7813—Wyoming Company is interested in securing a line of automobile equipment, accessories and supplies.

7818—Maryland Firm wants a line of pleasure car equipment and accessories especially adapted for Ford cars; also interested in supplies for all makes of cars.

7819—Wisconsin Firm wants all kinds of pleasure car and power wagon equipment, accessories and supplies.

7822—Pennsylvania Company wants to secure a line of automobile equipment, accessories and supplies.

7823—Florida House wants information relative to automobile equipment, accessories and supplies.

7826—Illinois Dealer is in the market for automobile equipment, accessories and supplies.

7827—Ohio Firm is in the field for pleasure car equipment, accessories and supplies.

7831—Kentucky Company wants a first class line of automobile supplies.

7835—Pennsylvania Concern wants automobile accessories and supplies.

7838—New Hampshire Dealer wants all kinds of pleasure car and power wagon equipment, accessories and supplies.

7839—Iowa Firm wants information relative to automobile equipment, accessories and supplies.

7843—Minnesota Company wants speedometers and a general line of automobile accessories for Ford cars; also interested in tires of all makes.

7848—Texas Dealer wants information relative to pleasure car equipment, accessories and supplies.

7851—New York Firm is in the market for automobile accessories and supplies.

7854—Illinois House wants information relative to automobile accessories and supplies.

7857—New Jersey Company wants pleasure car equipment, accessories and supplies of all kinds.

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7861—Connecticut Dealer is interested in pleasure car equipment, accessories and supplies.

7864—New York Company wants information relative to automobile accessories and supplies.

7866—Massachusetts Dealer wants a line of Ford accessories; also interested in automobile supplies.

7869—Arkansas Firm wants a line of pleasure car equipment, accessories and supplies.

7872—Texas House seeks information relative to an up-to-date line of automobile accessories, supplies and equipment.

7874—Maryland Concern wishes the exclusive agency for a first class line of pleasure car equipment, accessories and supplies.

7877—Missouri Firm is in the market for a line of pleasure car accessories, supplies and equipment.

7881—Alabama Company wants a line of automobile equipment, accessories and supplies.

7884—Wisconsin Firm wants a line of novelties for pleasure cars; also a good line of supplies.

7888—Texas Concern wants information relative to a line of pleasure car and power wagon equipment, accessories and supplies.

7893—Utah Dealer is in the market for a line of automobile equipment, accessories and supplies.

7894—Texas Dealer is in the market to represent a good line of automobile accessories, equipment and supplies.

7897—Iowa Firm wants automobile accessories of all kinds and Ford starters and lighting systems; also a line of supplies.

7898—Ohio Dealer is in the market to represent a line of automobile equipment, accessories and supplies.

7902—Indiana House is interested in securing a line of pleasure car and power wagon equipment, accessories and supplies.

7906—Minnesota Dealer wants a line of ignition apparatus and pleasure car accessories.

7910—Texas Dealer wants information as to a good line of pleasure car accessories and supplies.

7913—Indiana House is in the market to represent a line of automobile equipment, accessories and supplies.

7916—Missouri Concern wants windshields, speedometers, tires and oil pumps for Imp cyclecars.

7920—Florida Company wants information relative to automobile and commercial vehicle equipment, accessories and supplies.

7923—Michigan Dealer wants a line of pleasure car equipment, accessories and supplies.

7928—Wisconsin Company is interested in a first class line of automobile accessories and supplies.

7931—Michigan Firm is interested in a good line of automobile equipment, supplies and accessories.

7932—Missouri House seeks information relative to an up-to-date line of pleasure car equipment, accessories and supplies.

7936—Minnesota Dealer is in the market to represent a line of automobile accessories and supplies.

7939—Arkansas House is interested in securing a line of pleasure car equipment and supplies.

7946—Texas Dealer is in the market for pleasure car supplies.

GARAGE EQUIPMENT WANTED.

8877—Iowa Company wants pressure tanks of an up-to-date make.

8880—Ohio Dealer is in the market for garage equipment and supplies.

8883—Indiana House wants information relative to garage equipment and supplies.

8886—Texas Firm is anxious to secure garage supplies.

8887—Indiana Dealer is interested in securing garage equipment and supplies.

8891—Virginia Concern wants information relative to garage equipment and supplies.

8893—Florida House is in the market for garage equipment and supplies.

8896—Michigan Dealer is anxious to secure garage equipment and supplies.

8899—Wisconsin Company is in the market for garage equipment and supplies.

8900—Missouri Firm seeks information relative to garage equipment and supplies.

8905—Minnesota Company requests information relative to garage equipment and supplies.

8910—Texas Firm wants to secure garage equipment and supplies.

8915—Connecticut Dealer wants up-to-date garage equipment and supplies.

8916—New York Company wants garage equipment.

8920—Arkansas Company requests information relative to garage equipment and supplies.

8923—Texas Concern is in the market for garage equipment and supplies.

8926—New York Concern seeks information relative to garage equipment and supplies.

8929—Illinois Dealer is interested in garage equipment and supplies.

8932—New Jersey Concern wants air compressors, lathes, drill presses and everything necessary to make complete garage equipment.

8935—Michigan Dealer wants garage equipment and supplies.

8938—Ohio Firm is anxious to secure garage equipment and supplies.

8940—North Carolina Company requests information relative to garage equipment and supplies.

8943—Wisconsin Dealer wants garage equipment and supplies.

8948—Washington Company is desirous of securing garage equipment and supplies.

8951—Connecticut Company is in the field for garage equipment and supplies.

8954—Wyoming Dealer is in the market for garage equipment and supplies.

8956—Kansas Company requests information relative to garage equipment and supplies.

8958—Maryland Concern wants up-to-date garage equipment and supplies.

8961—Wisconsin Dealer is in the market for garage equipment and supplies.

8963—Florida House is interested in garage equipment and supplies.

8966—New Hampshire Dealer is in the market for garage equipment and supplies.

8969—Minnesota Company seeks information relative to garage equipment and supplies.

8972—Texas Concern requests information relative to garage equipment and supplies.

8975—Missouri Dealer wants garage equipment and supplies.

8977—Alabama Firm seeks information relative to garage equipment and supplies.

8979—Texas Company is desirous of securing garage equipment and supplies.

8982—Utah Dealer is interested in garage equipment and supplies.

8985—Texas House requests information relative to garage equipment and supplies.

REPAIR SHOP AND MACHINE TOOLS.

6584—Minnesota Dealer wants information relative to machine tools and repair shop equipment.

6587—Virginia Company is desirous of securing up-to-date machine tools, repair shop supplies and equipment.

6591—Wisconsin Firm requests information relative to machine tools and repair shop supplies and equipment.

6593—North Carolina Dealer is in the market for machine tools, repair shop supplies and equipment.

6596—Ohio Concern is desirous of securing repair shop supplies.

6598—Texas Dealer will purchase machine tools, repair shop supplies and equipment.

6599—New York Company is looking for repair shop supplies.

6603—Connecticut Firm is in the market for repair shop supplies and equipment.

6610—Texas Concern is in the market for repair shop supplies and equipment.

6617—Indiana Dealer wants information relative to machine tools, repair shop supplies and equipment.

6620—Minnesota Firm is in the market for repair shop supplies and equipment.

6625—Missouri Dealer wants repair shop supplies and equipment.

6628—California Concern would like prices on tools suitable for automobile repair work.

6630—Texas Dealer is looking for machine tools.

6634—Utah Firm wants information relative to machine tools and repair shop supplies.

6638—New Hampshire Dealer is desirous of securing up-to-date machine tools, repair shop supplies and equipment.

6642—Ohio Firm is anxious to secure repair shop supplies and equipment.

6644—Florida Dealer is interested in machine tools, repair shop supplies and equipment.

6648—Wisconsin Firm is anxious to secure machine tools, repair shop supplies and equipment.

6651—Maryland Dealer is in the market for repair shop supplies and equipment.

6655—Kansas Company is looking for machine tools and repair shop equipment.

MISCELLANEOUS OPPORTUNITIES.

1817—Illinois Dealer is in the market for parts to assemble cyclecars in quantities.

1822—Ohio Car Manufacturer is in the market for additional equipment for its large and extensive plant.

1827—St. Louis Firm is anxious to know what pneumatic tire manufacturers make up tires other than their own under contract. This company wants to market its own brand and desires a manufacturer to produce it.

AGENCY TERRITORY OPEN.

2170—Indiana Company has territory open for pleasure cars in western Pennsylvania, western Oklahoma, northern North Dakota, and the states of West Virginia, Kentucky, South Carolina, Georgia, Alabama, Mississippi and Nevada.

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PERSONAL NEWS OF THE INDUSTRY.

Owing to an unfortunate error in these columns for February, it was made to appear that W. N. Murray of Pittsburg, Penn., was connected with the Pittsburg Automobile Show Association. As a matter of fact, Mr. Murray has been, and still is, president of the Automobile Dealers' Association of Pittsburg since 1904, and has no intention of retiring or in any way severing his connection with that organization. The two bodies are distinct rivals, each holding an automobile show of its own, and Mr. Murray has never been connected with the former. The Automobile Dealers' Association of Pittsburg has a membership of some 40 dealers in that city.

W. N. Murray, President, Automobile Dealers' Association of Pittsburg.

L. F. Baechle has been appointed sales manager for the Mathiesen Spring Cushion Wheel Company, at 2332 Michigan avenue, Chicago. Mr. Baechle was formerly associated with the Goodyear Tire & Rubber Company, as factory representative in the truck tire department.

A. Ellsworth Jackson has accepted a position with the Wallmann Manufacturing Company, Milwaukee, Wis. He was formerly connected with the S. F. Bowser Company, Fort Wayne, Ind.

Moore Kelly has been appointed manager of Byrne, Kingston & Co., and the Kokomo Electric Company, Detroit. Mr. Kelly succeeds F. J. Alvin.

Victor A. Charles, manager of the New England branch of the Inter-State Company, Boston, Mass., has bought all rights of the branch company and he will conduct a motor business on his own account.

W. W. Swan, New Haven, Conn., is to act as motor truck salesman for the White Motors Company. Mr. Swan has been connected with two of the largest manufacturing companies in the country and has considerable experience in this line of business.

William C. Little, Chicago, who has for the past year been sales and advertising manager of the Borland-Grannis Company, has resigned. Mr. Little has been connected with some of the most prominent firms throughout the country. His plans for the future have not been announced as yet.

Ralph D. Webster has taken charge of the Batavia Rubber Company's branch at 1906 Broadway, New York City. Mr. Webster was formerly connected with the Eclipse Machine Company, Elmira, N. Y.

George Bell, formerly general sales manager of the Esterline Company, is now manager of the Detroit branch of the Remy Electric Company, E. P. Willett, former manager, having resigned to assume a new position.

Clarence A. Pfeffer has been re-elected president of the Wolverine Automobile Club, Detroit, Mich.

F. E. Conrad of the Universal Auto Repair Shop, Reading, Penn., has been appointed manager of this firm.

James H. Reed, Los Angeles, Cal., has charge of the local branch of the Savage Tire Company.

Joseph R. Power, formerly in charge of the wholesale business of the Anderson Electric Car Company, has taken a position as district manager for the Chicago Electric Motor Car Company, with headquarters in Chicago.

L. R. Kesterson has taken a position with the Huffman Company's branch at Mitchell, S. D. Mr. Kesterson was formerly associated with the Hupmobile agency in Superior, Wis.

John V. Van Loon of the Cadillac Motor Car Company, Kalamazoo, Mich., is now manager of that company. He succeeds Louis B. Kraft, resigned.

H. J. Galvin has been appointed manager of the San Francisco branch of the Remy Electric Company, upon the retirement of P. E. Kempton. Mr. Galvin has been connected with the Remy company for several years, and is well known throughout the trade in the East.

W. S. Campbell has been appointed advertising manager of the Miller Rubber Company, Akron, O. He has had several years' experience in the advertising world, both trade paper and commercial, and was at one time circulation manager of the Iron Trade Review and Daily Iron Trade. Previous to that he was in business for himself in Canada.

W. W. Davis has been appointed manager of the Poore Bros. Automobile Company of San Francisco, Cal., which distributes Jackson cars.

H. C. Bulask is manager of the recently incorporated California Cyclecar Sales Company, San Francisco, Cal. This company handles the Greyhound cyclecar business in that city and surrounding districts.

M. C. Rumely, who entered the service of the M. Rumely Company, La Porte, Ind., 30 years ago, and who during that time has been connected with nearly every department of the company, has resigned. After a brief rest he will enter into business on his own account.

J. A. Dugan has been appointed to the position of vice president and sales manager of the Standard Auto Company, Louisville, Ky. The company is the agency for the Cole, Reo and Regal gasoline cars, and also the Woods electric.

George Uihleim of Milwaukee, Wis., has established headquarters at Detroit, and will personally take charge of the management of the Universal Motor Truck Company in Detroit. G. L. Brush, formerly assistant secretary, has resigned.

A. L. Danford, Boston, Mass., is now manager of the Boston agency for the Cadillac cars. He succeeds Mr. Measure, who is in ill health.

R. McA. Lloyd, New York City, is now in charge of the Fisher Motor Corporation. He was one time connected with the General Vehicle Company and later with the International Motor Company.

Gus A. Boyer has joined the John F. McLain Company of San Francisco, Cal. The company handles the Franklin cars, and Mr. Boyer is thoroughly acquainted with the line, having sold the Franklin on the Coast several years ago.

C. Q. Vaughn has been promoted to the Toledo branch of the United States Tire Company, Toledo, in the capacity of manager. Previously he was a travelling representative in the district.

H. M. Leonard, Carthage, O., has been appointed general superintendent of the Crescent Motor Company of that city. Mr. Leonard was at one time factory manager of the Jackson Automobile Company at Jackson, Mich.

Homer N. Kerr, New York City, has been appointed sales manager of the Convertible Body Corporation of that city. He was formerly associated with the Ford company.

W. T. Waterman has succeeded Frank W. Skinner of the Zip Cyclecar Company, Davenport, Ia., the latter having severed all connections with the concern.

H. R. Swartz, New York City, has succeeded Ray M. Owen of the Yellow Taxicab Company of that city. Mr. Swartz was formerly the company's vice president.

Otis R. Cook has been appointed general sales manager of the Kelly-Springfield Tire Company, New York City, and will make his headquarters in Cleveland, O. Mr. Cook was engaged with the B. F. Goodrich Company, Akron, O., for over 10 years as general representative. He also has been connected with the Firestone Tire & Rubber Company and the Federal Rubber Manufacturing Company.

A. B. Henley of the Henley-Kimball Company, Boston agent for the Hudson cars, has been taking a short vacation at Washington, D. C., to prepare for the rush of the show and the spring selling season.

R. H. Johnston, President, Automobile Dealers' Association, New York City.

R. H. Johnston, manager of the White Company's branch in New York City, has been elected president of the Automobile Dealers' Association, Inc., in that city. The other officers are: Vice president, Charles H. Larson, representing the Oldsmobile agency; secretary and treasurer, Frank Eveland, Stevens-Duryea; general manager, Charles A. Stewart.

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George H. Strout, who resigned as district sales manager of the Cole Motor Car Company, Indianapolis, Ind., to become general sales manager of the Haynes Automobile Company, Kokomo, Ind., about a year ago, has resigned from the latter position, the work for which he was engaged having been completed. His future plans have not been announced as yet.

George H. Strout, Well Known Sales Executive.

Thomas E. Gallagher was elected president of the Western Automobile Conference at the annual meeting held some time ago. Fred J. Sauter was elected secretary and treasurer. The meeting was held at Chicago.

D. McCall White, A. M. I., mechanical engineer, M. I. A. E., formerly of the designing department of the Daimler Motor Company, England, has resigned his position as works manager of the Crossley Motor Company, Manchester, and sailed for the United States. Any communications will reach him addressed, care of the Society of Automobile Engineers, 1790 Broadway, New York City.

F. W. Drecktrade resigned as vice president of the Holt-Chandler Company, metropolitan representative of the Maxwell, at a meeting of the board of directors held recently. Mr. Drecktrade took this action because his recently acquired interest in the Junction Motor Company of Jersey City, N. J., will now require his whole attention.

Harry Goodman, a pioneer in the automobile field, who has of late been interested in electric vehicles, is to have charge of a branch of the Springfield Metal Body Company, Springfield, Mass., which is to be established in New York City.

Lloyd Hombeck has opened an office at 301 Kasota building, Minneapolis, as a manufacturers' agent, and is desirous of securing a line of ignition apparatus and automobile accessories.

Henry Souther, well known throughout the industry as a consulting engineer, has become identified with the Ferro Machine & Foundry Company, Cleveland, O., and has been elected vice president. Mr. Souther formerly was consulting engineer for the Association of Licensed Automobile Manufacturers during the life of that organization, and was president of the Society of Automobile Engineers during 1911.

Henry Souther, Vice President, Ferro Machine & Foundry Company.

A. R. Demory, vice president and general manager of the Timken-Detroit Axle Company, Detroit, has been elected on the directorate of the National Bank of Commerce of that city.

O. P. Bernhart has taken a position with the Auto Crankshaft Company, Detroit. He was formerly associated with Atlas Manufacturing Company.

Fred K. Parke has resigned as general manager of the Universal Motor Truck Company, Detroit, in order to devote his entire time to his private business affairs.

F. H. Patterson has been appointed manager of the Olympic Motor Car Company, Seattle, Wash. The company is distributor for the Chalmers, Peerless and Selden cars.

Charles MacIlroy has been appointed local manager for the Lee Tire Sales Company, 282 Halsey street, Newark, N. J.

E. Q. Cordner, one of the veterans of the industry, has been appointed manager of the Chicago branch of the American Voiturette Company. He will direct the sale of Car-Nation and Keeton cars in that territory.

Charles R. Hatfield, Elmira, N. Y., formerly connected with the Hatfield Motor Truck Company, has invented a new carburetor for automobiles, and a Buffalo firm has taken over the manufacture of the invention.

W. J. Mead, Chicago, is now head of the Chevrolet Motor Company. He was formerly general manager of the Olds Motor Works, Lansing, Mich.

James Mundie, Des Moines, Ia., is now engaged in the battery department of the Bernard & Auto Company, 413 12th street. Mr. Mundie severed his connection with the Electric Storage Battery Company, Philadelphia, to assume his new duties with this concern.

H. E. Williams, Detroit, is in Nashville, Tenn., looking over the field with a view to establishing a factory for the manufacture of motorcycles.

S. F. Patchen, Cleveland, O., is the new branch manager of the Standard Manufacturing Company, succeeding Don Craft, who recently resigned.

R. D. Whitney, Boston, Mass., has joined the Lawrence-Stanley Company of the same address. The company handles the Mitchell cars and Mr. Whitney will travel through the New England territory.

R. J. Schmunk, who joined the selling force of the Peerless Motor Car Company, Cleveland, O., seven years ago, and has received a number of promotions since that time, has recently been made general sales manager, the chief executive of the selling division of the company.

R. J. Schmunk, General Sales Manager, Peerless Motor Car Company.

E. R. Perkins, New York City, has succeeded Theodore Reynolds as president of the Overman Tire Company.

C. B. Whittlesey, Hartford, Conn., who is manager of the Hartford Rubber Works Company, has been elected president of the Hartford Chamber of Commerce.

Preston T. Miller, Springfield, Mass., has been appointed manager of the branch of the General Vehicle Company at 327 Main street.

C. W. Richards has been appointed superintendent of production of the Driggs-Seabury Corporation, Sharon, Penn. He was previously, connected with the Stevens-Duryea Company, Chicopee Falls, Mass.

Al Spear, Portland, Me., has resigned from the Spear Auto Company. He has sold his interest to L. A. Peterson, one of his associates in the company.

C. H. Clark, Springfield, O., has accepted a position with the Robbins & Myer Company, manufacturer of motors and electrical supplies, of that city. Mr. Clark was formerly connected with the Goulds Manufacturing Company, Seneca Falls, N. Y.

A. J. Dudley, Schlesingerville, Wis., has joined the staff of the Standard Machinery Company in that city. He will assist in the engineering department and also act as general sales and travelling representative. He was formerly connected with the Kissel Motor Car Company, Hartford, Wis.

Leon Spilo, New York City, formerly manager of the used car department of the Mercedes Distributing & Importing Company, is now manager for E. Anderson, 1876 Broadway.

President John A. Wilson of the A. A. A. has gone to Europe and during his absence the affairs of the organization will be directed by Dr. H. M. Rowe of the Automobile Club of Maryland. Mr. Rowe will attempt to secure his portion of the 100,000 members which is desired by President Wilson before the end of the year.

Joseph R. Deake, vice president of the Hupp Motor Car Company, Detroit, is making a second tour of the world in his Hupmobile. Mr. Deake is not attempting to make a speed record on this trip. His route is from England to France, thence along the Mediterranean into

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Egypt and Arabia, to India, from Bombay to Calcutta, Ceylon and Australia, to Japan and China, to New Zealand and then to San Francisco, which will complete the tour.

Louis Mansbach, treasurer of the Times Square Automobile Company, New York City, returned from Europe recently. He established a number of branches for the company in Germany and England. Mr. Mansbach reports excellent business in Europe for American cars and supplies.

Edward Green of the Maxwell Motor Company, Detroit, has sailed for Europe in the interests of the company. His work will be in connection with the development of the foreign distribution of Maxwell cars, which are enjoying a constantly increasing export market.

R. A. Rothermel has been engaged by the Continental Motor Manufacturing Company, Detroit, as its foreign representative, with offices in Paris. The company intends to compete with foreign motor makers in their home territory.

H. D. Van Brunt, New York City, has become export agent for the Palmer-Moore Company, Syracuse, N. Y., and will handle the entire exports of the Palmer-Moore two-cycle air and water-cooled trucks in foreign countries, excepting Canada.

J. T. Rose has joined the Wolverine Lubricants Company, with headquarters at Detroit.

L. P. Prossen, for four years mechanical superintendent of the Yellow Taxicab Company of New York City, and more recently manager of the service department of the Lozier Motor Company, is engaged in the development of a new taxicab design.

Bruce Daniels has been appointed advertising manager of the Stutz Motor Car Company, Indianapolis. He will also become assistant to W. D. Myers, who is sales manager. Mr. Daniels served in a like capacity with the Motor Car Manufacturing Company, Indianapolis, for years.

Arthur Waterman, Vice President, Hartford Suspension Company.

Arthur Waterman has become vice president and general manager of the Hartford Suspension Company, Jersey City, N. J. Mr. Waterman was formerly connected with the G. C. Vaporizer Company, New York City. He succeeds Alfred Reeves, who was elected manager of the Automobile Chamber of Commerce.

J. W. Hunsiker has taken charge of the Luverne Automobile Sales Company at Minneapolis, Minn.

F. E. Lamb has joined the selling staff of the Ideal Auto Company, Fort Wayne, Ind. He will act as sales manager. Mr. Lamb was formerly sales manager of the Gramm Motor Car Company, Lima, O.

F. R. Humpage has been elected treasurer of the International Chemical Company, Bridgeburg, Ont., Canada. Mr. Humpage was one time president of the E. R. Thomas Motor Car Company of Buffalo, N. Y.

D. J. Ligon, Atlanta, Ga., has been appointed district manager of the Detroit-Wyandotte Motor Company, Wyandotte, Mich. He was previously associated with the Maxwell Company, the U. S. Motors Company, the Grabowsky Company and the Chalmers Motor Company.

James App has joined the forces of the La Vigne Cyclecar Company, Detroit. He will act as purchasing agent for the company. Previously he was assistant manager of the Cartercar Company, Pontiac, Mich.

L. B. Busby has become chief engineer of the Duplex Engine Governor Company, New York City. He is now on a western trip making test installations of the governor at various manufacturing plants.

W. L. Keuther is now a Studebaker salesman, covering portions of South Dakota, Nebraska and Iowa, with headquarters in Sioux City. He was formerly connected with the Rambler Motor Car Company.

Wallace Hood has resigned as sales manager of the Empire Automobile Company, Indianapolis, and has returned to his home in Detroit. He intends to affiliate with a Detroit company.

Earl Bessom has joined the forces of Wheeler & Schebler, Indianapolis. He will be a representative of the company in the sale of Schebler carburetors and is well known in the carburetor field.

Charles White has been appointed manager of the Stromberg Motor Devices Company, Chicago, at Detroit.

Alfred Reeves, a vice president of the Hartford Suspension Company, Jersey City, N. J., has severed his connection with that company to become general manager of the National Automobile Chamber of Commerce, succeeding Samuel A. Miles, who has held this position with this organization, and its predecessor, the National Association of Automobile Manufacturers, practically since the inception of the industry. Mr. Miles will still continue to act as manager of the national shows in New York and Chicago, although he will be free to devote a larger proportion of his time to private interests. Mr. Reeves formerly was general manager of the American Motor Car Manufacturers' Association and of the Association of Licensed Automobile Manufacturers.

Samuel A. Miles, Retiring General Manager, National Automobile Chamber of Commerce.

A. A. Bischoff, formerly advertising manager of the Catalogue Systems Company, Chicago, has resigned to engage in the automobile accessory business, under the firm name of the Consumers Auto Supply Company, locating at 123 West Madison street.

O. P. Wilson has accepted the position of assistant general manager of the Norma Company of America, New York City, manufacturer and importer of ball and roller bearings, etc. Mr. Wilson was formerly connected with the Westinghouse Electric & Manufacturing Company, Pittsburg, Penn.

J. F. Walch has become local manager of the local factory branch of the Oakland Motor Company, Kansas City, Mo. Mr. Walch has been district manager of the company, working out of the factory.

Scott Brown, who has been following the interests of the Studebaker Company, Detroit, has resigned. He had been connected with this company for the past 10 years.

H. M. Burns has become associated with the sales force of the Johnson Motor Car Company, Atlanta, Ga. He has had wide experience with the Stevens-Duryea and Chevrolet cars.

Fred Merz has been elected president of the Indianapolis Cyclecar Club. Mr. Merz is also president of the Merz Cyclecar Company of Indianapolis.

George H. Conner has become assistant manager of the W. L. Russell Company, Boston, Mass.

Burleigh N. Crockett has joined the E. Z. Rim Company, 146 Summer street, Boston, Mass.

Charles W. Flenard is now associated with the Century Auto Supply Company, 520 North Broad street, Philadelphia, as manager of the accessory department. He was formerly connected with the Gibney Motor Supply Company.

R. G. Hunter has become associated with the John Deere Plow Company, Portland, Ore., agent for the Velie pleasure cars and trucks.

Alfred Reeves, General Manager, National Automobile Chamber of Commerce.

D. A. Shaw was elected president and treasurer of the Grant Motor Company, Findlay, O., at its annual meeting held recently.

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THE 1914 SHOW SEASON.

The situation at the conclusion of the Boston automobile show of 1914 is in marked contrast with that existing a year ago. Dealers and manufacturers cannot help but recognize the possibilities that have presented themselves in every section of the country during the show season, which virtually came to an end with the big New England display.

Beginning with the splendid success achieved, particularly in the matters of attendance and retail sales, by the New York exhibition early in January, it almost has seemed that the people of every centre in which automobile shows have been held were vying with each other in an attempt to establish new records in these respects. And as has been pointed out previously in these columns, the public does not display such enthusiasm unless it is interested in the products on exhibition. There is little disposition this year to question the merits of the annual show; quite contrary to the sentiment which prevailed in many quarters at this time in 1913.

It will not prove amiss, in this connection, to call special attention to the situation in New England, as reflected by the Boston show. Upon the face of the returns it appears that not only was the number of makes of cars on display the largest of the season, either in this country or abroad, but new records for attendance and sales were again established, indicating that New England has lost none of its supremacy as the greatest motor vehicle market in the world.

WATCH THE BUSINESS.

Now that the industry is in a position to judge of the possibilities for business during the 1914 selling season, those in the trade do well to emulate the example set by many dealers in the larger cities in preparing to secure the business which rightfully belongs to them, and under such conditions as to realize proper returns on the investment. The entire industry has been, and still is, undergoing a period of readjustment, and only those dealers who adopt systematic methods can hope to maintain their position.

Conditions vary with the territory served. What one dealer in one city may be able to undertake without loss may not be attempted by another dealer in another city. A man must study his local market and plan accordingly.

The adoption of a system does not involve the selection of something complicated or partaking of the nature of red tape. It should be simple and effective, yet sufficiently comprehensive to afford every information as to the state of the business at all times. The dealer should know, absolutely, whether or not he is making money, and he must be possessed of the essential facts if he is to keep abreast of the times.

CONSIDERING MOTOR TRUCKS.

While it is conceded that different methods must be applied in the sale of motor trucks and passenger cars, there is every reason why the dealer or garageman who is already established should add a line of business vehicles, particularly in the smaller cities and towns. This undoubtedly will necessitate acquiring the services of a salesman well versed in this branch of the industry, but this is only one of the factors.

The business man who is desirous of replacing his present horse drawn equipment with mechanical transports, must be assured of uninterrupted service, and this can be done by the garage proprietor who is properly equipped to handle such work. There is a certain amount of overhead that must be charged against the sale of machines in any event, and this cannot be increased greatly by the dealer who is already engaged in the sale of passenger cars. The returns are such and the possibilities are so unlimited that the subject is worthy of every consideration by men who are in a position to give the additional line the attention it deserves.

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FINANCIAL NEWS AND MARKET QUOTATIONS.

According to authoritative sources of information in financial circles, the closing days of February were the best of the entire month, showing a distinct improvement in the stock market sentiment and substantial recovery from declines that had been persistent and general. As a result, March, the first of the spring months, entered with an encouraging degree of enthusiasm and with a disposition, not out of line with the spirit of the spring season, to look for better things ahead.

The European financial situation also showed distinct improvement. Money and discounts at the British centre disclosed an easier tendency. Banking authorities in London are expecting a renewal of easy conditions in the discount market toward the close of the present month, the period of such ease, in their opinion, to be quite protracted. This, they argue, will result in further advances in high grade investment securities. The money centres of the world are so closely interwoven at the present time that it is held that any such improvement in the London situation could hardly take place without measurable response from the security markets in this country.

In domestic financial circles it is held that there is nothing in sight to suggest that local money conditions are to develop strain—at any rate before the crop demands for funds become insistent in the late summer and early autumn. The improvement in trade and industry must necessarily be gradual, it is maintained, and there are already some signs of the beginning of such movement.

APPLICATIONS FOR NEW CAPITAL.

American railroad and industrial corporations did more extensive financing during February than for some time, although the total involved was somewhat below that for the same month in 1913, which was unusually heavy. Large sums were employed both years in paying off maturing obligations, and also to refund various issues.

The total amount of new securities authorized by the directors of various corporations during the month involved $218,881,700, an increase of $10,997,700 over the corresponding month in 1913. Authorizations for the first two months of 1914 showed a decline of $87,592,500, indicating a decided upward tendency in this field during February.

EXPORTS IN JANUARY.

The monthly report of the government concerning the shipment of automobiles abroad during January, 1914, shows only a slight gain in valuation over the corresponding month in 1913. In number of cars, however, there was a decided gain. During January, 1913, 87 commercial vehicles, valued at $182,271, and 2070 passenger cars, valued at $2,051,806, were shipped abroad, as compared with 45 commercial vehicles valued at $74,591, and 2481 passenger cars, valued at $2,174,392, in January, 1914. The number and value of cars shipped abroad to the various countries during this month, both years, are given below:

	1913		1914	
	No.	Value	No.	Value
France	73	$59,245	63	$47,506
Germany	27	42,659	94	56,483
Italy	20	35,660	64	33,763
United Kingdom	374	258,463	1030	855,973
Other Europe	53	61,937	175	121,245
Canada	468	593,700	370	423,093
Mexico	35	48,619	9	15,109
West Indies and Bermuda	68	68,104	58	50,651
South America	351	393,079	145	120,079
British Oceania	403	386,833	174	146,672
Asia and other Oceania	193	182,660	193	163,641
Other countries	92	103,118	151	214,668
Totals	2157	$2,234,077	2526	$2,248,883

GENERAL MOTORS STOCKS.

In connection with the automobile securities market for the past month, it is of particular interest to note the rapid rise in General Motors common since the beginning of the year. At the close of 1913 this was quoted around 36, while during the second week in March it had risen to 78½. The preferred also increased in value from 73 to 92½ during the same period.

Recently the company made application to the listing committee of the New York Stock Exchange for the listing of aditional voting trust certificates representing $714,000 par value of common, issued since the last application in 1911, and $583,000 preferred, issued since that application. In addition, the company applies for permission to list from time to time $3,374,200 of common and $3,036,900 of preferred, both of which are held at present in the treasury, on notice from the company that disposal has been made of the stock.

BRAZILIAN RUBBER VALORIZATION.

Advices from Rio Janeiro, Brazil, state that the budget voted at the end of January made no provision for the continuance of the rubber defence scheme. An immense amount of money is said to have been expended in a rubber exhibition, and in the establishment of luxuriously furnished offices for a small army of officials appointed to the new department. These officials have now been dismissed, the offices closed, the furniture placed in a warehouse, and the growers of rubber are apparently to receive no further assistance from the government in an effort to maintain prices.

PRICE OF GASOLINE.

Two reductions in the price of gasoline have been announced during the past month, the first going into effect Feb. 24, and the second during the second week in March. As a result, gasoline is now quoted in the East at 15 cents in 50-gallon lots or more

In explanation of the two reductions made recently, it is stated that they were made possible because of the severity of the winter, which not only affected automobile traffic in the country, but in the large cities, and to the increase in production, particularly in Oklahoma and surrounding territory, where several new refineries are said to have been opened.

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of March were as follows:

Pennsylvania dark	$2.50	Ragland	$ .70
Second sand	2.50	Illinois above 30°	1.45
Tiona	2.50	Illinois below 30°	1.45
Mercer black	2.00	Kan. & Okla.	1.05
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.70
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.49	Caddo, La., 38°	1.05
South Lima	1.44	Caddo, La., heavy	.73
Indiana	1.34	Spindletop	1.06
Princeton	1.40	Canadian oil	1.39
Somerset 38°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	30½	30	20½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	20¼	20	19¾
73 a 76°	29½	29½	29
Stove	28	22¾	22½
Auto, 68-72°	25½	25¼	25

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	18	a	18½
Tank wagon delivery	..	a	9
Fuel, 31°	8¾	a	..
Fuel, 34°	9¾	a	..

Naphtha.

Auto in wood	..	a	20
Auto in garages, steel bbls	..	a	16
V. M. & P. deod., in steel	..	a	14
V. M. & P. deod., in wood	..	a	16

Gasoline

86°	..	a	29½
74-76°	..	a	25¼
67-70°	..	a	22¼
Stove	..	a	21

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QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week, and in comparison with the conditions existing at the same time last year. It will be noted that for the most part the market has been fairly steady, although there was a marked drop in Goodyear securities following the sale of $2,000,000 preferred and $2,000,000 common. In most instances, where comparison is made with the prices prevailing in 1913, it will be found that the market today shows a satisfactory situation.

	Feb. 16		Feb. 23		March 2		March 9		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com	200	..	200	..	200	..	200	..	150	170
Ajax-Grieb Rubber, pfd	99	102	99	102	99	102	99	102	95	99
Aluminum Castings, pfd	97	100	97	100	97	100	98	100	98	101
Borne, Scrymser	305	320	300	310	300	310	300	310	..	..
Case, J. I., pfd	90⅞	92½	87½	89	88	89	86½	89	..	..
Chalmers Motor, com	85	90	84	87	84	87	83	85	115	125
Chalmers Motor, pfd	92	94	92	94	92	94	92½	94½	98	102
Firestone Tire & Rubber, com	270	276	280	290	288	295	288	292	292	300
Firestone Tire & Rubber, pfd	109	110½	108½	109½	108½	109½	109	110	105	107
Garford Co., pfd	80	90	80	90	80	90	80	90	98	100
General Motors, com	74¼	75	73¼	73½	78	79	78½	79½	30	32
General Motors, pfd	93½	94	92	92¼	94	94½	92½	93½	75	77
Goodrich, B. F., com	24⅞	25⅛	26½	27⅛	23⅛	23¾	23¼	23¾	39½	40½
Goodrich, B. F., pfd	89½	90½	89	90	87½	90	86	90	98	100½
Goodyear Tire & Rubber, com	210	218	212	218	230	250	155	165	385	390
Goodyear Tire & Rubber, pfd	96½	98	96½	98½	96	97½	92½	93½	102	103
Gray & Davis, pfd	90	97	90	97	90	97	90	97	..	..
International Motor, com	..	5	..	5	..	5	..	5	5	10
International Motor, pfd	..	15	..	15	..	15	..	15	35	45
Kelly-Springfield Tire, com	51	52	55	56	56	57¼	57½	58½	..	..
Kelly-Springfield Tire, pfd	120	125	125	130	125	130	130	140	..	..
Lozier Motor, com	12	..	12	15	..	14	12	15	..	..
Lozier Motor, pfd	..	65	..	65	..	65	..	65	..	..
Maxwell Motor, com	5	5½	5½	6	5¼	5½	5½	6	..	..
Maxwell Motor, 1st pfd	27	27½	28½	29	27¼	28	27	28	..	..
Maxwell Motor, 2nd pfd	8½	9	9¾	10¼	9	9¼	9	9½	..	..
Miller Rubber	125	130	129	131	128	132	128	132	185	195
New Departure Mfg., com	120	124	120	125	118	125	118	..	..	..
New Departure Mfg., pfd	103	106	103	106	103	..	103	..	..	..
Packard Motor Car, pfd	94	98	96	98½	96	98½	101	106	..	..
Palmer & Singer Mfg., pfd	..	65	..	65	..	65	..	..	..	..
Peerless Motor Car., com	15	25	..	30	..	30	20	30	..	..
Peerless Motor Car, pfd	75	80	..	80	..	80	..	80	..	..
Pope Mfg. Co., com	1	3	1	3	1	3	1	3	22	25
Pope Mfg. Co., pfd	11	15	12	..	11	16	12	16	63	68
Portage Rubber, com	..	40	..	40	..	40	..	35	..	..
Portage Rubber, pfd	..	90	..	90	..	90	..	90	..	..
Reo Motor Car	17¾	18¼	18	18½	18	18½	18½	19½	20½	21½
Reo Motor Truck	7½	8¼	7½	8½	7½	8½	8	8½	11½	12½
Rubber Goods Mfg., pfd	105	115	105	115	105	115	105	110	104	106
Splitdorf Electrical	40	50	40	50	40	50	40	50	..	..
Stewart-Warner Corp., com	56	57	57	58	47	48½	56	56½	..	..
Stewart-Warner Corp., pfd	98	99½	98	100	98	100	99	100	..	..
Studebaker Corp., com	24½	25⅛	26½	27	23½	25	24½	26	27¾	29
Studebaker Corp., pfd	89½	90½	82½	84	80⅝	81	80¾	82¾	86½	90
Swinehart Tire & Rubber	70	72	69½	70½	70	71	69½	70⅛	95	102
Texas Co	148½	148⅞	147¾	147⅞	149	149½	148	148½	..	..
U. S. Rubber, com	59½	60	59½	60	60¼	60½	61⅞	62¼	60	60½
U. S. Rubber, 1st pfd	101⅞	102⅛	101¾	102⅛	101⅝	101¾	102⅜	102½	104⅞	105⅞
Vacuum Oil	214	218	212	217	213	216	214	218	..	..
White Co., pfd	105	110	107	110	107	110	107	110	103	108
Willys-Overland, com	64	66	67	68	67½	68½	66	69	60	67
Willys-Overland, pfd	92	95	95	97	93	96	92	96	92	98

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison. For the most part, the market has been steady, the most notable exception being the price of rubber, although the closing on March 14 was such as to indicate a gradual upward tendency in this commodity.

	Feb. 16		Feb. 23		March 2		March 9			
	High	Low	High	Low	High	Low	High	Low	Feb. 14	Mch. 14
Antimony, lb	.06	.06	.06	.05¾	.05¾	.05¾	.05¾	.05¾	.06	.05¾
Iron, fdy., S., ton	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Iron, fdy., N., ton	13.00	12.75	13.00	13.00	13.00	13.00	13.00	13.00	12.75	13.00
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Steel, open hearth, ton	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Beams and chan., 100 lbs	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Copper, elec., 100 lbs	14.65	14.50	14.50	14.40	14.40	14.20	14.20	14.05	14.65	14.05
Copper, lake, 100 lbs	14.75	14.62½	14.62½	14.60	14.62½	14.37½	14.37½	14.25	14.75	14.25
Lead, 100 lbs	4.00	3.85	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Tin, 100 lbs	40.25	39.25	39.15	37.90	38.00	37.75	38.00	37.62½	40.50	37.62½
Petroleum, Kan. cr., bbl	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Petroleum, Penn., cr., bbl	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Linseed oil, raw	.52	.52	.52	.52	.53	.52	.53	.53	.52	.53
Rapeseed oil, refined	.59	.59	.59	.59	.59	.59	.59	.59	.59	.59
Lard oil, prime	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Fish oil, Menhaden, br	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
Sulphuric acid, 60	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Cyanide potash, lb	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
Cotton seed oil, bbl	7.15	7.00	7.15	7.00	7.18	7.05	7.25	7.15	7.10	7.25
Sea Island cotton	.22	.22	.22	.22	.23	.23	.23½	.23½	.21½	.23½
Silk, raw, Japan	4.50	4.50	4.50	4.25	4.50	4.47½	4.52½	4.50	4.42½	4.50
Silk, raw, Italy	5.15	5.15	5.15	5.15	5.25	5.15	5.25	5.15	5.15	5.15
Rubber, fine up-river Para	.78	.76	.77	.75	.75	.73	.74	.73	.78	.74
Tire, scrap	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½

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NEW CONCERNS RECENTLY INCORPORATED.

MANUFACTURING COMPANIES.

Whitwood Corporation, Weedsport, N. Y.; $25,000; to manufacture motor trucks; C. E. Whitman, C. S. Caywood, T. M. Osborne, Jay F. Woodworth.

Fancher Nu-Lock Company, Abbottsford, Wis.; $25,000; to manufacture devices for securing nuts, etc.; R. Prentice, A. A. Fancher, M. Ellingson, George Black, Paul Benzmann.

Electromobile Company, St. Louis, Mo.; $100,000; to manufacture trucks; S. J. Bernheimer, R. Kalish.

Pneuma Tubes, Ltd., Toronto, Can.; $1,000,000; to manufacture and deal in tires, tubes, etc.

Gillson Motor Company, Chicago, Ill.; $15,000; to manufacture and deal in motors; J. C. Fruit, E. D. Tillson, D. R. Hettelseter.

Automobile Fender Safety Lamp Company, Cornish, N. Y.; $10,000; to manufacture a patent lamp for automobile fenders.

Pete Reidenbach Wagon Works, New York City; $10,000; to build automobile bodies; Margaretha Reidenbach, Susanna Reidenbach, G. C. Reidenbach.

Britain Rubberized Fabric Company, Brooklyn, N. Y.; $25,000; William Schnor and others.

Modern Wheel Company, New Orleans, La.; $25,000; to manufacture a new style wheel; S. P. Walmsley and others.

Auto Cycle Company, New Orleans, La.; $100,000; to manufacture cyclecars; Arthur B. Lacour, W. J. Hormer, George E. Dicks.

Westinghouse Gear & Dynamometer Company, East Pittsburg, Penn.; $1,500,000; to issue licenses to manufacture and sell Westinghouse-Melville Macalpine gears; George Westinghouse, H. T. Herr, T. S. Grubbs, George F. White.

Cycle Car Company, New Orleans, La.; $7500; to manufacture cyclecars; Julius C. Werner, Isaac T. Rheu, Jr., William S. Campbell.

Royal Electric Heater Company, Chicago, Ill.; $10,000; to manufacture electric heaters and appliances.

Capital City Manufacturing Company, Columbus, O.; $10,000; to manufacture polishes; G. B. O'Hara, E. G. Bowerman, G. T. Carrier, C. Goshen, O. E. Davis.

Crucible Steel Casting Company, Bayonne, N. J.; $25,000; to manufacture iron, steel, manganese, copper and other materials; J. B. R. Smith, P. S. Brower, J. B. Reilly.

Mitchell Wagon Company, Racine, Wis.; $500,000; to manufacture wagons and motor car bodies; M. J. Knobloch, J. B. Simmons, J. B. Rowlands, G. N. Fratt, Raymond Weins.

Pacific Tire & Supply Company, Seattle, Wash.; $700,000; to manufacture automobile tires; B. L. Gates, Austin E. Griffiths, A. K. Allen.

Fox Chain Company, Hamilton, Ont.; $200,000; to manufacture tire chains; Thomas Crosthwait, L. H. Gray and others.

Continental Engineering Company, Augusta, Me.; $1,000,000; to deal in motors; E. M. Leavitt and others.

Costa Piston Ring Corporation, New York City; $10,000; to manufacture engine parts; Clarence G. Campbell, William R. Baird, Stephen S. Newton.

Motor Engineering Company, San Antonio, Tex.; to manufacture motor specialties; C. S. Goby and others.

C. A. Coey Motor Company, Chicago, Ill.; $50,000; to manufacture automobiles and accessories; C. A. Coey, H. L. Wells, H. H. Morgan.

Eastman Spring Company, Portland, Me.; $500,000; to manufacture and deal in motor vehicle springs, etc.; E. V. Noble, E. V. Mann.

Osgood Automobile Deflector Company, Chicago, Ill.; $50,000; to manufacture automobile accessories; S. W. Osgood, W. C. Kenner, J. J. Sheridan.

Keller Cyclecar Corporation, Wilmington, Del.; $250,000; to manufacture cyclecars, motor trucks, airships, etc.; H. E. Latter, W. J. Maloney, O. J. Reichard.

Burgess Company, Marblehead, Mass.; $100,000; to manufacture aeroplanes, boats, motors, etc.; W. Starling Burgess, Greeley S. Curtis, F. H. Russell.

Brown & Robb Company, Gloucester City, N. J.; $100,000; to manufacture automobiles; E. L. Brown, T. H. Robb, Herman Johnson.

Elastro Company, Syracuse, N. Y.; $30,000; to manufacture and deal in compounds for use on tires.

Strite Tractor Company, Minneapolis, Minn.; $100,000; to build light weight tractors; George T. Strite, Howard J. Bierman, J. S. Clapper, Frank J. Bierman.

American Electrical Company, Portland, Me.; $1,500,000; to manufacture and deal in electrical and mechanical devices of all kinds, also automobiles and parts.

The Dodge Motor Car Company, Detroit, Mich.; $1,000,000; to manufacture two-passenger light cars.

Texas Climatic Manufacturing Association, San Antonio, Tex.; $200,000; to manufacture what will be known as the "Climatic home-grown tires".

Lubricator Company, New York City; $100,000; to manufacture lubricators for automobile engines; L. R. Balck, David C. Thomas, William C. Ottiwell.

Petty Dirigible Auto Headlight Company, Salt Lake City, Utah; to manufacture headlights.

Universal Lubricants Company, Wilmington, Del.; $100,000; to manufacture automobile supplies; J. F. Curtin, C. E. Eaton, J. M. Satterfield.

Gay-Streibich Auto Wheel Company, Little Rock, Ark.; $125,000; to manufacture a patented automobile wheel.

Willys-Overland Company, Hamilton, Ont.; $500,000; to manufacture automobiles; J. N. Willys and others.

The Alschwager-Rogers Company, Minneapolis, Minn.; $50,000; to manufacture automobile bodies and wheels. J. F. Alschwager, H. H. Alschwager, J. W. Rogers.

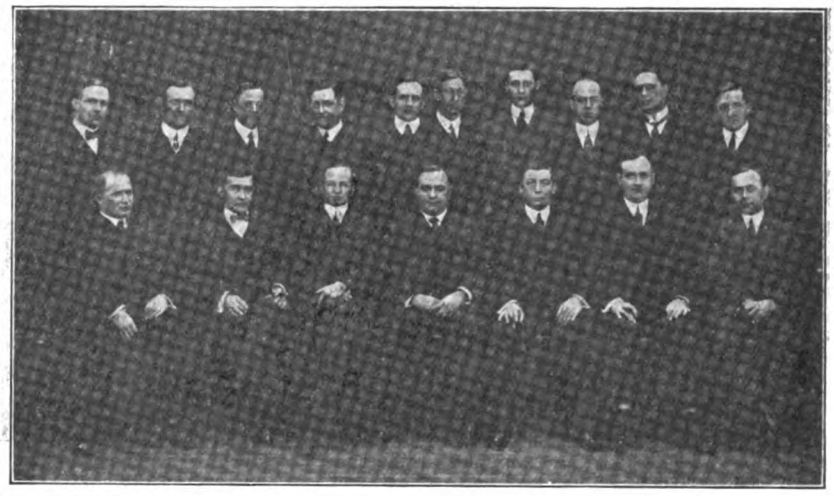
Merchants' Motor Truck Manufacturing Company, Chicago, Ill.; $100,000; to manufacture and deal in motor trucks, etc.; W. Schulze, J. W. Misek, C. A. Martin.

ACCESSORY AND SUPPLY HOUSES.

American Auto Tire Jobbers Company, Philadelphia, Penn.; $20,000.

Pacific Auto Spring Company, Los Angeles, Cal.; $20,000.

American Puncture Plug & Vulcanizing Company, Cincinnati, O.; $2000; to manufacture puncture proof substances; C. K. Barker, F. L. James, R. A. Mock, E. M. Hurley, F. S. Gates.



A Result of the Recent Amalgamation of Apple Electric and Splitdorf Electrical Companies' Selling Forces—Representatives of the Two Concerns in Convention at Dayton, O.

Ideal Accessory & Repair Company, Indianapolis, Ind.; $10,000; to deal in motor car accessories; A. Wolf, W. F. Clemens, P. E. Powell.

Dixie Auto Supply Company, Louisville, Ky.; $6000; to deal in accessories; A. H. Drake, Herman Jansen, J. A. Kolb, Sr.

Renault Tire & Rubber Company, Brooklyn, N. Y.; $25,000; to deal in automobile tires; Max Hillman, D. M. Hanley, Harry Baumstone.

Mutual Tire League Company, Cleveland, O.; $10,000; to deal in tires; Fred Baker, V. L. Ney, G. I. Hay, E. Hay, J. L. Herford.

Dayton Tool & Die Company, Dayton, O.; $10,000; to deal in machinery; F. P. Chamberlain, E. Mitchell, V. A. Troxwell, M. Williamson, W. Schubert.

W. A. Shanahan-Thompson Corporation, Yonkers, N. Y.; $3000; to deal in motors; W. A. Shanahan, A. S. Thompson, A. C. Travis.

O. D. Tucker & Co., Little Rock, Ark.; $10,000; to deal in automobiles and tires.

Waste Products Company, New York City; $10,000; to conduct a general auto and garage supply business; C. W. Gedes and others.

New Process Rubber Company, New York City; $5000; to rebuild tires; Henri Dujardin, T. Philip Hornsey, Cornelius D. McGhlehan.

Akron Tire & Rubber Company of Boston, Boston, Mass.; $21,000; Israel Barry, Charles Braunstein and

The Barclay-Rice Company, Inc., Rochester, N. Y.; $25,000; to deal in auto accessories; E. L. Barclay, J. G. Barclay, J. E. Rice.

The Boyd Supply Company, St. Louis, Mo.; to deal in automobile accessories; F. D. Boyd, Francis Bryan.

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CAR DEALERS AND AGENTS.

Rene Wheel Company, Chicago, Ill.; $2500; to deal in automobiles, accessories and wheels; Leo D. Mathias, Edgar Tiferfault, George Gagne.

Aso Motor Company, Dover, Del.; $750,000; to deal in motor vehicles; L. E. Latta, W. J. Malone, H. E. Latter.

Kuhns Auto Service Company, Indianapolis; $5000; general automobile business; Frank W. Kuhns, Brandt C. Downey, Eudorah L. Kuhns.

Lincoln Highway Automobile Company, Omaha, Neb.; $2500; to deal in automobiles; William Havelka, Steve Cuhel.

Union Garage & Supply Company, Lancaster, Penn.; to buy, sell, manufacture and remodel automobiles.

Maywood Garage Company, Maywood, Ill.; $5300; to buy and sell automobiles.

Thomey Auto Service, New York City; $1000; to deal in automobiles; Eugene Thomey, Fred Thomey, Harry Abraham.

Motor Parts Company, Springfield, O.; $25,000; to engage in a general automobile business.

Wasmann & Miller, St. Louis, Mo.; $2000; to deal in automobiles; Elvin Wasmann, Tony Miller, May Miller.

The House That Jack Built, Chicago, Ill.; $150,000; to conduct a general automobile business; A. E. Frost, John Cuthbertson, Orpheus A. Harding.

Roseland Auto Sales Company, Chicago, Ill.; $10,000; to deal in automobiles; R. J. Ton, Victor A. Beckman, M. Otto.

Commerce Motor Car Company, Chicago, Ill.; $5000; to deal in automobiles; A. W. De Latour, Ellias Mayer, Charles Rudolph.

Ford Owners' Service Corporation, New York City; $25,000; to deal in automobiles; F. A. Williams, F. C. Cimons, C. Weiss.

G. L. Sullivan, New York City; $50,000; to deal in automobiles; G. L. Sullivan, E. H. Gilley, J. F. Russell, Jr.

Ohio Eastern Distributors, New York City; $2000; to deal in automobiles; C. S. Bradt, N. R. Bradt, C. A. Luff.

Banquet of Rayfield Salesmen and Dealers in New Southern Hotel, Chicago.

George W. Case Company, Port Jervis, N. Y.; $5000; to deal in automobiles.

Marmon New York Company, New York City; $1000; to conduct a general automobile business; F. G. Garrie, J. B. Curtis, W. Shibder.

Geneva-Bauman Company, New York City; $2500; to deal in motor cars, motorcycles, etc.; Alexander Bauman, Joseph I. Geneva, Matilda Landsman.

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Walden Gray Automobile Company, Los Angeles, Cal.; $25,000.

Alter Motor Car Company, Detroit, Mich.; $75,000; R. A. Skinner, G. Hamilton, C. A. Alter, F. M. Woodward.

Jay County Auto Company, Portland, Minn.; $6000.

Parkinson Automobile Engine Starter Company, Sioux City, Ia.; $10,000; E. F. Hartsman and others.

G. L. Clift Motor Cycle Company, Brockton, Mass.; $10,000; Everett C. Hall, George L. Clift, George A. Clift.

Charles Motor Company, Boston, Mass.; $25,000; Virgil A. Charles, Roland H. Sherman, Winnifred B. Kittredge.

Senrab Carburetor Company, Sea Cliff, N. Y.; $25,000; L. I. Barnes, E. H. Madison, T. H. Hogman, Jr.

Greensville Motor Company, Emporia, Va.; $2000 to $10,000; W. T. Pond, S. Price.

League of American Automobilists, Mansfield, O.; $1000; J. E. Ladlow, Jacob Reinhart, Norris Kirkpatrick.

Norton Motor Plow Company, Galion, O.; $300,000; R. A. Norton, B. L. Sites, G. W. Nickels and others.

Quick Charge Storage Battery Company, New York City; $500,000; Leslie Reid, Russell Law, S. C. Sabel.

Krit Sales Company, Detroit, Mich.; $100,000; Henry W. Standart, Walter Russell, Albert W. Russell.

New Haven Auto School, New Haven, Conn.; $10,000; **Percival Auto Repair Company,** St. Louis, Mo.; $2000. C. Schechter, E. Gross, S. Schechter.

Detroit Battery Company, Detroit, Mich.; $10,000; William H. Ducharme, Myron G. Pierson, George R. Beamer, M. O. Smith.

Interboro Motor Truck Company, Harrisburg, Penn.; $60,000.

Spencer Auto & Machine Company, Spencer, Ind.; $6000.

Autophone Company, Boston, Mass.; $100,000; E. A. Lyman, C. W. Woodman, C. E. Woodman.

San Antonio Auto Supply Company, San Antonio, Tex.; $6000; P. K. Magruder, T. E. Moore, W. E. Newton.

Kane Motor Car Company, Kane, Penn.; $50,000.

Remelin Company, Cincinnati, O.; $40,000; to deal in motor cars; M. E. Remelin, R. C. Nepper, C. Sawyer, J. L. Remelin, F. C. Williams.

H. W. Johns-Manville Company, Boston, Mass.; $25,000; Harry R. Trainer, Henry D. Castle and others.

Brandtjen Motor Car Company, St. Paul, Minn.; $50,000; to buy, sell and deal in automobile parts and accessories; Henry A. Brandtjen, A. C. Brandtjen, M. L. Brandtjen.

Old Dominion Tire Corporation, Norfolk, Va.; $10,000; to manufacture automobile tires; J. E. Guy, B. S. Joynes.

Auto Stock Company, Detroit, Mich.; $50,000; self-starters; William J. Fisher, John Olsen, Mansell Hackett, Fred M. Guy.

Bodock Gasoline Company, Ponca, Okla.; $50,000; to manufacture gasoline from casing head gas; George L. Miller and others.

Hall-Scott Motor Car Company, San Francisco, Cal.; $100,000; to manufacture, sell and deal in motor engines.

Amper Control Corporation, Buffalo, N. Y.; $100,000; to manufacture automobile and engine accessories; E. W. Jones, R. E. Heard, L. C. Kinnius.

Conway Machine & Garage Company, Boston, Mass.; $5000; A. E. Stoddard, Albert C. Lary, H. H. Sylvester.

Heeb Auto & Garage Company, Cincinnati, O.; $10,000; C. M. Heeb, V. Heintz, L. B. Davison.

Associated Garages, New York City; $110,000; Ira B. Lothrop, Eileen T. Levy, Howard B. Alexander.

North Woodward Garage Company, Detroit, Mich.; $2500; Maud Brosch, Edwin Brosch, Fred A. Bowers.

Lupfer-Prather Garage of Kissimmee, Kissimmee, Fla.; $5000.

National Garage Company, Everett, Mass.; $5000; Frank P. Anthony, Harriet C. Partridge.

Storm King Garage, Cornwall, N. Y.; $1000; James Lewis, Edward C. Townsend, William Wells.

College Garage Company, Los Angeles, Cal.; $10,000.

Mount Hope Garage Company, Mount Hope, W. Va.; $10,000; W. S. Johnson, J. F. Grimet, W. H. Darnell and others.

The 127th Street Garage, New York City; $5000; W. F. Bullman, G. M. Stevens, H. L. Holly.

Dupre Automobile Company, Columbia, Ga.; $15,000; to conduct a general automobile and garage business.

Thornton's Garage & Livery Company, Attica, Ind.; $1000; D. R. Thornton, L. C. Thornton, M. Holmes.

Collingwood Garage Company, Toledo, O.; $10,000; to conduct a general taxicab business; C. Lemster, O. L. Rankinson, K. S. Lemster, B. Decker, C. L. Deeds.

Hot Springs Garage, Hot Springs, S. D.; $15,000; James Marty, John S. Fusion, E. R. Juckett.

Eagle Auto Transfer Company, Chicago, Ill.; $15,000; to operate a garage.

Goodby-Rankin Company, Providence, R. I.; $40,000; to manufacture accessories and supplies for automobiles, motorcycles and bicycles; also buying and selling automobiles, motorcycles and bicycles; Albert E. Goodby, William G. Rankin, Thomas P. Himes.

Park Square Motor Company, Pittsfield, Mass.; $15,000; Fred K. Chaffee, Leslie M. Cain, Charles E. Jenks.

Cyclecar Distributing Company, Passaic, N. J.; $60,000; hiring of cyclecars, auto vehicles, etc.; E. Huebner, G. Raradash, P. Miskovsky.

Victor Tire & Rubber Company, Camden. N. J.; $125,000; to manufacture automobile tires, etc.; T. Skinner, H. V. Williams, E. P. Cropper.

E. & C. Auto Sales Company, Plainfield, N. J.; $25,000; to do a general automobile business; F. Endress, E. A. Craig, L. A. Endress.

Levano Auto Supply Company of Houston, Houston, Tex.; $20,000; H. M. Levano, M. Levano, J. L. Pujol and others.

Indiana Auto Supply Company, Laporte, Ind.; $10,000; Arthur Gaul, William Pelz, Axel Lindgren.

J. J. Laverty & Co., New Haven, Conn.; $50,000; to deal in automobiles; John L. Laverty, Marie A. Wells, Frederick U. Wells.

Park Garage Company, Somerville, Mass.; $10,000; Arthur N. Park, F. R. Curtis, W. W. Kennard.

H. Ross Maddocks Company, Boston, Mass.; $25,000; to manufacture and deal in motor vehicles; H. R. Maddocks, Charles West, J. A. Maddocks.

Holl Motor Carriage Service Company, Camden, N. J.; $125,000; to manufacture automobiles, motorcycles, etc.; A. H. Holl, H. C. Henry, L. F. Holl.

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CONTEMPLATED BUILDING OPERATIONS.

CONTRACTS AWARDED.

H. E. Baton, Philadelphia, Penn.; one-story garage, for Harry Gordon.

Whidden Co., Inc., Boston, Mass.; one-story garage, 45x70, for Joseph Cotton.

William Schaeffer, 1018 North avenue, Reading, Penn.; one-story garage, 43x90, $4000, for Heydt & Haas.

H. H. Laughlin, Woodland road, Pittsburg, Penn.; one-story garage, 31x48, $6000.

Thomas B. Hurley, Marlboro, Mass.; two-story garage, 25x80, $10,000, for Robert F. Perkins, Framingham, Mass.

Gustafson & Olson, Duluth, Minn.; one-story garage, 22x66, $1500, for Oscar Peterson, 2832 Huron street.

C. Messersmith, 526 West Arch street, Pottsville, Penn.; one-story garage, 30x21, $4000, for the Hoover Mercantile Company, Reading, Penn.

Barnum & Noy, Wilkesbarre, Penn.; garage, 18x24, $25,000, for the Frank W. Larned Company, at Forty-Fort, Penn.

C. E. Castle, Ogdensburg, N. Y.; two-story garage, 45x90, $9000, for W. C. Wilcox.

P. N. Steenberg, 163 Laurel avenue, St. Paul, Minn.; one-story garage, 28x17, $2000, for E. Erickson.

John Winder, 606 Lumber Exchange, Minneapolis, Minn.; two-story automobile warehouse, $50,000, for the Pence Auto Company.

Cowan Building Company, 105 West Madison street, Baltimore, Md.; two-story garage, 20x24, $4000, for M. P. Baldwin, 717 Park avenue.

E. J. Cross, Fister street, Worcester, Mass.; two-story garage, 60x50, $10,000, for Lyman Gordon.

J. H. Loyd, Dayton and Little streets, Xenia, O.; one-story garage, 40x60, $5000, for the Smith Garage Company, Main and West streets.

Dannevik & Currie, Colorado Springs, Col.; garage and salesroom, 150x190, $25,000.

E. O. Hamilton, 24th and Farnum streets, Omaha, Neb.; one-story garage, 40x132, $9000, for Edward Phelan, 607 North 40th street.

H. D. Best, 320 Fifth avenue, New York City; garage and warehouse, for the Standard Oil Company, Athol, Mass.

Specht & Sperry, Heed building, Philadelphia, Penn.; 1.5-story garage, 25x43, $3000, for George Crump, at Sumner, N. J.

Daniel H. Hunter, 820 North 11th street, Reading, Penn.; one-story garage, 26x73, for Raymond C. Heinzmann.

Pontiac Motor Car Company, Pontiac, Ill., has let the contract for a one-story garage, 75x105.

William A. Paw, 1305 East Lafayette avenue, Baltimore, Md.; one-story garage, 89x80, $5000, for Edward P. Jester, Spring and Preston streets.

Roderick Maclean, Center place, Newton, Mass.; one-story garage, 20x25, $2000, for Frederick W. Rush, 78 Kirkstall road.

Stremple Construction Company, 3325 Scranton road, Cleveland, O.; one-story garage and workshop, 80x121, $7500, for W. & F. Felberth, 1804 West 47th street.

R. H. George, 386 Lexington avenue, Columbus, O.; one-story garage, $1000, for Frank Brown, 899 East Broad street.

D. W. Fulp, Bluefield, W. Va.; garage, $10,000, for D. G. Lilly.

M. J. Hoffman Construction Company, 6 Rookery building, Evansville, Ind.; two-story garage, store and office building, 90x150, for Major A. C. Rosencranz, 721 Upper First street.

J. F. Kump, Northfield, Minn.; one-story garage, $4000, for Byron Mavoa.

A. K. Boteler, 1326 Myrtle avenue, Baltimore, Md.; two-story garage, $5000, for George T. Phillips, 20 Aliceanna street.

D. T. Burton, Moundsville,, W. Va.; one-story automobile display room and repair shop, 40x100, for Trimble & Johnson Company.

The M. & M. Auto Supply Company, Cleveland, O., whose store was recently destroyed by fire, has awarded a contract to rebuild temporary quarters to be located at 744 Prospect street.

PLANS AND SPECIFICATIONS.

H. S. Dennison, Framingham, Mass.; one-story garage, 30x70, $7000.

Ziegler Express Company, Fulton street, Elgin, Ill.; two-story garage and warehouse, 75x100, $10,000.

Salvadore Bonagwia, 1815 Eastern Parkway, Brooklyn, N. Y.; one-story gargae, 50x76, $12,000.

Kress Estate, Johnstown, Penn.; two-story garage, 100x125, $50,000.

Sidney Strickland, 37 Phillbrick road, Brookline, Mass.; one-story garage, 40x25, $4000.

William H. Vleinus, 642 East Main street, Rochester, N. Y.; two-story garage, 30x23, $2000.

Diener & Endy, Reading, Penn.; one-story garage, 42x48, $1500, in the rear of Mineral Springs road.

John Amicon, 579 East Town street, Columbus, O.; one-story garage, $2500.

Henry Coffin, 312 Overton street, Newport, Ky.; two-story garage and apartment building, 16x24, $5000.

Frank Minnemeyer, Farmer's Bank building, Pittsburg, Penn.; one-story garage, 80x160, $16,000.

Harvey Pettie, 125 Union avenue, Saratoga Springs, N. Y.; one-story garage, 24x30.

James Rollo, 215 Washington avenue, Brooklyn, N. Y.; two-story garage, 50x100, $12,000.

J. H. & F. A. Mead, 365 Broadway, Albany, N. Y.; garage, 18x30.

Thomas Urbansky, 2364 Ontario street, Cleveland, O.; one-story garage, 12x32.

Reliable Laundry Company, Toledo, O.; two-story garage, 40x50, $7000.

E. R. Anderson, Portland, Ore.; two-story garage, 80x140, $20,000, to be erected at St. Helen, Ore.

C. L. Willy, 2558 South Robey street, Chicago, Ill.; 1.5-story garage and stable, 80x32.

C. L. Sears, Belcher avenue, Brockton, Mass.; one-story garage, 25x31.

Marcus Shanus, 3 Perry court, Lowell, Mass.; one-story garage, 28x47.

F. S. Pope, Windoni, Minn.; one-story garage, 60x150.

Richard & Ball, Main street, Paris, Ky.; three-story garage and business building, 50x120, $15,000.

C. E. Hutchinson, Fairmont, W. Va.; two-story garage, 38x25, $2000.

Standard Oil Company, 72 West Adams street, Chicago, Ill.; one-story garage, warehouse and stable, 33x166, at Oak Park, Ill.

Benjamin Menke, 100 Amsterdam avenue, New York City; one-story garage and store building, 100x100.

William H. Bohrman, 159 Rogers avenue. and James Cozine, 759 Lincoln place, Brooklyn, N. Y.; two-story garage, 24x126, $10,000.

George W. Honecker, Michigan and Northampton streets, Buffalo, N. Y.; garage, bakery store and flat building, $12,000.

H. H. Cummings, Rome, N. Y.; two-story garage, 60x80, $6000.

Frank N. Nost, 177 Ninth street, Passaic, N. J.; one-story garage, 20x24.

John Serpas, Bloomfield, N. J.; two-story garage, store and apartment building, 47x110, $10,000.

Stout & Felbenack, Bartlett building, Atlantic City, N. J.; two-story garage, 38x68, $20,000.

A. Cooper, 815 South State street, Syracuse, N. Y.; three-story garage, 64x125, $25,000.

Milton L. Reeves, 313 Sumner avenue, Brooklyn, N. Y.; one-story garage, 55x99, $4500.

Anna E. Carbe, New York City; one-story garage, 25x50, $6000.

Templeton Company, Tyrone, Penn.; two-story garage, 33x180, $11,000.

G. Bertsch, Kendallville, Ind.; two-story garage and flat building, 34x146, $10,000.

Mrs. R. Kroll, 410 Greenfield avenue, Milwaukee, Wis.; one-story garage, 23x43.

A. W. Long, Manhattan, Kan.; one-story garage, 50x150, $7500.

S. J. Larson, Wausa, Neb.; one-story garage, 75x60, to cost between $6000 and $8000.

Gage Automobile Company, Logan, O.; two-story garage, $8000.

Ross & Estep, La Junta, Col.; one-story garage, 50x120, $3000.

Ardsley Garage Company, New York City; five-story garage, $75,000.

John Hedgelon, 712 Melrose avenue, Syracuse, N. Y.; one-story garage, 18x20, $2000.

Fred W. Forness, 412 North Union street, Olean, N. Y.; three-story garage, 85x85, $20,000.

Joseph Aronson, 19 Eliot street, Boston, Mass.; one-story garage, 20x20, $5000.

Edward Shuttleworth, 315 Vernon avenue, Long Island City, N. Y.; four-story garage, 60x100, $35,000, to be erected in New York City.

William Hoffman, Avenue B, Schenectady, N. Y.; one-story private garage, 18x24, $1000.

August Weber, Stratford and Rugby roads, Schenectady, N. Y.; one-story garage, 21x24, $1000.

W. J. Cahardevayne, 26 Warren place, Newark, N. J.; two-story garage, 23x95, $8000.

F. Reidermeister, Woodland street, Englewood, N. J.; one-story private garage, 28x73, $7000.

L. Roller Motor Company, 524 Selby avenue, St. Paul, Minn.; one-story garage, 55x150.

Delor Realty Company, 713 Chestnut street, St. Louis, Mo.; one-story garage, 50x150.

W. C. Lieter, Harvey Lake, Penn.; two-story garage and barn, 22x22 and 54x52, $7000.

M. A. Snider, 110 West Mulberry street, Kokomo, Ind.; two-story garage, $10,000.

Walter Ryan, 913 Bedford avenue, Brooklyn, N. Y.; one-story garage, 45x100, $5500.

Kane-Cadillac Company, 1247 Main street, Buffalo, N. Y.; one-story garage, 55x247.

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Peter Drije, 3513 West 26th street, Chicago, Ill.; one-story garage, 50x100, $6000.

O. G. Sherman, 3670 Milwaukee avenue, Chicago, Ill.; one-story garage, $8000.

R. F. White, Oxford, Penn.; one-story garage, $12,000.

Mertz Christman & Co., 522 Washington street, Reading, Penn.; one-story garage, 19x34, $7000.

M. N. Driebellis, Hamburg, Penn.; two-story garage, 48x110.

Charles Royal & Son, Kingman, Kan.; one-story garage, 50x132, $5000.

James Hallman, Phoenixville, Penn.; three-story garage, 60x80.

J. Wilson Leakin, Baltimore, Md.; two-story garage, $30,000.

C. A. Woolsey Paint Company, 500 Grand street, Jersey City, N. J.; one-story garage, 27x50, $9000.

Thomas Stephens & Son, 275 Lark street, Albany, N. Y.; two-story garage, $6000.

George Redding, 207 Main street, Utica, N. Y.; two-story garage, 40x100, $10,000.

Dr. L. J. Quantius, McPherson, Kan.; one-story garage, 50x130, $5000.

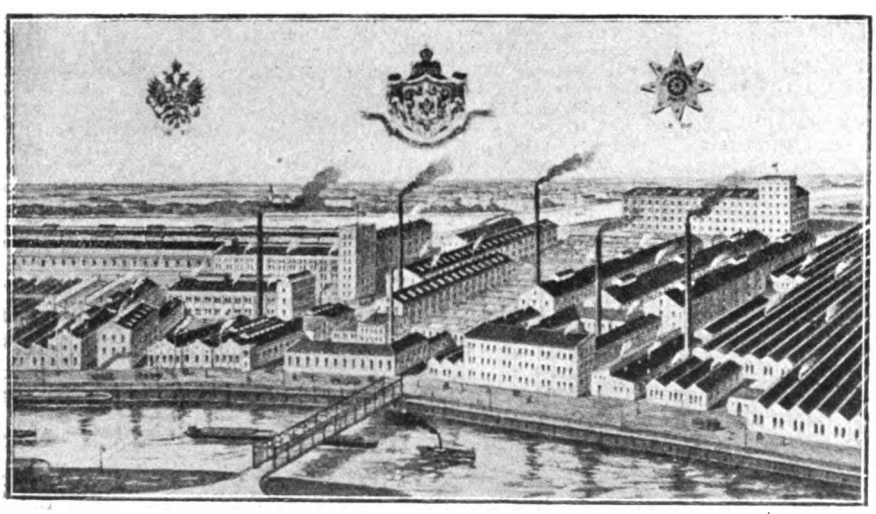
ADDITIONS AND IMPROVEMENTS.

The Lorain Auto & Construction Company, Lorain, O., is making arrangements to have a story added to its building, to be used exclusively for a workshop, and an elevator will be installed.

The Jamestown Garage Company, Jamestown, N. Y., is erecting a four-story addition to its garage on Cherry and West Second streets. The top floor will be used for a machine shop.

The Monroe Garage, Middletown, N. Y., is making extensive improvements on its garage on Lake street.

H. H. Perrin, Mankaton, Minn., has started an addition to his garage at 520 South Front street, 22x150, which will be built along the lines of the present building, one story with basement. When completed the combined floor space will accommodate over 100 cars.



Partial View of the Plant at Riga, Russia, Where Prowodnik Tires Are Made to Meet Russian Road Conditions.

Vang & Nelson, Hansboro, N. D., is having plans prepared for an addition to its garage.

Charles H. Clayton, Freehold, N. J., is building a 60x64 addition to his garage on West Main street.

The Frederick City Garage, Frederick, Md., is having extensive improvements made to its building.

E. C. W. Hayward, Bethel, Vt., is enlarging his garage in the Star Theatre building.

The Placter Garage, Fall River, Mass., is making extensive improvements to its building.

Frank Van Syckle, Perth Amboy, N. J., will enlarge his garage on Brunswick avenue.

The Puncture Agencies Company, Seattle, Wash., dealer in puncture healing fluid for automobiles, is enlarging its business.

Stirling Bros., Erie, Penn., is to construct a large addition to its garage on 12th street, the contract for which was awarded to Wilkinson & Miller.

Charles F. Hull, Hagerstown, Md., is having extensive improvements made to his garage on North Locust street.

The Jacksonville Rubber Company, Jacksonville, Fla., has greatly enlarged its salesrooms and service department in order to accommodate its growing business.

The Pioneer Truck Company, San Diego, Cal., will erect a new six-story building on Fourth street, to cost $84,000.

The Jones Motor Car Company, Richmond, Va., has started the new service station adjoining its present building.

NEW PUBLIC GARAGES.

R. F. Huffman, Hamilton, O., who is now sole owner and proprietor of the Miami Motor Car Company, has purchased property on Main street and is building a large garage and automobile salesroom. Ford cars will be shown. The firm name is to remain the same.

Frose & Rossi, Sacramento, Cal., has had plans prepared for a 75x140 brick garage, to be erected on First street.

W. Radke, Milwaukee, Wis., will erect a garage on Lisbon avenue. It will be modern throughout.

James F. McGee, Washington, D. C., is to build a garage at 1531 M street. It will cost $16,000 and will be of fireproof construction.

Walter Mills, Harmony, N. J., is erecting a large and up-to-date garage. He was formerly connected with the Red Bank Garage Company, but recently entered the trade for himself and plans to enlarge his business in the new building.

The American Auto Sales Company, New Castle, Penn., is erecting a new garage, 30x160, two stories high. A repair shop is to be conducted on the second floor. It is expected to cost about $11,000.

Vincenze Merola, Newark, N. J., is to erect a one-story garage on 11th street, costing $8000.

Henry Eshbacon, Stockton, Cal., will erect a new large modern garage on Hunter street.

Grover Volgelsberg and Leo Stoll, Bloomington, Wis., are preparing to build a garage. They will also secure an agency.

W. F. Wagner, Massillon, O., is having a modern and fireproof garage built on North Erie street.

Granger & Whitaker Livery Company, Hammond, Ind., is having an up-to-date garage and livery stable built on 36 Plummer avenue, at a cost of $14,000.

John Cassidy, Philadelphia, is having a new garage erected on Water street.

George Charlson, Jewell, Ia., is building a modern garage. He handles the Ford cars.

Price Nixon, Springfield, Mo., has begun work on a new garage on South College street.

Charles Parry, Miami, Fla., is having a large and up-to-date garage erected on Eighth street.

Samuel Shaffer, St. Johns, Mich., will shortly begin the erection of a two-story garage. He handles the Hupp and Oakland cars.

J. S. Jennings, Raleigh, N. C., has secured permission to erect a garage on West Davis street. It will cost $4000.

Jacob Roth, Erie, Penn., plans to erect a garage on 10th street. He is an automobile dealer.

W. H. McGrue, Cincinnati, O., will build a new public garage on Main avenue. It will be up-to-date and fireproof. The cost will be $15,000.

Charles M. Clay, Poughkeepsie, N. Y., is to erect a new large modern garage to cost $11,000.

D. J. Henson, Taneytown, Md., has formed a garage company. A new building will be erected.

F. W. Thompson, Salisbury, N. C., has commenced the construction of a concrete garage on East Liberty street.

The Clayton Machine Works, Lees Summit, Mo., is to erect a new garage to be located on Third street, at a cost of $5000.

Fournier & Rodier, Montreal, Can., contemplates the erection of a modern garage in the near future. The company handles the McFarlan cars, at 724 St. Catherine street.

The Puente Garage Company, Puente, Cal., is having a new two-story building erected on the Faure property.

MISCELLANEOUS NEW GARAGES.

The Milwaukee Gas Light Company, Milwaukee, Wis., will erect a new garage on Jefferson street to cost $8000.

R. E. Jones & Son, Columbus, O., is having a new and modern garage erected on Long street. The building will be used exclusively by the company for housing its automobiles.

H. W. Hershberger, Spickard, Mo., is to manage a garage which is being erected on Washington avenue.

A. W. Marsheffel, Colorado Springs, Col., is having plans made for the erection of a large modern garage and automobile salesrooms, at a cost of $50,000, on Cascade street.

The Merserway Company, Eureka, Cal., is planning to install a complete machine shop in connection with the garage at the corner of Seventh and D streets.

The McDowell & Driftmier Garage, Clarinda, Ia., has added a vulcanizing outfit to its already large and up-to-date equipment.

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The Manchester Auto Company, Manchester, Mich., has purchased the Green Hotel property, and will use it as a garage.

The Potter Motor Company, East Liverpool, O., has leased the Elite skating rink and will remodel it for occupancy as a large and up-to-date garage and repair shop. The company is also agent for the Overland cars.

Alva N. Harold, Alexandria, Ind., has purchased the garage and machinery of the Anderson Auto Company. Mr. Harold will open a new garage in the K. of P. Armory building.

Bea Beaty, Lockhart, Tex., has purchased a livery stable at East Market and Rio Grande streets and will raze it and erect a brick and steel garage, 60x125. The new building will have two repair pits and space for 100 cars.

Trimble & Johnson, Moundsville, W. Va., has purchased from W. D. Alexander a site fronting on Jefferson avenue on which will be erected a one-story building, to be used as a motor car and machine shop.

A. H. Ringsrud Auto Company, Elkpoint, S. D., is erecting a new garage, 50x100, where a complete line of supplies and repairs will be stocked. A repair shop also will be maintained.

Capt. A. W. N. Bjornstad, San Francisco, is having a new one-story garage erected at a cost of $5000.

The Miller Automobile Company, Bay City, Mich., has started work for a new garag,e which is to be one story, 100x50.

NEW LOCATIONS AND REMOVALS.

The B. F. Goodrich Rubber Company, Akron, O., has removed its Detroit branch to the new building at Woodward and Hancock avenues. It is one of the finest structures of its kind in the city and is handsomely finished.

The Harley-Davidson Motor Company, Boston, Mass., has established a branch at 74 Huntington avenue. in charge of W. J. Walker. This concern handles the Harley-Davidson line of motorcycles.

The Cole Automobile Company, St. Louis, Mo., has opened handsome quarters at 1419 Locust street.

The Miller Rubber Company, Akron, O., has established a branch at 2118 Michigan avenue, Chicago, under the management of W. E. Anderson.

The Spartan Rubber Company, Trenton, N. J., has opened a branch office at 715 Boylston street, Boston, Mass., for the sale of Spartan tires. F. C. Stetson, a tire man of wide experience, is the manager.

The Ruby Manufacturing Company, Jackson, Mich., has established offices in the Press building, Binghamton, N. Y., where estimates and full particulars regarding Ruby portable garages can be obtained.

The B. F. Goodrich Company, Akron, O., has opened a service station at 605-609 West 48th street, New York City. It is the largest service plant in the city devoted exclusively to motor truck tires. More than 20,000 square feet of floor space is used for garage, shop and stock carrying purposes.

The Cadillac Motor Car Company, New York City, has moved to new quarters at Broadway and 62nd street.

The New Haven Welding Company, New Haven, Conn., will enlarge its plant and thereby facilitate better handling of its products. The company will shortly remove to its new quarters at 51 Broadway.

The Goembel Garage, Pipestone, Minn., is now completed. Perry Goembel has taken charge. He handles the Studebaker and Overland cars.

Grant Haynie, Hamilton, Mo., has opened a modern garage and will handle the Overland and Reo cars.

The Atlas Garage, Oakland, Cal., has made extensive improvements to its garage on Broadway.

The Peverhill Motor Sales Company, Waterloo, Ia., has completed the large addition to its modern garage and installed new machinery. The addition gives a frontage of 160 feet on Mulberry street and 60 feet on Sixth street. Hudson and Regal cars are handled.

The Ramer Auto Company, River Falls, Wis., has completed the remodelling of its garage, and has brought together all the cars which had been temporarily stored in half a dozen parts of the city during the progress of the work. An incline in the rear of the garage has been arranged so that cars may be run on the second floor under their own power. An elevator will be installed later.

The Western Motor Company, Kansas City, Mo., agent for the Pathfinder and Empire cars, has moved into new quarters at 1702 Grand avenue.

W. B. McGirt, Darlington, S. C., has opened an up-to-date automobile and supply store on Pearl street.

The Bittel-Leftwich Tire & Service Company, St. Louis, Mo., has opened a branch at Lindell and Grand avenues.

The Adolph Automobile Company, Philadelphia, has leased the entire four-story automobile and garage building at 441-451 North Broad street, for the purpose of using it as showrooms for automobiles, and for garage purposes. This property contains more than 50,000 square feet of floor space and was recently rebuilt for the automobile industry.

Loveland & Co., Cleveland, O., has opened a splendid and attractive branch at Euclid avenue and 17th street, under the management of R. S. Merriam. This branch will be for used cars.

The Haynes Automobile Company, Columbus, O., has secured a salesroom on West Long street, into which the company is preparing to move.

W. H. Batdorf, Columbus, O., who is the distributor for Paterson cars, will soon move to 248 North Fourth street, the premises just vacated by the Columbus Buggy Company.

The Huselton Automobile Company, Butler, Penn., is located in its new garage, which has a floor space of 7500 square feet, and is fireproof throughout. The company also conducts an up-to-date repair shop, which is fully equipped with the latest machinery and tools.

Penman & Son, Quincy, Mass., is now located at its new address at the corner of Washington and Wibird streets. The garage is modern throughout.

G. L. Hathaway, Middleboro, Mass., is to remove his automobile repair shop to the front section of the Jenks building.

The N. P. Smith Company, Cincinnati, O., has taken a lease of the premises at 217-219 East Eighth street. The lease is for 10 years at a total rental of $45,000. The company is agent for the Goodyear Tire & Rubber Company.

The Motor Car Service Station Company, Cleveland, O., has taken a lease of the ground floor at 2618 Detroit avenue. A few improvements are to be made to the building. A garage and service station will be conducted at the new location.

W. J. Wallace, Detroit, has opened salesrooms at 475 Woodward avenue to handle the Wallace shock absorber, one of his inventions.

The Wizard Motor Company, Indianapolis, is now located at 222 West Merrill street.

The American Auto Tire Jobbers, Philadelphia, has opened headquarters at 156 North Broad street.

The St. Louis Auto Sales Company, St. Louis, Mo., has taken over the building on Pine street. Extensive repairs and alterations will be made.

The Sire Carburetor Manufacturing Company, Northampton, Mass., is located on Pleasant street.

The Auto Baggage & Transfer Company, Tacoma, Wash., has opened for business at 111 South Eighth street, under the direction of J. Shomoch and A. Whitman.

George Wagner, Grand Rapids, Mich., has leased quarters at 228 Ottawa street, and will install a complete plant for the handling of tire vulcanizing and other tire repair work. The company will be known as the Central Vulcanizing Company.

The National Motor Car Company, Buffalo, N. Y., has opened showrooms at 1206-1210 Main street. The company was organized a short time ago by H. H. Kies and C. L. Davis.

The C. A. Lord Company, Lincoln, Neb., will occupy new salesrooms and display the Premier car in the Lincoln Commercial Club building.

The Hartford Auto Exchange, Hartford, Conn., is the name of a new company formed to deal in used cars of all kinds. The company has opened a large garage at 583 Franklin avenue.

The Independent Implement Company, Owatonna, Minn., has leased the old Butsch building at the corner of Oak and Bridge streets and will operate a garage therein. The company handles the Cadillac and Krit cars.

The Motor Sales Company, Louisville, Ky., succeeds the Reid Auto Company as local dealer and distributor for the Paige and Metz cars. The company will locate at 728 Fourth street.

The Motor Sales Company, Lewiston, Me., has leased the building at the corner of Bates and Main streets, formerly occupied by Nealley & Miller, and will open an automobile salesroom therein. The company will handle automobiles, as well as supplies and accessories.

The E. & H. Motor Company, Sheboygan, Wis., has taken possession of its new garage, which is 50 by 100 feet. The company is the agent for the Paige, Mitchell and Packard pleasure cars and Chase trucks. A full line of accessories and supplies is always at hand.

The Studebaker Agency, Los Angeles, Cal., has just opened its new home at 1047-49 Grand avenue. R. D. Maxwell, manager, states that 25 service stations will be established throughout the city.

Lew Niccum, Wabash, Ind., who is proprietor of the Auto Hive garage on East Canal street, has moved into the premises at 35 East Market street. Truman C. Durnbaugh has become partner in the business, which is now conducted under the name of Niccum & Durnbaugh.

Ollinger & Warvel, Wabash, Ind., is to move shortly to East Canal street, where one of the buildings is being remodelled. The company is agent for Ford cars.

The Boyd Motor Company, Boston, Mass., has moved to larger quarters at 148 Berkley street, where there is a large showroom at the front and ample accommodations for its repair business in the rear.

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The Auto Windshield Company, Detroit, has opened salesrooms at 39 Watson street for the purpose of selling cyclecars.

The King Motor Car Company's agent, Detroit, has leased the entire floor in the Marfield's building, corner 47th street and 11th avenue.

Duff Bros., California, Penn., has opened its new garage on Wood street. It is the agent for Buick and Maxwell cars.

Jasper Great, Irwin, Ia., has completed his new garage, in which he is now located, and has engaged the services of two experienced repair men, who will look after the wants of motorists.

The Herring Buggy Company is the name of a company located at Mansfield, O., on South Walnut street. The company handles the Cadillac, Overland and Ford cars.

The Comet Cyclecar Company, Cincinnati, O., has opened an agency at 1003 Race street.

The Mitchell Motor Company, Racine, Wis., will open a permanent service station at Wichita, Kan. J. D. Stanton will have charge.

The Perfex Sales Company, Los Angeles, Cal., has opened a branch at 1148 South Third street.

The Republic Tire Company, Indianapolis, formerly located at 25 West Michigan street, is now at 425 North Capitol avenue.

The Andrew Reed Auto Company, Beaver, Penn., will locate on Third street.

The Allen Moore Car Company, Easton, Penn., has moved to its new garage at 44 South 11th street.

Pellet's Magneto Exchange, Chicago, announces its removal from 1463 to 1606 Michigan avenue, having outgrown its former quarters.

The E. C. Eads Automobile Company, St. Joseph, Mo., has moved to 1712 Michigan avenue.

The Brice Auto Company has new and larger headquarters at 1408 Hennepin avenue, Mankato, Minn.

The Erie Taxicab Company, Erie, Penn., whose building was recently destroyed by fire, has moved to 14th street.

The Radiator-Fix Company, Boston, Mass., has taken larger quarters at 121 Massachusetts avenue for its distributing station.

The Auto Tire Company, San Diego, Cal., has moved into new quarters in the Fifth and A Syndicate building at the northwest corner of Fifth and A streets.

The Firestone Tire & Rubber Company, Minneapolis, has leased the building formerly occupied by the Oldsmobile agency at 1635 Hennepin avenue.

Benjamin E. Boone & Co., Portland, Ore., has moved into the building formerly occupied by the Michigan Auto & Buggy Company at 16th and Alder streets. The company handles the Ford cars.

The Enterprise Machine Works, Santa Cruz, Cal., is now located at 25 Cherry street.

The Vehicle Top & Supply Company, St. Louis, Mo., has enlarged its showrooms at 3418 Lindell boulevard.

The Stewart Automobile Company, New York City, distributor for the Pullman cars, and owner of the Stewart Automobile Academy, has removed from 54th street to the Diamond Tire building, 57th street and Broadway.

NEW CONCERNS AND BUSINESS CHANGES.

Joseph Heidemark, New York City, has leased the one-story garage at 2508 Park avenue and will operate it in the future.

K. A. Sundahl, Thief River Falls, Minn., who is manager of the Northwestern Auto Company, has leased the Hoppa & Borry garage, in which he will conduct business.

A. All, Elyria, Kan., is to open a garage in the near future.

The C. & C. Auto Company, Brooklyn, N. Y., has become the owner of a large three-story brick garage.

The Western Motor Supply Company's Garage, Milwaukee, Wis., was established recently at 408 Jefferson street.

Walter B. McCormick has sold to Charles E. Moots, formerly of Leroy, Ill., his interest in the McCormick-Murray Manufacturing & Automobile Supply Company, at 207 North East street, Bloomington, Ill. The consideration was $15,000 and included all except 18 shares of stock.

The Commercial Auto Repair & Storage Company, Detroit, has opened a first class garage on East Congress street.

Bear & Jaberg, Monroe, Wis., has opened a garage in the new addition to the Fitzgibbons carriage factory. The new company will occupy the first floor and basement and will handle the Marion, Maxwell and Hupmobile cars.

T. Rice, Chicago, has established a garage and salesrooms at 2120 Michigan avenue. He handles the Peugeot cars.

Earnest & Company, Dundee, N. Y., is to open a garage and salesroom on the ground floor of the Beekman block, which is practically completed on Water street.

The Auto Inn, Appleton, Mich., has opened a garage which is said to be one of the best arranged in the country.

Opitz Bros., Elkhorn, Wis., is about to open a garage in its new Opitz block.

The Piedmont Garage, Anderson, S. C., has been opened, in charge of W. E. Watson.

C. H. Fasig, Everett Keith and Husted Bros., Martinsville, Ill., will open a garage on North York street.

Frank M. Thomas, Kelseyville, Cal., has purchased the Wilcox property on Main street, in which he will conduct a garage and repair business.

M. C. Huto, South Jacksonville, Fla., has opened a garage and repair shop on Ames avenue.

The Westmyer Auto Supply House, Wheeling, W. Va., has completed its up-to-date and fireproof garage at 435 Main street.

F. F. Knox, Lewiston, Mont., has opened a repair shop in the building formerly occupied by the Allen Auto Company. The business will be conducted under the name of Knox Auto Company, and will be located at the corner of Fifth avenue and Janeauz street.

The Auto Livery Company, Cheyenne, Wyo., has opened a new garage at the corner of 18th street and Capitol avenue. The firm carries a full line of repair parts.

J. E. Ross, Washington, Ia., plans to open a garage business. He has leased a building on North Marion avenue recently erected by Jesse Phillipin.

O. D. McDaniel and Clinton Paul, Mansfield, Ill., have opened an up-to-date garage.

Alfred Harris, Montpelier, Vt., has opened a repair shop in the rear of the Williams garage.

C. M. Dick, Marysville, Penn., contemplates building a garage some time in the future. Mr. Dick handles the Yale motorcycles and also a line of automobile and motorcycle supplies.

E. S. Lingo, Norwich, Ia., has completed his new garage and has engaged a competent "trouble man" for the repair department.

The Chase Garage, Inc., Bridgeport, Conn., is a new concern, centrally located on one of the main thoroughfares, and is equipped with every facility for doing repair work. The garage has two entrances, which gives convenient ingress and egress. Edward S. Gray is in charge.

The Bull's Head Auto Station, Bridgeport, Conn., has been changed to the Arthur L. Clark Company. A new garage has been opened at 1710 Main street.

T. McCane, Columbus, Ga., has opened his new garage at 1315 Broad street. He conducts a general repair and equipment establishment.

O. J. Johnston and Ray Pratt, Omro, Wis., have entered into a partnership and will open a garage.

C. H. Burns, Walworth, Wis., has opened a new garage. It is up-to-date in every respect. Overland cars are handled.

The Pier Automobile Company, Richland Center, Wis., will open its new garage in the near future, with a lecture on mechanics. The company handles the Mitchell car.

T. J. Patterson and Jake Goldstein, Cripple Creek, Col., are to occupy the new garage which is in the course of construction on South Second street.

The City Motor Company, Pendelton, Ore., is the name of a new firm which will conduct a garage and salesrooms in the Snyder building, a three-story structure on Cottonwood street. The company handles the Hudson cars.

The Crescent Automobile Company, Milville, N. J., is about to open a garage and machine shop in the Alhambra theater building on East Vine street. The building is to be remodelled. Joseph Ennis will be manager and Edwin Van Dusen will be in charge of the mechanical work.

The Sackley Motor Car Company of Lowell, Lowell, Mass., has opened a garage and salesroom at 483 Merrimack street. The company will handle the Haynes, Regal and King cars, also Mercury cyclecars.

W. J. Doherty, Sterling, Ill., has opened a garage on First avenue, formerly occupied by M. R. Thackaberry & Son. It will be known as the Lincoln garage.

H. J. Ellis, Brooklyn, Wis., has opened a garage and general repair business and will conduct the sale of pleasure cars as well.

Reif & Knell, Dixon, Ill., is erecting an up-to-date repair shop. It will be one of the best of its kind in that city.

G. E. Blaylock, Baltimore, Md., has become owner of the business conducted by the Gauls Blaylock Company, Inc., at 1823 Maryland avenue. He will do a general vulcanizing business and will carry a line of standard made tires and tubes and tire seconds.

H. F. Davis, Glendale, Cal., has become the owner of the Overland garage at 1312 West Broadway, and is now operating it.

J. B. Stuffer, Saskatoon, Sask., has purchased Robert McIntosh's garage at 19th street and Second avenue. The new proprietor has already secured the contract for garaging the cars and taxicabs of the Saskatoon Taxicabs,

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Ltd., and it is his plan to branch out considerably in the automobile business.

Kinn Bros., Hankinson, N. D., has bought out the business and garage of the Hankison Automobile Company on Cannon avenue. The new company will continue the business under the old name. Particular attention will be paid to repair work, in which the members of the firm have had considerable experience.

Joe Saby, Elmore, Minn., has purchased the Aldrich garage at Battle Lake, Minn. He will take possession in the near future.

The Norman Electric Company, Nashville, Tenn., has taken over the garage and repair department of the Broadway Electric Company, which handles the Waverley cars.

Walter Sloan, South English, Ia., has purchased the garage owned by Mr. Wenger, and with his two sons will operate it as the Sloan garage.

R. C. Stalcup, Sabetha, Kan., has purchased an interest in the Walker & Record garage. The company will be known as Walker & Stalcup.

Will Tennill, Taylor, Tex., has purchased the City garage on East Fifth street from D. D. Nowlin.

Fish & Westerberg, Benicia, Cal., has purchased the garage heretofore owned by Charles G. Clyne.

The Thirtieth Street Garage, Indianapolis, has been sold to Alfred Young, who will continue the business. The garage is one of the largest in the city.

M. E. Rafferty & Son, Mt. Carmel, Ill., has purchased the Manly-Wilkins garage on West Fourth street and has taken charge.

Edward Colligan, Manson, Ia., has purchased the Whittlesey garage on Main street and will operate it in connection with the repair business. His brother also has an interest in it.

Robert J. Cowen, Mechanicville, N. Y., has purchased the garage formerly conducted by Marshall G. Moore on Canal street, commonly known as "The Home of the Ford". Mr. Cowen will continue the business.

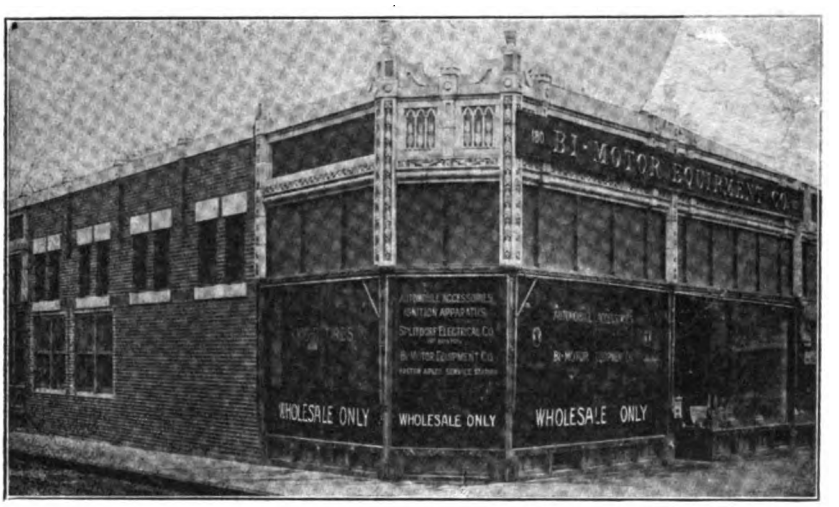
The Bi-Motor Equipment Company, 180 Massachusetts avenue, Boston, has remodelled its salesroom, following its announcement that it will in the future conduct an exclusively wholesale business. This is said to be the first accessory house in New England to make an announcement of this nature.

George B. Wyman, Fitchburg, Mass., has purchased the Johnsonia garage, the former owner, William H. Kilmartin, going out of the business.

The O. K. Garage, Gainesville, Fla., has been taken over by H. L. Dean and C. B. White. Both men are well versed in automobile mechanics, having conducted garages and repair shops previous to this purchase.

The Bull Dog Garage, Carrington, N. D., has been sold to G. C. and E. P. Olson of Medina. G. C. Olson has moved here and taken charge.

The Greenwich Auto Supply Company, Greenwich, Conn., has opened an automobile supply business in the Dr. Burke block. F. N. Pennoyer and W. T. Wilson comprise the new company.



Home of Bi-Motor Equipment Company, 180 Massachusetts Avenue, Boston, First Exclusively Wholesale Accessory Dealer in New England.

Davison & Mason, Wabash, Ind., has taken the agency for the Peerless emergency tire. The company is located at 112 East Douglas street.

The Colonial Tire & Repair Company, Detroit, has been bought out by the George W. Bolton & Company, at 733 Woodward avenue, who will operate the business in the future.

A. Manton Chace, Los Angeles, Cal., has taken the agency for Acme torsion springs, at 1044 Olive street.

The Knight Tire Company, Omaha, Neb., has opened an office at 25th and Farnum streets.

The Rich Tool Company, Chicago, has opened a branch in St. Louis, under the management of J. M. Kelley.

The Zee-Zee Sales Company, Baltimore, Md., has secured the local distributing agency for Zee-Zee Tire & Rubber Company, Philadelphia. The local company is under the management of J. J. Filon and B. J. Hanrahan.

The Hearsey-Willis Company, Indianapolis, has secured the agency for New Departure ball bearings in Indianapolis and vicinity. The company expects to carry a large stock in order to assure immediate replacements.

The Hubmark Rubber Company, Milwaukee, Wis., was formally opened to the trade last month. The entire five-story Meniecke building at 41-45 Oneida street is occupied by this concern, which is under the management of Victor M. Stamm, a well known veteran in the ranks of the tire trade.

James J. Filon, Baltimore, Md., has opened a supply house at 1301 Charles street.

Edmund J. Gable has established an up-to-date automobile supply store at 58-60 North Fifth street, Reading, Penn. He will also carry Lee tires.

The John Immel & Sons Company, Columbus, O., has taken the agency for the Timken roller bearings for axles, wagons, carriages and automobiles. The company operates a large automobile repair department.

The Perry Motor Supply Company, Hartford, Conn., now handles the Rayfield carburetors. The company is located at 102 Allyn street.

H. F. Silverthorn, Orfordville, Wis., is making preparations to enter the automobile business, and will convert his general store into a salesroom.

O. P. Coppedge, Pittsburg, Tex., who has been manager of the Pittsburg Auto Company, has withdrawn and will go into business for himself.

The Rutland Motor Company, Ottawa, Ill., has changed its name to the Ingram Motor Company. It now has offices and salesrooms in Rutland, Peoria, Bloomington and Springfield.

William Herron and Frank Dusenbury, New Hackensack, N. Y., have opened a new welding plant.

The Phoenix Automobile Supply Company, St. Louis, Mo., has absorbed the Continental Equipment Company. John F. Shuford, manager of the latter, has been made general manager of the consolidated business.

Raoul Sayres, Marengo, Ia., has purchased the interest of W. Ince in the firm of Bishop & Ince. Mr. Ince will retire from the business.

The Automobile Service Association, Philadelphia, Penn., has sold its building at 5123 Swanson street and may locate in a different section.

G. A. Rickenbaugh, Sault Sainte Marie, Mich., has purchased the interest of Walter W. Dennis in the Lock City Auto Company. The company is engaged in a general repairing, overhauling and painting business.

The Winckler Engineering Company, Racine, Wis., a firm of automobile consulting engineers, has been dissolved.

The Louisville Lozier Company, Louisville, Ky., has filed amended articles of incorporation changing the name to the Louisville Automobile Company.

Lattig Bros., Atlanta, Ia., has purchased the business of the Anita Automobile Company.

Wand & Bossard, Beach, N. D., has dissolved partnership. Mr. Wand will continue the business alone.

The McDuffee Automobile Company, Chicago, has absorbed the KisselKar agency in that city. The company now handles four lines, Peerless, KisselKar, Howard and Rauch & Lang.

The Allerton Automobile Company, Allerton, Ia., has purchased the B. & Mc. Automobile Company. The company handles the Chalmers, Buick, Oakland and Ford cars.

Jones & Indra, Green Bay, Wis., which conducted the West Side garage, has dissolved partnership, Carl Jones becoming sole owner. The business will be conducted under the old name and the same line of accessories will be handled. The repair shop is to be overhauled and new machinery installed.

William F. Klatt, Detroit, has purchased the two-story solid brick garage at 3087 East Grand boulevard, for a consideration approximating $40,000. The building was formerly occupied as a factory and garage by the Wahl Motor Company. The size of the lot is 104 by 100 feet. Mr. Klatt will continue it as a garage, although he will not be active in its management.

The Richards Automobile Company is the name of a new automobile company operating at Black River Falls, Wis.

Call Bros., Salt Lake City, Utah, has purchased the interest of H. S. Harpster in the Harpster-Baldwin-Call Company on Eighth street. A modern garage will be established.

J. Nichols, Syracuse, N. Y., has taken over the truck end of the Selden business in eight counties. Mr. Nichols is an automobile top manufacturer.

The United Motor Company, Battle Creek, Mich., has taken over the agency for Ford cars, formerly handled by the American Motor Company.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Albertville.
Maxwell, Hanes Motor Co.
Ashland.
Jeffery, W. A. Kitchens.
Birmingham.
Maxwell, Alabama Motor Co.
Florala.
Maxwell, J. H. Burgess, Jr.
Jasper.
Maxwell, Jasper Auto Co.
Luverne.
Oakland, A. L. Watts.
Montgomery.
Maxwell, Cole Motor Co.
Sylacauga.
Maxwell, Hagen Bros.
Uniontown.
Maxwell, R. P. Greer.
Winfield.
Maxwell, Stalcup Hollis & Co.

ARIZONA.

Mesa.
Overland, Worth Bellamy.
Phoenix.
Imperial, Phoenix Auto Co.
Hudson, Oscar Irvin.
Lozier, A. M. Newton.
Maxwell, George D. Gates.
Stutz, E. Ben Ottestad.
San Simon.
Maxwell, G. V. Copp.

ARKANSAS.

Argenta.
Oakland, Oakland Auto Co.

CALIFORNIA.

Auburn.
Maxwell, Otto E. Thomas.
Calexico.
Hudson, Renaud, Manning & Scruggs.
Compton.
Maxwell, H. A. Chaffee.
Corona.
Ford, Glen Calkins, Sixth street.
Dinuba.
Maxwell, Dustan & Begg.
Etiwanda.
Maxwell, Frost Bros.
Fort Bragg.
Maxwell, C. A. Norberry.
Los Angeles.
Marathon, L. E. Symonds.
†Woods electric, Bekins-Speers Co.
‡Imp, Western Cyclecar Co.
Napa.
Maxwell, E. J. Knox.
Oakland.
*Adams, Peacock Bros., 2841 Broadway.
‡Mercury, Peacock Bros.
Pasadena.
‡Imp, David & Merriman.
Petaluma.
*Adams, C. C. Misher, 15 Kentucky St.
Redding.
Maxwell, Adolph Bystle.
Ripon.
Maxwell, I. A. Goodwin.
Sacramento.
Maxwell, W. J. Mannix.
Packard, George Bohen.
San Francisco.
Mitchell, Osen-McGarland Automobile Co.
*Republic, E. Stewart Auto Co.
‡Imp, Western Cyclecar Co., 567 Golden Gate ave.
Santa Monica.
Maxwell, Harry A. Stevens.
Watsonville.
Maxwell, Century Garage.
Willow.
Maxwell, Glenn Co. Garage.

COLORADO.

Alamosa.
Maxwell, Hampden Hdw. & Fur. Co.
Cripple Creek.
Hupmobile, Evan J. Williams.
Delta.
Maxwell, Willis A. Davis.
Denver.
Maxwell, Warringer & Cochran.
Haxtrum.
Maxwell, Peterson Bros.
Pueblo.
Moon, H. H. Lundy.

CONNECTICUT.

Danbury.
King, Alfred E. Penny.
Hartford.
Grant, Imperial Motor Car Co.
Mitchell, Palace Auto Service Co.
Oakland, Britton & Co.
‡Imp, J. F. Trant, 210 Allyn St.
New Canaan.
Maxwell, Edward A. Guthrie.
New Haven.
Hupmobile, Burns-Thomas Co.
Oakland, Burns-Thomas Co.
Willimantic.
Oakland, F. L. Powell.

DISTRICT OF COLUMBIA.

Washington.
Davis, Presbey-Haynes Motor Co.
Detroiter, W. L. Smith Co.
Regal, Motor Sales & Service Co.
‡Imp, H. B. Leary, Jr.

FLORIDA.

Orlando.
Maxwell, Palms Auto Co.
Pensacola.
Maxwell, J. D. Anderson.

GEORGIA.

Atlanta.
Franklin, Hull & Dube.
Stearns, Forsyth Motor Co.
*Horner, D. J. Lignon.
Collins.
Maxwell, A. C. Ellenwood.
Columbus.
Oakland, L. M. Thweatt.
Cuthbert.
Maxwell, J. V. Boyett.
McRae.
Jeffery, W. W. Anders.
Rochelle.
Maxwell, Valentine & Son.
Thomasville.
Oakland, B. H. Ingram.

IDAHO.

American Falls.
Maxwell, Jones & Davis.
Pocatello.
Maxwell, Mooney & Huff.
Saint Anthony.
Maxwell, M. V. Cochins.
Twin Falls.
Maxwell, Johnson Auto Sales Co.

ILLINOIS.

Aurora.
Maxwell, A. H. Annis.
Barry.
Maxwell, Keller & Wike.
Batavia.
Overland, Foster Garage Co.
Belvidere.
Hupmobile, Scritsmier & Lampert.
Bloomington.
Herff-Brooks, Trott & Stubblefield.
Bridgeport.
Hupmobile, Illinois Motor Co.
Brighton.
Maxwell, H. F. Martin.
Buda.
Moon, Holmes & Anderson.
Carlock.
Marathon, Brenneman & Ory.
Casey.
Maxwell, James H. Staley.
Chester.
Oakland, Hershbach Bros.
Chicago.
Briscoe, Tennant Motors, Ltd.
Herff-Brooks, Chicago Great Western Motor Car Co.
Peugeot, Tennant Motors, Ltd.
*Horner, Feldt Motor Co.
Chicago Heights.
Maxwell, Conklin & Spindler.
Danville.
Maxwell, E. B. Collins Motor Co.
East Lynn.
Jeffery, J. P. McCord.
Elgin.
‡Imp, Elgin Tool Works.
Fairmount.
Franklin, Franklin Car Co.
Galva.
Maxwell, A. L. Swanson.
Kankakee.
Maxwell, W. H. Ohde.
Leland.
Jeffery, Jonas Sawyer.
Marion.
Hupmobile, Arch Borum.
Marissa.
Regal, Henry Finger.
Marshall.
Maxwell, Charles Brandenstein.
Metropolis.
Crescent, I. N. Green.
Paige, I. N. Green.
Moline.
Franklin, Dalton H. Duncan.
Reo, J. Brandes, Jr.
Morrison.
Maxwell, S. W. Hurlbert.
Mound City.
Maxwell, W. T. Kennedy.
Mount Carroll.
Hupmobile, W. A. Spencer.
New Windsor.
Maxwell, Sanquist & Bushfield.
Oregon.
Herff-Brooks, C. F. Jones.
Peoria.
Herff-Brooks, Grisswold & Edmondson.
Pittsfield.
Maxwell, Frank G. Turner.
Princeton.
Maxwell, Evans-Coppins & Starks Co.
Quincy.
Maxwell, Machinery & Motor Co.
Rockport.
Maxwell, Haines-Rupert Co.
Rushville.
Herff-Brooks, Matthews Bros.
Maxwell, Matthews Bros.
Strawn.
Maxwell, Hanlan & Myers.
Sycamore.
Maxwell, Loptien Bros.
Tamarod.
Chevrolet, H. E. Doolittle.
West Frankfort.
Reo, Pharis & Son.

INDIANA.

Auburn.
Maxwell, Campbell & Son.
Brownstown.
Maxwell, Hackendorf-Roberts & Richards.
Evansville.
Metz, Sanders Motor Co.
Fort Wayne.
Herff-Brooks, H. G. Raymond.
Huntington.
Franklin, Central Garage.
Peru.
Maxwell, John R. Miller.
Portland.
Maxwell, Auto Supply Co.
Rockville.
Maxwell, Claude L. McCampbell.
Russiaville.
Oakland, Eikenberry Bros.
South Bend.
Herff-Brooks, J. W. Nikart.
Tipton.
Maxwell, Kendall & Son.

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IOWA.

Adair.
Maxwell, T. M. Elliott.
Adel.
Ford, Burkett Auto Co.
Maxwell, Alkire Auto Co.
Aplington.
Maxwell, Aplington Auto Co.
Barnes City.
Maxwell, Garing Bros.
Battle Creek.
Maxwell, R. W. King.
Bode.
Maxwell, Kinseth & Ries.
Bussey.
Maxwell, Koen Verrips.
Clutler.
Herff-Brooks, H. C. Hartwig.
Conrod.
Maxwell, J. W. Rourke.
Conroy.
Maxwell, Geiger & Robson.
Corning.
Oakland, Macks Bros.
Cresco.
Oakland, Wentworth & Burr.
Dallas.
Maxwell, Cleveland & Burnell.
Delta.
Maxwell, Hatcher Bros.
Des Moines.
Meteor, J. E. Robison.
Fort Dodge.
Franklin, J. W. Crouse.
Fort Madison.
Herreshoff, R. F. Racey.
Glenwood.
Oakland, Fred Seeger.
Holland.
Maxwell, J. D. Dieken.
Holstein.
Maxwell, Henry Schneckloth.
Humboldt.
Maxwell, Jackson Motor Co.
Kimballton.
Oakland, W. N. Esbeck.
Kingsley.
Maxwell, O. S. Pixler.
Oakland, O. S. Pixler.
Laurens.
Hupmobile, V. A. Noble.
Maxwell, V. A. Noble.
Le Mars.
Oakland, Plymouth Auto Co.
Mechanicsville.
Maxwell, Bock, Kohl & Dewald.
Millersburg.
Maxwell, Seaton Bros.
New Liberty.
Maxwell, E. J. Puls.
Orange City.
Oakland, A. Vander Welt.
Ottumwa.
Maxwell, Snow Auto Co.
Pulaski.
Maxwell, E. J. Hootman.
Red Oak.
Maxwell, Haas & Milledge.
Oakland, Haas & Milledge.
Remsen.
Maxwell, Speicker Bros.
Royal.
Maxwell, L. J. Hyelm.
Sexton.
Maxwell, Edward Johnson & Co.
Sheldon.
Maxwell, De Mots & Duistermars.
Sibley.
Maxwell, Puscher Eilders & Co.
Sioux City.
Herff-Brooks, Adams Auto Co.
Truro.
Maxwell, Truro Automobile Co.
Walker.
Maxwell, Barry & Cooper.
Washington.
Maxwell, T. C. Kyle.
Webster City.
Maxwell, Wilke Auto Co.
Westside.
Maxwell, Patterson & Campbell.

KANSAS.

Abilene.
Packard, E. E. Coulson.
†Baker, E. E. Coulson.
Admire.
*Kelly, Lyons-Orchard Co.
Alma.
Empire, G. A. Mueller.
Pathfinder, G. A. Mueller.
Arkansas City.
Moon, J. E. Sutton.
Atchison.
Oakland, H. H. Derrepugh.
Pathfinder, H. H. Derrepugh.
Reo, M. J. Norman & Co.
Beloit.
Packard, Beloit Auto Co.
†Baker, Beloit Auto Co.
Blue Mound.
Oakland, Burt & Son.
Burlington.
Oakland, Vesta Herrold.
Ceandale.
Oakland, Anderson Bros.
Chanute.
Packard, Chanute Auto Co.
†Baker, Chanute Auto Co.
Clifton.
Oakland, Nelson Bros.
Columbus.
Empire, D. F. Heter.
Pathfinder, D. F. Heter.
Concordia.
Packard, Concordia Company.
†Baker, Concordia Garage.
Council Grove.
Oakland, T. J. Crippen.
Everest.
Cartercar, Jensen Bros.
White, J. A. Lerson.
Fort Scott.
Maxwell, W. F. Pritchard.
Frankfort.
Oakland, Fundis & Fundis.
Greenleaf.
Cartercar, William Kennington.
Hays.
Hupmobile, E. H. Middlekauff.
Independence.
King, Chaney & Passauer.
Junction City.
Packard, Wenger & Brockman.
†Baker, Wenger & Brockman.
Kansas City.
*Kelly, Motor Sales Co.
Lawrence.
Moon, E. L. Charlton.
Oakland, Howard Henry.
†Baker, Lawrence Street Motor Co.
Leavenworth.
Reo, Evans Auto & Mch. Co.
Lincoln.
Oakland, Brill, Wisdom & Co.
Manhattan.
Empire, J. L. McCray.
Jeffery, D. C. Avery.
Pathfinder, J. L. McCray.
White, S. W. Forrester.
†Baker, Whitelock Garage.
McPherson.
Packard, Talbot & Gilson.
†Baker, Talbot & Gilson.
Minneapolis.
Packard, Gage Auto Co.
Reo, L. A. Smith.
†Baker, Gage Auto Co.
Natom.
Maxwell, A. H. Krueger.
Olathe.
Moon, H. H. Case.
Oakland, Olathe Auto Co.
Oswego.
King, J. F. Dean.
Parsons.
Packard, C. E. Ervin.
†Baker, C. E. Ervin.
Pittsburg.
Jeffery, Mayhew & Mumm.
Riley.
Maxwell, H. H. Gravenstein.
Salina.
Pathfinder, Burke & Schindler.
Scranton.
Empire, Sappensield & Co.
Maxwell, A. A. Hanna.
Pathfinder, Sappensield & Co.
Stafford.
Oakland, R. J. Fuller Garage Co.
Tipton.
*Kelly, Merger & Corpstein.
Topeka.
Enger, Auto Sales & Supply Co., 526 Quincy St.
Moon, Richmond Auto Co.
*Kelly, J. F. Billings Auto Co.
Valley Falls.
Cartercar, F. C. Lewton.
Wichita.
Moon, H. W. Schroeder.
Oakland, Oakland Auto Co.
Winfield.
King, A. E. Hudson.
Marathon, Hutchinson-Richardson Auto & Realty Co.
Wollington.
Oakland, Ash Implement Co.

KENTUCKY.

Augusta.
Case, J. R. Carter.
Bardstown.
Case, J. R. Grigsby & Son.
Hupmobile, Bardstown Garage.
Bowling Green.
Case, Warren Hdwe. Co.
Brooksville.
Hupmobile, Dr. W. E. Corliss.
Carrollton.
Case, C. Deweese.
Central City.
Buick, Barnes Auto Co.
Cynthiana.
Case, Williams & Giles.
Dawson Springs.
Buick, R. S. Hunter.
De Mossville.
Maxwell, Hopkins & Hopkins.
Fulton.
Jeffery, I. H. Read.
Greenville.
Hupmobile, J. P. Morgan.
Harrodsburg.
Hupmobile, Walter Martin.
Henderson.
Hupmobile, W. H. Fitzhugh.
Hopkinsville.
Case, Sam Metcalf.
Horse Cave.
Hupmobile, Horse Cave Garage.
La Center.
Maxwell, Holland & Frazier.
Lancaster.
Case, J. R. Mount & Co.
Hupmobile, J. C. Storms & Son.
Lexington.
Hupmobile, Kentucky Motor Sales Co.
Jeffery, C. O. Updike.
Louisville.
Cole, Standard Auto Co.
Empire, Hiter Motor Car Co.
Metz, Motor Sales Co.
National, Hiter Motor Car Co.
Paige, Motor Sales Co.
Regal, Standard Auto Co.
Reo, Standard Auto Co.
Winton, Thomas Garage.
*IHC, Thomas Garage.
Middlesboro.
Buick, Brashear & Brummett.
Mount Sterling.
Buick, Stone & Flora.
Murray.
Buick, E. D. Miller.
Newport.
Oakland, Newport Livery & Gar. Co.
Owensboro.
Case, Jesse & Forgy.
Hudson, Elmer Little.
Hupmobile, Harry Bortorf.
Paducah.
Hudson, Kentucky Auto & Mch. Co.
Hupmobile, Kentucky Auto & Mch. Co.
Paris.
Case, Redman Bros.
Shelbyville.
Buick, William Burnett.
Hupmobile, Guy S. Wells & Son.
Stanford.
Hupmobile, Weber Imp. & Auto Co.
Williamstown.
Buick, Williamstown Motor Car Co.
Winchester.
Buick, Winchester Garage.
Case, People's Motor Co.

LOUISIANA.

Wilburton.
Hupmobile, Putman Bros.

MAINE.

Augusta.
Haynes, W. S. Ladd.

MARYLAND.

Baltimore.
Ford, Radcliffe Jones.
Chestertown.
Maxwell, J. H. Sides.
Preston.
Maxwell, J. L. Covey.

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MASSACHUSETTS.

Boston.
Car-Nation, W. S. Doan & Co., 1112 Boylston St.
Keeton, W. S. Doan & Co., 1112 Boylston St.
Maxwell, W. S. Doan & Co., 1112 Boylston St.
‡Twombly, H. Ross Maddocks.
Franklin.
Oakland, John Stobbart.
Holyoke.
Cartercar, Percy M. Alden.
Metz, Percy M. Alden.
Lawrence.
Chalmers, C. E. Benoist.
Hupmobile, Harrison Turner.
Moline-Knight, Harrison Turner.
New Bedford.
Velie, Chamberlain's Garage.
North Adams.
Oakland, F. L. Rand Auto Co.
Pittsfield.
Maxwell, H. F. Shaw, 983 Dalton Ave.
Oakland, Fred Smith.
*Koehler, G. J. Andler.
Somerville.
Herff-Brooks, Ryan & Soracio.
Marathon, Ryan & Soracio.
‡Economy, A. G. Norton.
Springfield.
Grant, United Auto Co.
Studebaker, Blue Ribbon Garage Co.
†*G. V., General Vehicle Co.
Winchester.
Buick, Mystic Valley Garage.
Worcester.
Briscoe, E. J. Kehoe.

Krit, Mitchell K. Maykel.

MICHIGAN.

Adrian.
Maxwell, Benjamin Blain.
Alpena.
Maxwell, C. F. Steele.
Battle Creek.
Oakland, W. E. Teeters.
Clarksville.
Maxwell, Getty & Roth.
Detroit.
Jeffery, W. H. Weber.
Iron Mountain.
Buick, Andrew Bjormkan & Sons.
Iron River.
Maxwell, Lindwall & Lindstrom.
Ishpeming.
Oakland, J. C. Forell.
Jackson.
Maxwell, T. J. Moon & Co.
Mount Clemens.
Oakland, John Essig.
Mount Pleasant.
‡Princess, T. H. Battle.
Negaumee.
Oakland, J. J. Wentla.
St. Clair.
Maxwell, A. A. Sewart.
St. Joseph.
Herreshoff, Millard Lucker.
South Lyon.
Maxwell, Challis & Smith.
Weberville.
Maxwell, Dear & Marshall.

MINNESOTA.

Austin.
Maxwell, C. J. Cristie.
Blue Earth.
Maxwell, Quiggle Bros.
Cannon Falls.
Oakland, John J. Anderson.
Conger.
Maxwell, Conger Auto Co.
Ellsworth.
Maxwell, Meester Bros. Auto Co.
Lake Benton.
Overland, Anderson & Schardin.
Madison.
Hupmobile, Martin Hanson.
Minneapolis.
Briscoe, Stimson Automobile Co.
Ford, Charles Wilber.
Lambert, C. & S. Motor Co.
Norwalk, Clifford G. Davies.
Rayfield, New England Furn. & Car. Co.
White, Osborne J. Merritt, Inc.
*Dorris, Ballard Auto Co.
*White, Osborne J. Merritt, Inc.
‡Prideman, R. Workman.
‡Princess, Palmer Cyclecar Co.
Porter.
Maxwell, Miller & Berg.
Sheburn.
Maxwell, A. D. Packard & Son.
Waterville.
Empire, Waterville Auto Co.
Webster.
Maxwell, Arneson Bros.
Wilmont.
Maxwell, Wilmont Auto Co.

MISSISSIPPI.

Water Valley.
Oakland, W. T. Trusty.
Waynesboro.
Maxwell, R. W. Fagen & Co.

MISSOURI.

Ardmore.
Metz, Frank M. Mabrey.
Blythesville.
Empire, White & Smith.
Pathfinder, White & Smith.
Bosworth.
Chevrolet, Cabble & Young.
Brookfield.
King, A. C. Carpenter.
Cameron.
Oakland, R. H. Holloway.
Carruthersville.
Hupmobile, C. D. Robinson.
Carthage.
Chevrolet, Lampher Carriage & Auto Co.
Centralia.
Cartercar, Lyons Auto Co.
Clinton.
Hupmobile, Charles H. Pearson.
Cole Camp.
Cartercar, Rudolph Meyer.
Columbia.
Reo, West & Venatta.
Denver.
King, Bram & Bros.
Dixon.
Metz, R. L. Rolens.
Eolia.
Reo, Buchanan & Gooch.
Gallatin.
Cartercar, G. P. Netherton.
Reo, J. P. Miller.
Garden City.
Cartercar, J. W. & G. W. Nelson.
Glasgow.
Cartercar, Glasgow Garage.
Hamilton.
Oakland, G. N. Haynie.
Reo, G. N. Haynie.
Harrisonville.
Chalmers, Scruggs & Van Riper.
Hupmobile, W. D. Russell.
Hermann.
Maxwell, C. Eberlin & Son.
Higginsville.
Hupmobile, Muelder-Rehkop.
Hopkins.
Oakland, George Ulmer.
Houstonia.
Reo, Voigt Bros.
Independence.
Empire, C. W. Lattimer.
Jefferson City.
Maxwell, Tanner Bros.
*Kelly, Capital Equipment Co.
Joplin.
Cartercar, Rightway Auto Co.
Packard, Kleinschmidt & Hemphill.
White, Davis Auto Co.
†Baker, Kleinschmidt & Hemphill.
Kansas City.
Buick, Hiatt Motor Co.
Marathon, Marathon Auto Sales Co.
*Dorris, Dey-Embry Motor Car Co.
*Knox-Martin, C. F. Rouze Motor Co.
‡Imp, Motor Cycle & Sales Co.
‡La Vigne, Roy Kendall.
Kimmswick.
Paige, O. G. Ohelm.
King City.
Maxwell, E. L. Culver.
Lamar.
Reo, A. M. McCrea & Co.
Lexington.
Moon, E. F. Cox.
Reo, Santa Fe Trail Garage Co.
Linneus.
Oakland, Riddle & Mace.
Madison.
Marathon, LeRoy Haden.
Milan.
Cartercar, Mock & Dodson.
Moberly.
Maxwell, F. J. Williams.
Paige, F. J. Williams.
†Baker, E. E. White.
Monroe City.
Reo, Woodson & Graham.
New Franklin.
Chevrolet, Carson & Wayland.
KisselKar, Carson & Wayland.
Paris.
Reo, C. F. Pelsue.
Pelva.
Chovrolet, Xander & Kimbley.
Pleasant Hill.
Oakland, Oakland Sales Co.
Polo.
Cartercar, J. B. Van Olinda.
Princeton.
Reo, F. A. Lambert.
Ridgeway.
King, B. A. Curtis.
Shelbina.
Dorris, D. D. Stewart.
Smithville.
Cartercar, E. C. Colby.
Empire, Burke & Edwards.
Pathfinder, Burke & Edwards.
Spickard.
Cartercar, Wilson & Wilson.
Springfield.
Chandler, J. E. Atkinson.
King, H. E. Seeley, 327 S. Jefferson St.
†Baker, Jess & Sturdy.
Stanberry.
Oakland, Tennant Bros.
St. Joseph.
King, H. Kimmet.
†Baker, Selden-Maxwell Co.
‡Imp, Buckingham & Elfred.
St. Louis.
Briscoe, Weber Imp. & Auto Co.
Haynes, Automobile Clearing House, 3952 Olive St.
Imperial, Oldsmobile Co. of Mo.
Pathfinder, Pathfinder Auto Co.
Westcott, Paine Auto Co.
*Atterbury, Southern Auto Co.
†*Buffalo, Electric Garage.
*Hewitt, Brinkman Motor Car Co.
*Mack, Brinkman Motor Car Co.
*Mogul, Mogul Sales Co.
*Republic, Paine Auto Co.
*Vulcan, Mogul Sales Co.
†Detroit, Electric Garage Co.
‡Comet, Columbia Motor Co.
‡Imp, Oldsmobile Co. of Mo.
‡La Vigne, Oldsmobile Co. of Mo.
Trenton.
Reo, A. Frake.
†Buffalo, Trenton Motor Car Co.
Wellington.
Cartercar, John Gausman.
Wentsville.
Maxwell, Boehl & Thiemann.
Weston.
Jeffery, Weston Auto Co.
Williamstown.
Maxwell, A. T. Ragan.

MONTANA.

Forsyth.
Franklin, Lindburg & Sickler.
Joplin.
Maxwell, M. B. Meagher.

NEBRASKA.

Alda.
Maxwell, W. B. Rolston.
Atkinson.
Oakland, C. E. Havens.
Aurora.
Oakland, Hockenbray Auto Co.
Belden.
Maxwell, Mitchell & Griesel.
Bloomfield.
Oakland, J. B. Gossard & Co.
Byron.
Maxwell, R. C. Reinke.
Cedar Rapids.
Maxwell, Mensborn Bros.
Chambers.
Oakland, F. A. Barnard.
Douglas.
Oakland, F. B. Enyart.
Hebron.
Ford, H. G. Wilson & Sons.
Holdrege.
Oakland, Western Motor Car Co.
Lexington.
Oakland, O. K. Jones.

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Neligh.
Maxwell, Winn & Wilson.
Oakdale.
Oakland, H. L. Ingalsbe.
Omaha.
Briscoe, C. W. McDonald.
Papillion.
Oakland, Charles Snazel.
Pierce.
Oakland, W. F. Lierman.
Plymouth.
Oakland, Nispel & Metcalf.
Ponca.
Maxwell, W. E. Andrews.
Potter.
Cartercar, C. A. Perkins.
Metz, C. A. Perkins.
Tilden.
Maxwell, Fred Ritter, Jr.
Verdigre.
Maxwell, Jecminek & Son.
Wakefield.
Maxwell, Olaf Wendell.
Wauneta.
Oakland, C. E. Johnson.
Wolbach.
Oakland, W. R. Peck.

NEW HAMPSHIRE.

Manchester.
Herreshoff, H. L. Lamprey.
*Koehler, Hanover St. Garage.
Suncook.
Ford, Hillman Garage.
Oakland, Hillman Garage.
Paige, Hillman Garage.

NEW JERSEY.

Blairstown.
Maxwell, Louis Stout.
Long Branch.
Maxwell, A. Lustbaum.
Malone.
Maxwell, Burt Brown.
Newark.
Briscoe, J. W. Mason.
Maxwell, F. K. Crowley.
‡Twombly, Haag & McLaren, 144 Mulberry St.
Paterson.
Hupmobile, Edwards & Yule.
Trenton.
*Koehler, C. B. Tomlinson.

NEW MEXICO.

Albuquerque.
Oakland, Milford Motor Co.
Gallup.
Hupmobile, C. L. Day.

NEW YORK.

Addison.
Maxwell, L. J. Haynes.
Amsterdam.
Jeffery, W. H. Bell.
Bombay.
Maxwell, C. H. Barlow.
‡La Vigne, C. H. Barlow.
Buffalo.
Briscoe, Monroe Motor Car Co.
Canajoharie.
Ford, Spraker & Rapp.
Canarrega.
Maxwell, A. F. E. Mihlenbacher.
Elmira.
Hudson, Southern Tier Motor Co.
Glen Falls.
Grant, F. F. Newberry Co.
*Koehler, F. F. Newberry Co.
Ithaca.
Maxwell, E. J. Trapp.
Middletown.
Saxon, Evans & Shann.
Monroe.
Maxwell, Central Garage.
Narrowsburg.
Maxwell, Sidney B. Dexter.
New York.
Benz, Benz Auto Sales Co.
Briscoe, Partridge, Clark & Kerrigan, Inc.
Herreshoff, Shipman, Ltd.
*Gaggenau, Gaggenau Auto Sales Co.
Norwich.
Jeffery, L. A. Cevasco.
Nyack.
Herff-Brooks, G. W. Goss, 97 S. Broadway.
Ogdensburg.
Jeffery, Percy W. Dawley.
Maxwell, Henry Robson.
Perry.
Maxwell, Frank Eaton.
Prattsburg.
Maxwell, Fred D. Clark.
Rochester.
*Adams, C. E. Shannon, 125 Mill St.
Watertown.
Briscoe, Edwards Auto Co.
Watervliet.
Herreshoff, E. F. Wilcox.
Webster.
Maxwell, L. J. Bonenblust.
White Plains.
Maxwell, White Plains Garage Co.

NORTH CAROLINA.

Mooresville.
Hupmobile, Fred H. Freeze.
Newburn.
*Koehler, D. H. Gaskins.

NORTH DAKOTA.

La Moure.
Maxwell, John Young.
Leland.
Chalmers, John Kloudt.

OHIO.

Akron.
Oakland, Louis Zimarik.
Athens.
Overland, Lastro's Garage.
Bedford.
Maxwell, G. A. Deisman.
Bucyrus.
Ford, A. L. Holloway.
Studebaker, H. A. Paxter.
Cambridge.
Maxwell, Arnold & Urban.
Camden.
Maxwell, Crauder & Pugh.
Canton.
Oakland, Monnot & Sacher.
Chillicothe.
Paige, Theodore Johnson.
Cincinnati.
Howard, R. C. Crowthers, 1815 Reading Rd.
Lexington, R. C. Crowthers.
*Koehler, Cochran & Co.
Cleveland.
Allen, Brown & Davis.
Columbus.
Allen, Snyder Auto Co.
Auburn, Pausch-Selbach Wagon & Auto Co.
Buick, Central Auto Vehicle Co.
Chevrolet, Daniel Motor Co., 868 High St.
Crescent, Craighead Motor Sales Co.
Detroiter, McCarty & Wells.
Velie, Spring Street Garage.
Dayton.
Franklin, F. B. Heathman Motor Co.
*Koehler, R. W. Kuhns Co.
Delaware.
Maxwell, C. A. White.
Erhart.
Maxwell, G. F. Gross & Co.
Forest.
Reo, N. J. Elder.
Hamilton.
Maxwell, Central Motor Co.
Hicksville.
Oakland, Good & Kimbel.
Jeromeyville.
Hupmobile, J. C. Clippinger & Co.
Oakland, J. C. Clippinger & Co.
Kenton.
Maxwell, J. W. Reddock.
Lancaster.
Cadillac, Leroy Huddle.
London.
Overland, London Auto Inn.
Paige, J. M. Boecker.
Lorain.
Maxwell, F. Burrer.
Mansfield.
Maxwell, Richland Motor Car Co.
Mantua.
Maxwell, Craft's Garage.
Marietta.
Abbott-Detroit, Jacob Spindler.
Marion.
Mitchell, Abel Auto Co.
Mechanicsburg.
Hudson, Culbertson Bros.
Milford.
Oakland, Interstate Motor Co.
Millersburg.
Maxwell, C. L. Godfield.
Newark.
Empire, Murray Connolly.
Mitchell, Auditorium Garage.
Oakland, American Mch. Co.
Studebaker, S. E. Forsythe.
New Lexington.
Buick, C. C. Dillow & Son.
Paulding.
Oakland, Paulding Auto Co.
Payne.
Maxwell, S. D. Newland.
Pioneer.
Maxwell, C. A. Dietz.
Richwood.
Maxwell, W. H. Conboy.
Ripley.
*Koehler, Cochran & Co.
Sandusky.
Packard, Lake Shore Tire Co.
Springfield.
Maxwell, P. T. Rathbun.
Studebaker, King Garage.
Sylvania.
Maxwell, Sylvania Auto Co.
Tiffin.
Studebaker, Summers & Miller.
Twinsburg.
Maxwell, George A. Deisman.
Upper Sandusky.
Hupmobile, Longabaugh Bros.
Oakland, Longabaugh Bros.
Urbana.
Mitchell, Only Garage.
Studebaker, Prince Garage.
Vinton.
Maxwell, Andrews-Mathews Auto Agency.
West Salem.
Hupmobile, Leroy-Smalley Auto Co.
Maxwell, Patterson & Campbell.
Oakland, Leroy-Smalley Auto Co.
Zanesville.
Maxwell, H. M. Schubach.
Mitchell, W. F. Roberts.

OKLAHOMA.

Bartlesville.
Oakland, S. C. Brady.
Chickasha.
Cartercar, Boone & Rickerts.
Cornish.
Maxwell, R. O. Dulaney.
Deer Creek.
Chevrolet, C. F. Eberle & Co.
El Reno.
Cartercar, W. J. Burns.
Muskogee.
Oakland, Oakland Sales Co.
Newata.
Cartercar, S. H. Littrell.
Sapulpa.
Cartercar, Bolon Bros.
Sentinel.
Cartercar, Bolon Bros.
Tulsa.
Cartercar, Clarence G. Eaton.
Franklin, Chapple Bros. Garage.
*Kelly, New State Auto & Sup. Co.

OREGON.

Hood River.
Maxwell, Howe & Ingalls.
Newburg.
Maxwell, L. M. Smith Garage.
Pendleton.
Maxwell, Rose & Brown.
Portland.
Saxon, Harry L. Keats.
The Dalles.
Maxwell, T. L. Dunsmore.

PENNSYLVANIA.

Bangor.
Hupmobile, Bray's Garage.
Beaver Falls.
*Koehler, J. A. Lindendorfer.
Berwick.
Hupmobile, R. E. Paden.
Erie.
Maxwell, East Side Garage.
*Koehler, Dickenson & Reeves.
Hanover.
Herff-Brooks, D. B. Lau.
Hickory.
Moon, Ross Motor Car Co.
Indiana.
Chandler, Clymer Motor Co.
Franklin, Clymer Motor Co.
Leetsdale.
Moon, F. H. Mohn.

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Madera.
Maxwell, Curry & Boone.
McKeesport.
Moon, J. T. Mooney & Son.
Meyersdale.
Maxwell, Meyersdale Auto Co.
Monnessen.
Moon, Monnessen Plumbing Co.
New Bloomfield.
Maxwell, James Miller.
Newcastle.
Maxwell, Lawrence Automobile Co.
New Freedom.
*Koehler, H. Curtis Krout.
Philadelphia.
Briscoe, M. J. La Roache.
Norwalk, W. Campbell, 2031 Market St.
Partin-Palmer, Colonial Motor Co.
*Koehler, H. R. Bruah.
Pittsburg.
Briscoe, Hiland Motor Co.
Pottsville.
Maxwell, Joseph Davenport.
Reading.
*Koehler, American Garage.
Rheems.
Krit, Landis Bros.
Reo, Landis Bros.
Scranton.
Herreshoff, B. E. Woodcock.
Vandegrift.
Moon, Whitacre & McCullough.
Waynesburg.
Oakland, Hoover Auto Co.
Wilkesbarre.
Hupmobile, John Zorzi.
Windber.
Herreshoff, Commer & Shafer.

SOUTH DAKOTA.

Brookings.
Maxwell, P. N. Pederson.
Elkpoint.
Ford, A. H. Ringsrud Auto Co.
Oakland, A. H. Ringsrud Auto Co.
Studebaker, A. H. Ringsrud Auto Co.
Lake Andes.
Maxwell, J. H. Bundy.
Lesterville.
Maxwell, A. O. Wagner.
South Shore.
Maxwell, Klix & Stomacher.
Sturgis.
Oakland, M. R. Dobbins.
Watertown.
Maxwell, Klix & Stomacher.
White Lake.
Oakland, W. B. Huebl.

AUTOMOBILE PATENTS GRANTED RECENTLY.

Windshield, Richard A. Brine, Boston, Mass.; No. 1,087,104. Filed Oct. 3, 1910.

Multiple-Cylinder Engine, Frederick R. Sunderman, Newburgh, N. Y., assignor to Sunderman Safety Carburetor Company, same city; No. 1,087,151. Filed April 6, 1912.

Power Tire Pump, Joseph H. Templin, Philadelphia, Penn.; No. 1,087,201. Filed May 3, 1912.

Vehicle Trailing Device, Don C. Bryan, San Diego, Cal.; No. 1,087,210. Filed May 24, 1912.

Packing Ring, Edward B. Campbell, St. Louis, Mo., assignor to Sta-Tite Packing Ring Company, same city; No. 1,087,213. Filed July 28, 1913.

Resilient Wheel, John J. Fahrney, Timberville, Va., assignor of one-third to John P. Burke, Harrisonville, Va.; one-sixth to John T. Helbert and one-sixth to Frank H. Driver, Timberville; No. 1,087,226. Filed Jan. 11, 1913.

Vehicle Jack, Edward W. McCarroll, Pittsburg, Penn.; No. 1,087,250. Filed July 7, 1913.

Armor for Pneumatic Tires, Charles Matson, Elizabeth, N. J., assignor of one-half to Ernest Huch and one-half to Rudolph Burkart, Aldene, N. J.; No. 1,087,312. Filed Nov. 4, 1912.

Sleigh Attachment for Motor Vehicles, Halvor E. Hoines, Lake Park, Minn.; No. 1,087,372. Filed April 7, 1913.

Lubricating Means for Two-Cycle Engine, Hermann Lemp, Lynn, Mass., assignor to General Electric Company; No. 1,087,387. Filed April 19, 1913.

Resilient Wheel, Robert A. Nicholson, Russellville, Okla., assignor of one-half to A. S. Nelson, Oklahoma, Okla.; No. 1,087,391. Filed Feb. 19, 1913.

Motorcycle Saddle, Philo G. Olds, Elyria, O.; No. 1,087,393. Filed Aug. 9, 1913.

Muffler, Otto F. Person, Erie, Penn., assignor to General Electric Company; No. 1,087,398. Filed Sept. 14, 1912.

Automobile Lock, John F. Hicks and Philip Kovsky, Philadelphia, Penn.; No. 1,087,446. Filed June 3, 1913.

Control Device for Motor Starters, Alden L. McMurtry, Sound Beach, Conn.; No. 1,087,454. Filed Jan. 31, 1912.

Compressed Air Starting Device, Malcolm P. Ryder, Springfield, Mass.; No. 1,087,465. Filed Feb. 14, 1912.

Vehicle Wheel Rim, Edwin Coupland Shaw, Akron, O., assignor, by mesne assignments, to B. F. Goodrich Company, same city; No. 1,087,467. Filed May 25, 1907.

Resilient Tire, Henry Wellstead, Evanston, Ill., assignor of one-half to M. Paul Noyes, Chicago, Ill.; No. 1,087,474. Filed Oct. 24, 1908.

Lamp Turning Mechanism, Nelson Maxfield, Malone, Tex.; No. 1,087,501. Filed Dec. 5, 1912.

Vehicle Spring, Morris A. Schuster, Oakland, Cal.; No. 1,087,512. Filed May 24, 1913.

Fender, Jokshan F. Whitmann, St. Louis, Mo.; No. 1,087,521. Filed Dec. 26, 1912.

Detachable Rim, Hugo C. Gibson, New York City, assignor to Firestone Tire & Rubber Company, Akron, O.; No. 1,087,534. Filed March 17, 1908.

Horn, Miller Reese Hutchinson, New York City, assignor to Lovell-McConnell Manufacturing Company; No. 1,087,538. Filed Dec. 7, 1909.

Four-Seated Closed Body, Harold H. Kennedy, Indianapolis, Ind., assignor to Waverley Company, same city; No. 1,087,540. Filed Aug. 12, 1912.

Combination Tail Light, License Plate and Holder, Elmer E. Poole, Boston, Mass. No. 1,087,548. Filed April 2, 1912.

Vehicle Brake, Charles Reiner, Philadelphia, Penn.; No. 1,087,553. Filed Aug. 30, 1913.

Internal Combustion Engine, Hugo J. Bachman, Denver, Col.; No. 1,087,566. Filed Jan. 28, 1913.

Demountable Rim, Joseph Augustus Anglada, New York City, assignor to Anglada Corporation; No. 1,087,628. Filed Dec. 13, 1911.

Gasoline Strainer, Liel W. Short, Boston, Mo.; No. 1,087,692. Filed June 18, 1913.

Elastic Metal Tire, Gustav Emil Dargatz, Kansas City, Mo.; No. 1,087,731. Filed Jan. 24, 1912.

Attachment for Car Roofs, Georg Frentzen, Aachen, Germany; No. 1,087,753. Filed April 10, 1913.

Timing Device, William M. Melling, Chicago, Ill.; assignor of 45-100 to Anthony Doerfler, same city; No. 1,087,803. Filed April 24, 1913.

Door for Automobiles, William G. Miner, Chatham, Va.; No. 1,087,809. Filed Dec. 4, 1911.

Motor, Joseph Leon Thivolle, Dijon, France, assignor to Constructions Industrielles Dijonnaises, same city; No. 1,087,470. Filed Aug. 13, 1912; original application July 26, 1911.

Internal Combustion Engine, Thomas P. Sitzler, Camden, N. J.; No. 1,087,841. Filed Feb. 21, 1912.

Spark Plug, Charles E. Talbert, Washington, D. C., assignor to Edwin C. Henn, Cleveland, O.; No. 1,087,897. Filed March 18, 1912.

Shock Absorber, Marshal D. Tillman, Wabash, Ind.; No. 1,087,898. Filed Aug. 30, 1911.

Radiator, Gardner E. Wheeler, New Haven, Conn., assignor to English & Mersick Company, same city; No. 1,087,899. Filed July 8, 1912.

Radiator, William Cleveland and Jacob R. Ockinga, Glenville, Neb.; No. 1,087,992. Filed Feb. 24, 1913.

Spring Wheel, William J. Luttrell, Honey Grove, Tex.; No. 1,087,960. Filed April 8, 1913.

Spring Wheel, Marius Mathiesen, San Antonio, Tex., assignor to Mathiesen Spring Cushion Wheel Company; No. 1,087,963. Filed Sept. 29, 1913.

Starting Mechanism, Hubert Meredith-Jones, New York City, assignor to Columbia Nut & Bolt Company, Bridgeport, Conn.; No. 1,087,965. Filed March 11, 1912.

Automatic Latch for Windshields, Herbert W. Fenton, Buffalo, N. Y.; No. 1,088,016. Filed Dec. 6, 1909.

Rotary Cylinder Engine, Clayton E. Frederickson, San Francisco, Cal., assignor of one-half to Grace C. Stenger, Berkeley, Cal.; No. 1,088,017. Filed Jan. 31, 1913.

Seat Support for Motorcycles, David James Johnston, Toronto, Ont., assignor to Militaire Auto Company, Cleveland, O.; No. 1,088,028. Filed Jan. 29, 1913.

Gaseous Fluid Mixer (Carburetor), Platt M. Orloff, Indianapolis, Ind.; No. 1,088,034. Filed Jan. 13, 1913.

Vibration Eliminator (Shock Absorber), William Reynolds, New York City; No. 1,088,035. Filed June 2, 1913.

Pawl and Ratchet Mechanism (in Jack), Frederick A. Strong, Bridgeport, Conn., assignor to American Chain Company, Sherrill, N. Y.; No. 1,088,043. Filed Dec. 31, 1912.

Speedometer Drive, Frank E. Watts and Donald T. Hastings, Detroit, Mich., assignors to Hupp Motor Car Company, same city; No. 1,088,048. Filed July 18, 1913.

Resilient Tire, Norbert L. Baker, Raymond P. Baker and John F. Baker, Elm Grove, W. Va., assignors of one-fourth to P. F. Forrester, Wheeling, W. Va.; No. 1,088,053. Filed Nov. 6, 1912.

Shock Absorber, William Reynolds, New York City; No. 1,088,093. Filed Oct. 11, 1912.

Electric Headlight, James M. Richardson, Highland Park, Mich.; No. 1,088,094. Filed Oct. 6, 1913.

Emergency Brake, Warren H. Innis, Jr., Sacramento, Cal.; No. 1,088,151. Filed April 10, 1913.

Detachable Tire Fastener, John D. Bowne, Jamesburg, N. J., assignor of one-half to William B. Harding, Westfield, N. J.; No. 1,088,200. Filed Feb. 1, 1913.

Carburetor, Maximilian Robert Lawrence, Manchester, England; No. 1,088,231. Filed April 16, 1913.

Brake, William F. Via, Huntington, W. Va.; No. 1,088,248. Filed Jan. 30, 1913.

Internal Combustion Motor, Julian S. Brown, Syracuse, N. Y.; No. 1,088,259. Filed June 19, 1911.

Explosive Engine, George Milne, Chicago, Ill.; No. 1,088,292. Filed Oct. 28, 1911.

Spring Equilibrator, George Lawson Robertson, Philadelphia, Penn., assignor of one-half to William C. O'Neill, same city; No. 1,088,298. Filed May 24, 1913.

Draft Anchor for Motor Vehicles, —— Maribo Chris Huff, Bowden, Alberta, Can., assignor of one-half to Roderick Thomas Washburn, same city; No. 1,088,344. Filed Dec. 18, 1912.

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FIRES OF THE MONTH.

Lester Lawton, Shirley, Mass.; garage; $500; automobile, $1200.

Bert Vance, New Bedford, Mass.; garage and automobiles, $5000.

Edward Heuer, 156 West Ninth street, Erie, Penn.; cars, etc., $7000.

Wheelock Auto Garage, Fargo, N. D.; building, $40,000.

Joseph T. Swords, 205 Queen street, Germantown, Philadelphia, Penn.; garage and touring car, $3000.

Price Garage, Elizabeth, N. J.; garage caved in, partly destroying 20 automobiles, $2000.

Motor Inn Garage, Water and Chatham streets, Austin, Ia.; garage and 10 automobiles.

Twelfth Street Garage, New York City; 35 automobiles.

Fred S. Voorhees, Long Branch, N. J.; garage, $9000.

A. Leo Weil, 5931 Howe street, Pittsburg, Penn.; garage, $5000.

Oldsmobile Company, 225 West 58th street, New York City; building and contents, $15,000.

W. R. Franzen, Lake drive and Bradford avenue, Milwaukee, Wis.; garage, $5000.

Dean C. Benter, Kelley street, Pittsburg, Penn.; garage and three cars. Also $2000 worth of tires destroyed. Total loss not stated.

KisselKar Company's Branch, 1300 Hennepin avenue, Minneapolis, Minn.; building and three cars damaged.

Thomas Swan Company, Broadway and Gallop avenue, Cleveland, O.; automobile top factory damaged.

Andrew Dow, Main street, Houston, Tex.; garage, $1000.

Peerless Tire Company, 1588 Broadway, New York City; stock and fixtures.

Valvoline Oil Company, Edgewater, N. J.; plant damaged and part of contents destroyed, $300,000.

John S. Robb, Christy street, Carnegie, Penn.; garage and three cars, $20,000.

Petrolea Motor Truck Company, Petrolea, Ont., Canada; building, pleasure cars and motor trucks.

Essex Garage, Lynn, Mass.; garage and nearly 100 automobiles. Automobile loss is estimated at $100,000 and the building at $20,000.

Johnson-Gewinner, Atlanta, Ga.; automobile supply store, $150,000.

Preibe-Mathews Carriage Company, Des Moines, Ia.; factory partly destroyed.

Canfield Garage, 718 Canfield avenue, Detroit, Mich.; garage and contents, $24,000.

Ralph Burton, 1421 Jefferson avenue, Detroit, Mich.; garage and a number of automobiles.

Autocar Sales & Service Company, 200 Trenton street, Baltimore, Md.; garage and contents, $50,000.

Totten Auto Company, 1708 Third avenue, Davenport, Ia.; garage.

F. M. Fender, 330 West 63rd street, Chicago, Ill.; garage and a large number of automobiles, $50,000.

ADDS KEMCO GENERATOR.

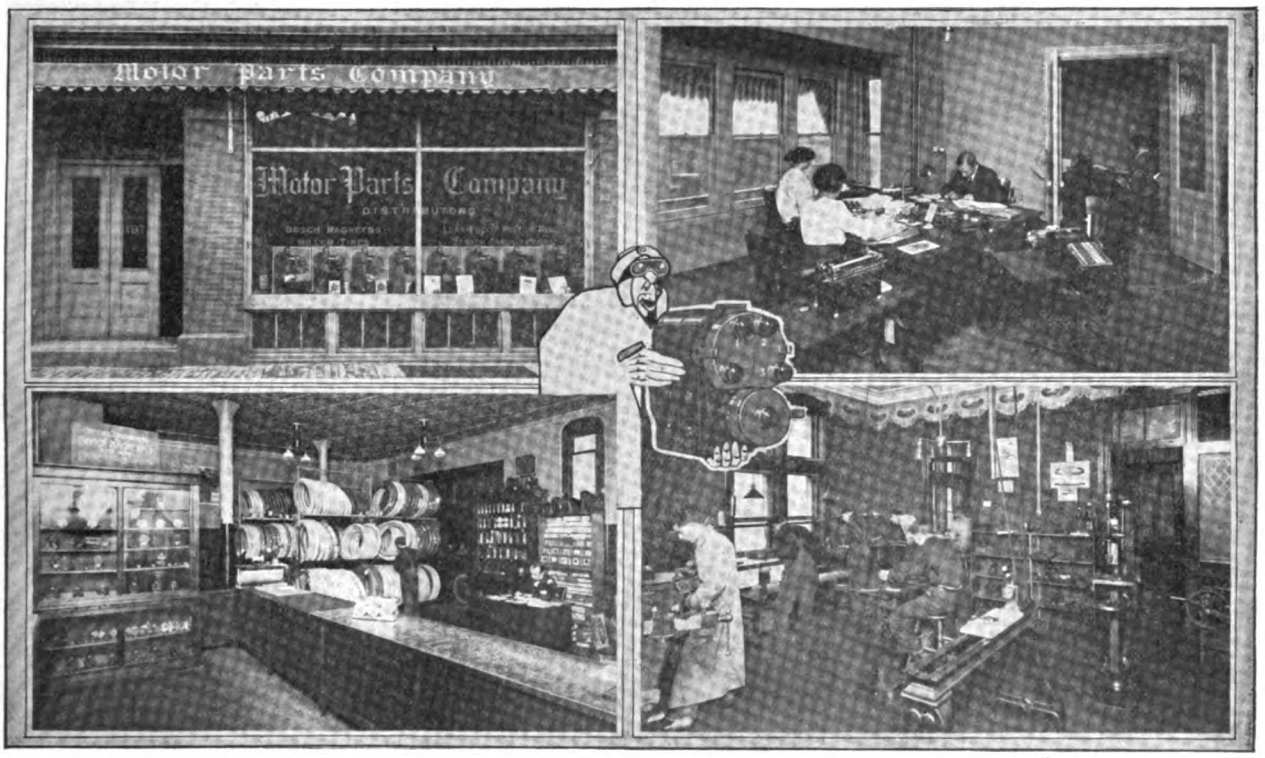
Motor Parts Company, New England Bosch Distributor, Also Handles Other Lines.

About a year ago the Motor Parts Company, which had been established in Philadelphia, entered the New England field as distributor for Bosch magnetos and plugs. Under the management of F. W. Wilkenning, the concern leased quarters at 185-187 Columbus avenue, where not only is it able to carry a large stock, but to maintain an admirably equipped laboratory in charge of expert mechanics and electricians, who are employed in overhauling work and remedying magneto troubles.

The success of this venture has been decidedly noteworthy, in that the company has been able to establish itself in a new territory in a comparatively short time. And it may be stated that the business which it has built up has warranted the addition of several well known lines, among which may be mentioned the Leak-Proof piston rings, Zenith carburetors, Mohawk non-skid tires, etc.

The most recent acquisition is the distributing agency for the Kemco fan type generator for lighting and starting systems. The company also is interested in the production of a new type of curtain fastener, which it expects to place in the market within a short time.

Within the past year the Motor Parts Company has found it necessary to locate eight supply stations in various sections of the New England territory, and has opened a well stocked branch in Springfield, Mass., at 143 Chestnut street.



Illustrating Some of the Departments of the Boston Branch of the Motor Parts Company, Distributor for Bosch Products, Leak-Proof Piston Rings, Zenith Carburetors, Mohawk Tires, Kemco Generators, Etc.

LIGHT DELIVERY CAR.

Motokart Has a Capacity of 400 Pounds and Retails for $365.

The Tarrytown Motor Car Co. Inc., with factory at Tarrytown, N. Y., and offices at 1790 Broadway, New York City, is manufacturing a light delivery car, termed the Motokart, which has many interesting features. The vehicle sells for $365 and the company has an interesting agency proposition for live dealers. The Motokart will appeal to those desiring rapid and economical delivery of merchandise.

The machine was specially designed for the work for which it is intended, and is equipped with a two-cylinder, four-cycle, water-cooled motor, rated at 12 horsepower. The wheelbase is 69 inches, adapting it to crowded traffic, and wire wheels are standard equipment. The tires are 26 by 2.5 inches, non-skid.

A friction drive is utilized, providing a multiplicity of speeds, and the springs are semi-elliptic. The body is a steel panel construction, combining durability with light weight, and the box dimensions are: Length, 50 inches; height and width, 32. This size is standard, but can be modified to suit special requirements at a slight extra cost. The capacity is 400 pounds.

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ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

A. A. A. FORD RADIATOR CAPS.

Sturdy Design Having Scalloped Edges and Letters.

The A. Auto Appliance Company, 114 West Exchange street, Providence, R. I., manufacturer and designer of Ford specialties, will market, after March 1, several designs of radiator caps for the model T Ford automobile. One of the qualities of the caps is that they are cast, not stampings. They are constructed of bronze and aluminum, and have scalloped edges, which not only add to the attractiveness of the design, but facilitate removal and replacement. The corrugations are made to fit the fingers, providing an excellent grip.

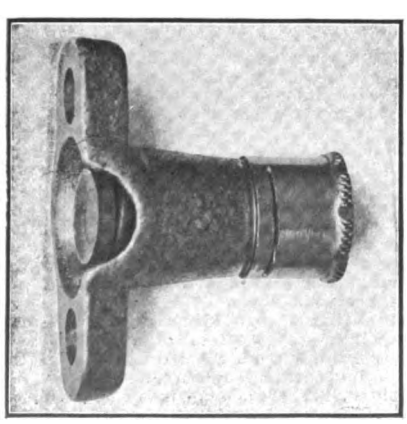
The threads are accurately cut and the maker guarantees that the caps will fit all model T Ford radiators. They are made in two styles, one a plain cap, and the other with an initial. Two finishes are supplied, a highly polished nickel and black and nickel. The A. Auto Appliance Company is prepared to manufacture radiator caps for all standard makes of cars.

DACO FORD ANTI-RATTLER.

Replaces Ball Socket Steering Gear Cap and Has Grease Cup.

The Danver Accessory Company, 18 Broadway, Pawtucket, R. I., manufacturer of Daco accessories for Ford cars, has brought out a new design of anti-rattler for the steering gear connecting rod. It differs from conventional devices marketed for taking up the lost motion in the ball and socket member, in that a grease cup is provided, making it possible to lubricate the working parts. A quality of the cup is that it locks automatically, preventing loss of the cup.

Play of the ball and socket is prevented by a coil spring, which carries a hardened steel plunger constructed to conform to the contour of the ball. This spring automatically maintains the proper tension at all times and absorbs shocks that would otherwise be communicated to the driver's hands. The maker states that adjusting means are not necessary as the plunger is hardened, and the parts subject to wear properly lubricated by the grease cup. The Daco combination anti-rattler and grease cup is constructed of high grade material, and all parts are accurately machined, insuring easy attachment to the steering gear connecting rod. It retails for $1.

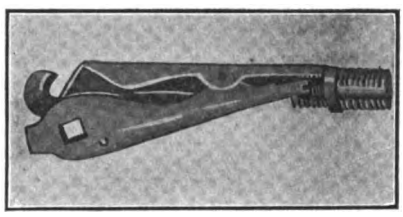


WONDER TIRE DEFLATOR.

A Five-in-One Practical Combination Pocket Tool.

The usual method of deflating an inner tube when in the casing and on the car, is to depress the valve plunger, a process that takes time. The Sprick Bros. Investment Company, Stickney, S. D., is manufacturing what is termed the Wonder tire deflator, which is a combination tool, in that it may be utilized for five different purposes.

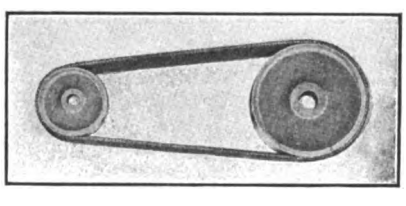
As will be noted by the accompanying illustration, one end of the tool can be clamped or snapped on the valve stem and by moving the lever toward the main body of the device the valve plunger is fully depressed, permitting the air within the inner tube to escape freely. The Wonder can be carried in the pocket and also serves as a Prest-O-Lite key, screw driver, valve plunger remover and bottle opener. It sells for 25 cents.



RUSCO FORD FAN BELT.

It Is Woven Endless and Is Uniform Throughout.

Few motorists give the fan that consideration it deserves. The majority are content if it operates at sufficient speed to keep the motor cool, and as a rule it is only when the cylinders show signs of heating that the tension of the belt is adjusted. With high speed motors, such as the model T Ford for example, it is essential that a high grade, properly adjusted fan belt be used.



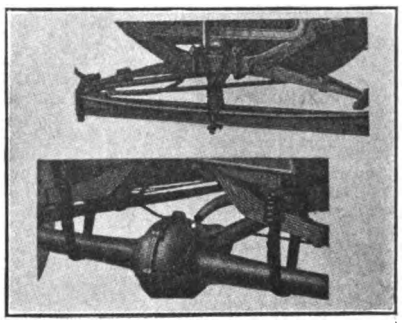
The Russell Manufacturing Company, Middletown, Conn., is producing a fan belt for the Ford car that is woven endless, and the maker states that it will not stretch and is not affected by heat, moisture, etc. It is guaranteed to be uniform throughout and to give perfect service. It retails for 30 cents and comes packed in a neat box.

The company also manufactures the Rusco brake lining, which is a high grade friction material, and made in various widths and thicknesses, also a Ford lining.

GEMCO SHOCK ABSORBER.

Ford Design Employing Coil Spring and Straps.

The Garage Equipment Company, Milwaukee, Wis., is marketing a shock absorber for the model T Ford car, which comes three to a set, two being utilized at the rear and one in front. It is claimed by the maker that the Gemco will control excessive spring action when traversing rough roads, impart easy riding qualities and prevent breaking of the springs.



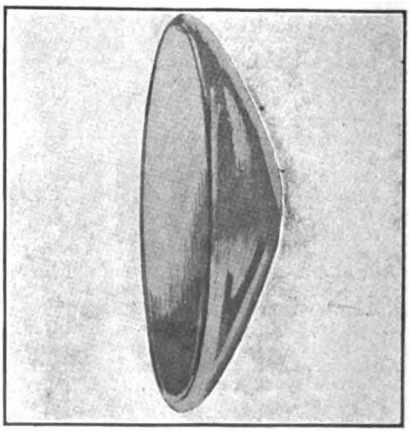
Both the front and rear members comprise spiral coils, two being used with each rear absorber. The coils are secured to the frame of the car, and from them extend adjustable, heavy straps, which pass under the rear axle. The upward movement, or recoil, which is held to be the most general cause of breakage, is restricted by the coils and strap.

The absorber used in front is fitted to the axle and the cross frame member, but its position is reversed; that is, the strap is placed over the cross frame and the coil clipped to the axle.

NATIONAL REFLECTOR.

A High Grade Design for Acetylene Headlights.

The National Reflector Company, Clarksburg, W. Va., is manufacturing the National reflector, a design for acetylene headlights, and the maker lays great emphasis on its durability and efficiency. It is made of blown glass, and it is stated that the double-wall construction gives both great strength and lightness. The silvering is inside of the reflector, a construction held to prevent cracking and peeling. That sudden changes of temperature will not injure the reflector, and that it will not become discolored in service, are claims made for the design.



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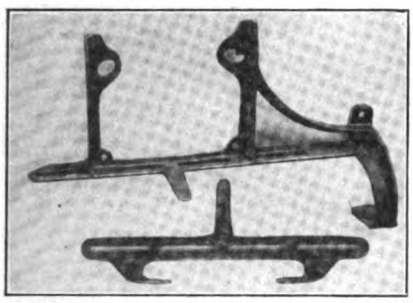
A. A. A. NUMBER HOLDERS.

Constructed for Front and Rear Plates for Ford Cars.

The securing of the license number plates so that they will conform to the laws, and so that they will not



vibrate or rattle, is more or less difficult with some types of machines. The A. Auto Appliance Company, Providence, R. I., is manufacturing two types of number plate holders for the model T Ford car, and the maker states that either can be fitted in a few minutes, and that the location of the holders is such as to comply with the automobile laws of all states.

The design for the front number plate is the smaller in the illustration, and it will be seen that it is provided with two arms or projecso spaced that the holder may be slipped over the threaded ends of the spring clips, and locked securely by the usual nuts. This makes for a rigid suspension. The number plate is bolted or secured by machine screws and nuts to the holder proper.

The larger design is for attachment to the rear spring, and it is secured in a similar manner to the front holder. Provision is also made for carrying the tail light, and a quality of the design is that the arm is sturdily constructed to withstand road shocks. The holders are made of malleable iron, and are finished in nickel or black enamel.

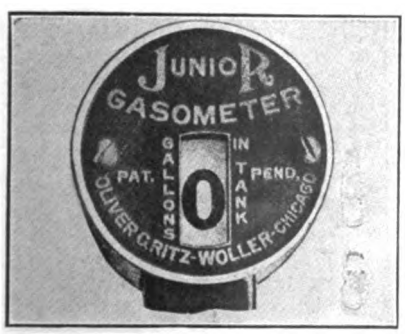
JUNIOR GASOMETER.

Dash Gauge Indicating Supply of Fuel in the Tank.

Among the numerous devices for indicating the supply of fuel in the gasoline tank is the Junior Gasometer, made by Oliver C. Ritz-Woller, 538 Clark street, Chicago, who also manufactures the Ritz Gasometer designed for large machines. The device is a compact, circular, dial like member, mounted on the dash, and the principle employed is that of a pneumatic control of the indicator.

The Junior is a smaller form, but operates on the same principle as the more expensive indicator, and the amount of fuel on hand is denoted by large figures. In the accompanying illustration zero is shown, denoting that the tank is empty, and it will be noted the figure is easily discernible.

The maker states that the Gas-



ometer will indicate every minute and correctly the amount of fuel in the container, whether the car is travelling up hill or down, over rough or smooth roads, as the operation of the device is not affected by the movement of the gasoline in the tank.

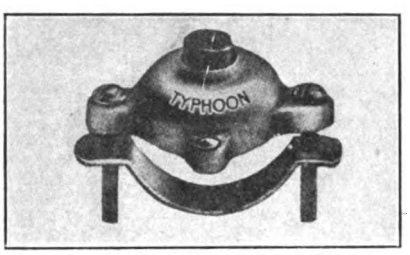
It is also claimed that a novice can install it on a car in a very short time. It is adaptable to both gravity and pressure feed systems, but when the latter is employed the price of the Gasometer is slightly increased.

TYPHOON PUSH BUTTON.

Compact Steering Wheel Fixture for Electric Horns.

A very neat and compact type of push button for operating an electric horn is the Typhoon, manufactured by the Typhoon Signal Company, Lincoln, Ill. One of the qualities of the design is that it may be attached to the steering wheel or to any flat surface, a clamp being provided for the first named installation. When attached to a flat surface, the clamp is discarded and two wood screws utilized.

The company is also marketing a steering wheel wiring fixture for electric horns. The leads are con-

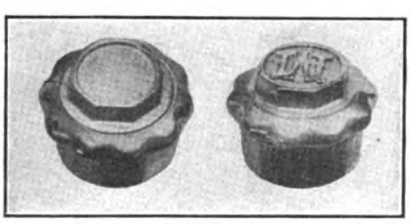


cealed, running through a tube alongside the column, with a bend on the upper end, being held by two brackets, and bringing the push button within easy reach of the driver. A flexible tube is employed at the bottom end of the fixture. It retails for 25 cents.

A. A. A. FORD HUB CAPS.

Substantially Constructed, Plain and with Initial Letters.

The A. Auto Appliance Company, 114 West Exchange street, Provi-



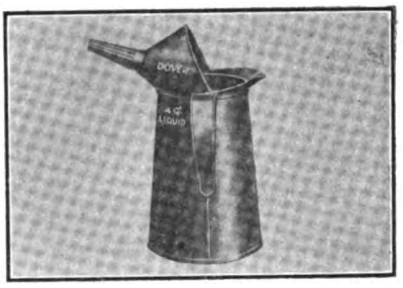
dence, R. I., maker of Ford specialties, is manufacturing several models of Ford hub caps, which are not only attractive, but are substantially constructed. They are cast in bronze, then machined to size, and the threads are accurately cut. The caps are of sufficient thickness to withstand severe service and one of the qualities emphasized by the maker is that they cannot be crushed when force is utilized to remove them if they become frozen.

The edges are scalloped and the usual hex head is provided for removing and replacing with a wrench. Each cap is nickel plated and highly polished. The A. A. A. Ford caps come plain and with initials, and their use considerably improves the appearance of the machine. The plain retails for $1 and the other designs sell for $1.25.

DOVER DUPLEX MEASURE.

Combination Funnel and Measure of Sturdy Design.

The Dover Stamping & Manufacturing Company, Cambridge, Mass., is marketing the Dover Duplex combin-



ation measure and funnel, which possesses several practical features, the most noticeable of which is a pouring lip with a centre channel. This permits of fast pouring and in quantities. The opposite side has a funnel, which points slightly upward, so that when the measure is set down all lubricant runs back into it instead of outside.

The design differs from usual Dover practise in that the handle is placed on the side, which makes for convenience when filling oil reservoirs in close quarters or cramped places. As with all Dover measures, it is of correct capacity and conforms with the laws of the various states.

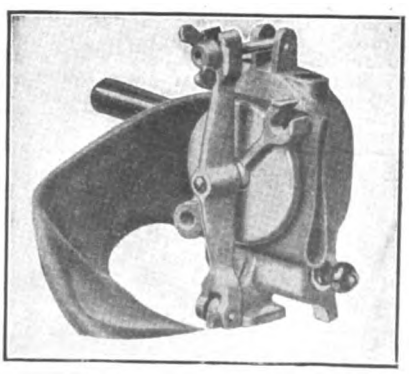
SHALER VULCANIZER.

Safety Vul-Kit Is Adaptable to Tires and Inner Tubes.

The C. A. Shaler Company, 850 Fourth street, Waupun, Wis., maker of vulcanizing equipment, has brought out the Shaler Vul-Kit vulcanizer, which is offered at a very attractive price. It is the result of considerable experimentation to develop a vulcanizer that could be carried easily in the tool box and be operated anywhere at any time, thus making it adaptable for roadside repairs.

The maker states that there is no danger of fire if the device be accidentally upset, and that the fuel supply is limited to that required for perfect vulcanization. To operate it is filled with fuel and lighted.

When a tube is to be vulcanized it is clamped against the vulcanizing surface by a swivelled plate inlaid with asbestos to retain the heat and to prevent pinching the tube. It is stated that a repair cannot be spoiled by clamping one side of the plate more tightly than the other. The handle is always cool, permitting of removing the vulcanizer from the work as soon as the repair is finished. The Vul-Kit is adaptable to casings and without removing the latter from rim. It retails for $3.50.



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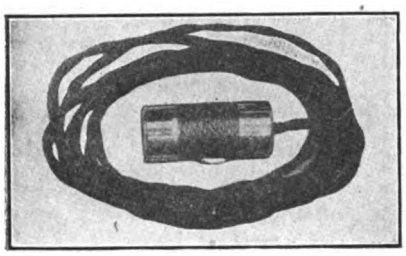
CENTURY CIGAR LIGHTER.

Operates on Any Six-Volt Battery and Is Nicely Finished.

The Century automobile cigar lighter is marketed by Mabey's Electric & Manufacturing Company, In-



dianapolis, Ind., and is a very neat, compact design. It is made to operate on a six-volt storage battery or dry cells, and comes finished in black leather with all trimmings nickel plated. The switch is well designed, is of the push type, and included with the equipment is seven feet of silk cord. The dimensions of the Century are one by two inches. In attaching to the car the maker recommends running the cord from the battery up through the floor at the back of the front seat so that the lighter will be convenient for all passengers.

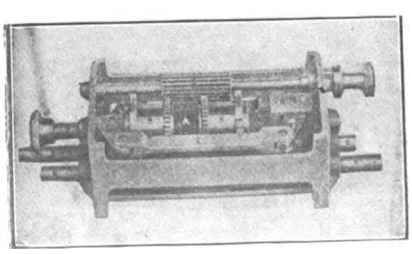
The company is also marketing an electric radiator heater for preventing freezing of the water in the cooler. The wiring plan is such that the usual storage battery and garage lighting system are utilized independently. It retails for $1.

BUNGAY GEARSHIFT.

Speed Changes Are Secured by Automatic Means.

The Bungay automatic gearshift is marketed by the Bungay Manufacturing Company, Brooklyn, N. Y. Use is made of the energy contained in a compressed helical spring to shift the gears, and through the medium of selector discs and rods. The spring is compressed by the final half movement of the clutch pedal, after which the proper gear may be selected by means of a lever on the steering column. By fully depressing the clutch pedal the energy of the spring is utilized to shift the desired gear through the selector rod and the shifter rod in engagement with it.

The spring employed to shift the gears is shown at A, and is held between two selectors, B, which are controlled through their gears meshing with the gear C on a rod connected to the steering column control. During the final movement of the clutch pedal, the shaft D is moved forward, compressing the spring A in either direction, according to the speed that is engaged, through the link E, levers F, and cross heads G and H. When in neutral, stops prevent the movement of the selectors and the release of the spring pressure. On the selectors being so turned, however, that one of their slots registers with a stop, the selector is allowed to move past the stop and engage a finger on one of the rods K, shifting the gear selected. The device is stated to weigh but 18 pounds and is adaptable to used machines.



A. A. A. FUEL TANK CAP.

Designed for Ford Cars and Has a Weather Proof Vent.

Among the new Ford accessories marketed by the A. Auto Appliance Company, Providence, R. I., is a neatly designed fuel cap for the roadster type of car having the gasoline tank exposed. One of the qualities of the cap is the use of a small tit in its centre, which the maker states prevents the entrance of water when the car is operated in stormy weather and when it is being washed.

Another feature of the design is the incorporation of a channel around the edge of the cap, it being intended to catch any fuel that may be splashed out through the vent hole, thereby preventing gasoline from run-

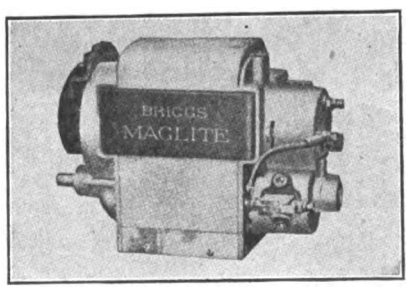
ning over the container. The caps are constructed of the best grade of bronze and aluminum, and the standard finishes are highly polished nickel and black enamel. The cap not only makes for convenience, but adds to the appearance of the machine.

BRIGGS MAGLITE GENERATOR.

A Combination Dynamo and Ignition Equipment.

The Briggs Magneto Company, Elkhart, Ind., maker of ignition specialties, is manufacturing the Briggs Maglite, which is a combined lighting generator and ignition unit. It is designed to be mounted on the base provided for the magneto, and is driven through the pump or other convenient shaft, at crankshaft speed when utilized in connection with four-cycle, four-cylinder motors.

The Maglite generates a direct current for charging the storage battery and for lighting the lamps. Its lower half consists of an armature revolving in an electro-magnetic field to generate current, and the field has two windings. One of these is out of



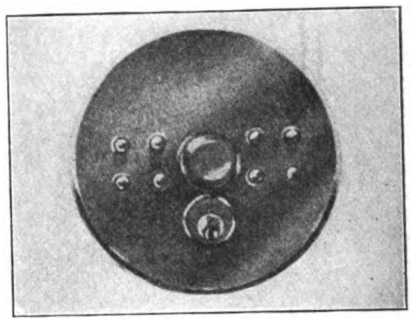
circuit when the unit is operating without the lamps. This is held to avoid overcharging the cells.

The upper half of the instrument is employed for ignition. It consists of a circuit breaker, similar in principle and construction to those employed on conventional magnetos. It mechanically closes and opens the circuit in exact synchronism with the motor, and has a wide range of advance and retard. In addition to this, it has a magneto distributor which automatically distributes the high-tension current to the spark plugs and according to the firing order of the motor.

THE LOCK-ALL.

Electric Switch Locking Lights and Ignition.

During the past six months a large number of locking devices, designed to prevent operation of the car by



others than those intended, have made their appearance. Among the latest is the Lock-All, an electrical device, manufactured by the H. P. B. Electric Company, 500 Fifth avenue, New York City. It is an electrical switch and lock combined, very compact and neat in appearance.

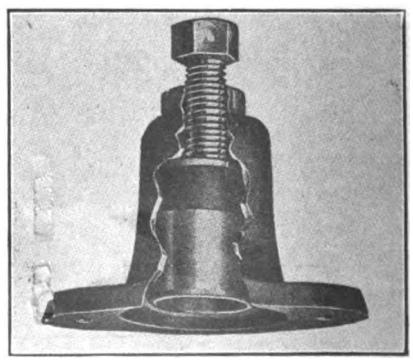
The Lock-All controls the operation of the lights, ignition and electric horn, and the lock utilized is a Yale. The switch is also fitted with a central knob, which, when kicked by the driver, serves to direct the current from the head to the side lights, or vice versa, without removing the hands from the steering wheel. It is stated that the lights may be locked in any combination, and that the ignition circuit can be broken or magneto grounded and locked to prevent use of the car.

MOSCO ANTI-RATTLER.

Designed Especially for Ford Steering Gear and Radius Rods.

The Motor Specialties Company, Waltham, Mass., with New York office at 50 Church street, is manufacturing the Mosco anti-rattling ball sockets, which are practical devices for eliminating the rattle of the joints at the ends of the steering gear connecting rods and the ends of the radius rods on Ford cars. They are made in two sizes, the larger being utilized with the radius rods.

The Mosco automatically takes up play and without restricting the movement of the steering linkage, which invariably results when the two halves of the joint are filed to eliminate lost motion. Adjusting means are provided by a screw member which moves a cup shaped plunger, decreasing the movement of the ball member. The resiliency of the anti-rattler is obtained by the use of a rubber pad which not only maintains an even pressure on the ball member, but absorbs all road shocks. The Mosco anti-rattler is constructed of high grade material.



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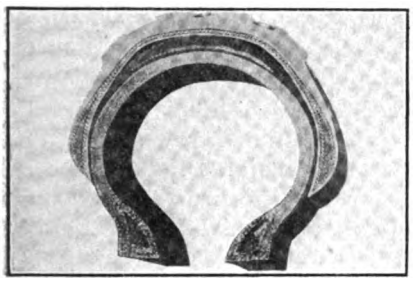
STANDARD TIRE PROTECTOR.

Reinforces Side Walls as Well as Tread of Shoe.

Announcement is made by the Goodyear Tire & Rubber Company, Akron, O., that it has formally taken



over the manufacture and sale of Standard tire protectors as a part of its automobile tire department. This action follows several years of watching, testing and investigation, and the company believes that there is a legitimate and useful field for the device.

The Standard tire protector is simply a tire tread, fashioned separately. It not only comes well down over the side walls of the casing to which it is applied, protecting them, but is so ingeniously constructed that when once applied it remains firmly in place without any other fastening than the inflation pressure of the tire to which it is applied and covers.

It is stated that it is quickly and easily applied, and that it cannot injure a tire carcass, as vulcanized repairing frequently does. It is also held to be available for service if the old casing gives out sooner than expected. The Standard is intended to obtain more mileage from shoes that are worn on the tread, but still strong as to side walls. It effects tire economy, especially in the larger tire sizes.

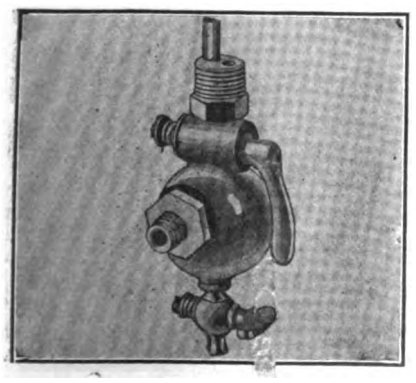
TRIO FILTER.

Made for Standard Models, Also Special Design for Ford Car.

The Trio Manufacturing Company, 1206 Bellevue avenue, Detroit, is marketing a combination sediment trap and gasoline reserve supply device which is intended to eliminate the necessity for carrying extra fuel. It is designed especially for those cars not equipped with auxiliary fuel tanks, and the maker states that the Trio not only insures a reserve supply of fuel, but makes a rigid tank connection.

It has a sediment trap to catch all foreign elements, and is also provided with a positive shut-off to the carburetor. A petcock at the bottom of the Trio permits of drawing fuel for priming purposes, etc.

The illustration shows the valve in a closed position. When the lever is turned to a forward position, the reserve supply is obtainable. With the

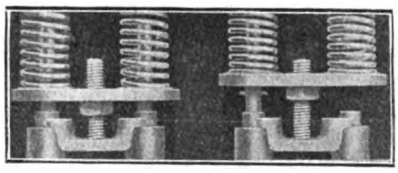


lever turned half-way over to an opposite position, the tank may be drained. The valve is of large dimension and is ground to a gasoline tight fit, and comes ready to install. It is stated that it may be fitted in 15 minutes and that the services of an expert are not required. The company is marketing a special design for Ford cars, which retails for $1.50.

PERFECT VALVE LIFTER.

Compresses Two Springs at Once and Is Designed for Ford Cars.

Winton L. Smith, 78 Clinton street, Newark, N. J., is marketing the Perfect valve grinding set, which is designed especially for the model T Ford motor. The equipment comprises the Perfect valve spring lifter, valve turning tool, wrench socket, grinding paste, gauge and complete instructions. The application and use of the valve spring lifter is shown in the accompanying illustration. It comprises a plate which fits under



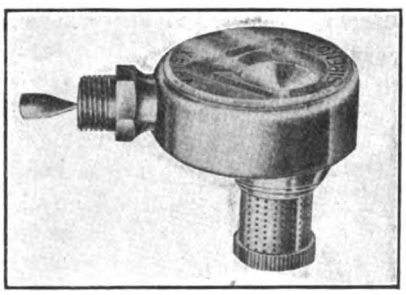
the spring washers and the lifter, which is fitted over the pushrod housing.

By rotating a nut on a threaded bolt integral with the lifter, two springs are compressed, enabling easy removal of the lock key. The wrench socket is utilized for displacing the cylinder bolts. The paste comes in two tubes, fine and coarse abrasive. The gauge referred to is utilized to determine the correct distance between the pushrods and the tappets. The equipment comes neatly packed and retails for $2.

THE VOTEX.

Automatically Admits Air to Intake Manifold, Weakening Mixture.

The Sireno Company, 20 Rose street, New York City, is marketing the Votex, which is fitted in the intake manifold between the carburetor



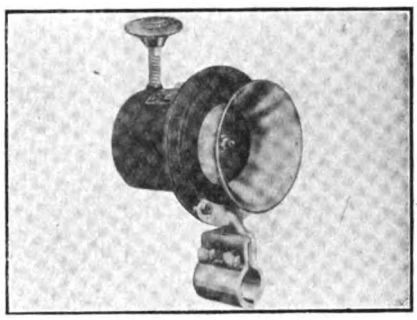
and the cylinders. It is held to be automatic in its action, delivering a certain amount of air to an imperfect mixture, and as required. The action of the Votex is stated to be as follows:

When the motor is operating idle, the Votex allows a small amount of air to enter the intake manifold, partially relieving the suction of the engine and weakening the mixture. When the throttle is opened quite wide the vacuum in the manifold is relieved and allows the Votex to close, enriching the mixture. When the motor gets up to speed the throttle is closed down and a very high vacuum is again created in the manifold, thus allowing the Votex to open and supply air, weakening the mixture to an economical point.

NEW KLAXON HORN.

Designed for Motorcycles and Is Manually Operated.

The Lovell-McConnell Manufacturing Company, Newark, N. J., maker of the Klaxon line of horns, has



brought out a model for motorcycles which is exactly like the regular hand Klaxon for automobiles except that it is fitted with a short projector and a special clamp for attaching to the busbar of the motorcycle, as shown in the illustration.

It provides the motorcyclist with an efficient signal, one that is operated without the service of batteries. It operates on the Klaxon principle of a vanadium steel diaphragm vibrated by a high speed cam wheel. In the case of the electric Klaxons this wheel is rotated by an electric motor; in the motorcycle design by a train of gears that attain high speed under the pressure of the pushrod. The new model has the true Klaxon note and is sold under usual Klaxon guarantee, covering service, etc.

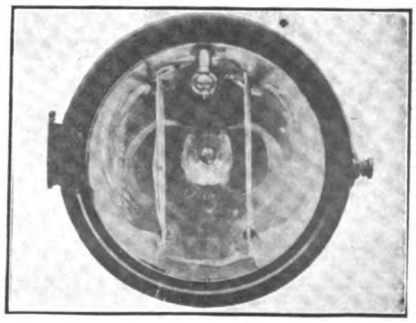
NODAZ.

Electrically Controlled Device for Eliminating Glare.

The Ward Leonard Electric Company, Bronxville, N. Y., maker of electric lighting and motor starting systems, is producing Nodaz, which is held to be a solution of the dazzle problem. In other words, the device permits the use of the electric headlights at full candlepower in the cities without conflicting with ordinances.

It comprises two pairs of translucent wings pivotally mounted in the reflector. These wings are opened and closed by magnets within the cover of the lamp, and are operated by pressing a button. With the wings closed, there is no glare, but it is stated there is a strong, diffused light, sufficient for operating on country roads. Pushing another button opens the wings, obtaining the usual rays.

It is stated that whether the wings are folded or open, they do not perceptibly affect the efficiency of the bulbs, as they are very thin. The magnets controlling the device require but little current for operation; less than half that necessary with a horn, it is stated. One of the qualities of the Nodaz is that it may be attached to any headlight. In the illustration, the wings are shown folded. The Nodaz sells for $10.



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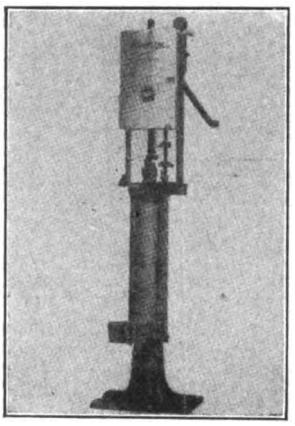
MACHINERY, TOOLS, EQUIPMENT AND SUPPLIES.

MANY proprietors of garages complain that it is impossible to prevent a shrinkage in handling gasoline, as more or less of the fuel is used in the repair shop, etc., and it is difficult to check up the amount utilized. The Charles H. Simerson Company, 4135 Hudson boulevard, West Hoboken, N. J., has been organized to manufacture the Pumplok, which is held to solve the waste problem and to possess other practical features.



Simerson Pumplok.

One of the qualities of the device is that it is stated it may be attached to a standard pump in 10 minutes by engaging the main shaft by means of a slotted shaft, the construction being retained in place by an adjustable clamp that is locked and sealed, as shown in an accompanying illustration. It not only prevents unauthorized drawing of gasoline, but checks the amount drawn by each person having access to the pump.

The drawing of fuel is made possible by the use of key checks, each person being supplied with a given number bearing his number or individual design. Consequently, each must account for as much gasoline as represented by the checks found in the Pumplok's receptacle. A simple tally sheet is utilized and the operator sets down the quantity drawn, and the price for cash or charge sales.

A separate counter is incorporated, showing tenths of a gallon, which may be adapted to single or double acting pumps and to indicate the actual amount of gasoline drawn, whether in even gallons or fractions. A separate key check is required for each gallon or fraction thereof, and the pump is locked at the completion of each drawing, so that the next operator cannot take advantage of the fact that only a fractional quantity was drawn by the previous workman. The amount drawn is set down on the tally sheet as shown by the counter.

If any extra checks appear the attendant whose number they bear can be called to account. This prevents charge sales or even cash sales from being forgotten. It is stated by the inventor that it is impossible to remove the pump gear housing with its gears, and draw fuel by actuating the rack in other than the usual manner.

ACCO LUBRICANTS.

The A. C. C. Oil Company, Boston, is marketing Acco, which is held not to be a grease, but a lubricant composed of mineral compounds scientifically blended, free from mineral or animal acids and corrosive action. It may be termed a **universal lubricant**, in that it is used for everything requiring lubricating, from the largest to the smallest gear, and all components of the automobile, motor truck or motorcycle, except the motor.

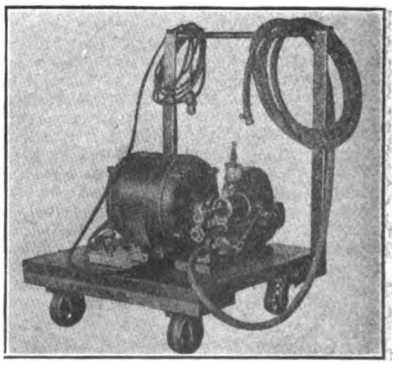
The company calls particular attention to the adhesive-cohesive qualities of Acco, stating that it follows the gears and is not thrown off by centrifugal force. It is also claimed that it does not channel and has a very high fire test, the minimum flash point being about 600 degrees Fahrenheit. It is pointed out that Acco forms a film around the balls and rollers of bearings and positively lubricates them, no matter at what angularity they may be.

Because of its adhesive qualities it is stated that less is needed to lubricate properly, making for economy. Another claim made for Acco is that it quiets metallic sounds and gear noises and is not affected by high temperatures or pressure. The maker states it can be removed easily from any metal or surface by paper or cloth, as no solvent is needed to displace it. Acco is put up in five, 10, 25 and 50-pound packages and comes in glass jars, in tins and in half-barrels and barrels.

BASTIAN GARAGE OUTFIT.

The General Utility Company, 1326 Ogden street, Philadelphia, is marketing a line of air compressors for garages and service stations. These include belt and gear driven pumps and equipments with and without tanks. That shown in an accompanying illustration is the model E, an electrically operated outfit, which is without a tank and is held to be very efficient and economical of current.

The outfit, which includes pump, electric motor, gauge, safety valve, 20 feet of hose, indicating starting switch, 20 feet of cable and plug, is mounted on an oak platform 22 by 24 inches. The equipment is moved easily about the garage, as it is mounted on rollers, suitable handles being provided. The company will forward catalogue on request.



Bastian Model E Garage Outfit.

NEW SIZES IN DAYTON TIRES.

The Dayton Rubber Manufacturing Company, Dayton, O., maker of the Dayton airless tire, announces that it is ready to supply its product in 28 by three and 30 by three-inch sizes for cyclecar service.

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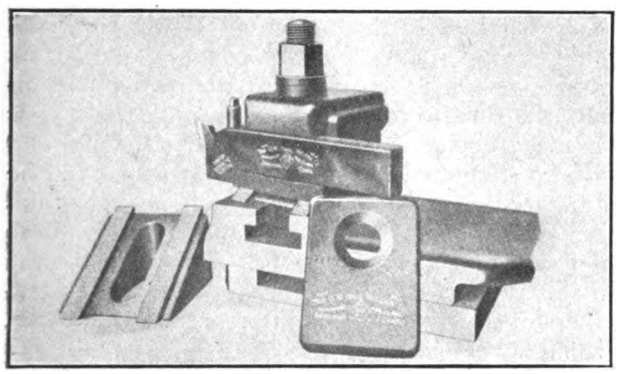
O. K. TOOL POST.

The O. K. Toolholder Company, Shelton, Conn., of which C. Hilterbrant, 99 Nassau street, New York City, is direct representative, is manufacturing the O. K. tool post holder, shown in an accompanying illustration. It holds the tool on the side, thus enabling one to get up near the chuck or face plate. With this tool post the tool is adjusted vertically, thus maintaining the clearance on the cutting tool. The tool post swings around at any angle.

It is stated by the company that after placing it in the desired position, the process of tightening has no tendency to twist the tool post, and that the bolt is made to fit the T slot so that there is no danger of injuring the same. The nut is made to fit the tail stock wrench.

When it is necessary to grind the tool and it is desired to remove the tool or holder, the vertical adjustment is not affected. By swinging the tool post around at right angles and using a small V block, it is held that the design makes the strongest kind of a boring tool holder. All



O. K. Tool Post for Holding Tool on the Side and for Adjusting It Vertically.

parts are steel drop forgings, carefully machined, case hardened and interchangeable.

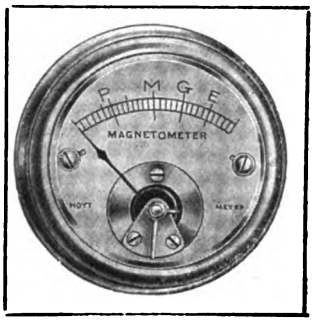
The O. K. is made in three sizes, the No. 1 post being suitable for 14 to 18-inch lathes, the No. 2 for 20 to 28, and the No. 3 for 30 to 40. The tool post No. 1 is adapted for holders from one inch to 1.5 high and any width, the No. 2 from 1.25 to 1.75 high, and the No. 3 from two to 2.5 inches high and any width.

The O. K. Tool Holder Company also manufactures the O. K. system of tool holders, and tools for lathes, planers, shapers, boring mills, etc.

HOYT FORD MAGNETOMETER.

The Hoyt Electrical Instrument Works, Penacook, N. H., maker of fine electrical indicating devices, has brought out a new magnetometer for the model T Ford which presents many practical features and is moderately priced. The Hoyt differs from other instruments utilized to ascertain the condition of the Ford flywheel magneto in that it is connected permanently in the circuit, being mounted on the dash. It is a sturdy little instrument, and is but two inches in diameter.

As will be noted by the accompanying illustration, the dial is calibrated, the letters indicating Poor, Medium, Good and Excellent. With the magneto operating, the indicating hand moves over the dial, indicating the condition of the generator at various speeds. The efficiency of the magneto is determined easily. After installing the magnetometer, readings at various speeds are taken, and by comparing these with those taken later, it is a simple matter to learn if the efficiency of magneto is not up to standard.



Hoyt Ford Magnetometer.

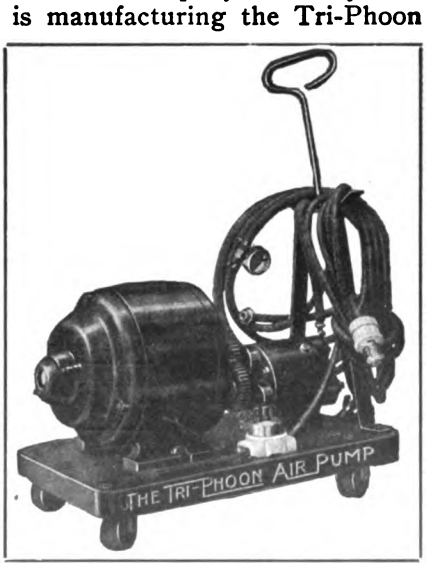
The Hoyt instrument is easily attached by drilling two .1875-inch holes in the dash and securing the studs by lock washers and nuts. The wiring is simple and the entire construction can be installed in a few minutes. The Hoyt is constructed with the same care and high grade material for which the product of this concern is noted. Each instrument is carefully tested.

K & B ADJUSTABLE WRENCH.

The Kilborn & Bishop Company, New Haven, Conn., is manufacturing the K & B adjustable wrench, which opens on an angle of 22.5 degrees with the handle, permitting of its use in places difficult of access with ordinary tools. All parts are interchangeable and carefully fitted. The movable jaw and handle are each a solid piece steel drop forging. The shape of the handle is such that the hand readily becomes conformed to it.

TRI-PHOON GARAGE PUMPS.

The Green & Swett Company, 737 Boylston street, Boston, is manufacturing the Tri-Phoon garage pump, which is not only moderately priced, but is very small and compact, occupying but little room in the garage. One of the qualities of the pump is that it does not require the use of a pressure tank, as tires can be inflated directly and very quickly. The cost of operating is slight.



Tri-Phoon Electrically Driven Garage Pump.

The pump is made in three and six-cylinder forms and the motor employed for the smaller

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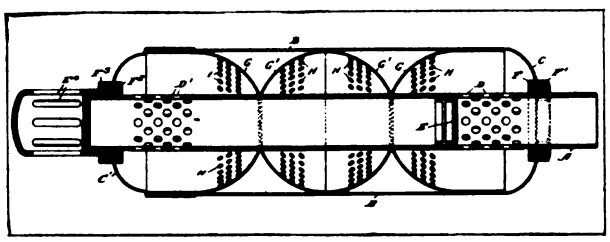
size is constructed for either a direct or alternating current. The six-cylinder unit is also marketed for either direct or alternating current.

One of the features of the Tri-Phoon is that it may be driven at a high rate of speed without injury to the working parts. As shown by the accompanying illustration, it includes a .25 horsepower electric motor, suitable length of flexible cord with plug, hose, pressure gauge and switch. The equipment is mounted on a substantial platform truck, which has a convenient handle for moving it about the garage.

The Tri-Phoon garage pumps are adapted for both private and public garages, and the guarantee is very liberal, the maker offering to replace free of charge any pump found to be defective or faulty in construction within a year. Descriptive matter will be supplied upon request.

STEINMETZ MUFFLER.

Joseph A. Steinmetz of the Janney, Steinmetz Company, Philadelphia, has been granted a patent for a muffler for internal combustion engines which is held to be very efficient in reducing noise and back pressure. The design, which is shown in section in an accompanying illustration, includes the usual outer casing, which is



Steinmetz Muffler, a Light Weight, Compact Design.

constructed of very light thin metal.

A small concentric tube passes axially through the larger member, and is provided with perforations, and partitions are included as indicated. Loosely mounted on the inner and fitting the outer tube, are oppositely turned perforated resilient rounded cups. These cups are so arranged that one receives the gases from the perforations, and partitions are included as in-sage of the gases is easily traced and it will be noted that they pass out into the open air through slots.

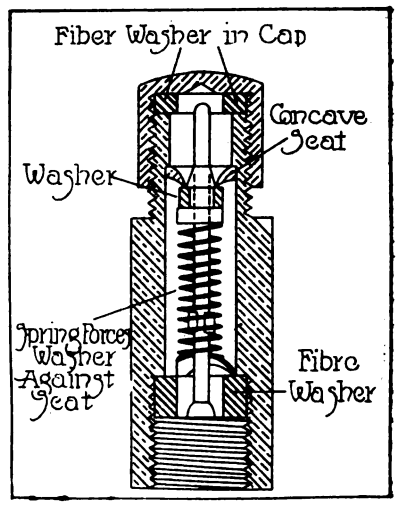
Features of muffler emphasized are: Light weight, easily disassembled and assembled for cleaning, etc.; efficient radiation of heat and the elimination of back pressure.

NEW BATTERY CATALOGUE.

The Electric Storage Battery Company, Philadelphia, is issuing a new catalogue, SL, describing the Exide battery utilized with automobile lighting and starting systems.

SMITH AIR VALVE.

The Smith Tire Valve Company, postoffice box 1965, Boston, is marketing the Smith easy pumping air valve, which is stated to require an almost imperceptible pressure to open in order to admit air into the inner tube of a pneumatic tire. It is designed to make easy the work of inflating shoes, and one of the qualities of it emphasized is that air is pumped into the tube from the beginning to the completion of the stroke of the pump. Ordinarily, the greater portion of the stroke is required to compress the air force open the conventional valve. The simplicity of the device is shown in an accompanying illustration.



Sectional View of Smith Easy Pumping Air Valve.

Not only does the Smith valve save time and labor, but it makes for tire conomy in that its case of operation insures that the owner will inflate the shoe to its proper pressure. It is a very compact device, being about an inch long and .375 in diameter. It is readily attached to the standard valve stem from which the cap and plunger are removed, as the Smith replaces these and performs their functions. The valves come in sets of five, are moderately priced, and are accompanied by the manufacturer's guarantee, which is very liberal.

AUTO-FLEX TUBING.

The National Metal Molding Company, Pittsburg, Penn., is manufacturing a new flexible tubing termed Auto-Flex. It is designed especially for enclosing wires utilized in electric lighting on motor cars, and fittings are also supplied. It is made in two forms, type A being made up of selected rigid fibre cord coiled upon itself in the form of a helix and tightly interwoven with very tough thread to form a tube, which is treated with a moisture proof compound. A covering of yarn is woven over the tube.

Type B is constructed in a similar manner, with the exception that the outer covering is braided and the mica finish is not used. It is utilized for wiring to the headlights or to any other point where the tube is exposed, and its surface is smooth for painting. Type A is employed for concealed work, such as under the hood or upon the chassis.

The fittings have been standardized, and particular attention has been paid to centralizing control and the distribution of the lighting circuits in one box and to the separation and arrangement of contact strips, so that connecting and testing is simplified.

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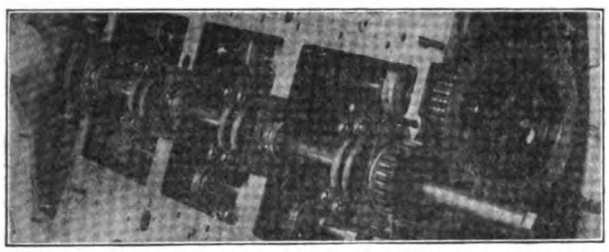
DETAILS OF MARTELL ALIGNING REAMER.

A TOOL that was originally designed for the reaming of automobile crankshaft bearings, the idea being to provide the repair man



Martell Device Shown Aligned to Ream Crankshaft of Packard Motor.

with a means of accurately aligning these bearings and saving time in the operation, is the Martell aligning reamer, recently placed on the market by the Martell Motor Company, 1928 Columbus avenue, Boston, Mass. The simplicity of the device has suggested possibilities along other lines, but its practicability has been demonstrated in the service above mentioned, in that it is stated that it has been found that better results can be accomplished with three or four hours' work than with the same number of days by the old hand method.

The parts of the device are shown herewith. A is an eccentric, flanged bushing that, in use, is mounted directly on a shaft. U is a short shaft used in reaming connecting rods, but the longer shaft for reaming crankshaft bearings is similar in every respect, except for length. The flanged portion of this bushing is provided with a radial slot, concentric to the surface engaging with the bore of B, which is another eccentric, flanged bushing in the bore of which A is an easy wiring fit. The flanged portion of B is provided with six tapped holes, concentric with the bore, and a cap screw B_1, passing through the radial slot in A serves to lock the two bushings together in any desired position. The edges or faces of the flanges are graduated, A having 19 divisions and B 20, which give a vernier reading in thousandths of an inch, the extreme limits being 0 and .095.

C is a conical bushing, the tapered portion of which is provided with a fine thread, 70 to the inch, which permits it to be screwed very firmly into the ends of the bearings or holes to be reamed. The bore of this bushing is ground to take the bushing B, and it is provided with four clamping screws to lock the position of B when the desired point is determined. The adjustable plug is shown assembled at V.

The reamer consists of two heads, D and E, carrying six blades in the slots, as shown in the assembly N. At either end of each of these slots are wedges S (enlarged) which engage the inclined surfaces of the blades I, J, K, and cause them to expand or contract as the adjusting nuts O, P, Q and R are moved in one direction or the other. T T are clamping nuts that hold the reamer head in any desired location on the crankshaft.

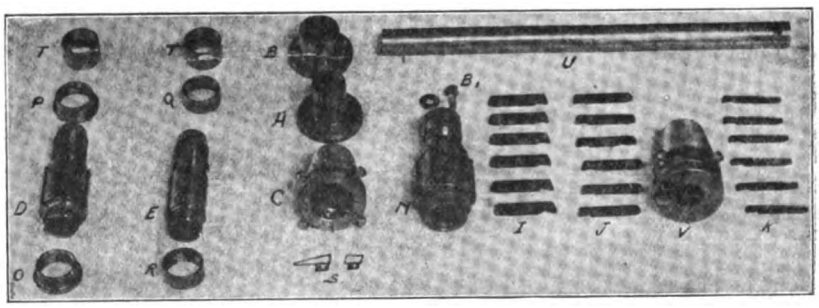
The other illustration presents the device aligned to ream the crankshaft of a Packard six-cylinder motor. This view shows the crankshaft gear mounted directly on the reamer shaft by means of a special bushing and the proper mesh of the gears is obtained by means of the eccentric bushings. The rear end of the shaft is then aligned to the clutch shaft bearing support at the extreme rear, and also aligned parallel to the top of the crankcase.

The blades of the reamer are made of non-shrinking steel, oil tempered, ground and provided with a six-degree cutting edge on the front end only. In order to ream clear through the bearing, the bushing at the back must be removed, when the reamer acts as its own guide for the short distance remaining to be reamed. The bushing is then returned to its former position.

When the reamer shaft is first lined up a positive turning movement is determined. Thus, if it be found that three ounces weight on a four-inch leverage will move the shaft, then, when the bushings are returned to their original positions, the same weight and leverage must produce the same result. In practise, however, it is said to be found unnecessary to use the weight, except on rare occasions.

The features of the device are held by the maker to be:

First, the supporting of the reamer shaft by a number of temporay bearings.



Individual Components and Assemblies of Parts of Martell Aligning Reamer, Lettered for Convenience in Describing.

Second, the fact that these temporary bearings engage directly with the hole to be reamed, thus making the device entirely independent of any type or form of construction of the supporting members of holes to be reamed. The fact that the crankcase is not bolted down to a rigid base is an added assurance of perfection of alignment.

Third, the facility of adjustment of the position of the reamer shaft in relation to any point or points, as for instance, paralleling some given surface or obtaining the correct mesh of a train of gears, one member of which is to be carried on the shaft for which the bearings are being reamed.

Fourth, the securing of a great range of adjustment of the reamer blades with a relatively small lateral movement of the adjustment nuts.

Fifth, the means of securing the reamer heads to the shaft in such a manner as to allow them to be solidly clamped in any desired position.

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AGENTS WANTED--NEW BOOKS--DESIRABLE LINES.

The American Auto Supply Company, 1741 Broadway, New York City, is mailing to the trade free on request, its new catalogue, which is claimed to be the most complete list of Ford accessories and parts ever published. Each device, etc., is described and illustrated and the catalogue is really a dictionary of Ford information.

★

Edgar T. Ward's Sons, 25 Purchase street, Boston, is marketing cold drawn seamless tubing in sizes from .125

Cold Drawn Seamless Steel Tubing Marketed by Edgar T. Ward's Sons.

inch overall diameter to 8.125 inches, and is prepared to fill orders promptly, having in stock over 1,000,000 feet. Cold drawn seamless tool steel tubing of special analysis for parts, jigs, bushings, dies, where extreme durability and great hardness is required, is also carried. The company mails a monthly stock list and will forward a trial piece upon request. Tubing of any quality is manufactured to meet individual requirements.

★

The Cox Brass Manufacturing Company, Albany, N. Y., has compiled some very interesting, as well as instructive, data on the use of welding and decarbonizing equipments. The booklet explains fully the practicability of the newer method of welding and shows how time and money is saved. The brochure will be mailed free on request.

★

The Standard Woven Fabric Company, Framingham, Mass., maker of the well known Multibestos brake lining, is issuing a neat brochure entitled, "Safe Within the Grip of Multibestos", the contents of which are of particular interest to the garageman, dealer and repairman. The book contains valuable and instructional data and will be mailed free upon request.

★

The Platt & Washburn Refining Company, 7 Broadway, New York City, which markets Veedol, a motor oil, made from Pennsylvania petroleum, has a very attractive agency proposition for 1914, which will be forwarded upon request. The company was incorporated in 1885 and its product is the result of practical research in shop and laboratory. It is adapted to the lubrication of pleasure and commercial vehicles.

★

The Bermo Welding Apparatus Company, Omaha, Neb., maker of welding outfits, which markets its product direct to the trade, manufactures a variety of welding equipments, including a carbon remover. The company is making a special offer, which may be obtained by writing the manager of Dept. K. It enables small repair shop and garages to take advantage of the profits possible with this equipment.

★

The Silvex Company, 60 Wall street, New York City, has an attractive proposition for the trade in its Bethlehem five-point spark plug, and the merits of the design are set forth in an interesting booklet published by this concern. The brochure contains considerable data on ignition systems, and the suggestions made should be of decided value to the garageman and repairman. The booklet will be mailed free upon request.

★

The National Motor Supply Company, 5604 Euclid avenue, Cleveland, O., maker of garage and portable vulcanizing equipment, has adopted a special selling plan which should prove of interest to garagemen, in that the vulcanizer is not paid for until after it has earned its cost. The National garage steam vulcanizer vulcanizes three tubes and two casings at a time and is heated by either gas or gasoline. The company invites the trade to write for its special offer.

★

The Danver Accessory Company, 18 Broadway, Pawtucket, R. I., manufacturer of Daco Ford accessories, has improved its combination anti-rattler and grease cup by incorporating a self-fitting grease cup, which eliminates the trouble experienced when replacing the cup after refilling it with grease. The company has increased its manufacturing facilities and is prepared to supply its product in large quantities. Descriptive matter and discounts will be mailed upon request.

The Harding Specialties Company, Inc., 755 Boylston street, Boston, is marketing the Boston tail light detector, which is an electric indicator actuated by lamp failure or defective contact. It gives an instantaneous warning of an extinguished tail lamp, insuring against arrest and fines, etc. It is attached to the dash in plain view of the operator and a red light is flashed when the tail light is extinguished. The device is moderately priced and the company has an interesting proposition for the trade.

★

The Williams Foundry & Machine Company, Akron, O., has compiled a booklet of expert information on tire repairing, and the brochure contains figures of interest to all garages and repair shops not fitted with facilities for repairing tires and tubes, as well as those engaged in this line of work. The booklet, catalogue No. 12, shows the cost of equipments, operation, etc., and explains clearly the opportunities that may be developed into a very profitable business.

★

The McQuay-Norris Manufacturing Company, St. Louis, Mo., is marketing the Leak-Proof piston ring, which differs from conventional design, in that it is made in two pieces, each one having a flange at right angles to the encircling band. When assembled, each flange completely covers the opening in the other piece, preventing the escape of the gas. One of the qualities of the design emphasized is that considerable service does not impair its efficiency. The company manufactures the Leak-Proof to meet requirements and will supply additional details and prices on request.

★

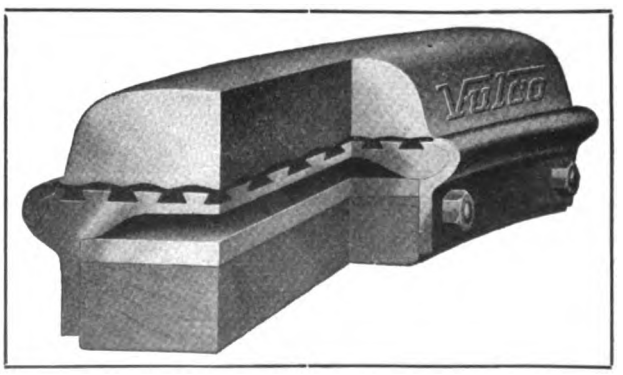
The Tarrytown Motor Car Co., Inc., 1790 Broadway, New York City, which has developed a parcel delivery vehicle termed the Motokart, is designed especially for butchers, grocers, bakers, florists, cleaners and other similar tradefolk dealing in light merchandise, has an interesting agency proposition. The company wishes to get in touch with live dealers, and is prepared to award exclusive rights for certain territory to worth while dealers.

★

The Auto Parts Company, Providence, R. I., manufacturer of Ford specialties, whose trade mark, Apco, is well known to the trade, and the motorist as well, is mailing its 1914 catalogue, which will prove of interest to dealers handling Ford specialties, in that a number of new devices are listed. Among the new products of the company are a moderately priced, high grade tire cover, spindle body bolt, pushrod, adjustable spindle arm bolt and a pressed steel jack. The last named retails for $1, and is guaranteed to lift and sustain 2000 pounds. The catalogue describes and illustrates a number of specialties which will appeal to the Ford owners, particularly at this season of the year when the car is being prepared for the season, and when the new machine is being equipped. The Auto Parts Company guarantees Apco goods to be as represented.

★

The Vulcan Rubber Company, 403 Swetland building, Cleveland, O., maker of the Vulco cushion joint truck tire, desires representatives for its product in every city. Exclusive territory will be awarded to live deal-



Vulco Cushion Joint Truck Tires, Exclusive Agency for Which Is Offered by the Maker.

ers, and the company will co-operate in the selling campaign, also sending an expert salesman. One of the qualities of the Vulco is that it may be attached easily and quickly to the wheel by one person without any other tools than a jack and a wrench. This is made possible by sectional base and cushion joints. High cushioning qualities, durability, lightness and maximum strength are among the features of the design emphasized by the manufacturer.

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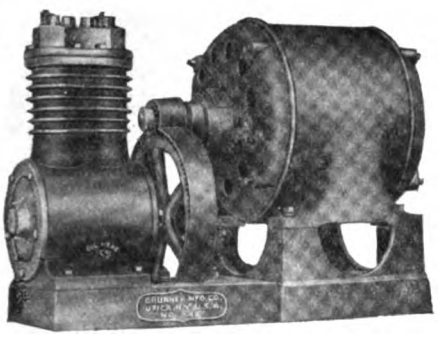
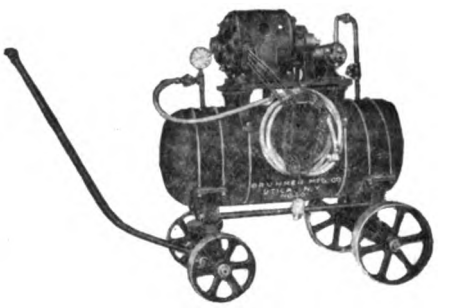
BE SURE "BRUNNER" IS ON YOUR AIR COMPRESSOR



Before you pay out your good money for an Air Compressor, get the real facts.

Get the opinion of the Brunner users and compare with what you hear from the garage men who have bought a "bigger machine for less money."

Go still further:—Examine the construction of the Brunner line of Air Compressors and compare with the quality of materials and the manner in which the other machines are put together.



Finally:—Find out how much time and attention are given to the "side line" compressors, in comparison with the nine years of specializing on Air Compressors by the entire force of Brunner engineers and employees.

These are comparisons which we want every prospective purchaser to make before he buys an Air Compressor.

In the Brunner line of Air Compressors there is nothing but the very best materials—put together in the strongest possible manner—by experienced workmen who are specialists in their line.

In addition, every Brunner Air Compressor is backed by an honest, binding guarantee for service, durability and satisfaction, which always has a liberal construction by the manufacturer.

Brunner Air Compressors stand unsurpassed for a long, durable, satisfactory service, with the lowest repair expense.

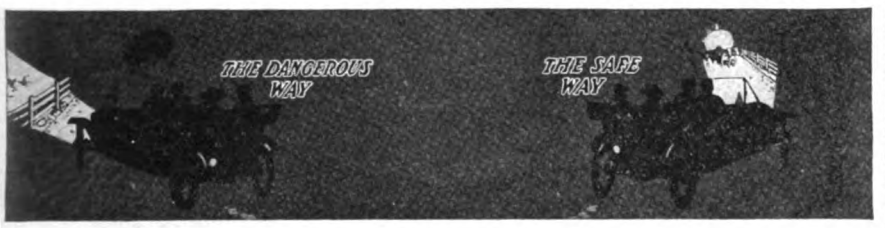
For the sake of getting the best returns for your money—be sure you find the name "Brunner" on the Compressor you buy.

Get information and prices from your jobber or write us direct.

BRUNNER MANUFACTURING COMPANY

MAIN OFFICE AND FACTORY
Utica, N. Y.

NEW YORK OFFICE
Hudson Terminal Bldg., 30 Church St.



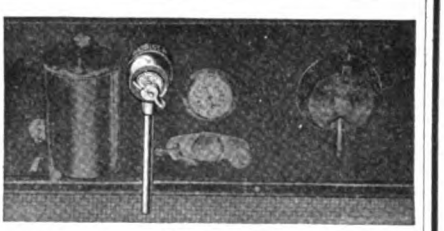
FOLLOW THE ROAD TO PROFIT WITH TURNING HEADLIGHTS

Every Ford car which comes into your garage is a live prospect for these safe and sane Turning Headlights. They automatically follow the slightest movement of the steering wheels and throw their light where you need it most—in the center of the curving road you are trying to follow in inky darkness.

There is a big demand for this device. The Safety First agitation sweeping the country at present and the caution this has inspired in night driving, makes these supports quick sellers and profitable.

Turning headlights will never give you one minute of trouble after you have put them on—a quick job of 30 to 45 minutes. They won't rattle or work loose and are sold under a rigid "Money Back" guarantee if not found perfectly satisfactory after 30 days' trial. Retail price **$10.00** prepaid—and a good profit for our dealers.

Write us for the territory you can actually cover thoroughly—and prices. Order some sample sets at once. They will go fast. You get all the prospects in your section which our advertising develops.



Gasolock Your Cars

Here is the safest device yet invented to prevent joy riding and auto stealing. The Gasolock shuts off the gasoline with a simple touch of the foot or finger and can only be opened again by the Yale keys furnished with it.

The Gasolock saves automobile insurance against theft; it saves gasoline waste from leaky carburetors; it saves cars from joy riding wrecks.

Over 800 in Use in Detroit. We hold a basic patent on all devices for locking the gasoline supply and have started suit against infringers. This device can be installed in any car in 30 minutes and is positive protection.

There is a big field for the sale of the Gasolock in your city. Millions of dollars worth of cars are stolen yearly. Owners need this protection and will buy it readily. It is the simplest, safest, and cheapest high grade device on the market.

The Gasolock is beautifully finished in either nickel or brass and comes in several lengths to suit conditions. It sells for **$10.00** prepaid at retail—a small sum for absolute protection. Any car or motorboat can use it.

Write us for our proposition and prices. Order a few and see how owners will take them away. Rather "Safety First" than a stolen car.

HEADLIGHT SUPPORT CO., MFR. AUTO DEVICES 1212 Dime Bank Building **DETROIT, MICH.**

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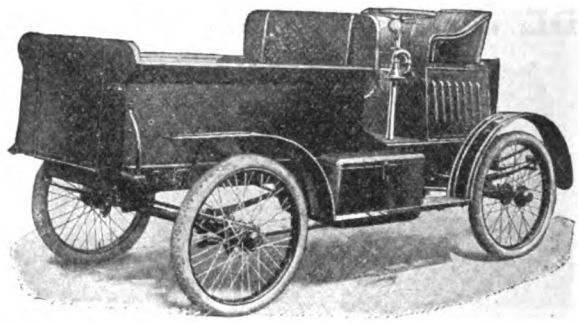
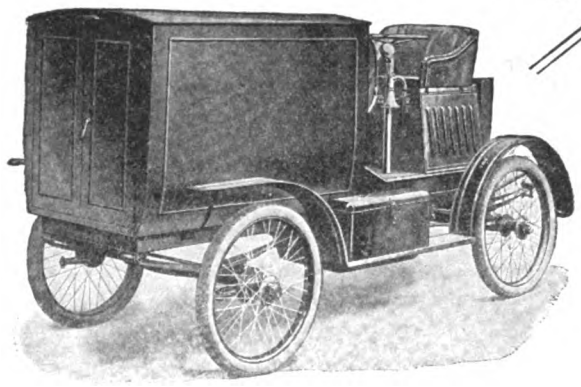
THE MOTOKART



is the Commercial light cavalry of the automobile business. If you are selling cycle cars your line will not be complete without the only strictly commercial four wheeler smaller than standard car built in the United States of America.

$365.00

Wide awake dealers wanted in every city, town or village where merchants deliver groceries, dry goods, etc.



THE MOTOKART COMPANY

FACTORIES:

Peekskill, Tarrytown, N. Y.

GENERAL OFFICES:

1790 Broadway - - - - - **New York City**

Address All Correspondence, New York Office

TRADE MAILING LIST

Users of Trade Names of Individuals and Concerns in all branches of the Automobile Industry can secure practically 100 per cent. efficiency through our service. Trade names that are not constantly used soon lose all value. Our list is worked eighteen times every twelve months; this assures patrons of a Practical List and one that can be maintained with the Greatest Economy.

The up-to-date method of operation in connection with our list saves more than the first cost within sixty days from date of purchase.

A few hours attention each month will keep our list to the highest standard and any office boy can take care of the details.

Write Us Your Requirements. Our Proposition Is an Interesting One. The Charges Are Reasonable.

Address Mailing Department

Automobile Journal Publishing Co.

Times Building, **Pawtucket, R. I.**

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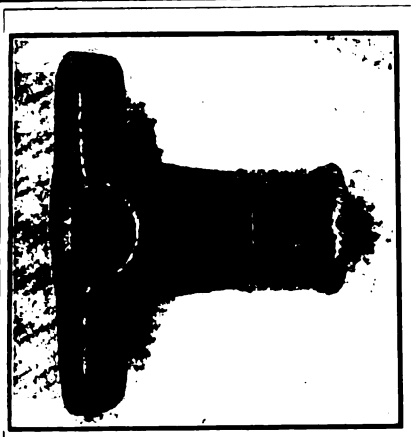

DANVER ACCESSORY COMPANY

Combination Anti-Rattler and Grease Cup

The DACO **Combination Anti-Rattler and Grease Cup** fits the steering rod ball of the Model T Ford car. This anti-rattler is DIFFERENT FROM ANY OTHER ANTI-RATTLER being manufactured and is the only one that has **self-contained lubrication.**

COMPARE IT WITH ANY OTHER AND YOU WILL SEE MANY FEATURES IN ITS FAVOR

We are ready to supply the demand for this device in any quantity, and we offer very liberal discounts to jobbers and dealers.

DANVER ACCESSORY COMPANY

18 BROADWAY — Maker of DACO Ford Specialties — PAWTUCKET, R. I.

"PASS THEM ALL"

Knox

BEST BY TEST

MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX AUTO CO., Springfield, Mass.

EVERY MAN HIS OWN RADIATOR REPAIRER

Absolutely Harmless

GUARANTEED

To Repair Leaky Radiators or Money Refunded

NOTE
Do not confuse RAD-FIX with powders and cement compounds that clog the radiator and destroy the cooling qualities.

RAD-FIX

A pure, filtered solution. The only preparation of its kind on the market.

Rad-Fix does not contain glue or cement properties of any kind. **Rad-Fix** is the only product that will pass through the screen of the filler cap. Nothing should go into a radiator that cannot pass through this screen. **Rad-Fix** cuts all rust and cleanses corrosion. **Rad-Fix** performs a permanent weld and produces a practical repair.

Rad-Fix is a money maker *Reliable Agents Wanted*

Postpaid Upon Receipt of Price, $2.00.

RADIATOR FIX COMPANY, 127 MASSACHUSETTS AVE. BOSTON, MASS., U. S. A.

THE UNIVERSAL

SAFE-DURABLE-CONVENIENT AND ATTRACTIVE

ELECTRIC TAIL LAMP

Is a combination red danger signal light and a perfect number plate holder. Illuminating the rear number at night that meets the most exacting requirements of the law.

Can be easily attached to mudguard or body of any car. Artistic in design and finish and lends refinement to any machine.

Universal Lamps are sold by all leading dealers.

All lamps are sold complete with Mazda two candlepower, six-volt bulb. Finished in all standard colors.

COMBINATION TAIL LIGHT CO. 954 Tremont St., Boston, Mass.

Dixon's Graphite Transmission and Differential Grease No. 677

When you use this splendid mixture of the finest natural flake graphite with a high grade mineral grease, the rubbing and grinding which wears out your gears and bearings comes upon the hard, smooth, almost frictionless veneer of pure graphite which builds up over the metal —and wear and noise and wasted power are minimized. Send for "Lubricating The Motor", No. 49.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827

New Departure

"TWO-IN-ONE"

Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.

Bristol, Connecticut

Vucanizers for Shop, Garage or private use.

Ask for Catalogue.

Vanderpool Co. Springfield, O.

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CRANE'S NEW MODEL PATENT PULLER

For Removing Fly Wheels, Propellers, Couplings, Gears, Etc.

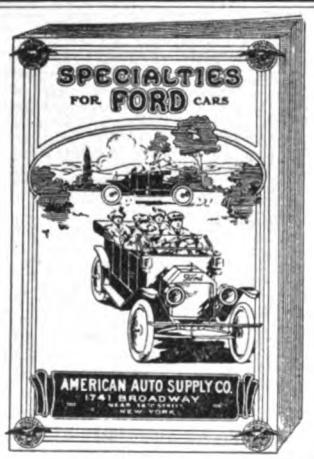
New flat pointed screw with **inserted tempered tool steel point.** Will not injure centres no matter what the strain. Works equally well on work that has no centres.

Each Puller furnished with **two sets of new combination hook and extension arms** that greatly increase the range of work.

New screws and combination arms are interchangeable with any Pullers we have ever made.

Write Today for Circular A.

CRANE PULLER COMPANY - - Arlington, Mass.



Just off the Press—

Write today for the **Most Complete Catalog** of Auto Supplies Ever Published.

Contains the **biggest, brightest and best** line of Ford and Overland Specialties ever placed on the market.

FREE ON REQUEST

American Auto Supply Co.

1741 Broadway NEW YORK

Write to Nearest Branch

1408 Michigan Ave. CHICAGO

TRADE APCO MARK

Ford Specialties

1914 CATALOG

Is Free and Ready Now

Dealers: Get in on Our Line

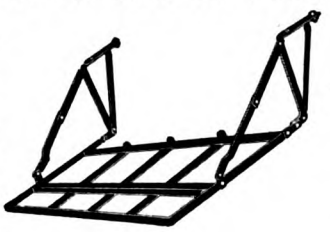
AUTO PARTS CO., PROVIDENCE, R. I.

"SPECIAL" 1914 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



This Rack Will Fit Any 1914 Ford Car

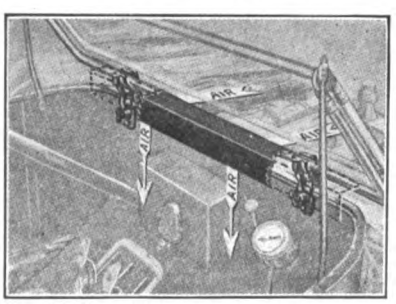
1914 Ford Rack

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

EXCELSIOR ADJUSTABLE VENTILATOR FOR MODEL T FORD



Admits Fresh Air
No Draughts

Excelsior Adjustable Ventilator provides proper ventilation of the front compartment of automobiles, where the excessive heat is unbearable. The ventilator admits fresh air but prevents draughts. The opening is adjustable and can be closed. Can be installed in a few minutes.

Black Enamel Finish.

Retail Price $3.00

Write for Discounts and Particulars.

C. B. WATTLES

441 BUTLER EXCHANGE PROVIDENCE, R. I.

The Famous Model "T" FORD SPECIAL

Master Vibrator

Price $10.00

THE BEST PROPOSITION FOR THE DEALER

NEW YORK COIL CO.

338 Pearl St., New York City, N. Y.

WESTERN BRANCH

1429 Michigan Ave., Chicago, Ill.

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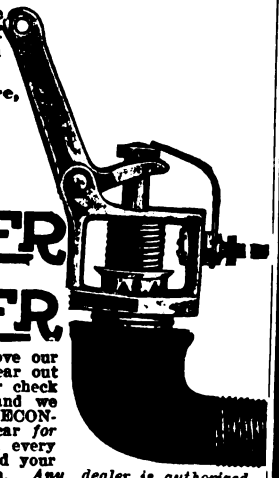
Free For 30 Days

FREE to start on a rich mixture—
FREE to reduce to a lean mixture after starting—
FREE to brake by motor, reducing brake-lining friction—
FREE to get prompt action from your self-starter—
FREE to blow out cylinders, eliminating carbon—
FREE to develop *all* power of which your motor is capable—
FREE to coast without waste of fuel on the down grade—
FREE to cool overheated motor—

Don't be bound down by the costly, old-fashioned method of unchecked gasoline supply when we offer

FREE Trial on a Fair, Square, Money-Back Basis.



M & M CONTROLLER AND ECONOMIZER

Here is our offer—we will let *you* prove our claims on *your own car* at our risk. Tear out this advertisement—pin it to a $5 bill or check together with your name and address—and we will send an M & M CONTROLLER & ECONOMIZER prepaid. Try it out on your car *for a whole month* and if it does not fulfill every claim made above, send it back to us and your money will be returned without question. *Any dealer is authorized to duplicate this free trial offer.*

Use Gasoline ONLY When You Need Power--And Save 1-3

We have sold thousands of this wonderful little device at $10 each—until the demand has resulted in a sufficiently increased output to permit us to cut the price in half.

Order yours now—in order to get a full season's usefulness from it—you will save many times the cost.

THE M & M SALES CO., Inc., Lewistown, Pa.

Send for FREE Descriptive Folder "G", that tells how you can get MORE power from LESS gasoline!

Reference: Citizen's National Bank or Lewistown Trust Co., Lewistown, Pa.

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THE MARTELL Aligning Reamer

THE only device made by which a series of bearings may be perfectly aligned.

ADAPTABLE to any type or form of motor.

USE not restricted by any details of construction.

A high grade tool made from the finest of imported steel. A device that every up-to-date garage and repair shop should have.

Range of sizes from 1 5-8 to 2 1-4 inches.

SEND FOR CATALOG.

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Welding Plants That Are Safe

$50.00 to $175.00

Carbon Remover With Each Welder

Your credit is good with use. The Welder pays for itself and you save the middleman's profit. Write for terms. Address Manager, Dept. K.

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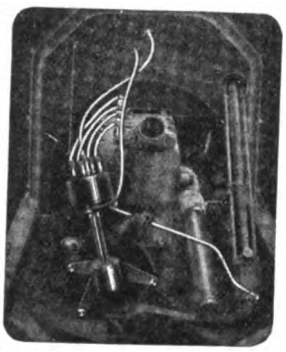
OMAHA, NEB.

Ford Dealers and Garagemen



Equip your customers' Ford cars with the ATWATER KENT FORD IGNITION SYSTEM. Your customers can prove the following results on their own car on a make-good-or-money-back basis:—

1. **Perfect ignition at all speeds from 3 to 40 miles per hour.**
2. **Smooth running without missing or uneven firing.**
3. **Easier starting in cold weather.**
4. **Vibrator and magneto trouble eliminated.**
5. **Will run idle at lowest possible speed and throttle down to 3 miles per hour on high.**
6. **Increases both power and speed and saves gasoline.**
7. **Lessens sooting of plugs and carbon deposits.**
8. **Quickly and easily installed without altering car in any way. No machine work—no holes to drill—a wrench and screw driver are the only tools necessary.**
9. **Costs much less than a magneto and gives better results on any car.**

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Capacity, One Ton. Height, 11 in.
Rise of Screw, 6 in. Weight, 5 lb.

Price $1.50

Delivered Parcel Post

THE SHAWVER CO.

SPRINGFIELD - - - - - - - OHIO

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ANY STATE COMPLETE

Ford owners $2.50 per thousand names---
1914 Registration

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150,000 Ford owners.....$3.00 per thousand

Neatly typewritten, showing Financial Rating in Dollars of each one, alphabetically by States and Towns, 1914 compilation.

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877,000 Automobile Owners by States. Price on application.

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Full auto wheel making equipment of DEFIANCE MACHINERY. Nearly new. Liberal discount. Jamestown Wheel & Mfg. Co., Jamestown, N. Y.

FOR SALE—A COMPLETE MACHINE SHOP

The outfit includes tools, a lathe, milling machine, shaper, drill press, emery stand, wheels and pipe tools. Taps, dies and reamers of all kinds. Drills of all sizes.
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FORD CARS beautified and protected with our **License Holder.** Price $1.25 prepaid. Our locking arrangement means security. Sample 50c prepaid. Dealers, write for prices. Ernest Benninghofen, Hamilton, O.

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Now Ready—New Ford Specialty Catalogue. Write for It.
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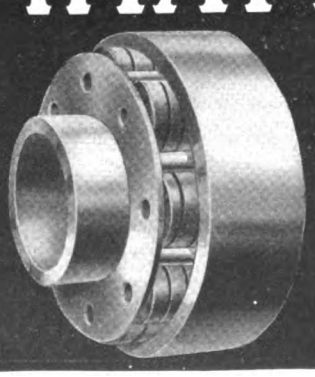

For convenience of car owners a stock of the popular sizes of Hyatt Roller Bearings as used in motor cars is maintained in each of the cities indicated.

Address SERVICE DEPARTMENT.

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Hang Out Your Shingle

Tire Repairing

Motorists are continually looking for the "*Tire Repairing*" sign, for it's the cure for their biggest motoring trouble.

Everyone has tire troubles—blow-outs, cuts, rim-cuts, punctures. And when these troubles come he must find a "*Tire Repair*" man to help him out.

Why not hang out your shingle—"*Tire Repairing*"? Get into this big-money business on your own hook. Be independent.

For $150 to $500 you can buy an Akron-Williams equipment. With it you can do the most successful repairing. Any man who works can make big money in Tire Repairing.

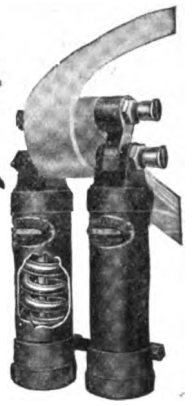
Write for Catalog No. 12 and full information.

THE WILLIAMS FOUNDRY & MACHINE CO. Ash St., Akron, O.

THE WATERHOUSE & LESTER CO., San Francisco, Exclusive California Distributors

Coxajusto

ADJUSTABLE TO ANY LOAD



Shock Absorber

Only spring shock absorber made that is adjustable to any load. Slight turn of your wrist tightens or releases tension of shock absorber spring. This adjusts your shock absorbers to changes in weight of load. Easy to operate. Adjustments made in a minute's time. Remains in the same position until changed.

The Coxajusto is a real shock absorber. Secures genuine comfort in riding and a saving of wear and tear on your car and tires. It will pay you to send for full information.

COX BRASS MFG. CO. Albany, N. Y.

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THE HEINZE ELECTRIC COMPANY

MANUFACTURERS OF

Ignition and Generating Apparatus

LOWELL, MASS.

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THE BINKS ELECTRIC TIRE PUMP

A Necessity In Every Garage

Designed to meet the requirements of the public and private garage. With this pump the largest tires may be inflated as quickly as with any large cumbersome stationary outfit costing three times the money.

We do not approach the trade with this pump as novices, but do so as pioneers of the pump business offering an original product. The pump is absolutely right in every respect, and will do all we claim for it or money cheerfully refunded.

Specifications

Pump furnished complete with 1-4 h. p. AC or DC 110 volt, 60 cycle Motor, ready for operation. When air is wanted turn on switch. **PRICE $54**

THE STAR BRASS WORKS

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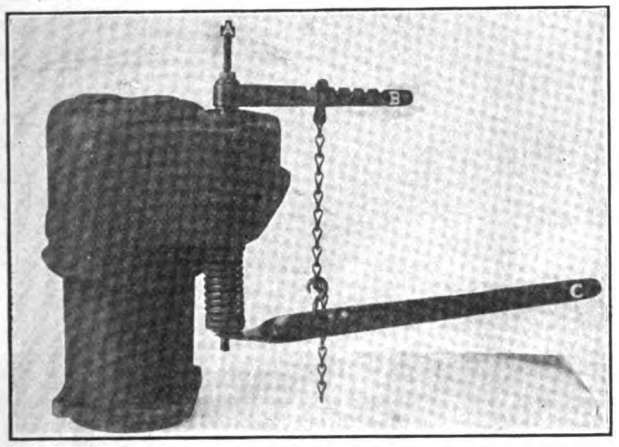


WINSOR PATENT ADJUSTABLE MOTOR VALVE REMOVER

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.

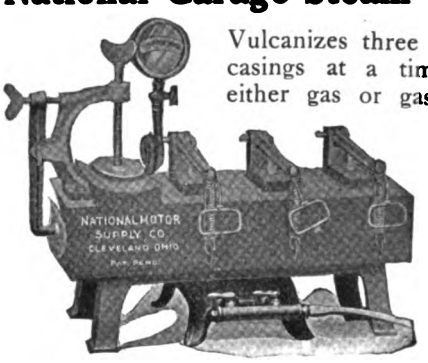
LIST PRICE—Enameled black, each $1.50. Nickel plated, each $3.75

Extra barrels, each $1.20.

Dealers, Write Today for discounts. Manufactured by

Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

National Garage Steam Vulcanizer

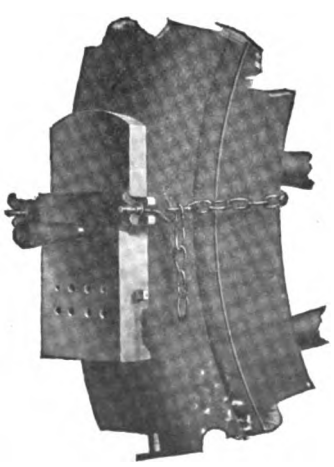


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

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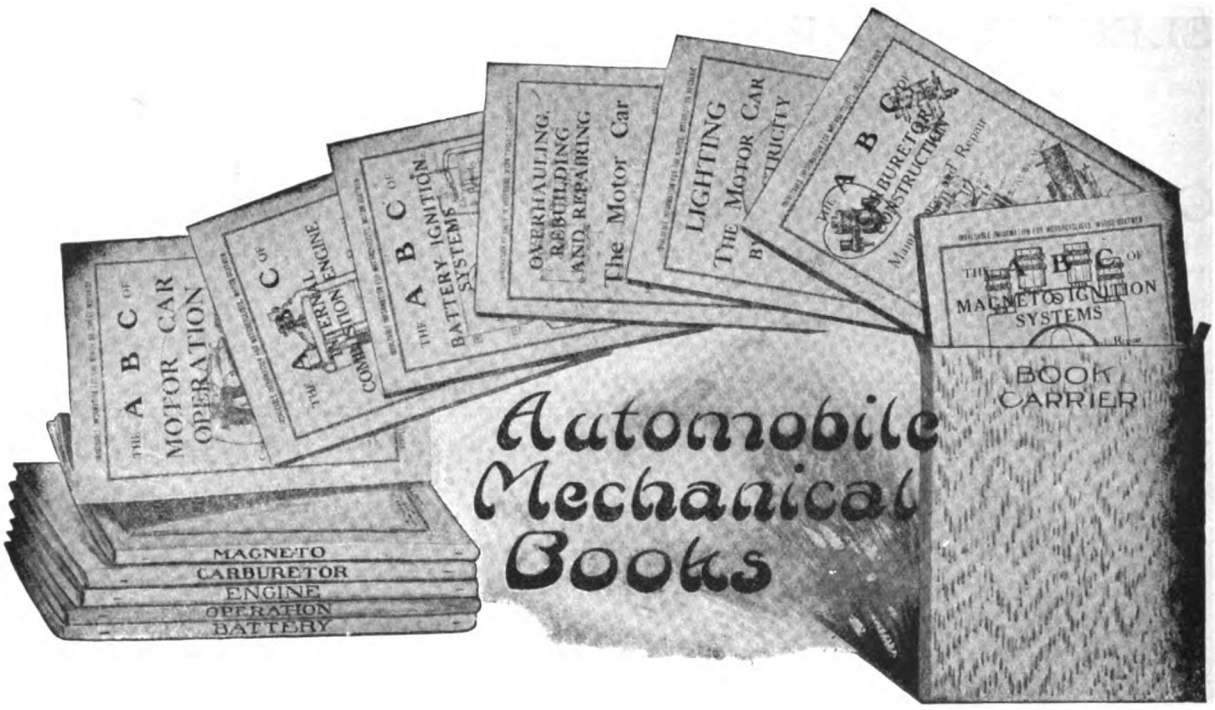

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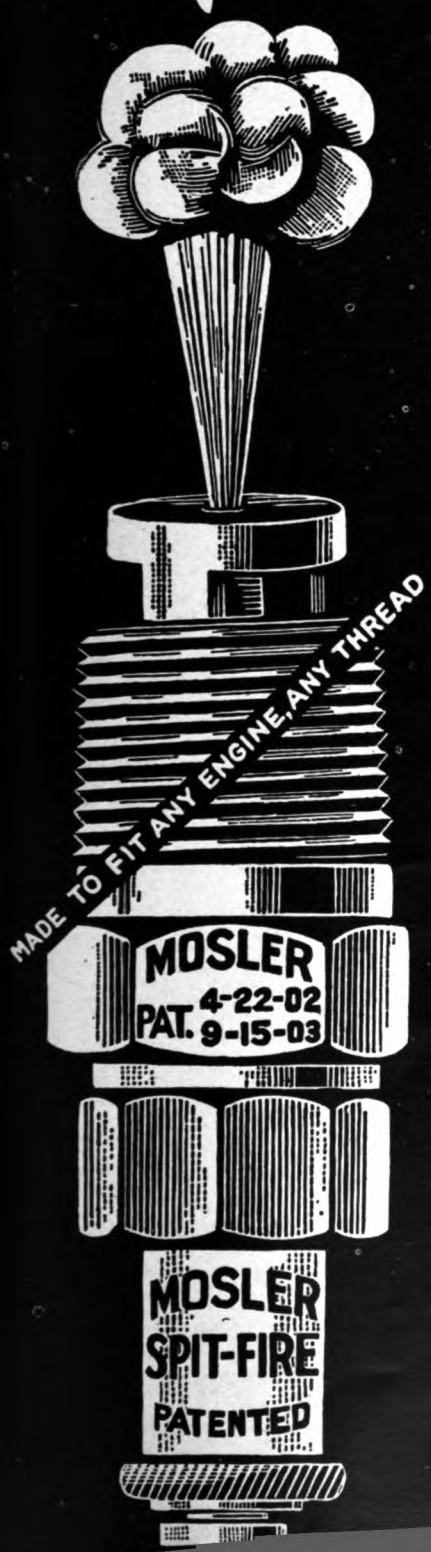

ALL THESE

The man who owns an Automobile, rides a Motor Cycle, uses a Motor Boat or runs a Stationary Gas Engine—all these

Are Possible Customers For Mosler "Spit-Fire"

The Dealer who stocks these well known Spark Plugs will have no trouble to sell them. Our enormous advertising campaign will keep the customers coming and Mosler "Spit-Fire" Spark Plugs will keep the engines going—so there'll be no kicks coming.

Our Red Tag guarantee which goes with every "Spit-Fire" Plug guarantees the point to last forever, because made of Genuine Platinum.

Made in every size and every style for every engine. Ask your Jobber for Mosler "Spit-Fire" Spark Plugs. If, for any reason, he cannot or will not supply you, then write to us and we'll refer you to one who will.

Send for a copy of our "Spark Plug Size Booklet." It shows at a glance the size and style of plug for every type of car and engine, and will be of great use to you in meeting your customers' requirements.

A. R. MOSLER & CO.

NEW YORK, N. Y.

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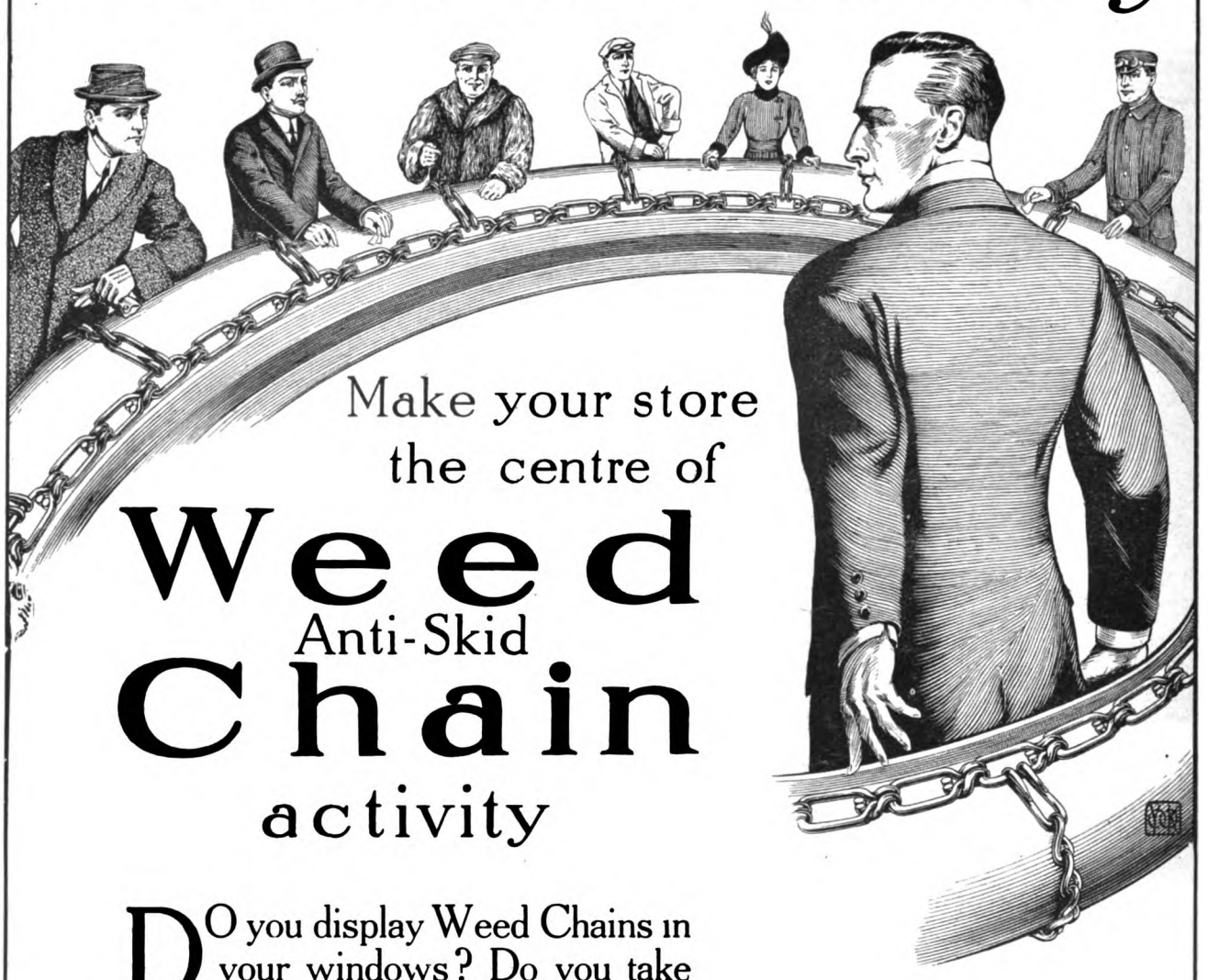
A Good Old Standby



Make your store
the centre of

Weed
Anti-Skid
Chain
activity

DO you display Weed Chains in your windows? Do you take advantage of every opportunity to remind the motorists in your community that your store is the hub around which Weed Chain activity whirls?

If you will only say the word, our Advertising Department will explain what *"Weed Service for Live Dealers"* really means in dollars and cents to you. *We have Papier-mache tires, 30x3½, on which you can display our chains in your windows, and attractive cards, booklets, etc., on which we will imprint your name and address.* All you have to do is to invest one cent in a postal card on which to assure us that you really desire to *"Make your store the center of Weed Anti-Skid Chain activity" in your community.*

Awaiting your valued inquiry, we are, yours for co-operation,

Weed Chain Tire Grip Company

28 Moore Street - - - - - - New York

Manufactured for Canada by Dominion Chain Company, Limited; Main Office, Shaughnessy Bldg., Montreal, Canada

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Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., APRIL, 1914. NO. 12

PANHARD OIL

Dealers' Oil Bulletin No. 5

Panhard Oil advertising is not easy to write. Anything we say, can be claimed just as easily *on paper* for any cheaper and inferior product. Still there is a difference, which will inevitably show sooner or later in an engine.

Have you caught the tone of sincerity in these advertisements? We don't try to "fool" our dealers. Panhard Oil in actual use will make good every claim, and will give you every cent of your money's worth.

Panhard Oil has been on the market since 1904. It was known then as the best, and it still is. Think of the widely advertised brands which have flourished for a while and dropped out of sight in the meantime. Panhard Oil is building for permanent success. So is the dealer who sells it.

When your own experience has given you this confidence in it, your sales will surprise you. There is no oil to which you can give your strongest personal recommendation more freely. Write now for details.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

TRADE APCO MARK

FORD SPECIALTIES

A general line of supplies means an outlay of $10,000. Half the cars in the country are FORDS and a complete line of APCO goods will cost you less than $500 and this will get you the best half of the country's automobile accessory business.

We are not the only FORD SPECIALTY manufacturers, BUT we were the first, WE ARE THE LARGEST, and the ORIGINATORS of the only guarantee that is worthy of the name, i. e.,

"YOUR MONEY BACK IF YOU WANT IT"

and this applies to owner, dealer and jobber alike.

Our new steel, ball bearing brake rod support at $1.00 list is the best seller we have ever had.

Send 75 cents for sample set today, now.

Simply pin your check to this "ad" with your name and address.

We'll do the rest.

AUTO PARTS COMPANY

Providence, R. I.

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DO YOU KNOW THE NUMBER OF FORD OWNERS IN YOUR TOWN? IF NOT FIND OUT, BE SURPRISED, ORDER, AND MAKE BIG PROFITS ON THE BOSTON STARTER

Designed to meet the long-felt want for a satisfactory starting device for Ford Cars—Its thousands of users proclaim its merits.

POSITIVELY ELIMINATES ALL DANGERS AND INCONVENIENCES OF CRANKING THE MOTOR

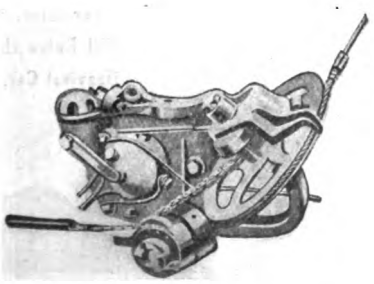
Made of the finest materials—will outlive the car itself.

EASILY APPLIED EASILY OPERATED

Every Ford Owner in your territory needs and will buy a "BOSTON STARTER." Why not reap the profits from these sales?

WE HAVE AN ATTRACTIVE SELLING AGENCY PLAN WHICH WE WOULD LIKE TO EXPLAIN TO YOU

May we not send you the details?



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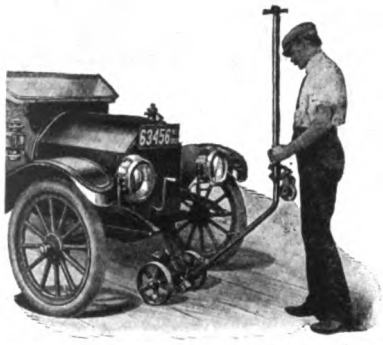
AUTO TURN JACK

Garage Equipment That Must Interest GARAGE OWNERS

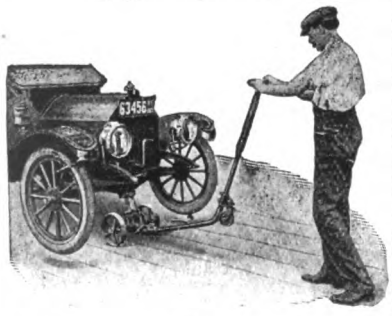


Approaching the Car

By lifting up the long handle it tips back and lowers the lifting post low enough to get under the lowest axles. The handle is so shaped that rods or bumpers do not interfere.

Making the Adjustment

One upward movement of the small hand lever raises the lifting post up against any height axle. After the Jack is removed from under the car, slam this lever down and the post drops back to its lowest position.



Raising the Car

Pull the long 5½ ft. handle down, causing the Jack wheels to run under the axle past center, raising the car two inches. The Jack handle will pass under the raised wheel clear back to the foot board if desired.

GARAGEMEN Making Big Profit Figure the Value of Each Cent, of Every Foot of Floor Area, Every Minute of Labor, and Have the Tools and Equipment That Earn Money.

Use an AUTO TURN JACK. With It You Can Make Every Inch of Floor---a Big Factor---Pay You Cash. CHEAPER THAN RENT.

AN AUTO TURN JACK IS CHEAPER THAN WAGES. With One a Man Can Handle Any Car, Raise or Turn or Place It. No Reason to Start a Motor or Have a Crew of Men to Move a Machine. Let the AUTO TURN JACK Do It.

AN AUTO TURN JACK IS CHEAPER THAN MAKESHIFT TOOLS. Saves Time and Labor in the Repair Shop, in Tire Changes, in Wheel and Axle Work, and Is Always Available.

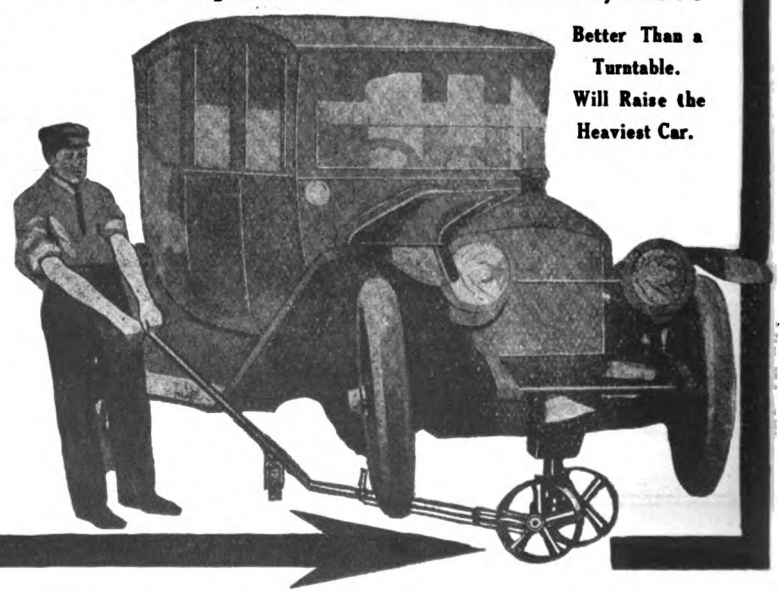
AN AUTO TURN JACK IS NO EXPERIMENT. Built for Practical Service, of First Class Material, Enduring for Years, It Is a Tool Useful in Hundreds of Ways Hundreds of Times Daily. In Use in the Largest and Best Managed Garages of the Country.

A Postal Will Bring Full Information and Prices---Send Yours Today

RUB-ON MANUFACTURING CO.

87-97 Brayton St. Buffalo, N.Y.

Better Than a Turntable. Will Raise the Heaviest Car.



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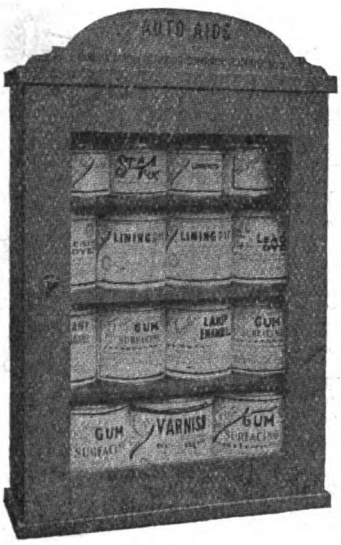
DISPLAY CABINETS For AUTO AIDS



They Work Day and Night For the Garage Owner

You pay rent for your floor space, and you try to make every square foot of it pay you in return—

But did you ever think that you pay rent on your wall space—and what does it pay you in return?

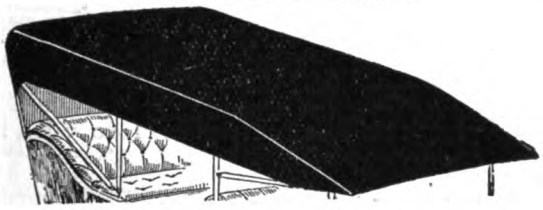
Make Your Wall Space Work It Helps Roll Up Your Profits

You haven't a customer who does not always want his car to look like new.

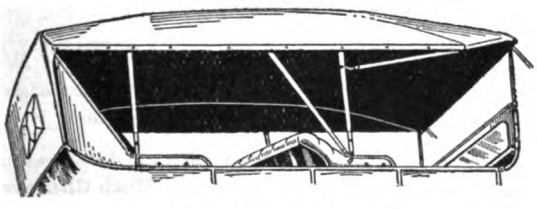
The main reason why so many cars look old and worn is because the owners believe it would be too expensive to keep up the new appearance of their cars—They figure painters' bills, overhauling, refinishing, etc. and decide to wait until their cars are in bad shape before having anything done so as to get their money's worth.

Isn't that so? You and I would do the same thing unless we knew of a better way.

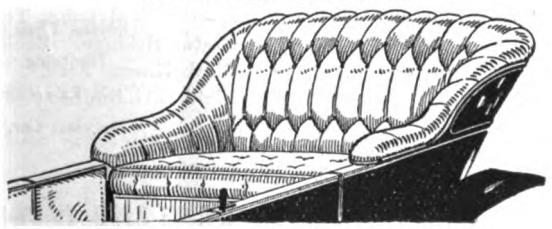
The Auto's Top—Outside.



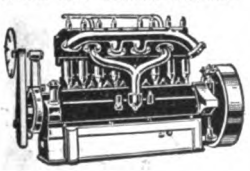
The Auto's Top—Lining.



Leather Top and Cushions.



Protect All Metal Parts.



The Best Way—Is the "Rub-On" Way

Estimated cost for 5-passenger car for whole season

To keep top in perfect condition:	
1 Quart Rub-R-Tite	$1.50
To keep top-lining spotless:	
1 Pint Rub-On Auto Top Lining Dye	1.50
To keep seats in perfect condition:	
1 Pint Col-R-Ol Leather Dye	1.50
To keep all metal parts in perfect condition:	
1 Pint Stay-On Enamel	.50
To keep body paint in perfect condition:	
1 Quart Rub-On Varnish	1.00
To mend leaks in radiator:	
1 Can Sta-Fix Radiator Mend	.50
	$6.50

$6.50 will keep every part of your car looking "like new" for a whole season.

Have you a customer who would not invest $6.50 when such a result is absolutely guaranteed?

Our self selling Display Cabinet hung in a conspicuous place will let your customers know these facts—and it will have done them a real service and a good piece of business for you.

Special Offer to Garage Owners

Write for our special offer to Garage Owners of free cabinet, free delivery and liberal commissions on all sales made by the self selling Display Cabinets.

Rub-On Mfg. Co.

87-97 Brayton Street, Buffalo, N. Y.

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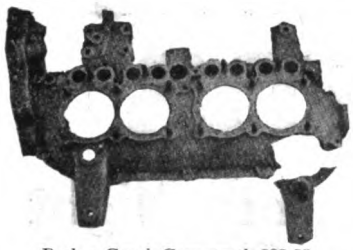
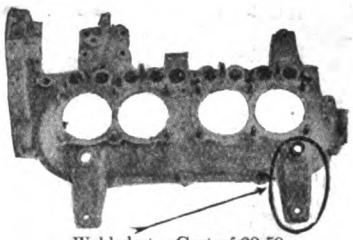
Made in Dayton



Broken Crank Case worth $90.00

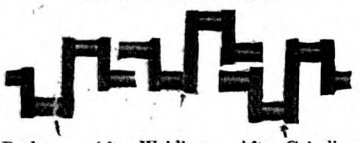
MONARCH SYSTEM OF



Welded at a Cost of $2.50

Ox-Acetylene Welding for

Broken After Welding After Grinding



Broken After Welding After Grinding

Casting Weighing 1600 lbs. Worth $180.00

"GARAGES" Manufacturers, Contractors, Machine Shops, Foundries, Steel Mills, Railroad Shops, Street Railways

In making broken parts good as new, and simplifying manufacture, The "MONARCH" system has worked wonders.

"Garages" use this machine for Welding, Brazing, Straightening, Soldering, and Removing Carbon.

Automobile and other factories use it for reclaiming defective castings, filling up misplaced holes, adding bosses, etc.

Welded at a Cost of $4.00

PROFITS——PROFITS——PROFITS

When you get one of our $75.00 welding outfits in your plant this is what you will do with it:

CRANK CASE WORTH $90.00

Repair Charges	**$45.00**
Cost of Repair	**2.50**
Profit to you	**$42.50**

The charges for welding are based on one-half the price of a new casting.

Customer saves 50%. He is satisfied.

You make nearly 50%. You are satisfied.

There are enormous profits in welding for you and enormous savings for your customers. How many jobs like the above is it going to take to pay for your outfit at $75.00? And look at the countless little jobs taking only a few minutes time to do, and bringing in a steady stream of good, clean, cash profits every day.

Braze Buggy Tire Wires Instantly. Weld Castings. Weld Split Pipes. Correct Mistakes in Design. Weld or Straighten Frames. Bond Steet Rails 1-10 the Cost, 1-10 the Time.

Make Boilers and Tanks Any Size, Any Gauge, Any Pressure, Without a Rivet—Stronger and Look Better and Much Cheaper to Make.

Weld Cracks From, and Between Rivets, Cracked Tube, Tube Plate Bridges, Broken Mud Rings, Etc. "Its Field Is Unlimited."

Write today for prices, full particulars, etc., to

MONARCH MFG. CO.

213 N. Main St.

DAYTON, OHIO

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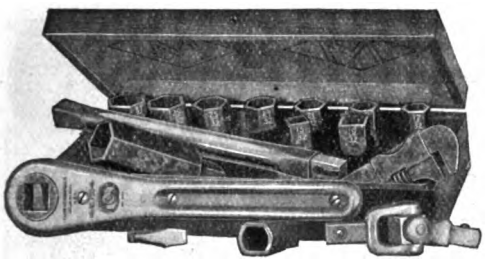

SOCKET WRENCH SET NO. 15 A.
Especially Made for Ford Cars.

Rated High in "Man-Power"

MOSSBERG GUARANTEED WRENCHES

Write for Catalogue No. 16 A

A postal will bring a copy

SOCKET WRENCH SET NO. 14.
A Wrench Set That Is Complete.

We Absolutely Guarantee our equipment under all conditions

The Ford Socket Wrench Set No. 15A positively fits all adjustments on a Ford automobile, and is made especially for Ford owners and dealers.

Socket Wrench Set No. 14 is the most complete and practical socket wrench set sold. This set includes every tool required by machinists, automobile repairmen and marine engineers.

Mossberg Socket Wrench Set No. 6B is a small but very practical and handy socket set for Automobiles, Motor Boats, Gas Engines, Pumps and all light machinery.

SOCKET WRENCH SET NO. 6 B.
Compact, Handy, Practical.

FRANK MOSSBERG CO. ATTLEBORO, MASS.

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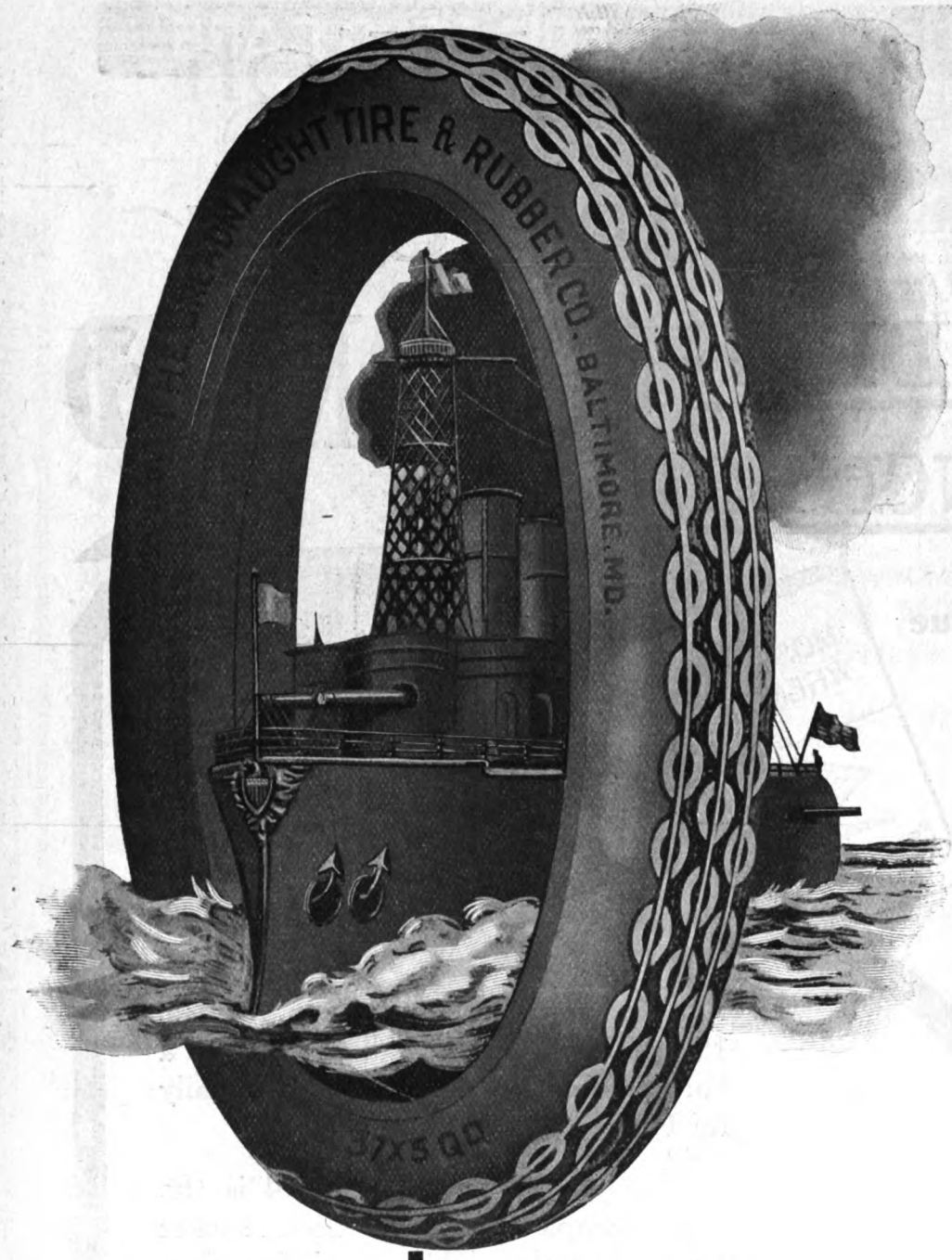

Dreadnaught Tires

"Built to Conquer"

Guaranteed 5000 Miles

DREADNAUGHT TIRE & RUBBER COMPANY

OF NEW YORK

Baltimore, Maryland

Mr. Reliable Dealer:

Are you looking for a real 5,000 mile tire?

One constructed to fulfill its written guarantee?

One you may adjust on the spot?

I have closed with a number of you and can make a very attractive exclusive selling proposition to a few more in this class.

Henry L. Pagani

General Sales Agent
1790 Broadway, New York

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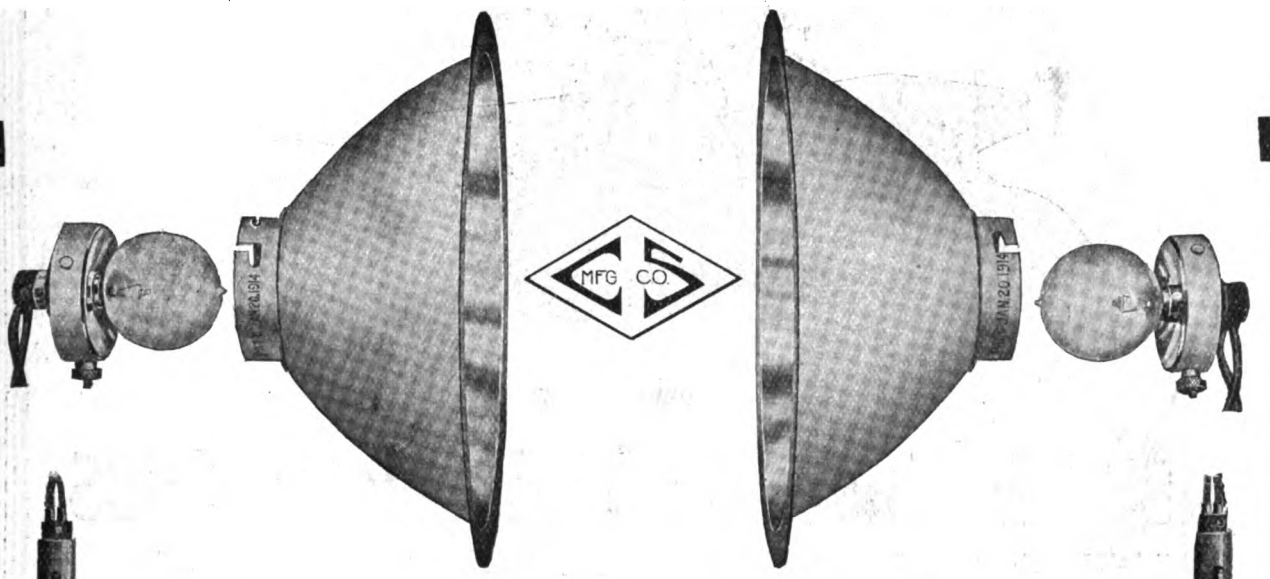
LIGHTING OUTFIT FOR FORD CARS



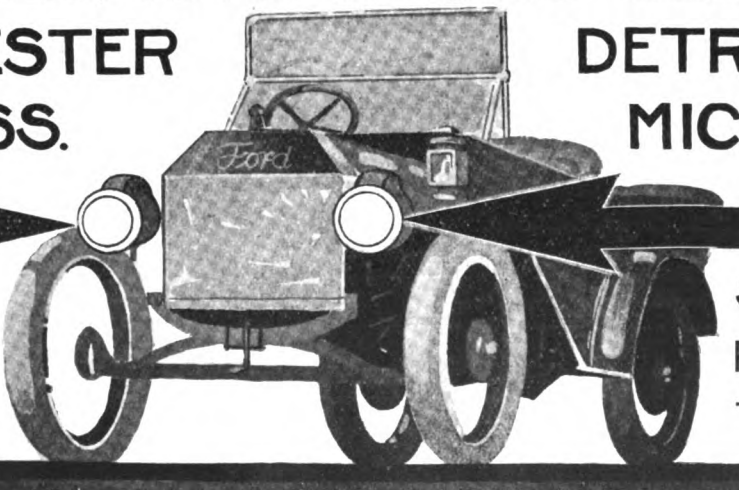
Operating Direct from any Ford Magneto

This Outfit Consists of one pair of C-S Patent Reflectors, Heavily Silver Plated, Together with the Necessary Wires, Bulbs, Switches, Ediswan Connectors, Etc.

CULVER-STEARNS MFG. CO.

WORCESTER MASS.

DETROIT MICH.



IMMEDIATE DELIVERY

SPECIAL PROPOSITION TO THE TRADE

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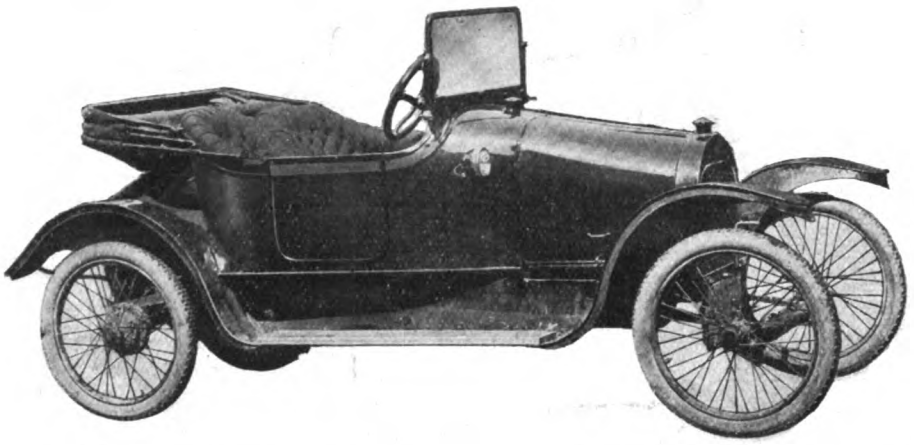

$485 The Salvador Light Motor $485

MOTOR CAR VALUE——CYCLECAR PRICE

Boulevard-Roadster. Plaza Model.

Four-Cylinder, Water Cooled, 15 Horsepower Motor, Three-Speed Selective Gear Shift, Cone Clutch, Shaft Drive, Cantilever and Quarter-Elliptic Springs, Left Side Drive, Wire Wheels, Center Control.

Every Refinement of the Big Car and All the Economy of the Cyclecar Type.

The Luxembourg Exterior Design of the Plaza Model Meets the Approval of Those Demanding Highest Quality.

The Salvador Is the Result of 12 Years' Experience with Motor Car Designing and Two Years of the Best American and European Machines.

The Creation of G. B. Mansur, formerly of the De Dion-Bouton Company of Paris, and Built to Meet the American Trade, the

Salvador Light Motor Car

Is Unequalled in the Small Car Classes.

It is Sold with AN ABSOLUTE GUARANTEE of MATERIALS and WORKMANSHIP.

AGENCY PROPOSITIONS

Agencies for Some Unassigned Territory Can Be Made. Proposals Must Be Received Immediately, as the 1914 Production Is Limited.

SPECIFICATIONS

MOTOR—4-cylinder, 4-cycle, 15 horsepower, water cooled, L head 70mmx100mm. Cast enbloc.

LUBRICATION — Self-contained, constant level splash and force system, plunger pump operated by camshaft.

COOLING—Water cooled, thermo-syphon system.

TRANSMISSION—Unit, with motor, crucible steel gears, double heat treated, oil hardened, running on ball bearings, three speeds forward, one reverse.

CLUTCH—Simple cone clutch, three-spring adjustable type.

FRONT AXLE—Tubular, with drop center, conventional type.

REAR AXLE — Bevel gear drive, patented non-skidding differential.

STEERING GEAR—Worm and sector type, with 15" steering wheel.

FRAME—Pressed steel, channel section.

SPRINGS—Front, ¼ elliptic; rear, cantilever.

WHEELS—Wire, 28x3 tires.

WHEELBASE—100" wheelbase, 42" tread.

CONTROL—Left hand drive, center control.

GASOLINE—Gravity feed tank, located under cowl.

BODY—Luxembourg design; boulevard-roadster type, streamline effect; Staggered seats with ample leg room; luxurious upholstery; parcel compartment in the rear.

SPEED—45 miles per hour. Plaza model, 65 miles per hour.

FINISH—Deep purple, black trimmings.

THE SALVADOR MOTOR COMPANY Factory, 28 Scotia St. Gen. Offices, 126 Massachusetts Av. **BOSTON, MASS.**

ADDRESS ALL COMMUNICATIONS TO GENERAL OFFICES

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Sell Lubrication Instead of Oil

YOU KNOW that a poor oil is dear at any price; that to its original cost should be added the cost of fixing engine troubles, grinding valves, additional gasoline consumed and power lost.

You know, too, that the difference between a cheap oil and the best lubricant a car owner can buy, costs him only $5 to $10 a year.

Tell your customers these facts. Sell them the best oil on the market. Give them **lubrication** for their money, and you will be selling them **service**—the foundation on which all modern business success is built.

VEEDOL

is a "quality" lubricant, a proven oil from Pennsylvania petroleum. It is the result of our 30 years' experience with lubricating oils. It gives **the most lubrication—least carbon deposit.**

Veedol, owing to its special filtration, contains ***no free carbon.*** No lubricating oil is perfect, in the sense that it will eliminate ***all*** friction. Veedol is the most nearly perfect ever produced.

We want responsible representatives for Veedol everywhere. It will be a business-builder for the dealer who handles it in any locality. If there is no AGENT near you, write at once for terms and full information of the intensive selling plan by which we are introducing Veedol to car owners in your neighborhood.

Platt & Washburn Refining Company

1 Broadway **New York City**

Incorporated 1885

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NEW DEPARTURE GUARANTEED BALL BEARINGS

AMERICAN MADE FOR AMERICAN TRADE.
UNEXCELLED QUALITY GUARANTEED.

We have established a special service for garages, repairmen, and dealers by appointing distribution agents in all sections of the country. These houses carry a stock of New Departures and can furnish the Single Row, Double Row, and Radax ball bearings for replacement and repair work on shortest notice and in the quickest time.

Order Your Bearings from the Distributor Nearest You and So Save Annoying Delays. Here Is a List of the Distributors:

ALBANY	Albany Hdw. & Iron Co.	Albany, N. Y.
ATLANTA	Elyea-Austell Company.	Atlanta, Ga.
BOSTON	Ahlberg Bearing Co.,	93 Mass. Ave.
BOSTON (Hyde Park)	Pruyn & Bilodeau,	1550 River St.
BUFFALO	Iroquois Rubber Co.,	279-283 Washington St.
CINCINNATI	Herman Bumiller Co.,	432 Main St.
CHICAGO	Ahlberg Bearing Co.,	2636 Michigan Ave.
	Chicago Pulley & Shafting Co.,	32-36 So. Clinton St.
CLEVELAND	Cray Brothers,	1111 West 11th St.
DENVER	Denver Auto Goods Co.	1600 Broadway.
	Fry & McGill,	1532 Broadway.
	M. L. Foss,	1729 California St.
DES MOINES	Herring Motor Supply Co.,	912-14 Locust St.
INDIANAPOLIS	Hearsey-Willis Co.,	Indianapolis, Ind.
KANSAS CITY	Motor & Machinists Supply Co.,	1519 Grand Ave.
LOS ANGELES	Western Rubber & Supply Co.,	1011 So. Olive St.
MINNEAPOLIS	Pence Automobile Co.,	800 Hennepin Ave.
NEW YORK CITY	Ahlberg Bearing Co.,	1790 Broadway.
	Jos. C. Gorey & Co.,	352 West 50th St.
	The Gwilliam Co.,	Broadway & 58th St.
	Pruyn & Bilodeau,	1876 Broadway, Cor. W 62d.
NORFOLK	Chemi Company,	438 Granby St.
OMAHA	The Lininger Imple. Co.,	1101 Sixth St.
PASADENA	Western Rubber & Sup. Co.,	66 So. Fairoaks Ave.
PHILADELPHIA	The Gwilliam Co.,	1314 Arch St.
PITTSBURGH	Machinists Supply Co.	Pittsburgh, Penn.
PORTLAND, MAINE	James Bailey Co.,	18 Free St.
PORTLAND, OREGON	Ballou & Wright,	Broadway & Oak St.
RICHMOND, VIRGINIA	Chemi Company,	629 East Main St.
ROCHESTER	Rochester Rubber Co.,	24 Exchange St.
SACRAMENTO	Kimball-Upson Co.,	609-11 K St., 608-15 Oak Ave.
ST. LOUIS	Fred Campbell,	1109 Locust St.
SALT LAKE CITY	Bertram Motor Supply Co.,	251 South State St.
SAN DIEGO	Western Rubber & Supply Co.,	1364 Fifth St.
SAN FRANCISCO	J. W. Leavitt & Co.,	301 Golden Gate Ave.
	Irvin Silverberg & Co.,	541 Van Ness Ave.
SEATTLE	Ballou & Wright,	817 East Pike St.
SPOKANE	Child, Day & Churchill Co.,	1215 First Ave.
SYRACUSE	Syracuse Rubber Co.,	212 So. Clinton St.
TACOMA	Automobile Supply Co.,	755 South C St.
TAMPA	American Supply Co.,	610-20 Tampa St.

The New Departure Manufacturing Co.

BRISTOL, CONNECTICUT

Western Branch:
1016-17 Ford Building Detroit, Michigan

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SHIPPING FACILITIES

PRICE SERVICE

ACCESSORIES

WAITE

SUPPLY COMPANY

WHOLESALE RETAIL JOBBERS

QUALITY

STOCK

THE BIGGEST STOCK
THE BEST PRICES
THE QUICKEST SERVICE

THE Waite big 1914 Catalogue, describing and illustrating the most carefully selected stock in America, is the BIG ASSET of every dealer in Accessories, Parts, Equipment, Supplies and Specialties, no matter where located. Everything from a Wrench to a Public Service Station Equipment is specified. Every price given is the lowest for the quality.

Three minutes from every shipping line means quick service.

You don't wait for Waite—he's there with the goods.

Every article is sold with the Ironclad Guarantee of "Money back if not satisfied".

The business of this house extends to all parts of America and has been developed on quality of goods, on QUICK DELIVERY, and Our Unqualified GUARANTEE.

Our catalogue tells you everything you want to know, all your customers want to know, and it can be had for a postal.

Dealers, add our resources to your business and do BIG BUSINESS.

WAITE AUTO SUPPLY COMPANY

81 EXCHANGE PLACE, PROVIDENCE, R. I.

TELEPHONES
UNION 3711 and 1771

CABLE ADDRESS
"WASCO"

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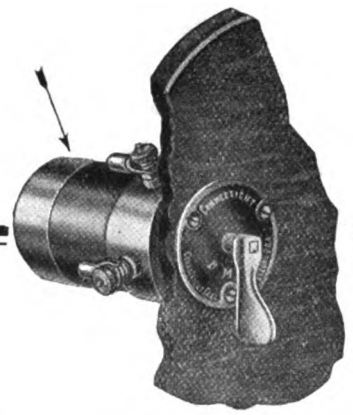


CONNECTICUT

Master Vibrator For Ford Cars

A dependable alternating current Master Vibrator at a reasonable price. Draws minimum current from magneto. Insures easy starting, more power and a smoother running motor.

The "Connecticut" is the smallest, neatest and most powerful Master Vibrator made for Ford Cars. Fits flush with dash—coil proper being located under the hood.

Sold under a guarantee of service. At your dealer's, $9.00—or delivered upon receipt of price.

Write for Bulletin No. 48.

CONNECTICUT Tel. and Electric CO., Inc.

MERIDEN, CONN.

CONNECTICUT

Shock Absorbers For Ford Cars

Real shock absorbers—not makeshift affairs. The same type as those used as regular factory equipment on Pierce-Arrow, Haynes, and other high-grade cars.

These special Ford Shock Absorbers insure added comfort, safety, greater tire mileage and greater life of the car.

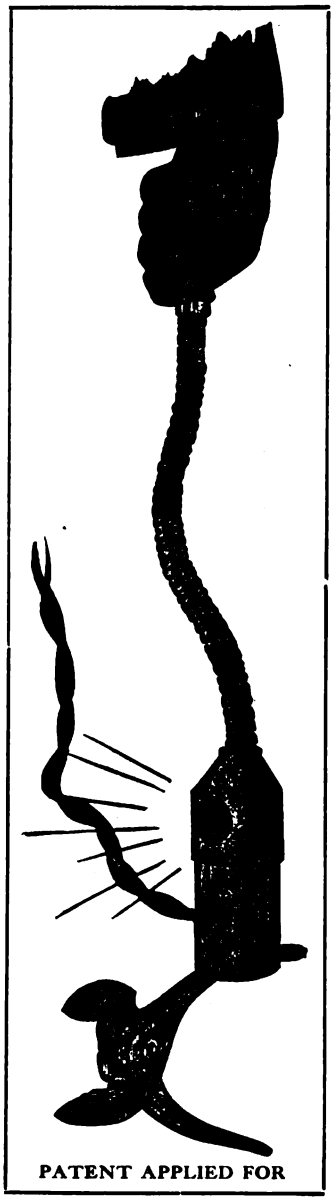
Remember, these are real Shock Absorbers—the most satisfactory, easiest to install and the least expensive. **$15.00** per set.

Write for Bulletin No. 46.

Connecticut Shock Absorber Co.

MERIDEN, CONN.

LITTLE GIANT



PATENT APPLIED FOR

MAGNETIC

Trouble Lamp

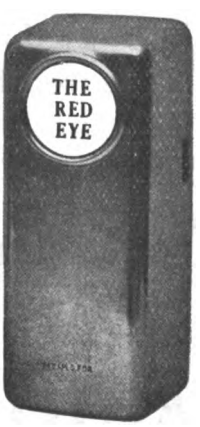
(Combination)

Price $3.00

Lights when you want it.
Sticks where you place it.
Dropped a Tool?
Picks it up when you want it to.
Lost a Nut?
Finds it when you fail to see it.
Is a combination —all that name implies.
Indispensable to Motorists.
Should be in every garage and with every car.

Price $3.00

RED EYE WARNS YOU



Patent Applied For

Right On The Dash

The Boston

Tail Light Detector

Tells you when your rear light fails to work—Saves you court fines and court records.
Easy to attach to all makes of cars —no electrician needed.

Guaranteed for life of car.

Price $5.00

Send for Dealers' Proposition

The Harding Specialty Company
755 Boylston Street, Boston, Mass.

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Pyrene MONEY MAKING

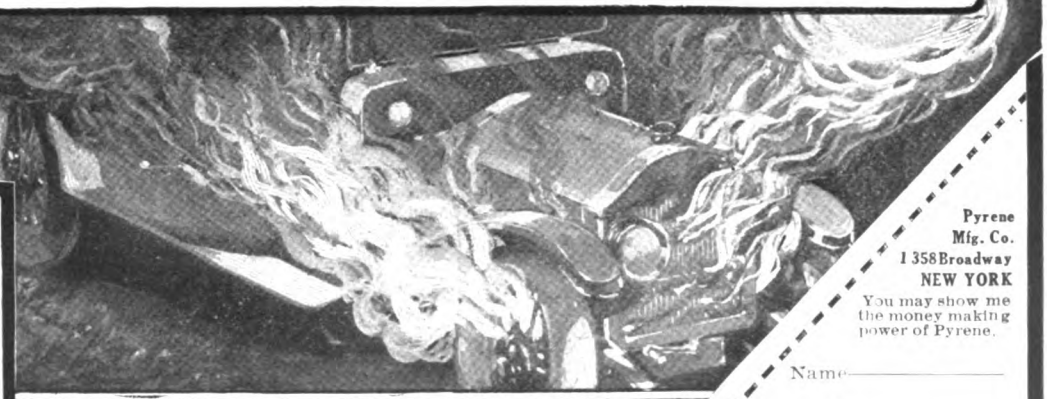
---Money Saving Proposition to Dealers

¶ Insurance premiums are actually reduced 15% when the car carries Pyrene, the most efficient fire extinguisher known to science on fires in highly inflammable materials. All leading companies allow this reduction which was originated by the Aetna Accident and Liability Company and the Automobile Insurance Company of Hartford.

¶ In most cases this saving alone more than pays for Pyrene the first year, while the saving during the succeeding years is "velvet".

¶ It should be easy to sell Pyrene, don't you think? And it is because Pyrene saves or makes money for everyone. You get yours on the sale; your customer gets his in lower insurance; and the insurance company get theirs in reduced fire losses.

¶ A campaign of publicity is carrying the good news of lower insurance rates to car owners throughout the United States. Several hundred thousand owners will shortly receive a bulletin direct from us, telling them to go to you for Pyrene and lower insurance rates. Get ready to handle this demand. We will gladly help you. Sign the coupon now and hook up with this money saving—money making proposition.



Pyrene
TRADE MARK

Brass and Nickle-plated Pyrene Fire Extinguishers are the only one-quart fire extinguishers included in the list of approved Fire Appliances issued by the National Board of Fire Underwriters.

PYRENE MANUFACTURING CO
1358 BROADWAY NEW YORK CITY

Pyrene
Mfg. Co.
1358 Broadway
NEW YORK

You may show me the money making power of Pyrene.

Name_____
Street No._____
City_____ State_____

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Listen to What DAVID L. GALLUP Says About Brake Lining

We print herewith an extract from Prof. Gallup's report at the conclusion of a series of tests made of different brands of brake lining. Five samples were submitted—the five which are most widely used in the industry. Prof. Gallup's report is in part as follows:—

"In carrying out these tests all the samples of brake lining were subjected to exactly the same treatment, the conditions chosen being, as nearly as possible, such as are met with in actual practice. The tests were conducted with the object of determining the characteristics of various samples with particular reference to—

No. 1 Braking Ability (Frictional Quality)
No. 2 Heat Resistance
No. 3 Wearing Qualities } **(Durability)**
No. 4 Effect of wear and heat upon the braking ability

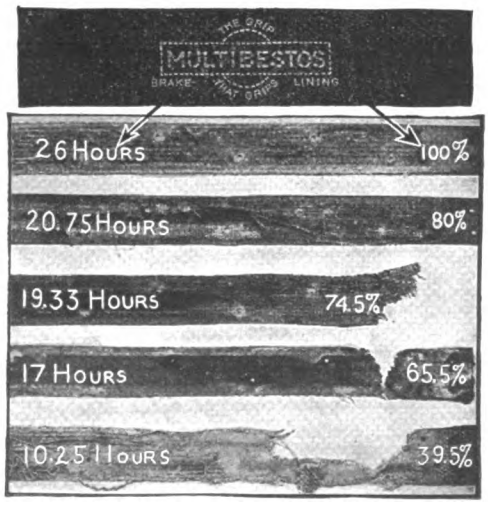
After a careful examination of the brake linings upon the completion of these tests, and an analysis of the results obtained, it is evident that MULTIBESTOS stands superior to the other brake linings tested with particular reference to the following points:—

Braking ability under all conditions of service
Durability
Resistance to effect from heat"

(Signed)

David L. Gallup.

DAVID L. GALLUP, M. E.
PROFESSOR GAS ENGINEERING, WORCESTER POLYTECHNIC INSTITUTE, AND IN CHARGE OF AUTOMOBILE TESTING LABORATORY.



Standard Woven Fabric Co.

FRAMINGHAM, MASS.

BOSTON, 903 Boylston St.
NEW YORK, 276 Canal St.
CHICAGO, 1430 Michigan Boulevard.
PHILADELPHIA, 1427 Vine Street.
SAN FRANCISCO, corner First and Howard Streets.

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. III. PAWTUCKET, R. I., APRIL, 1914. No. 12

VACUUM OIL COMPANY ADDS $10,000,000.

Big Tire Concern Incorporated in Connecticut---Financial Plans of U. S. Heat & Lighting Company and Kelly-Springfield Tire Company---Industrial News.

STOCKHOLDERS in the Vacuum Oil Company, Rochester, N. Y., may have opportunity to subscribe for $10,000,000 additional capital stock during the current year, the officials of that concern having had a plan for increasing the capital from $15,000,000 to $25,000,000 since the first of the year. It is stated that the new issue would greatly assist in the expansion of the business and bring the capital to a figure more nearly representing the net assets. The annual report shows the following comparative figures:

Assets.

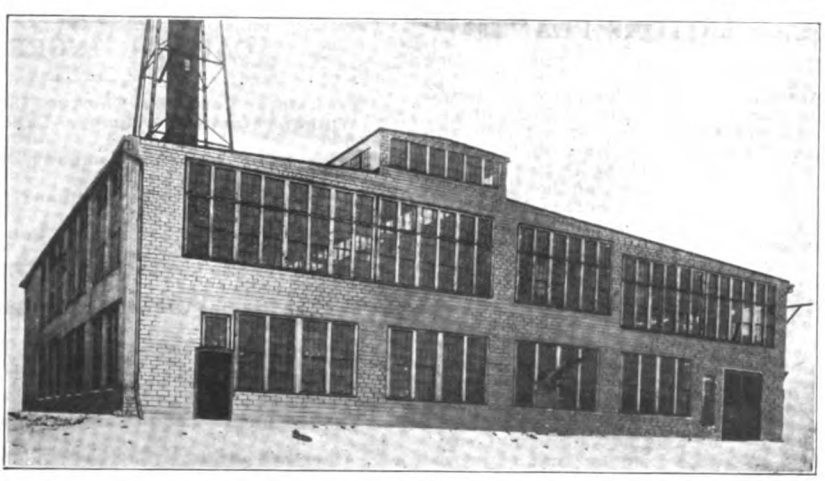
	1913	1912
Real estate, machines	$3,501,109	$3,138,907
Manufacturing, merchandise, material and stock in process	7,008,885	4,967,604
Cash and debts receivable	12,544,054	12,469,420
Stocks in other companies	11,430,136	11,422,126
Total	$34,484,184	$31,998,057

Liabilities.

Capital stock	$15,000,000	$15,000,000
Insurance reserve	100,840	.....
Accounts payable, floating indebtedness	2,232,295	2,322,781
Surplus	17,151,049	14,675,276
Total	$34,484,184	$31,998,057

Since the dissolution of the Standard Oil Company, the Vacuum Oil Company has built a refinery in Bayonne, N. J., and has spent large sums in extending its refining and marketing facilities in Russia, Austria-Hungary, Germany and Australia. The greater part of last year's surplus earnings is said to have been turned back into the property.

The capital was increased from $2,500,000 to $15,000,000 in February, 1912. The American oil plants are located in Rochester and Olean, N. Y., and Bayonne, N. J. The $11,430,136 invested in other companies is represented by branch houses distributed throughout the world. A semi-annual dividend of $3 has been declared, payable in May.



One of the New Factory Buildings Recently Completed by Kissel Motor Car Company, Hartford, Wis.

FORMS $1,500,000 TIRE COMPANY.

The Norwalk Tire & Rubber Company, Norwalk, Conn., has been incorporated with an authorized capitalization of $1,500,000, the incorporators being Earle Banks, John Pierce and Sayer Youngs. It is understood, however, that the controlling factor in the new concern is to be W. B. Miller, one of the organizers of the Diamond Rubber Company.

Mr. Miller was secretary and sales manager of the Diamond company throughout the period of its separate existence, and became an official of the B. F. Goodrich Company when the two concerns were merged in May, 1912. He disposed of his holdings in the Goodrich company and withdrew from active connection therewith about a year ago.

The Norwalk company is to start business with $200,000 paid in. The stock is to be divided into 5000 shares of preferred and 10,000 common, the former bearing seven per cent. A factory has been acquired at Winnipauk, Conn., a suburb of Norwalk.

NEW KISSELKAR PLANT.

According to information from Milwaukee, Wis., the Westinghouse Lamp Company, New York City, has made arrangements to take over the former Romadka trunk works in the former city for its western branch factory. This building has been occupied for some two years as a branch plant by the Kissel Motor Car Company, Hartford, Wis.

The latter company has recently completed 60,000 square feet of additions to its Hartford plant, one of which buildings is shown in an accompanying illustration. This will afford opportunity for consolidating the business of this concern at the main works.

The Kissel company entered the automobile industry in a

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building 50 by 100 feet, eight years ago. Today, with the completion of the additions mentioned, it has one of the best equipped plants in the country, where three KisselKar pleasure car models and six types of KisselKar trucks are produced.

RECOMMENDS BOND ISSUE.

The committee of investigation, composed of J. A. Sleicher, F. R. Humpage and Guy M. Walker, has recommended to the stockholders of the U. S. Light & Heating Company, Niagara Falls, N. Y., the authorization of an issue of $1,500,000 first mortgage, six per cent. bonds, running for 15 years, $100,000 of said bonds to mature three years from date, and $100,000 annually thereafter until the 15th year, when all the remaining bonds shall become due.

At present the company's business ranges from $180,000 to $225,000 a month, it is stated, and the committee estimates that about one-half of the net profits is eaten up by the lack of working capital. Through the recent removal of the New York City office and the consolidation of it with the factory in Niagara Falls, it is expected that an annual saving of $135,000 was effected.

NET PROFIT OF $1,115,600.

The annual report of the Indian Refining Company (of Maine) and subsidiary companies for the year ending Dec. 31, 1913, shows net earnings, after deducting all charges, of $1,115,601. The company set aside a general reserve of $610,465, equivalent to the year's first mortgage bonds sinking fund payments, against exhaustion of oil deposits and other contingencies. The balance sheet follows:

Assets.

Properties, pipe lines, storage tanks, real estate, selling stations, investments, etc....	$5,812,970
Inventories	830,369
Advances to salesmen and others	20,673
Accounts receivable	976,860
Bills receivable	13,943
Foreign accounts	78,660
Cash	675,332
Accounts in process of adjustment	450,000
Insurance fund assets	19,399
Sinking fund assets	62,271
Suspended organization expenses and unamortized flotation expenses	684,929
Profit and loss deficit, subject to shrinkage of deferred and suspended assets	2,714,879
Total	$12,340,286

Liabilities.

Capital stock outstanding	$6,000,000
Bonds	2,645,000
Second mortgage notes	1,923,600
Car trust obligations	395,000
Mortgage on Newark Meadows property	15,471
Vouchers and accounts payable	362,983
Bills payable	284,006
Interest accrued on funded and current liabilities	74,094
Unpaid and unclaimed dividends	10,268
Reserves	629,864
Total	$12,340,286

BUYS AMERICAN MOTORS PLANT.

The plant of the American Motors Company, Indianapolis, Ind., was sold to Samuel Winternitz & Co., Chicago, this concern making the highest bid of $110,000 at the sale held March 30. The sale is subject to the approval of Judge Albert A. Anderson in the United States district court in which the receivership and bankruptcy proceedings are pending. It is announced that it is the intention of the purchaser to resell the property piecemeal. No real estate was involved in the transaction.

LEASES ALCO PLANT SPACE.

The Singer Motor Company, the formation of which was announced recently by interests formerly identified with the Palmer & Singer Manufacturing Company, Long Island City, N. Y., has leased a large section of the service building in that city, owned by the American Locomotive Company, and at one time used by that concern as a service station for Alco cars. Experimental machines will be produced in this plant, pending the completion of arrangements for a factory site in that city.

KELLY-SPRINGFIELD TIRE PLAN.

A special meeting of the stockholders of the Kelly-Springfield Tire Company, New York City, has been called for May 4, to consider the plan proposed by the directors for retiring the four per cent. income debenture bonds of the company, by issuing therefor, par value, of six per cent. cumulative preferred stock, on the basis of one share of said stock of the par value of $100 for each $100 face value of said income debenture bonds.

The plan further contemplates the funding of the 78½ per cent. of dividends accumulated upon the present issue of six per cent. preferred stock, by the issuance of seven per cent. cumulative second preferred stock in payment therefor; each share of said seven per cent. cumulative second preferred stock, if authorized, to be convertible into one share of common stock, at the option of the holder thereof, at any time within 10 years from July 1, 1914.

The annual report of the company, as of Dec. 31, 1913, shows the following:

Assets.

Cash	$145,733
Notes and accounts receivable	535,121
Prepaid charges	33,979
Inventories	1,231,608
Plant, accounts, patents, trade marks, good will, etc.	7,888,618
Total	$9,835,060

Liabilities.

Preferred stock	$1,149,500
Common stock	4,000,000
Accounts payable	17,938
Reserve accounts	352,784
Accrued charges	14,037
Stock of subsidiary companies	500
Debenture bonds	2,850,500
Surplus	1,449,800
Total	$9,835,060
Gross profit	$1,264,567
Operating and administrative expense	716,189
Net operating income	$548,378
Other income	43,376
Total income	$591,754
Interest	32,210
Net profit, not including profit on goods sold but not delivered	$559,544

DIVIDENDS DECLARED.

General Motors Company Detroit; semi-annual, preferred, 3½ per cent.; payable May 1 to stock of record April 6.

United States Rubber Company New York City; quarterly, common, 1½ per cent.; first preferred, two per cent.; second preferred, 1½ per cent.; payable April 30 to stock of record April 15.

Chicago Pneumatic Tool Company, Chicago, quarterly, one per cent.; payable April 25 to stock of record April 15.

Willys-Overland Company, Toledo, O.; quarterly, common, 1½ per cent.; payable May 1.

Vacuum Oil Company, Rochester, N. Y.; semi-annual, $3; payable May 15 to stock of record May 5.

Pyrene Manufacturing Company, New York City; 1½ per cent.; payable May 1.

CAPITAL INCREASES.

Fiat Motor Company, Chicago, $2000 to $8500.

Walker Starter Company, Laporte, Ind., $30,000 to $50,000.

Bijur Motor Lighting Company, New York City, $600,000 to $650,000.

Detroit Auto Dash Company, Detroit, $15,000 to $30,000.

Ferro Machine & Foundry Company, Cleveland, O., $600,000 to $850,000.

Forest Street Garage Company, Gloversville, N. Y., $8000 to $15,000.

Duplex Engine Governor Company, New York City, $150,000 to $175,000.

Percival Auto Repair Company, St. Louis, Mo., $2000 to $6000.

Dayton Rubber Company, Dayton, O., $150,000 to $1,000,000.

Globe Machine & Stamping Company, Cleveland, O., $25,000 to $100,000.

American Rotary Valve Company, Chicago, $750,000 to $1,000,000.

American Motor Truck Company, Detroit, $5000 to $50,000.

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QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities, during the past month is indicated by the tabulation below, which shows the high marks reached by the several securities listed each week, and in comparison with the conditions existing at the same time last year. For the most part the market has been fairly steady, the few fluctuations being largely the result of normal conditions. Strictly automobile stocks and those of tire companies have shown the most marked advances. When comparison is made with the prices prevailing in 1913, it will be noted that the market still continues to reveal a satisfactory situation.

	March 16		March 23		March 30		April 6		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb Rubber, com	200	..	200	..	200	..	200	..	150	165
Ajax-Grieb Rubber, pfd	99	102	99	102	99	102	99	102	94	98
Aluminum Castings, pfd	98	100	98	100	98	100	98	100	98	100
Borne-Scrymser	300	310	295	305	295	305	290	300	..	..
Case, J. I., pfd	80	87	83	87	82½	89	82½	87	..	..
Chalmers Motor, com	80	84	80	83	..	83	82½	88	120	125
Chalmers Motor, pfd	92	94	92	94	90	94	90	94	100	102½
Firestone Tire & Rubber, com	284	290	285	292	285	292	280	285	272	280
Firestone Tire & Rubber, pfd	108½	110	108½	110	108	109	107½	109	103	106
Garford Co., pfd	80	90	80	90	80	90	80	90	60	75
General Motors, com	75⅝	76	76⅜	76¾	75½	77	77⅞	78½	30¼	33
General Motors, pfd	92½	93	94	94½	94⅛	94½	94	94½	77½	80
Goodrich, B. F., com	23⅛	23¾	23	23¾	26½	26⅞	27⅛	27¼	32½	33
Goodrich, B. F., pfd	87	89¾	86	90	88¼	88⅜	88	89½	94	95½
Goodyear Tire & Rubber, com	180	185	175	180	175	180	165	170	330	340
Godyear Tire & Rubber, pfd	93½	95	94	95	94	95	96	99	100	101½
Gray & Davis, pfd	90	97	90	97	90	97	90	97	..	..
International Motor, com	..	5	..	5	..	5	..	5	5	10
International Motor, pfd	..	15	..	15	..	15	..	15	30	40
Kelly-Springfield Tire, com	59	60	59	60	59	60	59	60	15	20
Kelly-Springfield Tire, pfd	140	145	145	150	145	150	145	150	..	79
Lozier Motor, com	13	16	15	..	19	..	19	..	..	..
Lozier Motor, pfd	..	65	..	65	..	65	..	65	..	..
Maxwell Motor, com	.8¼	8¾	8¼	8¾	8	8¾	7	7½	5	10
Maxwell Motor, 1st pfd	34	35	33½	35	34	35	34	35	50	70
Maxwell Motor, 2nd pfd	12½	13	13	13½	13	13½	13	13½	20	35
Miller Rubber	128	133	135	141	135	141	135	140	176	180
New Departure Mfg., com	118	123	121	122	122	123	122	123	..	..
New Departure Mfg., pfd	105	107	106	108	106	108	105	106	..	..
Packard Motor Car, com	101	116	102	116	102	116	103	..	..	..
Packard Motor Car, pfd	95	98	95	98	95	98	94	98	..	..
Peerless Motor Car, com	20	30	20	30	20	30	20	30	35	45
Peerless Motor Car, pfd	..	80	..	80	..	80	..	80	95	100
Pope Mfg. Co., com	1	3	1	3	2	5	2	5	17	22
Pope Mfg. Co., pfd	13	17	13	17	12	16	12	16	54	57
Portage Rubber, com	..	35	..	35	..	30	..	30	38	42
Portage Rubber, pfd	..	90	..	90	..	85	..	85	90	94
Reo Motor Car	18½	19¼	18¾	19¼	19	20	19¼	19¾	21	22
Reo Motor Truck	8	8½	7	8¼	7	8¼	7	8¼	11¾	12½
Rubber Goods Mfg., pfd	106	115	106	115	105	110	105	110	100	105
Splitdorf Electrical	40	50	40	50	40	50	40	50	..	..
Stewart-Warner Corp., com	56½	57½	58½	60½	61½	62½	61½	62½	..	..
Stewart-Warner Corp., pfd	100	101	100	101	99½	102	100	102	..	..
Studebaker Corp., com	30	30½	31¾	32	35⅝	35⅞	34⅛	34⅜	30	33
Studebaker Corp., pfd	83	85	85½	86	86	86½	85	86⅛	90½	92½
Swinehart Tire & Rubber	69½	70½	60	67	60	67	60	67	92	95
Texas Co	148½	149¼	148	149	147	147½	146	146½	..	..
U. S. Rubber, com	62⅛	62⅜	62	62½	62¼	63	61	61½	66½	66¾
U. S. Rubber, 1st pfd	103½	103⅞	104	104¼	104	104½	104	104½	108	108½
Vacuum Oil	250	253	251	254	251	254	240	243	..	..
White Co., pfd	107	110	107	110	107	110	107	110	107½	109
Willys-Overland, com	66	68	64	67	65	67	60	67	64	69
Willys-Overland, pfd	94	98	91	96	89	94	89	94	92	98

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for the commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison. The most marked change is in Kansas crude petroleum, which dropped 15 cents within a week, this applying also to Oklahoma crude, said to be due to over production.

	March 16		March 23		March 30		April 6			
	High	Low	High	Low	High	Low	High	Low	Mch. 14	Apr. 13
Antimony, lb	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾
Iron, Fdy., S, ton	10.75	10.50	10.75	10.75	10.75	10.75	10.75	10.75	10.50	10.75
Iron, Fdy., N, ton	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Steel, open hearth, ton	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Beams and chan., 100 lbs	1.36	1.36	1.36	1.31	1.31	1.31	1.31	1.31	1.36	1.31
Copper, elec., 100 lbs	14.35	14.10	14.40	14.35	14.62½	14.40	14.62½	14.60	14.05	14.50
Copper, lake, 100 lbs	14.50	14.25	14.60	14.50	14.75	14.55	14.75	14.75	14.25	14.75
Lead, 100 lbs	4.00	4.00	4.00	3.90	3.80	3.80	3.80	3.80	4.00	3.80
Tin, 100 lbs	38.25	37.75	38.70	38.12½	37.95	37.20	37.20	36.70	37.62½	36.75
Petroleum, Kan. cr., bbl	1.05	1.05	1.05	1.05	1.05	1.05	1.05	.95	1.05	.90
Petroleum, Penn. cr., bbl	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Linseed oil, raw	.54	.53	.54	.54	.54	.54	.54	.54	.53	.54
Rapeseed oil, refined	.59	.59	.59	.59	.59	.59	.59	.50	.59	.50
Lard oil, prime	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Fish oil, Menhaden, br	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
Sulphuric acid, 60	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Cyanide potash, lb	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
Cottonseed oil, bbl	7.40	7.25	7.45	7.40	7.51	7.30	7.56	7.43	7.25	7.56
Sea Island cotton	.23½	.23½	.23½	.23½	.23½	.23½	.23½	.23½	.23½	.23½
Silk, raw, Japan	4.50	4.27½	4.47½	4.25	4.47½	4.20	4.50	4.40	4.50	4.45
Silk, raw, Italy	5.15	4.90	5.15	4.85	5.15	4.80	5.10	5.10	5.15	5.10
Rubber, fine up-river Para	.75	.75	.75	.74	.74	.74	.74	.74	.74	.74
Tire, scrap	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½	.04½

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

10,053—Minnesota Dealer wants the agency for cars selling between $750 and $2000.

10,057—Ohio Firm is in the market to represent machines ranging in price from $750 to $1000.

10,059—New York House wants to secure the agency for pleasure cars listing in price from $450 to $1000.

10,061—Minnesota Firm is anxious to secure the agency for cars selling from $400 to $8000.

10,065—Michigan Firm is in the market to represent a line selling from $450 to $1500.

10,066—South Dakota Dealer wants to secure the agency for machines selling from $400 to $600.

10,069—Illinois House would represent a pleasure car selling from $350 to $1000.

10,072—Wisconsin Concern is anxious to secure the agency for pleasure cars selling from $1000 to $1050.

10,075—Ohio Company would consider an agency proposition for machines selling from $1285 to $2250.

10,078—Nebraska Dealer would like to represent a standard make of pleasure cars selling from $500 to $1500.

10,079—Kentucky Dealer is in the market to represent cars selling from $950 to $2000.

ELECTRIC PLEASURE CAR AGENCIES.

500—Ohio Firm would consider an agency proposition for electric pleasure cars selling from $290 to $3500.

505—Wisconsin Dealer is in the market to represent a line of electric pleasure vehicles ranging in price from $350 to $600.

510—Kentucky Company would represent a line of electric pleasure cars selling from $1200 to $3500.

COMMERCIAL CAR AGENCIES.

6090—Kentucky House wants to represent a line of gasoline commercial vehicles ranging in price from $1000 to $1900.

6093—Wisconsin Firm wants a light delivery truck selling from $600 to $1000.

6098—Iowa Concern is in the market to represent a gasoline commercial car selling from $750 to $2500.

CYCLECAR AGENCIES.

1743—New York Firm is seeking information regarding a first class line of cyclecars.

1745—Illinois House is interested in cyclecars and would take the agency for a line selling from $250 up.

1748—Wisconsin Dealer is in the market to represent a first class line of cyclecars selling from $300 up.

1751—Kentucky Concern wants to represent a cyclecar selling from $250 to $450. One having a four-cylinder, water cooled motor and standard tread.

1754—California Firm is in the market to represent a line of cyclecars selling from $350 to $400.

1758—Oklahoma House would represent a standard line of cyclecars ranging in price from $350 to $450.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

300—Michigan House is in the market for asbestos, axles, bearings, bolts, brakes, cable, cylinders, discs, frames, guards, guns, hammers, headlights, horns, hose, hubs, lubricators, magnetos, metal parts, packing, paint, plugs, races, ratchet drills, sockets, speedometers, spokes, springs, stampings, starters, steering wheels, tires, tools, tops and parts, transmission, trimming, tubing, upholstery, washers, wash stands, waste, wheels, windshields and wrenches.

306—Kansas Firm is interested in bearings, cable, carburetors, gears, pistons and air tanks.

309—Wisconsin Concern wants asbestos, belts, bolts, carbide, carburetors, castings, cements, chains, coils, curtains, doors, fans, gasoline, gears, horns, jacks, lamps, levers, machinery, magnetos, maps, motors, mufflers, nuts, packing, patches, pistons, plugs, polishes, radiators, carbon removers, rubber, screws, shock absorbers, soaps, speedometers, spokes, springs, steel, steering wheels, switchboards, tanks, tape, testers, timers, tire accessories, tires, tools, tops and parts, transmissions, trimmings, trunks, tubing, valves, vulcanizers, washers, waste, wearing apparel, wheels, whistles, windshields, wire and wrenches.

316—Ohio Dealer is anxious to secure the following: Air compressors, batteries, bumpers, carburetors, headlights, horns, lamps, printed matter, shims, starters and vulcanizers.

317—Nebraska House is interested in the following: Air compressors, air pumps, axles, batteries, bearings, bulbs, camshafts, carbide, carburetors, cements, chains, charging apparatus, coils, commutators, cylinders, dynamos, fenders, gasoline gauges, graphite, headlights, hoists, hose, hubs, hydrometers, jacks, joints, knuckles, lathes, magnetos, motors, pinions, pistons, radiators, reflectors, rims, scrapers, tanks, tires, tools, transmissions, valves, vulcanizers, waste, wheels and windshields.

320—Missouri Dealer wants air compressors, air pumps, anti-rattlers, autogeneous welding equipment, batteries, bearings, belts, bolts, brakes, brushes, bulbs, bumpers, burners, cabinets, cable, caps, carbide, carburetors, cases, celluloid, cements, chains, charging apparatus, clamps, clips, coils, commutators, cones, connectors, cups, cutters, fans, fenders, fire extinguishers, gauges, generators, goggles, headlights, heaters, horns, hose, hydrometers, ignition, jacks, lamps, locks, lubricators, magnetos, nuts, packing, platinum, plugs, polishers, primers, pumps, radiators, reamers, reflectors, carbon removers, rims, rubber, scrapers, screws, shock absorbers, soaps, solder, speedometers, springs, starters, switches, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, trunks, tubing, voltmeters, vulcanizers, waste, wearing apparel, windshields, wire and wrenches.

323—Virginia Firm wants speedometers for Ford cars and starters for Maxwell model 25 car.

324—Michigan House is in the market for bodies, brakes, castings, emblems, fans, fenders, frames, gears, knuckles, radiators, springs, starters, steering wheels, tanks, tubing, valves, wheels and windshields.

330—Illinois Company is in the market for air compressors, bumpers, carburetors, celluloid, chains, curtains, engines, headlights, horns, lamps, magnetos, motors, polishes, primers, reflectors, carbon removers, shock absorbers, soaps, speedometers, starters and vulcanizers.

333—Kentucky Firm is interested in the following: Air compressors, air pumps, axles, gaskets, jacks, mechanical starters, odometers, carbon removers, tops and parts, waste and wheels.

341—California House is in the market for air starters for Maxwell cars, model 25; also air pumps, anti-rattlers, asbestos, axles, batteries, bearings, belts, bodies, boilers, bolts, brakes, brushes, bumpers, burners, cabinets, camshafts, carbide, cases, castings, chains, charging apparatus, clamps, clips, cloth, clutches, commutators, couplings, curtains, cutters, cushions, cylinder machines, dashes, dimmers, discs, doors, drills, drums, dynamometers, fans, fasteners, fenders, fire extinguishers, forgings, frames, gaskets, gauges, gears, glass, goggles, grinders, guards, hammers, headlights, heaters, hoists, holders, horns, hose, injectors, jacks, jigs, joints, knuckles, lamps, lathes, leather, levers, locks, maps, metal parts, meters, measuring instruments, motors, nuts, odometers, paints, pans, patches, pedals, pins, pistons, plugs, polishes, pullers, pulleys, pumps, punches, racks, reamers, reflectors, carbon removers, rests, rims, rods, rubber, scrapers, screws, seachlights, seats, shims, shock absorbers, soaps, sockets, speedometers, spokes, springs, starters, steering wheels, steps, strainers, switchboards, switches, tanks, tape, terminals, testers, tire accessories, tires, tools, tops and parts, transmissions, trimmings, trunks, tubing, upholstery, valves, varnishes, ventilators, vises, vulcanizers, wash stands, wheels, whistles, windshields and wire.

TRADE LITERATURE WANTED.

201—Virginia House would like catalogues from manufacturers of automobile supplies, garage equipment and machine tools.

204—Michigan Firm wants catalogues and price lists from manufacturers of garage equipment, supplies and repair shop supplies.

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GENERAL NEWS OF THE MANUFACTURERS.

The Hermann Engineering Company, Detroit, is now manufacturing a small four-cylinder motor to be used in small cars or cyclecars. The company is producing these motors in large numbers. The engine is block cast and is 2.5 by 4 inches. Being water cooled, it is stated that the weight can be reduced to 155 pounds. The normal weight is 170 pounds, the difference being due to the quantity of iron or aluminum optionally used.

The Electric Storage Battery Company, Philadelphia, in its annual report for the year ending Dec. 31, 1913, shows that the earnings on the outstanding shares of $16,094,425 common and $155,000 preferred stock amounted to $1,208,755, compared with $1,125,279 in 1912. The surplus warrants the payment of dividends at the rate of 7.44 per cent., as compared with 6.92 per cent. for 1912, a gain of .52 per cent. for the past year. The company is in a most prosperous condition.

The Dayton Rubber Manufacturing Company, Dayton, O., has increased its capital stock to $1,000,000, and is making extensive improvements. The company contemplates building a new and up-to-date plant.

The Newerf Rubber Company, Los Angeles, Cal., is erecting a large tire plant at Pico and Hope streets. This company is also building a large factory at Compton, a few miles from Los Angeles.

The H. W. Johns-Manville Company, New York City, has opened a service station at Milwaukee, Wis. It is located at 96 Second street and is another link in the chain of 49 service stations in the principal cities throughout the United States and Canada. The main garage floor accommodates eight automobiles at one time and is in charge of an expert mechanic. A large salesroom for the display of the J-M auto accessory line occupies a portion of the front of this building, while the upper floor is laid out as a stockroom of large proportions.

The Alter Motor Car Company, Detroit, has purchased a tract of land at Plymouth, Mich., and is erecting a factory on the site for the purpose of manufacturing the Alter cars. The main offices will be located at Detroit.

The Bosch Magneto Company, New York City, announces that the following motorcycles are regularly equipped with Bosch magnetos: Dayton, De Luxe, Eagle, Excelsior, Harley-Davidson, Iver Johnson, Jefferson, Michaelson, Minneapolis, Merkel, Pope, Reading-Standard, Thor and Yale.

The Packard Motor Car Company, Detroit, held a convention for its truck sales managers recently. Twenty-one managers of stations in different parts of the country attended. Hereafter sales of Packard trucks will be credited to the sales managers, and the winning truck manager and his organization will get a pennant and a $500 bull dog at the end of the season.

The Kellogg Manufacturing Company, Rochester, N. Y., has been forced to open a branch office in Detroit in order to meet the demands of motor car manufacturers. Charles S. Monson, formerly of Gray & Davis, is manager. The company is now presenting tire pumps in several models of one, two, four and six-cylinder types, so that manufacturers may be able to select from a variety of pumps at various prices.

The Mogul Motor Truck Company, St. Louis, Mo., held its annual meeting recently and elected the following officers: President, George C. Griffint; vice president, P. R. Walsh; secretary, John T. Hicks.

The American Bronze Company, Berwyn, Penn., is receiving bids on an enlargement to its works which will increase the capacity of the finishing department about 75 per cent., and increase the capacity of the foundry department about 40 per cent. The company has also just erected and equipped a complete testing and experimental laboratory where daily tests of the product, and research work are to be conducted. This department is in charge of Leighton Dunning, M. E.

The National Carbon Company, Cleveland, has purchased a large tract of land from the American Ever Ready Company, Long Island City, N. Y. The property has a frontage of 200 feet on Thompson avenue, 200 feet on Mott avenue and 600 feet on both Manley and Orton streets. The whole of the property will be covered by a large factory.

The Nyberg Automobile Company, Anderson, Ind., contemplates erecting a modern factory at Berlin, Ont.

The Sandusky Auto Parts & Motor Truck Company, Sandusky, O., was sold, under the orders of the federal court recently, to James J. Dauch, president of the Hinde & Dauche Company, for $78,000.

The Reeves Engineering Company, Mount Vernon, O., at a recent meeting, confirmed the action of the board of directors in selling the property to the Hope Forge and Machine Company, which will manufacture gas engines in addition to other machinery.

The Mercury Cyclecar Company, Detroit, held its annual meeting recently and elected the following officers: President, W. J. Marshall; vice president, H. A. Burnett; secretary and treasurer, R. C. Albertus.

The Studebaker Corporation, Detroit, during the month of February exported daily more than 40 Studebaker cars to its distributors in Great Britain, Europe, Australia, Singapore, South Africa and the Far East. An accompanying illustration shows a corner of shipping department in No. 3 plant of the Studebaker Corporation, Detroit. To facilitate handling, each car is placed in a crate, its wheels, top, windshield and general equipment being especially packed for the long journey.

A Corner in the Shipping Department of the No. 3 Studebaker Plant, Detroit, Showing Crew of Men Boxing the Automobiles for Export.

The Pittsburg Model Engine Company, Peru, Ind., has purchased the property of the Model Gas Engine Works, and is erecting a new factory at Pittsburg. The Peru plant will hereafter be operated as a branch of the Pittsburg plant. The officers of the new company are as follows: President, W. J. Strassburger; vice president, E. A. Myers; treasurer, J. F. Keenan; secretary, J. W. Littlejohn.

The Kline Motor Car Company, Richmond, Va., through a deal closed recently, will manufacture the whole of its product at the local plant in Richmond. James A. Kline has bought the plant of the Kirkham Motor Manufacturing Company, Bath, N. Y., at a receiver's sale. Included in the purchase is a lot of rough and finished material which will be shipped to Richmond at once so that there will be no delay in building the motors for the cars now under construction.

The Fedders Manufacturing Company, Buffalo, N. Y., has just brought out a radiator especially designed for Ford cars. The new radiator can be changed easily, it only being necessary to unbolt and remove the old radiator and attach the new.

The Midgely Tire & Rubber Company, Columbus, O., has purchased the plant of the Flint Glass Company at Lancaster, O., and intends to use it for a tire factory as soon as it is remodelled and new machinery installed.

The Peters Machine & Manufacturing Company, Cleveland, O., makers of transmissions, front and rear axles and steering gears, contemplates building a factory at 7320 Madison avenue. The building will be 80

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by 209 feet and will be one story, of brick and steel. The foundation will be so constructed that a second story may be added as the business expands.

The Batavia Rubber Company, Batavia, N. Y., has just completed a considerable addition to its plant. The expansion has permitted the capacity to be increased from approximately 100 to 300 tires a day.

The Standard Motor Truck Company, Warren, O., has accepted plans for additions to its plant, which will enable it to greatly increase its output of one, 1.5 and two-ton trucks.

The Rex Motor Car Company, Ford, Mich., is erecting a factory in that place, where the company will build a low priced car, selling for about $400. It will be larger than a cyclecar and will have a front wheel drive. Charles H. Blomstrom is superintendent.

The Hawkins Cycle Car Company, Xenia, O., has decided to name the new cyclecar to be manufactured by the company the Xenia.

The Gurney Ball Bearing Company, Jamestown, N. Y., has opened a branch office at Detroit in the Dime Bank building. An engineering department has been established by Otto Bruenauer, who is the western sales manager.

The Detroit Pneumatic Tire Company, Detroit, held its annual meeting recently and elected the following officers: President, W. Wilson; vice president, Peter J. Jeup; secretary, T. S. Sprague; treasurer, W. C. Moran.

The Pennsylvania Shafting Company, Spring City, Penn., is planning to add to its list of products a new line, having acquired the exclusive rights to manufacture in the United States the Wright taper roller bearings for automobiles, motor trucks, etc. Additional equipment will be installed.

The Lyons-Atlas Company, Indianapolis, Ind., recently opened its handsome new display rooms at Pennsylvania and New York streets, where Lyons-Knight cars will be presented for the local trade. The accompanying

New City Salesroom of the Lyons-Atlas Company in Indianapolis, Ind., Decorated for "Opening Week".

illustration indicates the appearance of the building as decorated for the recent "Opening Week", which was celebrated by the Indianapolis dealers, in lieu of the annual automobile show.

J. P. Gordon & Co., Columbus, O., manufacturer of storm fronts, hoods, tops, etc., is now located at 280 North Fourth street.

The Universal Battery Company, Chicago, has purchased a factory building at La Salle and 35th streets, and will establish a plant for the manufacture of storage batteries.

The Holihan Manufacturing Company, Detroit, has taken over the plant formerly occupied by the Anguish Manufacturing Company and will make fenders, hoods, radiators, etc., for automobiles.

The Norma Company of America, New York City, makers of Norma ball, roller, thrust and combination bearings, announces the removal of its offices from 20-24 Vesey street to 1790 Broadway, New York City.

The Dayton Airless Tire Company, Dayton, O., will enlarge its plant.

The Way Muffler Company, Wilmington, Del., is considering plans to establish a factory in that city.

The Gadabout Motor Company, which brought out the Gadabout cyclecar in Detroit, has located at Newark, N. J., where a large factory, completely equipped, has been secured.

The Lozier Motor Company plants at Detroit and Plattsburg are working to full capacity, with orders for 5000 cars on hand for early production. It is expected by Mr. Pollard, manager for the company, that 40 cars a day will be the production within a short time.

The Hendee Manufacturing Company, Springfield, Mass., is now turning out between 200 and 220 motorcycles daily, and is planning for a minimum production of 50,000 cars this year. Sales are reported as being 75 per cent. more than a year ago at this time.

The Boston Batavia Rubber Company, Boston, in its annual report, makes the following statement of assets and liabilities: Cash and debts receivable, $26,753; manufacturing and merchandise, $349; furniture and fixtures, $166; good will, $2500. Total, $29,768. Capital, $7500; accounts payable, $1677; surplus, $20,591. Total, $29,768.

The Commerce Motor Car Company, Detroit, manufacturer of the Commerce trucks, has opened a branch at 1905 East 13th street, Cleveland, O. G. J. Kellogg, who is treasurer of the company, has charge of this branch.

The Driggs-Seabury Ordnance Corporation, Sharon, Penn., has secured the services of C. W. Richards as superintendent of production. Mr. Richards was for several years factory manager of the plant of the Stevens-Duryea Company, Chicopee Falls, Mass.

Dodge Bros., Detroit, will cease to manufacture parts for the Ford Motor Company in July, and will commence to manufacture a car of its own design. The dimensions of the motor of the new car are given as 3.875x4.5 inches, with a Renault type of hood. The car will probably sell for $800.

The Maryland Electric Vehicle Manufacturing Company, Baltimore, Md., has been incorporated to manufacture the Maryland electric commercial car. The company has opened its factory and will make a feature of 1000-pound vehicles to sell for $1250. The company will also make cars up to 10,000 pounds. William Knoblock is manager.

The Hartford Auto Parts Company, Hartford, Conn., has contracted to supply the American Cyclecar Company, Bridgeport, Conn., with $200,000 worth of parts for its cyclecar. Transmissions will constitute the main part of the order.

The Northern Engineering Works, Detroit, has undertaken the manufacture and sale of the Thurber rotary starter, and the business of the Thurber Rotary Starter Company will be handled by it through its Thurber rotary starter department.

The Universal Tire Company, Los Angeles, Cal., has purchased the Dryfus Winery at Anaheim, Cal., for the purpose of establishing an automobile tire factory.

The Mansfield Tire & Rubber Company, Mansfield, O., has completed its three-story addition and it will soon be ready for occupancy.

The Briggs Manufacturing Company, Detroit, which manufactures automobile bodies, has acquired the large plant formerly occupied by the A. C. Knapp Trimming Company. It is three stories high and is 200 by 210 feet.

The Crown Motor Company, New Albany, Ind., has purchased from Ferdinand Kahler the automobile factory on Vincennes street formerly occupied by the Ohio Falls Motor Car Company. The price paid was $50,000. A representative of the company states that the concern will employ 600 men and that 10,000 machines will be manufactured between now and Sept. 1.

The Amplex Manufacturing Company, Mishawaka, Ind., will produce a medium priced six-cylinder car designed by E. J. Gulick, who was the former engineer of the Simplex Company. The designing and general management will be in charge of Mr. Gulick, while the management of the plant will be in the hands of Mr. Randall.

The Springfield Spring Company, Springfield, O., has taken over the former plant of the Owen Machine Company. The building will be remodelled into a plant for the manufacture of coiled wire springs. The company has increased its capital from $35,000 to $60,000.

The Canadian Products, Ltd., Guelph, Ont., has purchased the plant of the Standard Fitting & Valve Company. The president of the new company is W. B. Hinman. The concern will manufacture high carbon steel structural tubing.

The Walker Starter Company, Laporte, Ind., has purchased the property in which it has been operating, which includes two lots and buildings on Monroe street. The company manufactures starters for automobiles, traction engines and stationary engines.

The Hydraulic Truck Company, Los Angeles, Cal., has let contracts for a factory building.

The Monroe Body Company, Pontiac, Mich., manufacturer of automobile bodies, will build an addition to its plant in the near future.

The Universal Tire Company, Los Angeles, Cal., has purchased the building of the Dryfus Winery, Anaheim, Cal., and will remodel the building for the manufacture of automobile tires. H. H. Hollaway is president.

The Ideal Steel Wheel Company, Cincinnati, O., is to remove to Elkhart, Ind. The idea of the officials of the company is to get closer to the Detroit automobile market. The new officers of the company recently elected are: President, O. G. Harrison; secretary and treasurer, E. H. Maffey; general manager, T. B. Mills.

The Eberly & Orris Manufacturing Company, Mechanicsburg, Penn., is one of the oldest wheel manufacturing concerns in the United States. The company recently made large and extensive improvements to its plant, and is now in a much better position to take care of its ever increasing business. The plant is fully equipped with the latest machinery, and is one of the most complete automobile wheel factories in the East.

The Willys-Overland Company, Toledo, O., contemplates the erection of a large factory at El Paso, Tex. John N. Willys has just returned from this field and says that a factory in that city would serve California, Mexico, Arizona, New Mexico and Texas.

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PERSONAL NEWS OF THE INDUSTRY.

A. L. Garford, well known in the industry through his long connection with the production end, has organized the Garford Manufacturing Company, to take over the assets of the Dean Electric Company, Elyria, O., maker of electric horns, speedometers, lighting and motor starting systems, etc.

A. L. Garford, President of the Garford Manufacturing Company.

John S. Krauss has been elected secretary and factory manager of the L. H. Gilmer Company, Philadelphia. G. Walker Gilmer, Jr., has returned to the company and assumes the work of sales manager.

Henry C. Frick, Pittsburg, has made arrangements with the Automobile Club of that city whereby the big tract of land known as the cathedral site will be used for parking automobiles. It has a frontage of 240 feet on four streets, and will provide ample room for parking 200 automobiles. The club will erect a shelter house for the use of chauffeurs and install telephones for use in summoning them.

G. Edward Shaw has charge of the office of the Emil Grossman Manufacturing Company's branch at 708 Ford building, Detroit. The parent company is located at Brooklyn, N. Y. Mr. Shaw will also call on factories in Michigan, Indiana and Illinois.

J. E. Haschke, Los Angeles, Cal., an electrical engineer, is said to be interested in a project to locate a factory in that city for the manufacture of self-charging apparatus for electric vehicles.

C. B. Rose, chief engineer of the Velie Motor Vehicle Company, Moline, Ill., has just returned from a trip through the mining section of Arizona. Five Velie trucks are in use between Silver City and Mongallon, making the 170-mile trip in two days. It formerly took 11 days to make this trip with 16 horses.

C. G. Stowe, representative of the Monogram Oil Company, New York City, has returned from a trip through the United States and is in a very optimistic frame of mind. He says business conditions are good everywhere.

F. A. Harris, formerly assistant and general manager of the Hupp Motor Car Company, has become general manager of the company with greatly increased duties. Charles D. Hastings, who is succeeded by Mr. Harris, still remains secretary. T. Wallace Drake is president and continues active supervision over the general affairs of the firm.

C. Louis Allen, formerly New York manager of the Service Recorder Company, has become manager of the automobile department of the Pyrene Company, New York City.

J. Jordan has been made office manager of the New York City branch of the Firestone Tire & Rubber Company. He succeeds J. S. Ridley, who has become manager of the branch at Newark, N. J.

George Haron is superintendent of the machine department of the Paige-Detroit Motor Car Company, Detroit. He was for seven years superintendent of the machine department of the Ferro Machine & Foundry Company, Cleveland.

F. A. Tooley has severed his connection with the Oakland Motor Car Company, Pontiac, Mich. He has been the auditor for this company for the past two years.

E. P. Dean has been appointed manager of retail sales for the Chevrolet Motor Company, New York City. He was formerly connected with the Diehl Manufacturing Company, Elizabethport, N. J.

W. R. Gragg has joined the J. H. Hall Automobile Company, Wausau, Wis., as sales manager. Formerly he was associated with the Packard Motor Car Company, Chicago.

George S. Dannaher is special representative of the Willys-Overland Company at Birmingham, Ala. He has resigned as general sales manager of the Southern Motors Company at Louisville, Ky.

H. R. Brown has resigned from the Thomas B. Jeffery Company, Racine, Wis., to become identified with the Mitchell-Lewis Motor Company, Racine.

R. P. Spencer has joined the sales staff of the Federal Motor Truck Company, Detroit, and will become sales and advertising manager.

W. W. Hendrix is in charge of the city sales department of the Sterling Motor Car Company, Indianapolis, distributor of the Paige-Detroit cars.

John B. Maus has been appointed manager of the eastern district for the Batavia Rubber Company, Batavia, N. Y. His headquarters will be at New York City.

J. Edward Dray, Galveston, Tex., has joined the sales force of the Galveston Motor Car Company. The company handles the Studebaker, Chalmers, Oldsmobile and Packard cars, as well as the GMC gas and electric trucks. Mr. Dray has had wide experience in the sale of cars.

E. LeRoy Pelletier has severed his connection with the Maxwell Motor Company, Detroit. He was advertising manager for the company.

E. M. Goodrich, who recently became associated with the Tire & Oil Company, San Francisco, Cal., is now manager.

W. C. Aleorn is manager of the sheet metal stamping department of the Transue & Williams Company, Alliance, O.

L. D. De Land has been appointed sales manager of the Wollagor Sales Company, Milwaukee, Wis. He was formerly manager of the Studebaker Corporation in this territory.

Frederick A. Curtis has been placed in charge of the New York branch of the Knox Automobile Company at 1872 Broadway. He was formerly manager of the Chicago branch.

Harry M. Snyder has resigned as secretary of the Reo Motor Car Company and the Reo Motor Truck Company, both of Lansing, Mich. He has been affiliated with the industry since 1902.

H. A. Price, for four years manager of the branch of the B. F. Goodrich Company at Atlanta, Ga., has been appointed manager of the Cleveland office. R. T. Murphy succeeds Mr. Price at the Atlantu office.

W. I. Brown has resigned as general manager and has disposed of his interests in the Brown-Rowan-Buck Automobile Sales Company, Indianapolis, Ind.

John Dodge, Detroit, the well known automobile manufacturer, has sent a check for $1000 to the fund to erect an addition to the Tuberculosis hospital in that city.

Robert Edeson, a well known actor, has entered the automobile business at Sag Harbor, L. I., N. Y.

Raymond S. Harper is now president of the Overland Washington Company, Washington, D. C. He was formerly factory representative of the Willys-Overland company, Toledo, O.

George Evans has recently joined the sales staff of the Pacific Car Company, Seattle, Wash. He was for some time connected with the Chalmers company there.

A. P. TenBrook is now manager of the Kansas City branch of the Oakland Motor Car Company, Pontiac, Mich.

L. B. Sanders has been appointed general sales manager of the Boston branch of the Oakland Motor Car Company, Pontiac, Mich. He was formerly connected with the Abbott Motor Company in the same capacity.

Manning J. Smith, treasurer of the L. H. Gilmer Company, Philadelphia, has resigned, owing to ill health. It is expected he will resume the office on his recovery.

L. B. Sanders, Manager, Boston Oakland Branch.

J. E. Morgan has been appointed assistant sales manager of the Standard Motor Truck Company, Detroit. He has been associated with the Metzger Motor Car Company.

C. C. Ferry is now manager of the Philadelphia branch of the Lee Tire & Rubber Company, succeeding R. R. Hayes, recently deceased.

Rollin W. Hutchinson has become associated with the Sternberg Manufacturing Company, Milwaukee, Wis., as general sales and advertising manager. Mr. Hutchinson is the author of several treatises on electrical subjects.

G. E. Vogelsong has been appointed general manager

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of the Twyman Motor Car Company, Columbus, O. He has been assistant manager in that city for the past five years. The company has branch stores in the cities of Cincinnati and Dayton.

Byron C. Dowse, President, Federal Rubber Manufacturing Company.

Byron C. Dowse, president of the Federal Rubber Manufacturing Company, Milwaukee, Wis., has been honored with an appointment as a member of the national affairs committee of the Milwaukee Merchants and Manufacturers' Association.

C. Arthur Benjamin has been appointed manager of sales for the Fiat Automobile Company, Poughkeepsie, N. Y., with headquarters in that city. Mr. Benjamin has had a long connection with the automobile industry and is known throughout the country.

Roland Cole has joined the Ferro Machine & Foundry Company, Cleveland, O., as advertising manager. He was formerly connected with the Yawman & Erbe Manufacturing Company, Rochester, N. Y.

Charles Boyden, Sandy Hook, Conn., has accepted a position as chief engineer of the Electrical Engineering & Storage Battery Company in that city. He was formerly associated with the American Motors Company, Indianapolis, in the same capacity.

H. Lee Smith is now connected with the Kelly-Springfield Tire Company, New York City. He is to manage the company's branch at St. Louis, Mo.

C. H. Cross has become branch manager of the Crocker Wheeler Company, Ampere, N. J., with offices at Detroit. He was formerly with the Chalmers Motor Company.

T. C. Reid has joined the sales department of the Anderson Electric Car Company, Anderson, Ind. He was previously identified with the Grinnell Electric Car Company.

Dennis H. Long, formerly local manager of the United States Cast Iron Pipe & Foundry Company, has succeeded George S. Dannaher as vice president and general manager of the Southern Motors Company, Louisville, Ky.

A. S. Hetzel has been appointed manager of the new branch of the Knight Tire & Rubber Company that has been established at 1917 Euclid avenue, Cleveland. He was formerly representative of the Diamond Tire Company at Akron, O.

William A. Ellis has accepted a position as general manager for the Spartan Rubber Company, Trenton, N. J. His headquarters will be at 819 Boylston street, Boston.

F. M. White has returned to New York City after an absence of several years as manager of the New York branch of the Stewart-Warner Speedometer Corporation.

E. B. Snyder, president of the Cole Spokane Company, Spokane, Wash., announces the closing of a contract for an up-to-date automobile salesroom and service station. It is expected to cost approximately $30,000.

E. H. Delling, Trenton, N. J., has been appointed chief engineer and designer of the Mercer Automobile Company, in place of Finley R. Porter, resigned. Mr. Delling is the builder of the Deltal car, which was seen to good advantage in the 1913 Elgin races.

Howard Greer, Jr., has succeeded J. W. Cain as chief engineer of the McCord Manufacturing Company, Detroit.

J. B. Eccleston has retired as general sales manager of the Oakland Motor Car Company, Pontiac, Mich.

C. E. Collard, Boston, Mass., has been appointed New England manager for the Vulcan-Bessemer Company. He was formerly connected with the Goodyear Tire & Rubber Company, New York City.

John A. Moore, traffic manager of the Maxwell Motor Company, has resigned to assume the same position with the Ajax-Grieb Rubber Company and the Briscoe Motor Company, New York City.

H. B. Limric, who resigned as manager of the B. F. Goodrich Company recently, has accepted a position in the same capacity for the Kelly-Springfield Tire Company at Boston, Mass.

L. E. Olwell has joined the Chalmers Motor Company's staff, Detroit, as assistant to General Manager Lee Counselman. He was formerly connected with the J. Walter Thompson Company.

T. B. Waller has become assistant general manager of the Lincoln Motor Truck Company, Sacramento, Cal. Mr. Waller was formerly associated with Lincoln Motor Sales Company, Seattle, Wash.

G. A. Sohl has been appointed manager of the McGraw Tire & Rubber Company at 227 Peachtree street, Atlanta, Ga.

Anthony McAvoy, president of the Wisconsin Auto Top Company, Racine, Wis., died recently. He was a well known factor in the industry.

Gilbert Woodill has become sales manager of the W. K. Cowan Company, Los Angeles, Cal. The company distributes Jeffery cars throughout Southern California.

E. B. Busby has been appointed sales manager of the Ferro Machine & Foundry Company, Cleveland, O. He was formerly connected with the Anderson Forge & Machine Company, Detroit.

W. W. Burke has been engaged as manager of the branch and service station for the sale and care of the Premier and Briscoe cars, which Partridge, Clark & Kerrigan has established at 1176 Bedford avenue, Brooklyn, N. Y.

O. C. Revel has been promoted to be assistant district manager at Chicago of the Diamond Tire Company. He was formerly manager of the branch at Indianapolis and is succeeded here by H. D. Bentley.

P. E. Kempton is manager of the Motor Equipment & Specialty Company, San Francisco, Cal. He has been with the Remy Electric Company for the past two years.

L. L. MacAneney, formerly manager of the Cleveland branch of the B. F. Goodrich Company, has resigned. He will become identified with the Republic Rubber Company, Youngstown, O., with headquarters at Cleveland.

Fred A. Cornell has joined the selling force of the Splitdorf Electrical Company, Newark, N. J. He has been identified with the Timken Roller Bearing Company and the Willys-Overland Company.

T. C. Frech has been elected a director of the Peerless Motor Car Company, Cleveland, O., in place of F. S. Terry. Mr. Frech takes J. B. Crouse's place as vice president and also becomes general manager. Mr. Terry and Mr. Crouse retain their interests in the company.

Ralph S. Allen, vice president of the Blackburn-Allen Company, Dayton, O., with branch offices in Chicago and Detroit, sailed recently for Europe to demonstrate apparatus for single-spark ignition and an automatic self-starter, which his company has patented and is putting on the market.

Harry B. Pulsifer has become sales manager of the King Motor Car Company, 27 Foster street, Worcester, Mass. Mr. Pulsifer has been identified with the automobile business since its infancy and has a wide circle of acquaintances. He is well known among the manufacturers and dealers throughout the country.

W. S. Jewell has been appointed eastern sales representative of the Marion Motor Car Company, Indianapolis. The territory over which he has supervision includes the New England States and portions of New York, New Jersey and Pennsylvania.

H. A. Bonnell has been elected secretary of the Manufacturers & Dealers' Motor Underwriters, with headquarters at 80 Maiden lane, New York City. Mr. Bonnell has been actively identified with the automobile industry for a number of years as treasurer of the American Automobile Board of Trade and assistant general manager of the National Automobile Chamber of Commerce.

W. O. Rutherford, Assistant General Sales Manager of the B. F. Goodrich Company.

W. O. Rutherford, who has been connected with the sales force of the B. F. Goodrich Company, Akron, O., for a number of years in Denver, Col., and Buffalo, N. Y., has been promoted to become assistant general sales manager of the company. During the past four years he has been assistant to H. E. Raymond, second vice president.

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GENERAL NEWS OF THE TRADE.

RECENT INCORPORATIONS.

Eureka Rubber & Tire Company, Toronto, Ont.; $40,000; to manufacture rubber goods J. L. Reid, T. Metcalf and others.

Troy Taxicab Corporation, Troy, N. Y.; $4000; J. Burdick, E. L. Snyder, W. H. Tilley.

Samuel E. Cass, Haverhill, Mass.; $5000; to deal in automobiles; Samuel E. Cass, H. J. Cole and others.

Cooper Manufacturing Company, Worcester, Mass.; $10,000; to manufacture automobile accessories and parts.

The Baker Automatic Filter Company, Newark, N. J.; $100,000; to manufacture water filters and garage incinerators; C. A. Baker, W. Elsor, P. M. Blaumvelt.

Bradley Electric Garage Company, Dayton, O.; $10,000; to operate a garage and repair shop.

Lange Motor Company, Biwabik, Minn.; $50,000.

Veblen Auto Company, Veblen, S. D.; $25,000; Aaron Anderson, H. J. Hansen, Osmond Wilson, B. P. Hammersly.

The Arthur McMullen, Jr., Automobile Company, Bridgeport, Conn.; $5000; Arthur McMullen, Jr., Agnes McMullen, Jennie McMullen.

The Grand Rapids Tire Enforcing Company, Grand Rapids, Mich.; $10,000; J. A. Conroy, H. H. Hervey.

Cricket Cyclecar Company, Detroit, Mich.; $400,000; George B. Burton, William L. Davies, A. R. Demory.

Cosmopolitan Automobile Company, Albany, N. Y.; $5000; R. J. Morris, B. Wertheim, A. G. Armento.

Michigan Auto Trimming Company, Detroit, Mich.; $5000; Edward A. Cotter, Clinton M. Ripley, Joseph A. Craig.

Megrue Motor Car Company, Cincinnati, O.; $25,000; to conduct a general automobile business; J. A. Durrell, L. K. Slabach, W. H. Megrue, W. F. Mothershead.

American Efficiency Survey of Motor Cars, Chicago, Ill.; $2500; David M. Shaw, Timothy Jefell.

Grand Taxi Company, Walla Walla, Wash.; $800,000; Ralph H. Tuttle, W. G. Coleman.

Garford Manufacturing Company, Elyria, O.; $1,300,000; A. L. Garford, A. G. Bean, A. L. Patrick, J. H. Watson, Jr.

Wait Automobile Company, Milwaukee, Wis.; $9000; W. J. Wait, W. N. Durbin, W. R. Thomson.

Galion Dynamic Motor Truck Company, Galion, O.; $250,000; J. B. Holmes, G. W. Nickels, N. G. Knight.

Electric Automobile Service Company, Youngstown, O.; $5000; A. F. Clause, D. W. Mumau, M. M. Conroy.

Motor Sales Company, Portland, Me.; $10,000; Philip H. Lord, Elvira B. Lord, W. J. Knowlton.

Raymond Auto-Wheel Company, Portland, Me.; $500,000; Horace E. Eaton, Benjamin G. Ward, George H. Hinckley, Max L. Pinansky, Daniel L. Chandler, John J. Trayne, Joseph O. Raymond.

National Motor Car Company, Worcester, Mass.; $5000; Chester A. Dodge, Oliver H. Lemont, Hiram S. Powers.

Boulevard Garage Company, Lawrence, Mass.; $5000; Matthew J. Doyle, John P. Brennan, Mark H. Doyle.

Hartford Tire Company, New York City; $10,000; to manufacture and deal in rubber tires; E. J. Forhan, F. B. Knowlton, S. V. Dowling.

Royal Welding & Radiator Company, New York City; $2000; to do automobile repairing, L. H. Moos, I. H. Lambert, B. Feldman.

Oil Engine Corporation of America, Brooklyn, N. Y.; $10,000; I. Buxbaum, N. Sitren, B. Wechsler.

British Columbia Tire & Rubber Company, Vancouver, B. C.; $10,000.

Ontario Tire & Rubber Company, Welland, Ont.; $750,000; to manufacture tires; T. J. Costello, R. Cooper, J. R. McCollum, G. C. Brown, B. J. McCormick.

Firestone Tire & Rubber Company, Winnipeg, Man.; $5000; A. O. Myers, J. H. M. Kennedy, E. H. Matheson, P. C. Locke, F. R. Sproule.

Associated Motor Sales Company, Toledo, O.; $1000; Edwin F. Miller, Bernard Rubert, Harvey S. Carn.

Apperson Motor Car Company, Salt Lake City, Utah; $15,000; L. H. Bacraft, Alfred W. Schooler, G. F. Horn.

Howard Carbon Company, Toledo, O.; $50,000; to manufacture brushes to be used electrically on automobiles and electric lighting systems.

Ohio Tire Company, Mansfield, O.; $1000; D. Herring, Jacob Heinhart, Norris Kirkpatrick, Henry G. Brunner, George W. Herring.

Canadian Baby Car Company, Ltd., Montreal, Can.; $300,000; to manufacture motor cars, motorcycles, etc.; Napoleon Nanetl, Joseph A. Mayette.

Chapleau Wagon & Auto Company, Montreal, Can.; $100,000; to manufacture motor cars, wagons, etc. Frederic H. Chapleau, Joseph A. Dufresne and others.

The Knight Engine Company, Cleveland, O.; $10,000; to build internal combustion engines of all kinds; Benjamin A. Gage, Charles S. Wachter, H. H. Burton, R. E. Bisby, A. D. Howe.

J. A. Rietman & Company, New York City; $5000; to deal in automobile bodies; J. A. Rietman, John D. Dunlop, Q. M. Brooks.

Automobile Equipment Company, Cincinnati, O.; $100,000; to manufacture and deal in automobiles and motor trucks; George W. Platt, Arno Merkel, E. H. Maffey, M. L. Freeman, Alice DeCharmes.

William Haussler, New York City; $1000; to conduct a general automobile repair business; William Haussler, Dorothy Haussler, Edward Haussler.

Geneva-Bauman Company, New York City; $2500; to deal in automobiles and motorcycles; Alexander Bauman, J. I. Geneva, Matilda Lanssman.

Ardmore Refining Company, Ardmore, Okla.; $30,000; J. B. White, J. S. Alexander, T. C. Brissey.

Fuller Mercantile Company, Austin, Tex.; $30,000; M. B. Fuller, W. O. Looney, J. R. McGee.

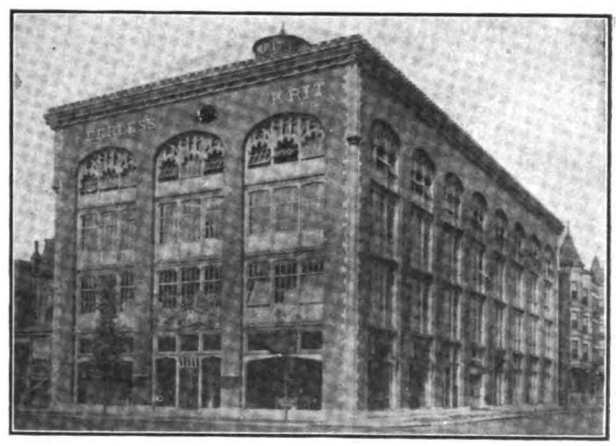
Gray-Line Taxi Company, Buffalo, N. Y.; $10,000; W. I. Waters, W. H. Reihl, S. S. Jewett.

Anchored Non-Skid Chain Company, Chicago, Ill.; $5000; E. F. Pond, M. J. Lynch, G. M. Semmes.

The Walter Starter Company, Laporte, Ind.; $50,000; to manufacture a starting device for automobiles and tractors; F. H. Walker, W. K. Loofbourrow, D. L. Loughborough, E. L. Walker, Dora Walker.

NEW CONCERNS AND BUSINESS CHANGES.

The McDuffee Automobile Company, Chicago, which recently took over the sale of the Peerless and KisselKar lines in that territory, has added the Krit, the Krit Motor Car Company, Detroit, following the example of the other concerns in abandoning its Chicago branch. The McDuffee company also handles the Rauch & Lang electric. The officers of the company are: President, H. L. Babcock; vice president, C. S. Englebook; secretary, E. J. Ellis; treasurer, G. A. Pierson. It occupies the four-story building, shown herewith, at Michigan avenue and 25th street, the first floor of which is used for general offices and showrooms, with a garage in the rear. The



Home of the McDuffee Automobile Company, Chicago, Agent for Krit, Peerless, KisselKar and Rauch & Lang.

second floor is used for an auxiliary salesroom and storage, the third for repair work and the fourth as a painting and trimming department.

Charles Rubel & Co., Washington, D. C., has entered the local automobile field with the opening of an automobile specialty house at 1312 14th street. The company will handle accessories.

T. J. Riggs, Bowie, Ariz., will erect a new garage.

G. W. Crane and Clarke Bros., Livermore, Cal., have combined and will operate under the name of the Valley Garage Company.

William P. Vanderoef, Montgomery, N. Y., has sold his interest in the Montgomery Garage & Machine Works to William O. Hall. The new firm will be known as Hall & Knoeche.

John A. Matz and Harry Bannister, Indianapolis, have formed a partnership and will open a repair shop and cyclecar agency at North Capitol avenue, under the name of the John A. Matz & Co.

Crawford & Bock is the name of a new firm which will open a garage in Blue Hill, Neb.

The Crowley Auto & Supply Company, Fort Worth, Tex., has opened a salesroom in the Denver Record building. Marathon and Metz cars will be shown.

H. C. Wieland, St. Louis, Mo., has opened an electric garage at 4919 Delmar boulevard. The location recently was vacated by the Rauch & Lang St. Louis Company.

Karl R. Rogers and Harold C. Rogers, Los Gatos, Cal., have taken over the garage business of W. H. Main, located on West Main street.

C. L. Nickerson, Union, Ia., has purchased an interest in the Yonkers & Roorick garage, Conrad, Ia. He will take charge of the repair department.

Evans & Snyder, Mansfield, Penn., has opened a branch in that city. Headquarters are at Wellsboro, Penn. The company handles the Overland and Studebaker cars.

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G. W. Jones and W. J. Brace, Kansas City, Mo., both well known automobile men in Des Moines, Ia., have formed a partnership under name of Hudson-Brace Motor Company. The company will handle the Hudson cars for this territory. Mr. Jones will continue the Des Moines establishment, and Mr. Brace will take care of the Kansas City section.

R. L. Shumaker, Columbus, O., has opened a repair shop in the rear of 170 North Fourth street. The name of the new shop will be the Auto Repair Company.

Carl H. Pausch, Columbus, O., has established a repair shop and vulcanizing plant at 608 South High street.

E. D. Valentine, Springfield, O., owner of the King garage, now located on West Main street, has purchased the property of John Gaier at North Fountain street and will build an up-to-date garage.

Ray Yenter, Iowa City, Ia., has entered the automobile business there, being connected with Wilson & Spencer, Hudson and Studebaker dealer for this territory.

Mat Kile, Guthrie Center, Ia., has leased the building at the corner of De Voe and Commercial streets. He is agent for Auburn cars and will conduct a first class garage.

Horn & Willis, Ennis, Tex., has purchased the Interstate Garage and will operate it under the name of the Ford Garage.

Wilmartin Wallace, Blairstown, N. J., will open a new modern garage.

The Capital Garage & Engineering Company, Carson, Nev., has opened a garage and repair shop. It is modern throughout.

Louis M. Siever, Richmond Hill, N. Y., has been appointed general representative in the United States for the Gas-O-Meter Maximall, which is manufactured in Germany.

The Miller Rubber Company, Akron, O., has opened a new branch at 429 North Meridian street, in that city, in charge of Messrs. Broering and Ruske, both of whom have had long experience in this field. An accompanying illustration presents the interior of the salesroom. A service station also will be maintained.

Interior of the New Branch Salesroom Recently Opened in Akron, O., by the Miller Rubber Company.

The Stanley & Fenton Company, Clinton, Ia., has opened its new and modern garage. The company handles the Auburn cars.

Matrud & Thompson, Hatton, N. D., has opened a tire vulcanizing plant in the Stevens building. The company also conducts a general repair business.

J. P. Marks, Le Sueur, Minn., has purchased W. H. Rethwill's garage.

The Shafer-Decker Company, Rochester, N. Y., has been forced to move to larger quarters at 15 Circle street. The garage is open day and night.

Knaus & Schermerhorn, Grand Rapids, Mich., has purchased the Wealthy Heights Garage. Edward J. Strong, the former owner, has retired from the business.

C. A. Krochne, Springfield, Mass., has purchased a garage at 57 Pecowsic avenue, where he will handle Gray & Davis products. He will also specialize in the repair of this equipment and the Bosch magneto.

W. P. Gribble, Houston, Tex., has disposed of his interest in the Houston Motor Car Exchange. He will handle the Partin-Palmer cars and has opened a salesroom for that purpose.

Smither & Morrison, El Centro, Cal., has purchased the Central Garage.

The Borough Garage, Plainfield, N. J., has been purchased by H. J. Scandell and C. M. Haight. G. M. Romond will be the manager.

The Haynes Automobile Company, Kokomo, Ind., has arranged with H. T. Sheffield, Calgary, Alb., to handle the company's cars in that territory. Mr. Sheffield is a well known automobile dealer.

Henry H. Hyder, Riverside, Cal., is to open a new and modern garage at 446 West Eighth street. He will secure a car agency in the near future.

Brink & Payne is a new firm at Grand Rapids, Mich., which will engage in the automobile trimming business. The company will be located at 14 Island street.

D. C. Cain, Columbus, O., who is the agent for Ford cars, has added an electric charging plant to his taxi and repair service.

The Fisk Rubber Company, Los Angeles, Cal., is now located in its new home at 10th and Hope streets.

Edgar Updyke, Indianapolis, Ind., has moved to more commodious quarters at 343 North Capitol avenue. He is agent for the American car.

NEW BUILDINGS AND IMPROVEMENTS.

F. J. Connor, Turlock, Cal., has purchased a building on South Broadway and will remodel same for use as a first class garage.

The Slayton Auto Company, Slayton, Minn., is making extensive improvements to its garage.

Houson & Treichler, Wilson, N. Y., has purchased land and will erect a large and modern garage, costing $25,000.

Martin Swintek, Eddyville, Ia., is erecting an up-to-date garage on North First street. A general storage and repair business is to be conducted.

C. B. Wiggins, Champaign, Ill., has had his garage enlarged and improved.

Hake & Williams, Highland Park, Cal., is enlarging its garage at 6035 Pasadena avenue.

The Edwards Automobile Company, Plainview, Minn., is having extensive improvements made to its garage.

The North End Garage, Manchester, N. H., is having many improvements made. The company is agent for the Studebaker cars.

W. F. Heins, Carrollton, Mo., will erect an addition 50 by 75 feet to his already up-to-date garage on East Benton street.

W. A. Ritter, Wellsville, N. Y., is having his garage enlarged and improved. He has taken his son into the business.

Tucker's Garage, Baltimore, Md., is erecting a large addition to its building on 1722 West North avenue.

J. P. Wooten, Abilene, Tex., has had his garage enlarged and extensive improvements made. It is located at North Second street.

The Brooklyn Auto Garage, Brooklyn, Ia., is having an addition built to its modern garage. B. W. Sloan is the proprietor.

The Corson Auto Company, Springfield, Mass., has made extensive improvements to its building by the addition of a new service plant, which gives 10,000 square feet more of floor space, and enables the company to handle a full line of accessories and supplies, as well as Ford cars.

Albert Keiater, Scottdale, Penn., has purchased property on Stoner street and will erect a new fireproof modern garage.

The Elston Storage Company, Grand Rapids, Mich., is to build a large garage at Trowbridge and Bond streets, for the exclusive use of the company, to house its cars and motor trucks. The buidling, when completed, will be 40 by 100 feet, one story and of fireproof construction.

W. K. Henderson, Marshall, Tex., has taken an option on property there, and proposes to erect a large fireproof garage, costing $20,000, on the site. All modern machinery for repair work will be installed and a full line of automobile accessories will be carried.

M. P. Murnan, of the Murnan Taxicab Company, Columbus, O., has purchased a building at Broad and Mitchell streets, which will be remodelled into an up-to-date garage.

The City Garage, Marble Falls, Tex., is to erect an up-to-date building on the site of its present structure.

Fred H. Van Dorn, Red Bank, N. J., is having his garage remodelled.

The Motor Inn Company, Albert Lea, Minn., has purchased a lot with 26 feet frontage on Broadway upon which an addition will be made to its large building.

J. Van Benschoten, Poughkeepsie, N. Y., is having extensive improvements made to his garage.

Miller & Dietrich Auto Exchange Company, Point Marion, Penn., is to erect a large and modern garage and machine shop. Up-to-date machinery will be installed.

S. A. Wolldrick, Sleepy Eye, Minn., has purchased three lots on Main and Fourth streets on which he intends to erect a garage.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Albertville.
Maxwell, Hanes Motor Co.
Birmingham.
Chalmers, Abraham Bros. M. C. Co.
Huntsville.
Oakland, Finney & Davis.
Luverne.
Maxwell, J. C. Allen.
Sampson.
Maxwell, Morris & Holloway.

ARIZONA.

Tucson.
Chandler, J. G. Hankins.

ARKANSAS.

Argenta.
Chandler, Twin City Auto Co.
Conway.
Maxwell, Hendrickson & Martin.
Jonesboro.
Maxwell, M. M. Jackson.
Pine Bluff.
Maxwell, Mann Motor Car Co.
Texarkana.
Maxwell, J. P. Cook.

CALIFORNIA.

Anaheim.
Maxwell, Rockwell & Pearson.
Bakersfield.
‡Imp, Tennesee Lawrence.
Berkeley.
‡Imp, James & Hunt Motor Car & Sup. Co.
Eureka.
Chandler, Johnson & Rusthoi.
‡Imp, G. K. Coleman.
Fresno.
Chandler, Peacock & Robbins.
‡Scripps-Booth, Waterman Bros.
Hanford.
Maxwell, Hanford Garage.
Los Angeles.
Empire, Sparks Miller Motor Co.
Hupmobile, D. L. Whitford.
Marion, Earl Y. Boothe.
‡Mercury, F. G. Dean.
Marysville.
Maxwell, Henry Heier.
Newman.
Chandler, W. G. Newman.
Oakland.
Chandler, S. G. Champan.
‡Imp, Earle J. James.
Petaluma.
Chandler, J. H. Madison.
San Diego.
‡Imp, Tanner & Watson.
San Francisco.
Grant, S. C. Chapman.
Saxon, E. N. Sells.
*Flint, H. A. Seller.
*Menominee, Charles N. Weaver Co.
‡Greyhound, California Cyclecar Sales Co.
San Jose.
Chandler, Consolidated Garage.
‡Imp, Vulcanizer Co.
Santa Paula.
Maxwell, A. A. Hanna.
Stockton.
‡Imp, Branches Co.
Tulare.
Chandler, R. D. Helm.

COLORADO.

Colorado Springs.
Moon, C. E. Wolf.
Denver.
Chandler, Overland Auto Co.
Empire, Charles F. Cole.
Haynes, Colorado Haynes Motor Co.
Pueblo.
Maxwell, Western Motor Car & Truck Co.
Trinidad.
Chandler, Mack Paterson.

CONNECTICUT.

Bridgeport.
Chandler, Bulkley's Auto Station.
‡Imp, H. M. Ford, 1841 Main St.
Greenwich.
Chandler, A. W. Kemble.
Hartford.
Crescent, G. I. Whitehead.
Rayfield, Rettig Automobile Co.
New Haven.
Chandler, Holcomb Co.
Stamford.
Chandler, William A. Clark.

DELAWARE.

Lewes.
Maxwell, William E. Walsh.
Wilmington.
Chandler, Wilmington Automobile Co.
Maxwell, Edward Krause.
‡Imp, Haddock-Nixon Taxi Co., 10th and Tatnall St.

DISTRICT OF COLUMBIA.

Washington.
Chandler, Chester H. Warrington.
Crescent, Potomac Motor Car Co.
Westcott, Probey-Hynes Motor Co.
‡Imp, H. B. Leary, Jr.

FLORIDA.

Daytona.
Chandler, T. F. Williams.
Jacksonville.
Maxwell, Shackleford & Young.
Lake City.
Maxwell, Shackleford & Young.
Miami.
Chandler, Jones Motor Car Co.
KisselKar, A. H. Bouldin.
Tampa.
Crescent, A. J. Reynolds.

GEORGIA.

Albany.
Chandler, M. C. Hule.
Atlanta.
Jackson, S. A. Pegram.
Augusta.
Chandler, Speth Garage & Sales Co.
Columbus.
Maxwell, Gatewood & Woodruff.
Helena.
Maxwell, H. F. Thaxton.
Monticello.
Hupmobile, Dr. F. S. Belcher.
Rochelle.
Maxwell, Valentine & Son.
Thomaston.
Maxwell, King & Whelass.
Thomasville.
Maxwell, W. A. Palin.

IDAHO.

American Falls.
Crescent, R. D. Nichols.
Boise.
Maxwell, Central Auto Co.

ILLINOIS.

Albany.
KisselKar, J. W. Dinneen.
Armington.
Cole, R. L. Kampf.
Aurora.
Chandler, Wolf-Parker Co.
Bloomington.
Chandler, Jacob Raxor.
Breeze.
Cole, Breeze Garage.
Bridgeport.
Chandler, W. B. Gray & Son.
Cambridge.
Chandler, C. L. Kettering.
Carmi.
Chevrolet, Leathers & Newcombe.
Chadwick.
KisselKar, Chadwick Auto Co.
Champaign.
Herff-Brooks, J. F. Hessel.
Chicago.
Chandler, Thomas J. Hay.
Crescent, Ohio Motor Co. of Illinois.
Cisne.
Empire, C. T. Maris.
Collinsville.
Chevrolet, W. M. Burroughs.
Cornell.
Maxwell, Lishness & McVay.
Danville.
Cole, William McFerron & Co.
Decatur.
Allen, J. R. & E. J. Swishes.
Foosland.
Maxwell, George A. DeLong.
Freeport.
Chandler, Cramer & Luecke.
Grant, Joseph Bangasser.
Maxwell, Olendorf & Chilton.
Fulton.
KisselKar, Sikkema & Brunins.
Galena.
Pullman, B. F. Barton.
Galesburg.
Chandler, E. T. Radcliffe.
Reo, L. P. Wikoff.
Gardner.
Maxwell, Wagner & Root.
Greenville.
Maxwell, Edgar Ragland.
Hamburg.
Reo, A. F. Buchanan.
Highland Park.
KisselKar, North Shore Auto & Transportation Co.
Hinckley.
Chandler, H. E. Peckman.
Kankakee.
Haynes, D. L. Hogan.
Leland.
Chandler, E. A. Danielson & Son.
Lenark.
KisselKar, W. H. Puterbaugh.
Massbach.
Maxwell, Rudolph Dittmar.
Milldgeville.
KisselKar, Charles S. Woodin.
Milstadt.
Metz, August Diedrich.
Minonk.
Maxwell, Minonk Garage Co.
Morrison.
KisselKar, O. Woods.
Mount Carroll.
KisselKar, W. W. Hartman.
Nashville.
Velle, A. Davenport.
Ottawa.
Maxwell, Emil N. Hegland.
Owaneco.
Hupmobile, Tex Bros.
Peoria.
Saxon, Voss Bros., 419 S. Adams St.
Westcott, George J. Smith.
Piatt Centre.
Maxwell, James Muirhead & Son.
Princeton.
Hupmobile, Alpaugh Bros.
Moon, J. M. Ennes.
Quincy.
Herrff-Brooks, Machinery & Motor Co.
Ridgefarm.
Ford, A. V. Schermerhorn.
Savanna.
KisselKar, A. D. Shaw.
St. Elmo.
Hupmobile, Decker-Kelly Garage.
Sterling.
KisselKar, William Dieterlie.
Thomsen.
KisselKar, F. E. Lewis.
Watson.
Maxwell, W. H. Jaycox.

INDIANA.

Corydon.
Maxwell, V. H. Bulleit & Sons.
Darlington.
Maxwell, George Tribbett.
Flora.
Maxwell, Clingenpeel & Brower.
Fort Wayne.
Crescent, Auto Supply Co.

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KisselKar, H. G. Raymond.
Hobart.
Hupmobile, E. Batterman.
Indianapolis.
Chandler, Brant Bros.
Pierce-Arrow, Fred J. O'Brien, 435 N. Capitol Ave.
Saxon, McFarlan Motor Co.
Universal, Bruce Ostimer.
Jeffersonville.
Overland, Jeffersonville Motor Car Co.
Kendalville.
Moon, H. C. Waterhouse.
Lafayette.
Haynes, Patterson Garage.
New Albany.
Hudson, Borgerding Motor Car Co.
Overland, Borgerding Motor Car Co.
Newcastle.
Maxwell, Lawrence Auto Co.
Packard, Lawrence Auto Co.
North Liberty.
Maxwell, I. A. Finch.
South Bend.
Chandler, Nat L. Otis.
Washington.
Haynes, Hatfield & Palmer.
Wingate.
Chandler, C. H. Hunter.

IOWA.

Akron.
Hupmobile, E. E. Mellen.
Anita.
Henderson, C. W. Rathke.
Hupmobile, L. R. Galiher.
Atlantic.
Haynes, White Pole Garage Co.
Avoca.
Oakland, Avoca Auto & Sup. Co.
Bloomfield.
Haynes, H. A. Wishard.
Maxwell, Harter & Vorhis.
Bonaparte.
Maxwell, C. O. Meredith.
Burlington.
Chandler, American Motor Sales Co.
Westcott, Cable Motor Car Co.
Calamus.
KisselKar, J. Hayes, Jr.
Cantril.
Maxwell, J. F. Harbidge.
Cedar Rapids.
Chandler, W. H. Johnson.
Maxwell, Meusborn Bros.
Centre Junction.
Hupmobile, M. G. Alsever.
Chariton.
Haynes, McFall Motor Car Co.
Maxwell, Miley Bros.
Colesberg.
Herff-Brooks, Peck & Kocher.
Columbus Junction.
Maxwell, Columbus Junction M. C. Co.
Council Bluffs.
Crescent, E. E. Gray.
Creston.
Maxwell, J. F. Russell & Sons.
Davenport.
Chandler, Buck Motor Car Co.
Moon, Means Automobile Co.
Dedham.
Abbott-Detroit, J. T. Stangl.
Des Moines.
Rayfield, Rayfield Cyclecar Co.
De Witt.
KisselKar, Irwin & Homer.
Dubuque.
Hupmobile, Schrup Motor Car Co.
Farragut.
Maxwell, Farragut Auto Co.
Fontanelle.
Maxwell, W. E. Morley.
Fort Dodge.
Haynes, David MacMullan.
Garden Grove.
Maxwell, Roberts & Herweh.
Grand Grove.
KisselKar, G. Ahlff & Son Co.
Griswold.
Jeffery, Grinnell & Son.
Grundy Centre.
Chandler, Hawn & Frost.
Harrisburg.
Hupmobile, T. C. Dempewolf.
Hartley.
Hupmobile, J. C. Bradstreet.
Hubbard.
Moon, Walter Kellar.
Hudson.
Chandler, Hudson Auto Co.
Independence.
Chandler, Myers Cowell Auto Co.
Keokuk.
Chandler, J. S. Bullock.
Keystone.
Maxwell, Miller & Shreeves.
Kingsley.
Hupmobile, Tom Sheaffer.
Low Moor.
KisselKar, Dannatt Bros.
Madison City.
Haynes, J. Lyons.
Martelle.
Maxwell, Martin & Son.
Milford.
Franklin, Munson Bros.
Oakdale.
Oakland, W. F. Pierce.
Oskaloosa.
Maxwell, Central Garage & Rep. Co.
Palmer.
Reo, Olson & Schroder.
Parkersburg.
Chandler, Enterprise Garage.
Sac City.
Oakland, Pearson Auto Co.
Waterloo.
Chandler, Central Auto & Sup. Co.
Waverly.
Chandler, V. A. Birum.
West Union.
Chandler, Knutson & Paulson.
Wheatland.
KisselKar, Witte Bros.
Whiting.
Hupmobile, A. B. Elliot.

KANSAS.

Almena.
Hupmobile, R. D. Irwin.
Beloit.
Chandler, Benjamin & Johnson.
King, J. E. Baird.
Caney.
Oakland, Auto Sales Co.
Ellsworth.
White, C. F. Pohlman.
Emporia.
Maxwell, J. C. Burkett.
Junction City.
Packard, Wenger & Brockman.
Kirwin.
Maxwell, Cogswell Motor Co.
Lawrence.
Chalmers, C. E. Benoist.
Packard, Lawrence Street Motor Co.
Norwich.
Maxwell, Norwich Motor Co.
Pittsburg.
Cole, Pittsburg Automobile Co.
Salina.
Packard, Ollinger Auto Co.
Wichita.
Cole, George W. Denton.
Imperial, Kan. Cyclecar Co.
‡Scripps-Booth, Fred J. Noel.

KENTUCKY.

Ashland.
Crescent, H. D. Wollman.
Bedford.
Overland, Trimble Auto Co.
Bloomfield.
Crescent, J. W. Huston.
Overland, J. W. Huston.
Bowling Green.
Overland, W. Y. McGinnis.
Buffalo.
Hupmobile, Orville Upton.
Carlisle.
Hupmobile, Main Street Garage.
Dixon.
Hudson, R. L. Jackson.
Eminence.
Hupmobile, D. L. Ricketts.
Frankfort.
Hupmobile, Armstrong & Grey.
Maxwell, Armstrong & Grey.
Glasgow.
Hupmobile, Dr. Carl Richards.
Overland, Dickson Bros.
Hopkinsville.
Maxwell, James H. Skarry.
Overland, James H. Skarry.
Irvington.
Overland, E. L. Bennett.
La Grange.
Overland, C. M. McDowell.
Lancaster.
Chalmers, C. C. & J. E. Storms.
Lexington.
Detroit, Union Motor Car Co.
Packard, Union Motor Car Co.
Madisonville.
Overland, W. J. Dulin.
Middlesboro.
Maxwell, H. E. Motch.
Mount Sterling.
Hupmobile, H. Clay McKee & Sons.
Owensboro.
Overland, Central Motors Co.
Paducah.
Moon, Lack Auto Co.
Russellville.
Overland, E. H. Cornelius.
Shelbyville.
Overland, Mammoth Garage.
Stithton.
Overland, J. F. Aubrey.
Wilmore.
Maxwell, H. E. Fisher.
Winchester.
Hupmobile, Hagan & Walters.

LOUISIANA.

Britt.
KisselKar, Castle Auto Co.
Campti.
Jeffery, J. F. Smith.
Mansfield.
Jeffery, Persinger & Williams.
Monroe.
Jeffery, W. F. Cummings.
New Orleans.
KisselKar, Southern Motor Car Co.
Opelousas.
Overland, Opelousas Mercantile Co.
Rayne.
Haynes, Stanime-Scheele Mfg. Co.
Ruston.
Jeffery, C. P. Cooper.
Shreveport.
Chandler, Henderson's Garage.

MAINE.

Fairfield.
Oakland, J. W. Sawyer.
Gardiner.
Chandler, Guy W. Lawrence.

MARYLAND.

Aberdeen.
Reo, Motor Sales Co.
Baltimore.
Chandler, Poehlmann Auto Co.
Cumberland.
Chandler, Automobile Repair Co.
Salisbury.
Republic, Peninsular M. C. Co.
Tilghman.
Maxwell, Harrison & Jarboe.

MASSACHUSETTS.

Boston.
Briscoe, Charles Motor Car Co.
Chandler, Chandler M. C. Co. of N. E.
Empire, F. L. Roberts.
Ford, Edward F. Mathews, Main and Hermon Sts.
Herff-Brooks, M-H-B Motor Car Co.
Lyons-Knight, Curtis-Hawkins Co.
Marathon, M-H-B Motor Car Co.
Merz, Stutz Motor Car Co.
*Little Giant, Chicago Pneumatic Co.
‡Bantam, Tyler Bros.
‡Economy, W. A. Magill.
‡Euclid, W. A. Bryant & Co.
‡La Vigne, C. J. Fischer.
‡Mercury, Victor Motor Car Co.
‡Trumbull, Joseph E. Green. Purchase St.
Brockton.
Chandler, Charles J. Olson.
Maxwell, Frank E. Cedergren.
Cambridge.
Ford, Harvard Automobile Co.
Fall River.
Chandler, R. W. Tierney.
Falmouth.
Maxwell, Crocker Garage Co.
Gloucester.
Chandler, R. C. Wells.
Lowell.
Chandler, J. Marin Auto Sales Co.
Maxwell, C. W. Armstrong.
‡Trumbull, Mark J. McGaun.
Lynn.
Chandler, Ernest Whitten.
Melrose.
Lyons-Knight, F. H. Goss.
New Bedford.
Chandler, W. L. Sturtevant.

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Springfield.
Chandler, R. A. McKee.
Moon, Chesebro & Schrenkeisen.
Worcester.
Chandler, Chandler Motor Car Co.

MICHIGAN.

Brighton.
Herff-Brooks, Floyd Chamberlain.
Detroit.
Chandler, Grant Bros.
‡Scripps-Booth, Norman A. Pabst.
Escanaba.
Saxon, Charles J. Slater.
Fenton.
Jeffery, E. F. Bullard.
Grand Rapids.
Franklin, John Vlasblom.
Herff-Brooks, Grand Rapids Auto Co.
Hartford.
Maxwell, S. Doyle.
Ishpeming.
Crescent, P. J. Denn.
Kalamazoo.
Chandler, Lewis A. Williams.
Republic, R. R. Brenner.
Marquette.
Chandler, Asire & Palmer.
Saginaw.

MINNESOTA.

Albany.
Maxwell, John T. Brinkman.
Audubon.
Maxwell, A. Swanson.
Bemidji.
Reo, C. W. Jewett.
Browerville.
Maxwell, Peter Hermes.
Cannon Falls.
Oakland, J. Anderson.
Chicago City.
Maxwell, Shoholm Bros.
Crookston.
Maxwell, N. P. Stone & Co.
Duluth.
Haynes, M. W. Turner.
Eagle Lake.
Maxwell, D. D. Cummins.
Frontenac.
Maxwell, Milwaukee Elevator Co.
Henning.
Maxwell, Cordes Bros.
Hibbing.
Metz, Ostdiek Garage Co.
Reo, Ostdiek Garage Co.
Hope.
Hupmobile, Slezak Bros.
Kasson.
Maxwell, A. T. Beaver.
Kimball.
Maxwell, N. A. Brown.
Little Falls.
Hupmobile, Dr. J. H. Newman.
Madison.
Oakland, B. Zolland.
Marshall.
Maxwell, R. M. Addison & Sons.
Minneapolis.
Briscoe, Briscoe Stimson Auto Co.
Chandler, Northwestern Auto Co.
Glide, La Crosse Auto Co.
Indiana, Capital Storage Co.
Saxon, Northwestern Auto Co.
Standard, Brice Auto Co.
Wahl, Martin Motor Sales Co.
†Baker, R. D. & F. C. Collins.
‡Vixen, Minnedakota Cyclecar Co.
Spooner.
Ford, E. T. Lindholm.
St. Cloud.
Buick, T. K. Hasbrouck.
St. Paul.
Cole, Martin Motor Sales Co.
Dayton, Dayton Cyclecar Sales Co.
Jeffery, William Cameron.
White, J. Osborn, Inc.
Watson.
Ford, M. O. Myhre.
White Earth.
Hupmobile, George McClean.
Windom.
Chevrolet, E. R. McMorris.
Winona.
Cole, Nevil's Livery & Transfer Co.

MISSISSIPPI.

French Camps.
Oakland, J. W. Howell.
Greenwood.
Chandler, E. K. Myrick.
Perthshire.
Chandler, S. D. Knowlton.

MISSOURI.

Boonville.
Velie, William Vurtel.
Brookfield.
Moon, Barbee & Carter.
Clarence.
Hupmobile, McCarthy Bros.
Columbia.
Reo, West & Venatta.
De Soto.
Empire, T. B. Maness.
Fairfax.
Maxwell, Atchinson County M. C. Co.
Flat River.
Empire, Flat River Motor Co.
Oakland, J. H. Palmer.
Hannibal.
‡Imp, Hannibal Auto Co.
Joplin.
Chandler, Davis Auto Co.
Kansas City.
Chandler, White Motors Co.
Herff-Brooks, A. Granier.
Monarch, Missouri-Kansas Auto & Sup. Co.
Pullman, D. F. Piazzek.
Marshall.
Haynes, Brown McAmis & Son.
Martinsboro.
Maxwell, H. F. Hofterman & Co.
Memphis.
Jeffery, Fravel & Hudson.
Moberly.
Packard, E. E. White.
Mulkeytown.
Hupmobile, E. K. Elkins.
O'Fallon.
Oakland, Salfin Bros.
Oregon.
Maxwell, Keller Motor Car Co.
Owenville.
Metz, J. H. Kormeier.
Paris.
Maxwell, C. F. Pelsue & Son.
Poplar Bluff.
Richmond, Reliable Motor Co.
Sikeston.
Hupmobile, Lancaster, Keller & Co.
Slater.
Reo, A. L. Lucas.
Springfield.
Packard, Jess & Sturdy.
St. Joseph.
Chandler, E. D. Ead's Garage.
Cole, Grand Centre Auto Co.
Packard, Selden-Maxwell Co.
St. Louis.
Chandler, Overland Auto Co.
Coey, Motors Clearing House.
Grant, Compton Heights Auto Co.
Havers, Brinkman Motor Co.
Herff-Brooks, A. K. Haines.
Howard, Robinson & Newell Co.
Lexington, Robinson & Newell Co.
Standard, Standard Electric Sales Co.
*Packard, Selden-Maxwell Co.
‡Scripps-Booth, A. K. Haines.

MONTANA.

Anaconda.
Maxwell, Charles Branscombe.
Butte.
Case, O. J. Thomas.
Dillon.
Overland, B. W. Emerick.
Kalispell.
Maxwell, Coleman & Shacklett.

NEBRASKA.

Alda.
Maxwell, W. B. Rolston.
Atkinson.
Hupmobile, W. H. Hitchcock.
Aurora.
Maxwell, Hockenbray Auto Co.
Blair.
Jeffery, Jensen Bros.
Brady Island.
Maxwell, Lloyd Power.
Callaway.
Maxwell, D. F. Sherrick.
Central City.
Oakland, Central City Imp. Co.
Chadron.
Car-Nation, Edward E. Morey.
Concord.
Maxwell, A. G. Carlson.
Cozad.
Maxwell, Kentopp Bros. Auto Co.
Curtis.
Car-Nation, Ray A. Conover.
Falls City.
Maxwell, Kentopp Bros. Auto Co.
Fort Calhoun.
Car-Nation, Procnew Bros.
Giltner.
Maxwell, Charles S. Browne.
Hartington.
Henderson, Emil Hoefer.
Oakland, F. J. Hirschmann.
Humphrey.
Oakland, H. J. Brening.
Imperial.
Oakland, John N. Newman.
Lincoln.
Oakland, H. A. Stockdale.
Nordin.
Oakland, Langer & Frauen.
Oakdale.
Oakland, H. L. Ingalsbe.
Ord.
Cartercar, E. A. Capron.
Metz, E. A. Capron.
Ponca.
Hupmobile, A. H. Hilles.
Republican City.
Maxwell, John J. Runck.
Royal.
Metz, A. B. Clarke.
Schuyler.
Maxwell, Schuyler Motor Co.
Scottsbluff.
Cole, J. A. McDonald.
Shelby.
Oakland, Kinney Auto Co.
Shickley.
Oakland, Thomas McElroy.
Silver Creek.
Car-Nation, W. H. Callaghan.
Syracuse.
Oakland, James H. Eaton.
Uehling.
Jeffery, Larson Bros.
Wakefield.
Hupmobile, C. A. Samuelson.

NEVADA.

Elko.
Maxwell, Steel Garage.
Ely.
Maxwell, Earl Mangum.
Reno.
Maxwell, Henry Anderson.
‡Imp, Henry Anderson.

NEW HAMPSHIRE.

Dover.
Pullman, E. D. York.
Lebanon.
Maxwell, A. J. Plamenden.
Manchester.
Chandler, Howard E. Johnson.
New Boston.
Maxwell, George D. Marden.

NEW JERSEY.

Dover.
*Koehler, Borch & Bassett.
Flemington.
Maxwell, John G. Lawshe.
Jersey City.
Chandler, Burke Bros. Co.
Malone.
Maxwell, Burt Brown.
Newark.
Chandler, Whiting Motor Co.
‡Scripps-Booth, Cyclecar Distributing Co.
Nutley.
‡Imp, West End Garage.
Paterson.
Chandler, Nathaniel Finch.
Rutherford.
‡Imp, Berger Auto Co.
Salem.
Maxwell, New Jersey Motor Co.
Somerville.
Chandler, J. C. Henry.
Summit.
Maxwell, E. F. Anderson.

NEW MEXICO.

Las Cruces.
Haynes, James Cox.
Santa Rosa.
Hupmobile, A. J. Nusome.

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NEW YORK.

Albany.
Chandler, C. S. Ransom.
Avon.
Maxwell, H. W. Spencer.
Binghamton.
Chandler, Lowell & Hammond.
‡Scripps-Booth, Herman C. Clark.
Brooklyn.
Chandler, Tanner Motor Car Co.
Crescent, George L. Bradt.
King, Cumberland Garage Co.
Maxwell, I. C. Kirkham, 1365 Bedford Ave.
National, J. T. Peacock, 1350 Bedford Ave.
Saxon, J. P. Agnew, 1384 Bedford Ave.
Buffalo.
Chandler, Ralph E. Brown Motor Car Co.
Crescent, George Fogarty.
‡Scripps-Booth, Buffalo Cyclecar Co.
Carmel.
Maxwell, E. Fowler.
Corning.
Maxwell, M. L. Allen.
Fairport.
Maxwell, Geo. W. Brown & Sons.
Glen Falls.
Chandler, Empire Auto Co.
Ithaca.
Chandler, C. J. Rumsey & Co.
Lyndonville.
Chandler, Lyndonville Ice & Cold Storage Co.
Malone.
Chandler, E. E. Hogel.
New Rochelle.
Cole, G. O. Reynolds, Inc.
New York.
Chandler, Brady-Murray Co.
‡Scripps-Booth, E. J. Willis & Co.
North Clymer.
Hupmobile, W. H. Newell.
Ogdensburg.
Franklin, A. E. Kline & Son.
Oswego.
Chandler, Steam Carriage Boiler Co.
Peekskill.
Maxwell, William H. Ash.
Plattsburg.
Chandler, Marshall, Wood & Riley.
Port Henry.
Chandler, Tozer & Putman.
Poughkeepsie.
Chandler, John Van Benschoten.
Jeffery, Ryder Motor Co.
Rochester.
Chandler, Strong-Crittenden Co.
Crescent, F. Porschet.
Republic, Flower City Oil & Grease Co.
Sag Harbor, L. I.
Oakland, Robert Edeson.
Schenectady.
Chandler, B. A. Burtis.
Crescent, William D. Havens.
Stapleton.
Chandler, E. Neumann & Sons.
Syracuse.
Chandler, W. R. Shaw.
Merz, J. M. Weaver, 696 S. Salina St.
Mitchell, J. E. Bristol.
Stutz, J. M. Weaver, 696 S. Salina St.
Tarrytown.
Chandler, Koenig Bros.
Utica.
Chandler, Skinnes Motor Car Co.
Crescent, L. Davies.
Empire, I. R. Gardiner.
Pullman, I. R. Gardiner.
Westfield.
Chandler, H. L. Fink.
White Plains.
Chandler, White Plains Garage Co.
Saxon, Paul Moore Car Co.
Yonkers.
Cole, Harold D. Vanderlyn.

NORTH CAROLINA.

Henderson.
Maxwell, John S. Poythress & Son.
Mooresville.
Maxwell, McNeely & Smith.
Raleigh.
Chandler, Raleigh Motor Car & Machine Co.
*Koehler, Ford Sales Co.
Rocky Mount.
Maxwell, Dixie Garage Co.
Roxboro.
Maxwell, T. J. Hatchett.

NORTH DAKOTA.

Brantford.
Haynes, O. A. Burdick.
Brinsmade.
Maxwell, Alex. Ling.
Claire City.
Maxwell, Claire City Auto & Mch. Co.
Grand Forks.
Haynes, Monley & Smith.
KisselKar, Sims Auto Co.
Mohall.
Maxwell, Robinson Bros. & Co.
Nome.
Maxwell, Nome Hdwe. Co.
Park River.
KisselKar, David E. Kinsala.
Wildrose.
Maxwell, Tangen & Taylor.

OHIO.

Akron.
Chandler, Romig Auto Co.
Crescent, C. E. Albright.
Hupmobile, E. E. Mellen.
Amherst.
Crescent, Henry Sipple.
‡Scripps-Booth, Henry Sipple.
Bellaire.
Crescent, William Ludwig.
Bloomville.
Crescent, J. F. Kutz.
Bucyrus.
Crescent, Hinla-Beach Co.
Hudson, Kroegel & Pursel.
Cambridge.
Maxwell, Arnold & Urban.
Camden.
Maxwell, Crauder & Pugh.
Canton.
Chandler, Chandler Motor Car Co.
Westcott, Standard Motor Car Co.
Chagrin Falls.
Crescent, Stoneman Howe Co.
Cleveland.
Crescent, Gabriel Cge. & Wagon Co.
Reo, H. J. Adams.
‡Imp, Wilkinson Cyclecar Co.
Clyde.
Crescent, R. C. Sanford.
Columbus.
Chandler, Gaither Automobile Co.
Saxon, Broad Oak Auto Co.
Little Giant, Gaither Automobile Co.
*Vulcan, Minner Main Garage.
‡Imp, C. L. Sitgreaves.
‡Scripps-Booth, Buckeye Cyclecar Co.
Conneaut.
Maxwell, A. F. Joslin.
Crestline.
Hudson, Kroegel & Pursel.
Danbury.
Crescent, J. Butler.
Dayton.
Oakland, H. H. Barton.
Defiance.
Hupmobile, Clint Colwell.
Delaware.
Jeffery, Johnson & Rodenfels.
Paige, Johnson & Rodenfels.
Eaton.
Cole, S. J. Brower.
Elyria.
Haynes, F. X. Kuchenrither.
Fostoria.
Reo, H. J. Adams.
Fremont.
Buick, Palace Garage.
Overland, Palace Garage.
Fulton.
Crescent, A. L. Pipes.
Galion.
Buick, E. P. Rayl.
Hallsville.
Jeffery, J. M. Boecher.
Paige, J. M. Boecher.
Hamilton.
Reo, West Side Motor Co.
Hillsboro.
Crescent, Scott Skeen.
Overland, Brent Woodmansee.
Jeromeville.
Case, J. Clippinger & Co.
Lamartine.
Maxwell, Murdock & Kirby.
Lancaster.
Hudson, Star Motor Car Co.
Paterson, Erskin & Corkwell.
Leesburg.
Overland, E. W. Pavey Auto Co.
Lima.
Buick, Lima-Buick Co.
Moon, H. L. Sherrick.
Logan.
Hudson, Gage Auto Co.
Jeffery, Theodore Hudson.
Paige, Theodore Hudson.
Lynchburg.
Overland, Kesler & Oldaker Auto Co.
Mansfield.
Hudson, Herring Buggy Co.
Marysville.
Hudson, Marysville Motor Car Co.
McArthur.
Detroiter, Dr. A. W. Paffenberger.
McDermott.
Crescent, F. M. Waller.
Mt. Sterling.
Paterson, Erskine & Corkwell.
Nelsonville.
Studebaker, Frank Minner.
Newark.
Crescent, J. F. Priest.
Grant, Murray Connolly.
Orville.
Maxwell, Auto Sales Co.
Paris.
Paterson, C. O. Tomlin.
Pioneer.
Maxwell, A. Deitz.
Piqua.
Haynes, R. E. Jackson.
Radnor.
Jeffery, Frank Coonfare.
Paige, Frank Coonfare.
Richwood.
Jeffery, R. D. Roberts.
Paige, R. D. Roberts.
Ripley.
Oakland, C. O. Sneeder.
Scio.
Maxwell, M. M. Webster.
Shelby.
Crescent, A. W. Stevens.
Springfield.
Chandler, King Garage.
Westcott, Eaton Motor Service Co.
St. Henry.
Crescent, William Romer.
Thornville.
Ford, Boring & Swartz.
Tiffin.
Chevrolet, C. F. Fifer.
Hupmobile, L. D. Creeger.
Partin-Palmer, Wingart & Miller.
Paterson, G. W. Corthell.
Toledo.
Crescent, J. Franke.
Hupmobile, Grasser Motor Co.
Krit, Cornelius Auto Sales Co.
Overland, Baumgardner & Kibby.
*Commerce, Claude Sturtevant.
*Republic, Grasser Motor Co.
Washington C. H.
Jeffery, Moore & Jamison.
Paige, Moore & Jamison.
Xenia.
Krit, McLain, 201 W. Main St.
Youngstown.
Chandler, J. Ralph Seider.
Moon, Regal Sales Co.
Zanesville.
Westcott, Price Implement Co.

OKLAHOMA.

Bartlesville.
Jeffery, Auto Repair Co.
Calera.
Jeffery, J. C. Kenton.
Dewey.
King, Pope Garage Co.
Hitchcock.
Maxwell, J. E. Grankhite.
Hominy.
Maxwell, R. D. Reed.
McAlester.
Maxwell, John Bassalo.
Okmulgee.
Jeffery, Smith & Lambert.

OREGON.

Astoria.
Chandler, Nelson Auto Co.
Ford, Columbia County Auto Co.
Maxwell, Nelson Auto Co.
Baker.
Maxwell, Farnald & Crandall.
Portland.
Chandler, Pacific Motors Co.

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STANDARD GASOLINE PLEASURE VEHICLES.

SPECIFICATIONS OF 1914 FOUR-CYLINDER CARS.

Key to Abbreviations: Cylinder type—I, valves in the head; L, L head; T, T head. How cast—B, en bloc; P, in pairs; S, separately; T, in triplets. Lubrication—C, combination; P, pressure; S, splash; SP, splash with pump circulation. Cooling—A, air; P, pump; T, thermo-syphon. Fuel feed—G, gravity; P, pressure. Carburetor—Car., Carter; Flet., Fletcher; Hol., Holley; King., Kingston; Mar., Marvel; May., Mayer; New., Newcomb; Pl., Planhard; Rty., Rayfield; Sch., Schebler; St., Stromberg; Zen., Zenith; Zep., Zephyr. Ignition—A. K., Atwater Kent; Bos., Bosch; Br., Briggs; Conn., Connecticut; Del., Delco; Eise., Eisemann; King., Kingston; Mich., Michigan; Nat., National; Sim., Simms; Spl., Splitdorf; West., Westinghouse. Clutch—C, cone; CB, contracting band; D, disc; EB, expanding band. Transmission—F, friction; Pl., planetary; Pr., progressive; S, selective. Rear axle—D, dead; F, full floating; ½, semi-floating; ¾, three-quarter floating. Starting and lighting—G. & D., Gray & Davis; Leece-N., Leece-Neville; N. East., Northeast; Rush., Rushmore; Ward-L., Ward Leonard; West., Westinghouse. Driver—L, left; R, right; O, optional.

Make and Model	Roadster Seats	Roadster Price	Touring Seats	Touring Price	Cyl. Type.	How cast	Bore and Stroke	S.A.E. H.P.	Piston Displacement	Lubrication	Cooling	Fuel Feed	Carburetor	Ignition	Clutch	Transmission	Speeds	Rear Axle	Wheelbase	Tires	Lighting and Starting	Driver
Abbott-Detroit 34-40	3	$1685	5	$1685	L	B	4½x5½	27.25	280.6	SP	P	G	Zen.	Sp.	D	S	3	F	116	34x4	Autolite	R
Abbott-Detroit 44-50	3	1985	5	1985*	L	P	4½x5½	32.40	349.9	SP	P	G	Zen.	Sp.	D	S	3	F	121	36x4½	Autolite	R
Allen 40	2	1395	5	1395	L	B	4½x5	27.25	267.3	SP	T	G	Sch.	Sp.	D	S	3	F	118	34x4	Autolite	L
American 422	2	1550	—	—	T	B	4 x5	25.60	251.3	SP	P	—	—	Eise.	C	S	3	F	105	36x3½	*	R
Ames 45	2	1745	5	1785	L	B	4½x5½	27.25	280.6	C	P	G	Sch.	Remy	D	S	3	F	118	36x4	G. & D.	L
Apperson 4-45	2	1600	5	1600	T	S	4½x5	32.40	318.1	P	P	G	Ray.	Nat.	CB	S	3	F	116	34x4	electric	L
Apperson 4-45	—	—	5	1785	T	S	4½x5	32.40	318.1	P	P	G	Ray.	Mea	CB	S	3	F	120	36x4	electric	L
Arbenz	2	1825	5	1885	L	P	4½x5½	27.25	294.0	C	P	G	Sch.	—	C	S	3	F	120	36x4	electric	L
Auburn 4-40	2	1490	6	1590	T	B	4½x5	32.40	318.1	S	P	P	Sch.	Remy	C	S	3	F	120	36x4	Remy	L
Briscoe	2	900*	5	900*	L	B	3.2 x5½	16.62	166.7	—	—	—	—	—	C	S	3	F	106	—	electric	L
Buick B 24-25	2	950	5	1050	I	P	3¼x3¾	22.50	165.6	SP	P	G	Mar.	Del.	C	S	3	¾	105	32x3½	Delco	L
Buick B 36-37-38	2	1235	5	1335	I	P	3¾x5	22.50	220.9	SP	P	P	Mar.	Del.	C	S	3	¾	112	34x4	Delco	L
Cadillac	2	1975	5	1975	L	S	4½x5¾	32.40	365.8	SP	P	P	Own	Del.	C	S	3	F	120	36x4½	Delco	R
Cameron	2	1200	5	1200	I	B	3½x5	20.25	206.4	SP	T	G	King	—	C	*	4	F	115	32x3½	Deihl	L
Car-Nation	—	—	4	520	L	B	3½x3¾	20.25	154.8	SP	T	—	—	—	D	S	3	½	104	30x3	—	L
Cartercar 7	2	1250	5	1250	L	B	3½x5	19.60	192.4	SP	P	P	Sch.	Del.	—	F	—	¾	106	32x3½	Delco	R
Cartercar 5	2	1600	5	1700	L	P	4½x4¾	27.25	253.9	SP	P	G	Sch.	Br.	—	F	—	¾	116	36x4	Jesco	R
Case 25	—	—	5	1250	T	P	3¾x4¾	22.50	209.9	SP	P	G	Ray.	Bos.	D	S	3	¾	110	32x4	West.	L
Case 35	—	—	5	1850	T	P	4½x5½	28.90	312.0	SP	P	G	Ray.	Bos.	D	S	3	F	120	35x4½	West.	L
Case 40	—	—	5	2300	T	P	4½x5½	32.40	334.0	SP	P	G	Ray.	Bos.	D	S	3	F	124	37x4½	West.	R
Chevrolet Royal Mail	2	750	—	—	I	B	3.6 x4	21.38	170.9	S	T	G	Zen.	Sim.	C	S	3	½	104	32x3½	Autolite	L
Chevrolet Baby Grand	—	—	4	875	I	B	3.6 x4	21.38	170.9	S	T	P	Zen.	Sim.	C	S	3	½	104	32x3½	Autolite	L
Coey	—	—	5	995	T	P	5½x5½	48.40	498.9	S	P	P	Sch.	Bos.	D	S	3	F	128	34x4	—	R
Cole Four	2	1925	5	1925	L	P	4¼x5½	28.90	297.8	S	P	P	St.	Del.	C	S	3	F	120	34x4½	Delco	L
Continental 30	2	1000	5	1000	L	B	3½x5	19.60	192.4	S	T	G	—	—	D	S	3	F	110	37x3½	optional	L
Continental 27	—	—	5	1800	L	B	4½x4½	32.40	286.3	S	P	G	Sch.	Remy	C	S	3	F	118	34x4	Jesco	R
Corbitt D, E, F	2	1450	5	1600	L	P	4 x4½	25.60	226.2	C	P	G	St.	A. K.	D	S	3	F	120	34x4	N. East	R
Crescent Ohio	2	1275	5	1275	T	B	4¼x4¼	28.90	269.4	SP	P	G	Opt.	—	D	S	3	F	116	34x4	Jesco	R
Croxton A. B. X.	—	—	4	2500	L	B	4½x5½	27.25	294.0	S	T	G	Pl.	Mea	D	S	3	F	121	36x4½	N. East	L
Crow Elk-Hart D 42-45	2	1150	5	1185	L	P	4 x5	25.60	251.3	SP	T	G	Sch.	Br.	D	S	3	½	114	33x4	electric	R
Crow Elk-Hart D 52-54-55-56	2	1575	5	1600	L	B	4¼x5½	28.90	312.0	SP	T	G	Sch.	—	D	S	3	¾	120	34x4	electric	R
Cunningham M	2	3500	5	3750	I	P	4¾x5¾	36.10	407.6	C	P	P	Ray.	Bos.	C	S	3	F	124	36x4½	N. East	L
Davis 35 J-K	2	1335	5	1335	L	B	3½x5	19.60	192.4	SP	T	G	St.	West.	D	S	3	¾	112	33x4	West.	L
Davis 50A	—	—	5	1985	L	P	4½x5½	32.40	349.9	SP	P	G	St.	Bos.	C	S	3	F	118	37x4½	G. & D.	R
Detroiter A	2	1025*	5	1025*	L	B	3½x5	19.60	192.4	SP	T	G	St.	Bos.	D	S	3	F	104	33x3½	Remy	L
Dispatch	2	850	5	900	L	B	3¼x5	22.50	220.9	P	T	G	Zen.	Spl.	D	F	5	D	120	36x3½	U. S. L.	R
Dorris I	—	—	5	2500	I	P	4¾x5	30.63	300.7	SP	P	P	Flet.	Bos.	D	S	3	F	121	36x4½	West.	L
Empire 31	2	900	2	900	L	P	3¾x4½	22.50	198.8	SP	T	G	Hol.	Eise.	D	S	3	½	110	32x3½	—	R
Enger	2	1285	5	1285	L	P	4½x5¾	32.40	334.0	S	P	G	Sch.	Remy	D	S	3	F	120	34x4	N. East	R
Fal Grayhound	2	2500	—	—	L	B	4¾x5½	28.90	312.0	S	P	G	Sch.	West.	D	S	3	¾	114	34x4	West.	R
Fal	2	1600	5	1600	L	B	4¼x5½	28.90	312.0	C	P	G	Sch.	West.	D	S	3	F	116	34x4	West.	R
Fiat 54	2	4000	5	4000	L	B	4¾x6	30.63	360.8	P	P	P	Own	Bos.	D	S	4	½	123	36x4½	West.	R
Fiat 55	2	4500	5	4900	L	B	5½x6½	42.00	567.3	P	P	P	Own	Bos.	D	S	4	½	128	36x4½*	West.	R
Flyer A	2	495	—	—	L	B	2¾x4½	12.10	107.0	S	T	G	Opt.	—	D	Pr	2	F	100	28x3	Ward-L.	L
Ford T	2	500	5	550	L	B	3¾x4	22.50	176.7	S	T	G	Opt.	Own	—	Pl	2	½	100	30x3½	—	L
Glide 36-42	2	1840	5	1840	L	B	4½x5¾	27.25	280.6	S	P	G	Sch.	West.	D	S	3	F	118	34x4	West.	L
Grant 21	2	495	—	—	L	B	2¾x4	12.10	95.0	S	T	G	May.	Bos.	C	Pr	2	¾	90	28x3	—	L
Great Eagle B	—	—	7	3500	T	P	4¾x5½	36.10	389.9	P	P	G	Ray.	Eise.	C	S	3	F	135	37x5	Autolite	L
Great Southern 50	—	—	7	1750	L	P	5.19x6	43.05	507.2	C	P	G	St.	Bos.	C	S	3	½	128	36x4*	—	R
Great Western	2	1710	5	1710	L	S	4½x5½	28.90	312.0	SP	P	G	Opt.	King	C	S	3	F	118	36x4	G. & D.	R
Great Western-Carter	2	—	5	—	—	B	3¾x5¾	22.50	254.0	SP	P	G	Opt.	King	C	S	3	F	118	36x4	G. & D.	R
Haynes 28	2	1985	5	1985	L	P	4¼x5½	28.90	312.0	SP	P	P	St.	Sim.	CB	S*	3	F	118	34x4	Leece-N.	L
Henderson De Luxe	2	1785	5	1785	L	B	4½x5½	27.25	294.0	S	T	G	Opt.	Eise.	C	S	4	½	116	35x4½	Ward-L.	L
Herreshoff 4-30	3	1350	—	—	L	B	3¼x4½	18.25	161.0	SP	T	G	St.	West.	D	S	3	F	110	32x3½	West.	L
Hupmobile 32	2	1200*	5	1200*	L	B	3¼x5½	16.90	182.5	P	T	G	Zen.	Bos.	D	S	3	F	106	32x3½	West.	R
Hupmobile 32	—	—	6	1300*	L	B	3¼x5½	16.90	182.5	P	T	G	Zen.	Bos.	D	S	3	F	126	33x4	West.	R
Illinois K-14	—	—	5	1400	L	P	4½x4¾	28.90	269.4	S	P	P	Sch.	Remy	D	S	3	F	120	37x4	—	R
Imperial 32-33	2	1500	5	1500	L	B	4¼x5¼	28.90	297.8	SP	P	G	St.	Remy	D	S	3	¾	114	34x4	N. East	L
Imperial 34	2	1650	5	1650	L	P	4½x5	32.40	318.1	C	P	G	St.	Remy	D	S	3	F	118	36x4	N. East	R
Jackson Olympic	2	1525	5	1385	L	P	4½x4¾	27.25	253.9	P	P	G	Sch.	Remy	C	S	3	F	115	34x4	Autolite	R
Jackson Majestic	—	—	5	1885	L	P	4½x5½	32.40	334.0	P	P	G	Sch.	Remy	C	S	3	F	124	36x4	Autolite	R
Jeffery Four	2	1550	5	1550	L	B	3¾x5¼	22.50	231.9	C	P	P	—	Bos.	C	S	4	F	116	34x4	U. S. L.	L
King B	2	1195*	5	1195*	L	B	3½x5	24.00	235.8	SP	T	G	St.	Br.	D	S	3	F	112	33x4	Ward-L.	L
KisselKar 40	2	1850	5	1850	L	P	4½x5½	32.40	334.0	SP	P	P	St.	Bos.	C	S	4	—	121	36x4	electric	R
Kline-Kar 4-30	—	—	5	1685	L	S	4 x4½	25.60	232.5	C	P	G	St.	Bos.	C	S	4	F	115	34x4	Rush	R
Kline-Kar 4-40	2	1985	5	1985	T	P	4.32x5½	29.71	335.9	C	P	G	St.	Bos.	C	S	4	F	120	36x4	Rush	L
Knox 44	2	3550	5	3500	I	S	5 x5½	40.00	430.9	C	P	G	St.	Bos.	D	S	3	F	Opt.	36x4½	Esterline	R
Knox 45	—	—	7	3800	I	S	5 x5½	40.00	430.9	C	P	G	St.	Bos.	D	S	3	F	126	37x5	Esterline	O
K-R-I-T L	2	1050*	5	1050*	L	B	3¾x4	22.50	176.7	S	T	G	St.	Bos.	D	S	3	F	108	32x3½	Disco	L

*Abbott-Detroit 44-50—Starting and lighting system $100 extra. American 422—Elestric lights, air starter. Briscoe—$750 without starter. Cadillac—Two-speed rear axle. Cameron—Special transmission. Detroiter—$850 without starter. Fiat 55—Rear tires, 37x5. Hupmobile—$1050 and $1200 without starter. King—$1095 without starter. K-R-I-T—$950 without starter.

ADDRESSES OF GASOLINE CAR MAKERS.

Abbott-Detroit—Abbott Motor Co., Detroit, Mich.
Allen—Allen Motor Car Co., Fostoria, O.
American—American Motors Co., Indianapolis, Ind.
Ames—Ames Motor Car Co., Owensburg, Ky.
Apperson—Apperson Bros. Automobile Co., Kokomo, Ind.
Arbenz—Arbenz Car Co., Chillicothe, O.
Auburn—Auburn Automobile Co., Auburn, Ind.
Austin—Austin Automobile Co., Grand Rapids, Mich.
Benham—Benham Mfg. Co., Detroit, Mich.
Briscoe—Briscoe Motor Co., New York City.
Buick—Buick Motor Co., Flint, Mich.
Cadillac—Cadillac Motor Car Co., Detroit, Mich.
Cameron—Cameron Mfg. Co., New Haven, Conn.
Car-Nation—American Volturette Co., Detroit, Mich.

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SPECIFICATIONS OF 1914 FOUR-CYLINDER CARS.

Key to Abbreviations: Cylinder type—I, valves in the head; L, L head; T, T head. How cast—B, en bloc; P, in pairs; S, separately; T, in triplets. Lubrication—C, combination; P, pressure; S, splash; SP, splash with pump circulation. Cooling—A, air; P, pump; T, thermo-syphon. Fuel feed—G, gravity; P, pressure. Carburetor—Car., Carter; Flet., Fletcher; Hol., Holley; King., Kingston; Mar., Marvel; May., Mayer; New., Newcomb; Pl., Planhard; Ray., Rayfield; Sch., Schebler; St., Stromberg; Zen., Zenith; Zep., Zephyr. Ignition—A. K., Atwater Kent; Bos., Bosch; Br., Briggs; Conn., Connecticut; Del., Delco; Eise., Eisemann; King., Kingston; Mich., Michigan; Nat., National; Sim., Simms; Spl., Splitdorf; West., Westinghouse. Clutch—C, cone; CB, contracting band; D, disc; EB, expanding band. Transmission—F, friction; Pl., planetary; Pr., progressive; S, selective. Rear axle—D, dead; F, full floating; ½, semi-floating; ¾, three-quarter floating. Starting and lighting—G. & D., Gray & Davis; Leece-N., Leece-Neville; N. East., Northeast; Rush., Rushmore; Ward-L., Ward Leonard; West., Westinghouse. Driver—L, left; R, right; O, optional.

Make and Model	Roadster Seats	Roadster Price	Touring Seats	Touring Price	Cyl. Type.	How cast	Bore and Stroke	S.A.E.H.P.	Piston Displacement	Lubrication	Cooling	Fuel Feed	Carburetor	Ignition	Clutch	Transmission	Speeds	Rear Axle	Wheelbase	Tires	Lighting and Starting	Driver
Lambert 46	—	——	5	$1200	L	B	3¼x5¼	22.50	231.9	C	P	G	Sch.	Br.	—	F	—	½	112	32x3½	Briggs	L
Lambert 60	—	——	5	1395	L	B	4¼x5¼	27.25	280.6	C	P	G	Sch.	Br.	—	F	—	½	115	34x3½	Disco	R
Lambert 99	—	——	5	1250	L	B	4¼x5¼	43.80	297.8	C	P	G	Sch.	Remy	—	F	—	—	112	34x3½	——	R
Lenox Four	2	$2100	5	2000	L	B	4½x5½	28.90	312.0	C	P	G	Own	Eise.	C	S	3	¾	118	34x4½	G. & D.	L
Lexington	—	——	5	1335	L	B	4 x5	25.60	251.3	—	P	—	Sch.	A. K.	C	S	—	¾	114	34x4	electric	L
Locier Four	2	2100	7	2100	L	B	4¼x6¼	43.80	354.6	C	P	P	——	Bos.	D	S	4	F	120	36x4½	G. & D.	L
Lyons-Knight K	—	——	5	2900	—	P	4½x5½	32.40	349.9	P	P	G	St.	Sim.	D	S	3	F*	130	37x5	N. East	L
Marathon Runner	2	925	5	975	L	P	3½x4½	19.60	173.2	S	T	G	Mar.	Remy	D	S	3	½	104	32x3½	Jesco	R
Marathon Winner	2	1300	5	1325	L	P	4¼x4½	28.90	255.3	S	T	G	Mar.	Remy	D	S	3	F	118	34x4	Jesco	R
Marathon Champion	2	1470	7	1495	L	P	4½x5½	32.40	326.1	S	T	G	Mar.	Remy	D	S	3	F	126	36x4	Jesco	R
Marion B	2	1650	5	1650	L	P	4 x5	25.60	251.3	SP	P	G	Ray.	Spl.	C	S	3	F	117	34x4	West.	L
Marmon 32	2	2900	5	3000	T	P	4½x5	32.40	318.1	P	P	G	Zen.	Bos.	C	S	3	F	120	35x4½	N. East	L
Maxwell 25-4	—	——	5	750	L	B	3¼x4½	20.25	185.8	SP	T	G	Zep.	Sim.	C	S	3	¾	103	30x3½	——	L
Maxwell 35-4	2	1200	5	1225	L	B	4 x4¼	25.60	238.8	S	P	G	Hol.	Spl.	C	S	3	½	111	33x4	Delco	L
Mercer 35-J	2	2600	—	——	T	P	4½x5	30.63	300.7	SP	P	P	Flet.	Bos.	D	S	4	F	108	32x4	——	R
Mercer 35-M	—	——	5	3000	T	P	4½x5	32.40	318.1	SP	P	P	Flet.	Bos.	D	S	4	F	124	34x4*	Rush	R
Mercer 35-H-O	2	2900	5	2900	T	P	4½x5	32.40	318.1	SP	P	P	Flet.	Bos.	D	S	4	F	118	34x4	Rush	R
Meteor M-36	—	——	5	950	L	P	4 x5	25.60	251.3	C	P	G	St.	Remy	D	S	3	¾	116	34x3½	Jesco	R
Meteor F-40	—	——	5	1725	L	P	4 x5	25.60	251.3	C	P	G	St.	A. K.	D	S	3	¾	118	34x3½	Jesco	R
Metropol C	2	1475	4	1500	T	B	4½x7¾	28.90	446.8	C	P	P	Ray.	Bos.	C	S	3	F	115	33x4	——	R
Metz 22	2	475	—	——	L	B	3¾x4	22.50	176.7	S	T	G	Hol.	Bos.	—	F	—	D	90	30x3	N. East	L
Mitchell Four	2	1595	5	1595	T	P	4¼x7	28.90	397.2	C	P	G	Ray.	Remy	C	S	3	F	120	36x4½	Remy	L
Moline-Knight	—	——	5	2400	—	B	4 x6	25.60	301.6	P	T	P	Sch.	Bos.	C	S	3	F	128	36x4½	Wagner	L
Monarch 4	—	——	5	1050	L	B	3.19x5	16.27	159.6	C	T	—	Zep.	Spl.	C	S	3	½	110	32x3½	Desco	L
Moon 42	2	1750	5	1750	T	P	4½x5	32.40	318.1	S	P	P	St.	Del.	D	S	3	F	118	34x4	Delco	L
Morse D	2	3600	5	3600	I	S	4½x5	34.25	336.0	S	P	G	St.	Eise.	D	S	4	½	127	36x4½	G. & D.	R
Moyer E	2	2400	4	2500	T	P	4½x5	32.40	318.1	P	P	G	Car.	Mea	C	S	3	F	120	34x4	U. S. L.	R
National 40	2	2750	5	3300	T	P	4¾x6	38.00	448.0	SP	P	P	Ray.	Bos.	C	S	3	F	120	36x4½	G. & D.	L
Oakland 36	3	1150	5	1200	L	B	3½x5	19.60	192.4	SP	P	P	Hol.	Del.	C	S	3	½	112	33x4	Delco	L
Oakland 43	—	——	5	1785	L	P	4¼x5½	28.90	297.8	SP	P	P	St.	Del.	C	S	3	F	116	35x4½	Delco	R
Overland 79	2	1075*	5	1075*	L	S	4½x4½	27.25	240.5	SP	T	G	Sch.	Spl.	C	S	3	¾	114	33x4	G. & D.	R
Paige 25	3	975*	5	975*	L	B	3¾x4	22.50	176.7	SP	T	G	May.	Bos.	D	S	3	½	110	32x3½	Disco	R
Paige 36	3	1275	5	1275	L	B	4 x5	25.60	251.3	C	P	G	St.	Bos.	D	S	3	F	116	34x4	G. & D.	L
Partin-Palmer 38	—	——	6	975	I	B	——	——	——	SP	T	G	St.	Br.	C	S	3	¾	115	32x3½	Autolite*	L
Paterson 32-33	2	1147	5	1197	L	B	3½x5	19.60	192.4	SP	P	G	Mar.	Conn.	C	S	3	F	112	32x3½	Autolite	L
Pathfinder Four	2	2175	5	2175	L	B	4½x5½	27.25	280.6	SP	T	G	Sch.	Eise.	C	S	3	F	120	35x4½	G. & D.	L
Petrel 60	2	1025	—	——	L	P	4½x4¾	32.40	302.2	—	P	—	St.	Remy	—	—	—	—	116	34x3½	——	R
Petrel 85	—	——	5	1275	L	P	4½x4¾	32.40	302.2	—	P	—	St.	Remy	—	—	—	—	118	35x4	——	R
Pilot 50	2	2250	5	2250	T	B	4½x6	32.40	381.7	S	P	G	Opt.	Eise.	C	S	3	F	126	37x4½	G. & D.	O
Pope-Hartford 35	—	——	5	2250	I	P	——	——	——	SP	P	P	Own	Bos.	C	S	4	F	118½	36x4½	G. & D.	R
Pratt 4-50	2	2100	5	2150	L	P	4½x5¼	32.40	365.8	S	P	G	Hol.	Bos.	D	S	3	F	122	36x4	G. & D.	R
Pullman 4-36	2	1775	5	1775	T	P	4.06x5	26.38	259.2	SP	P	G	St.	Bos.	C	S	3	F	118	34x4	West.	L
Pullman 4-44	2	1975	5	1975	T	P	4½x5½	30.63	330.7	SP	P	G	St.	Bos.	C	S	3	F	122	36x4	West	L
Read 30	—	——	5	850	L	B	3½x4	19.60	153.9	S	T	G	St.	Bos.	D	S	3	½	115	32x3½	"	L
Regal T, N, NC	2	1125	5	1125	L	B	3¾x4½	22.50	198.8	SP	T	G	Sch.	Mich.	C	S	3	½	108	32x3½	Rush	L
Regal C	—	——	6	1350	L	B	4 x5	25.60	251.3	SP	T	G	Sch.	Mich.	C	S	3	½	116	34x4	Rush	L
Reo the Fifth	2	1175	5	1175	L	P	4 x4½	25.60	226.2	P	P	G	Hol.	Remy	D	S	3	½	112	34x4	Remy	L
Richmond R	2	1150	5	1250	L	B	4½x5	27.25	267.3	S	P	G	King	Mich.	C	S	3	½	114	34x4	Jesco	R
Richmond S	—	——	5	1350	L	S	4½x5	32.40	318.1	S	P	G	King	Mich.	C	S	3	½	117	34x4	Jesco	R
Saxon	2	395	—	——	L	B	2¾x4	11.00	180.2	S	T	G	——	A. K.	D	Pr	2	½	96	28x3	——	L
Selden 49	2	2500	5	2500	L	P	4½x5	36.10	354.4	S	P	G	St.	Bos.	D	S	3	¾	125	36x4	G. & D.	R
S. G. V.	2	3500	5	3500	L	B	3¾x6	22.50	265.0	P	P	P	Zen.	Bos.	D	S	4	½	120	35x4½	U. S. L.	L
Simplex 38	—	——	5	5600	T	P	4¾x6½	38.00	485.3	C	P	P	Own	Bos.	D	S	4	½	137	35x5	Rush	R
Simplex 56	—	——	5	6100	T	P	5¾x6½	46.00	590.0	C	P	P	Own	Bos.	D	S	4	D	137	36x4½	Rush	R
Simplex 75	—	——	—	——	T	P	5¾x6½	46.00	590.0	C	P	P	Own	Bos.	D	S	4	D	129	——	Rush	R
Spaulding 40	—	——	5	1875	L	B	4¼x5½	28.90	312.0	SP	P	P	Hol.	Sim.	C	S	3	F	120	36x4	Entz	L
Spoerer 40	2	3000	5	3000	T	P	4¾x5½	38.00	410.6	P	P	P	St.	Bos.	C	S	3	F	120	37x4½	G. & D.	R
Staver 45-A	—	——	5	1885	T	B	4½x6	32.40	381.7	S	P	P	Ray.	Sim.	C	S	3	F	120	34x4	Esterline	L
Stearns-Knight Four	2	3750	5	3750	—	P	4¼x5½	28.90	312.0	C	P	P	St.	Bos.	D	S	3	F	121	36x4½	G. & D.	L
Studebaker Four	2	1200	5	1050	L	B	3½x5	19.60	192.4	S	P	G	Sch.	Remy	C	S	3	F	108	32x3½	Wagner	L
Stutz 4-E	—	——	6	2150	T	P	4¾x5½	36.10	389.9	P	P	P	St.	Spl.	C	S	3	¾	130	34x4½	S-Remy	R
Stutz 4-E	2	2000	—	——	T	P	4¾x5½	36.10	389.9	P	P	P	St.	Spl.	C	S	3	¾	120	34x4½	S-Remy	R
Tribune A	—	——	5	1600	L	B	4¼x5½	28.90	312.0	C	P	G	St.	Bos.	D	S	3	F	118	34x4	——	L
Velie 5	—	——	5	1500	L	P	4 x5½	25.60	276.5	S	T	G	St.	Bos.	D	S	3	F	113	34x4	G. & D.	L
Velie 9	2	2000	5	2000	L	P	4¾x5¼	34.25	352.8	S	P	P	St.	Bos.	D	S	4	F	121	36x4	G. & D.	L
Vulcan	2	750	5	850	L	B	3¾x5	18.25	178.9	SP	T	G	——	Bos.	C	S	3	½	105*	32x3½	——	L
Westcott 30	2	1385	5	1385	L	B	3½x5	19.60	192.4	—	P	—	Sch.	——	C	S	3	—	113	33x4	Jesco	L
White 30	2	2500	5	2500	L	B	3¾x5½	22.50	226.4	C	P	G	Own	Bos.	P	S	4	*	110	34x4	W-Entz	L
White 40	2	3300	5	3300	L	B	4¼x6¾	28.90	361.7	C	P	G	Own	Bos.	P	S	4	*	124	36x4½	W-Entz	L
Willys-Knight	2	2560	5	2560	—	P	4 x5½	25.60	276.5	P	P	P	St.	Sim.	C	S	4	F*	120	36x4½	U. S. L.	L

*Lyons-Knight—Worm drive. Mercer 35M—Rear tires, 35x4½. Partin-Palmer—Starter extra. Read 30—Undecided. Vulcan—Touring car, 115. White—Special rear axle. Willys-Knight—Worm drive.

ADDRESSES OF GASOLINE CAR MAKERS—Continued.

Cartercar—Cartercar Co., Pontiac, Mich.
Case—J. I. Case Threshing Machine Co., Racine, Wis.
Chadwick—Chadwick Eng. Works, Pottstown, Penn.
Chalmers—Chalmers Motor Co., Detroit, Mich.
Chandler—Chandler Motor Car Co., Cleveland, O.
Chevrolet—Chevrolet Motor Co., Flint, Mich.
Coey—Coey-Mitchell Automobile Co., Chicago, Ill.
Colby—Standard Motor Co., Mason City, Ia.
Cole—Cole Motor Car Co., Indianapolis, Ind.
Continental—Martindale & Millikan, Franklin, Ind.
Corbitt—Corbitt Automobile Co., Henderson, N. C.
Correja—Vandewater & Co., Elizabeth, N. J.
Crane—Crane Motor Car Co., Bayonne, N. J.
Crescent—Crescent Motor Co., Carthage, O.
Croxton—Croxton Motor Car Co., Washington, Penn.
Crow Elk-Hart—Crow Motor Car Co., Elkhart, Ind.
Cunningham—J. Cunningham, Son & Co., Rochester, N. Y.
Davis—G. W. Davis Motor Car Co., Richmond, Ind.
Detrolter—Briggs-Detroiter Co., Detroit, Mich.
DeSoto—DeSoto Motor Car Co., Auburn, Ind.
Dispatch—Dispatch Motor Car Co., Minneapolis, Minn.
Dorris—Dorris Motor Car Co., St. Louis, Mo.
Empire—Empire Automobile Co., Indianapolis, Ind.
Enger—Enger Motor Car Co., Cincinnati, O.

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SPECIFICATIONS OF 1914 SIX-CYLINDER CARS.

Key to Abbreviations: Cylinder type—I, valves in the head; L, L head; T, T head. How cast—B, en bloc; P, in pairs; S, separately; T, in triplets. Lubrication—C, combination; P, pressure; S, splash; SP, splash with pump circulation. Cooling—A, air; P, pump; T, thermo-syphon. Fuel feed—G, gravity; P, pressure. Carburetor—Car., Carter; Flet., Fletcher; Hol., Holley; King., Kingston; Mar., Marvel; May., Mayer; New., Newcomb; Pl., Plunkard; Ray., Rayfield; Sch., Schebler; St., Stromberg; Zen., Zenith; Zep., Zephyr. Ignition—A. K., Atwater Kent; Bos., Bosch; Br., Briggs; Conn., Connecticut; Del., Delco; Eise., Eisemann; King., Kingston; Mich., Michigan; Nat., National; Sim., Simms; Spl., Splitdorf; West., Westinghouse. Clutch—C, cone; CB, contracting band; D, disc; EB, expanding band. Transmission—F, friction; Pl., planetary; Pr., progressive; S, selective. Rear axle—D, dead; F, full floating; ½, semi-floating; ¾, three-quarter floating. Starting and lighting—G. & D., Gray & Davis; Leece-N., Leece-Neville; N. East., Northeast; Rush., Rushmore; Ward-L., Ward Leonard; West., Westinghouse. Driver—L, left; R, right; O, optional.

Make and Model	Roadster Seats	Roadster Price	Touring Seats	Touring Price	Cyl. Type.	How cast	Bore and Stroke	S.A.E.H.P.	Piston Displacement	Lubrication	Cooling	Fuel Feed	Carburetor	Ignition	Clutch	Transmission	Speeds	Rear Axle	Wheelbase	Tires	Lighting and Starting	Driver
Abbott-Detroit Belle Isle	2	$2190	7	$2190	L	T	3¼x5¼	33.75	347.8	SP	P	P	Zen.	Bos.	D	S	4	F	130	35x4½	Autolite	L
American 644	2	2750	4	2750	T	B	4¼x5½	43.80	468.0	S	P	P	Ray.	Eise.	C	S	4	F	132	38x4½	Disco	R
American 646	—	—	6	2950	T	B	4¼x5½	43.80	468.0	S	P	P	Ray.	Eise.	C	S	4	F	140	38x4½	Disco	R
Apperson 6-45	2	2200	—	—	T	B	3¼x5½	33.75	364.4	SP	P	G	Ray.	Mea	CB	S	3	F	120	36x4	electric	L
Apperson 6-45	—	—	5	2200	L	B	3¼x5½	33.75	364.4	SP	P	G	Ray.	Mea	CB	S	3	F	128	36x4	electric	L
Auburn 6-45	2	2000	—	—	L	P	3¼x5¼	33.75	347.8	S	P	G	Ray.	Sim.	C	S	3	F	130	37x4½	Remy	R
Auburn 6-46	—	—	6	2100	L	P	3¼x5¼	33.75	347.8	S	P	G	Ray.	Sim.	C	S	3	F	130	37x4½	Remy	L
Austin 55	2	4000	5	5000	T	T	4 x5½	38.40	414.7	S	P	G	—	Sim.	D	S	3	F*	141½	37x5	Remy	L
Austin 77	2	6000	7	6000	T	S	4½x7	48.60	667.9	S	P	G	—	Sim.	D	S	4	F*	141½	37x5	Remy	L
Benham 14-48	—	—	7	3500	L	T	3¼x5¼	33.75	347.8	S	P	P	Ray.	Bos.	D	S	4	F	130	34x4½	Rush	L
Buick B-55	—	—	5	1985	I	P	3¾x5	33.75	331.4	SP	P	P	Mar.	Del.	C	S	3	F	130	36x4½	Delco	L
Chadwick 19	2	5500	—	—	L	P	5 x6	60.00	706.8	P	P	P	Own	Bos.	EB	S	4	D	112	36x4½	West.	R
Chadwick 19	—	—	5	5500	L	P	5 x6	60.00	706.8	P	P	P	Own	Bos.	EB	S	4	D	133	37x5	West.	R
Chalmers 24	3	2175	5	2175	T	B	4 x5½	38.40	414.7	C	P	P	Ray.	Bos.	D	S	3	F	132	36x4½	C-Entz	L
Chalmers 26	2	2050	5	1800	T	B	3½x5½	29.40	317.4	C	P	G	Ray.	A. K.	D	S	3	F	126	34x4	C-Entz	L
Chandler Six	—	—	5	1785	L	T	3¼x5	27.40	268.4	SP	P	P	St.	Bos.	D	S	3	F	120	34x4	West.	L
Colby 6 C	2	2500	7	2500	L	P	4⅛x5¼	40.90	420.9	S	P	P	Ray.	Eise.	D	S	3	F	136	37x5	G. & D.	R
Cole Six	2	2600	6	2600	L	P	4¼x5¼	43.80	446.7	S	P	P	St.	Del.	C	S	3	F	136	36x4½	Deleo	L
Correja H	—	—	6	2100	L	B	3¼x5½	33.75	364.4	S	P	P	Zen.	Sim.	C	S	3	F	128	34x4	Ward-L.	L
Crane 4	—	—	—	8000*	L	T	4½x6½	45.95	563.7	P	P	P	New.	Bos.	D	S	4	F	136½	36x4½	Rush	L
Crescent Royal	2	1985	5	1985	T	B	4 x6	38.40	452.4	SP	P	G	Opt.	Spl.	D	S	4	F	132	35x4½	Jesco	L
Crow Elk-Hart D 62	2	2250	5	2250	L	B	3¼x5½	33.75	364.4	SP	T	P	Sch.	—	D	S	3	F	130	36x4	Briggs	R
Davis 6-50	—	—	6	2185	L	T	3¼x5¼	33.75	347.8	SP	P	P	St.	Mea	D	S	4	F	128	37x4½	G. & D.	L
De Soto Six	—	—	5	2185*	L	P	4 x5	38.40	376.9	C	P	P	Sch.	—	D	S	3	F	130	36x4	—	R
Fiat 56	2	5000	7	5000	L	B	4½x6	45.95	541.2	P	P	P	Own	Bos.	D	S	4	½	135	36x4½*	West.*	R
Franklin 6-30	3	2300	5	2300	I	S	3¾x4	31.60	247.7	P	A	G	Own	Eise.	D	S	3	½	120	34x4½	F-Entz	L
Havers Six-44	2	1985	5	1985	L	P	3¼x5	33.75	331.4	C	T	P	St.	Eise.	D	S	3	F	122	36x4	G. & D.	R
Havers Six-60	2	2485	5	2485	L	P	4¼x5¼	40.90	420.9	P	T	O	St.	Eise.	D	S	3	F	128	36x4½	G. & D.	R
Haynes 26	2	2700	5	2700	L	P	4¼x5½	43.80	468.0	SP	P	P	St.	Sim.	CB	*S	3	F	130	36x4½	Leece-N.	L
Haynes 27	—	—	7	2785	L	P	4¼x5½	43.80	468.0	SP	P	P	St.	Sim.	CB	*S	3	F	136	36x4½	Leece-N.	L
Henderson Six	2	2285	5	2285	L	B	3¼x5½	33.75	364.4	S	P	G	Car.	Eise.	C	S	3	F	126	35x4½	Ward-L.	L
Herreshoff 6-40	2	1850	5	1850	T	B	3¼x4½	33.75	241.5	SP	T	G	St.	West.	D	S	4	½	124	34x4	West.	L
Holly A-1	2	2750	5	2750	T	T	4 x5	38.40	376.9	S	P	P	St.	Remy	C	S	3	¾	130	35x4½	Ward-L.	L
Howard D	—	—	5	2375	L	T	4½x5¼	40.90	420.9	C	P	P	St.	Bos.	C	S	3	F	130	36x4½	Jesco	L
Hudson 6-40	2	1950	—	—	L	T	3½x5	29.40	288.6	C	P	G	Zen.	Del.	D	S	3	F	123	34x4	Delco	L
Hudson 6-54	—	—	7	2250	L	T	4½x5¾	40.90	420.9	SP	P	G	Zen.	Del.	D	S	4	F	135	36x4½	Delco	L
Imperial 44-6	—	—	5	2000	L	T	3¾x5¾	33.75	347.8	C	P	G	St.	Remy	D	S	3	F	126	36x4½	N, East	L
Imperial 54-6	—	—	7	2500	L	T	4¼x5¾	40.90	420.9	C	P	G	St.	Remy	D	S	3	F	137	36x4½	N. East	L
Jackson Sultanic	—	—	5	2150	L	P	4¼x4¾	40.90	380.8	P	P	G	Sch.	Remy	C	S	3	F	132	36x4½	Autolite	R
Jeffery Six	2	2250	5	2250	L	P	3¾x5¼	33.75	347.8	C	P	P	Ray.	Bos.	C	S	4	F	128	36x4½	U. S. L.	L
Keeton	2	3250	7	3250	L	B	4 x5	38.40	376.9	—	P	—	—	Eise.	D	S	4	F	136	34x4½	Jesco	L
KisselKar 48	2	2350	5	2350	L	B	3½x5½	33.75	364.4	C	P	P	—	—	C	S	4	—	132	36x4½	electric	L
KisselKar 60	2	3150	7	3150	L	B	4½x5⅝	48.60	501.0	SP	P	P	—	—	C	S	4	—	142	37x5	electric	L
Kline-Kar 6-50	2	2585	5	2585	T	P	4⅜x5½	40.90	441.0	C	P	G	St.	Bos.	C	S	4	F	128	37x4½	Rush	L
Kline-Kar 6-60	2	2985	7	2985	T	P	4.32x5¾	44.88	503.8	C	P	G	St.	Bos.	C	S	4	F	133	37x5	Rush	L
Knox 46	2	4500	7	4500	I	P	4½x5½	45.95	496.0	C	P	G	Scott	Bos.	D	S	3	F	134	38x5	Esterline	O
Knox 66	—	—	7	5000	I	P	5 x5½	60.00	647.8	C	P	G	St.	Bos.	D	S	3	F	134	38x5½	Esterline	O
Lenox 6	—	—	6	2750	T	T	4 x5	38.40	377.0	C	P	G	Own	Eise.	C	S	3	¾	130	34x4½	G. & D.	L
Lewis Six	—	—	6	1600	L	B	3½x6	29.40	346.4	C	P	G	—	—	D	S	3	F	135	36x4	Entz	L
Locomobile 38 L D	2	4400	5	4400	T	P	4¼x5	43.80	425.4	P	P	P	Own	Bos.	D	S	4	F	128	36x5	G. & D.	L
Locomobile 38 R D	2	4400	5	4400	T	P	4¼x5	43.80	425.4	C	P	P	Own	Bos.	D	S	4	F	132	36x5	G. & D.	R
Locomobile 48 L D	2	5100	7	5100	T	P	4½x5½	48.60	524.8	P	P	P	Own	Bos.	D	S	4	F	140	36x5	G. & D.	L
Locomobile 48 R D	2	5100	7	5100	T	P	4½x5½	48.60	524.8	C	P	G	Own	Bos.	D	S	4	F	136	36x4½*	G. & D.	R
Lozier	2	3250	5	3250	L	T	3⅞x5½	36.06	389.1	SP	T	P	Ray.	Bos.	D	S	3	F	127½	36x4½	G. & D.	L
Luverne	—	—	7	2500	L	P	4 x5	38.40	377.0	S	T	G	Ray.	Bos.	D	S	3	F	120	36x4½	*	L
Marion G	2	2150	5	2150	L	T	3¼x5¼	33.75	347.8	P	P	P	Ray.	Spl.	D	S	3	F	124	35x4½	West.	L
Marmon 41	2	3200	5	3200	L	T	4¼x5½	43.80	468.0	P	P	P	Zen.	Bos.	C	S	3	F	132	35x5	N. East	L
Marmon 48	2	5000	5	5000	T	P	4½x6	48.60	572.5	P	P	P	Zen.	Bos.	D	S	3	F	145	36x4½*	N. East	L
Maxwell 50-6	—	—	5	1975	L	B	4⅛x4¾	40.90	380.8	SP	P	P	Ray.	Spl.	C	S	3	F	130	36x4½	G. & D.	O
McFarlan T	2	2590	5	2590	T	B	4 x6	38.40	452.4	S	P	P	St.	Mea	D	*S	3	F	128	36x4½	*	L
McIntyre	—	—	5	1485	T	P	3½x4½	29.40	259.8	SP	T	G	St.	—	D	S	4	F	120	34x4½	electric	R
Meteor W 6-45	—	—	5	1600	L	P	3¼x5	33.75	331.4	C	P	G	St.	A. K.	D	S	3	¾	122	35x4	Jesco	R
Mitchell Little Six	2	1895	5	1895	T	P	4¼x6	43.80	510.6	C	P	G	Ray.	Remy	C	S	3	F	132	36x4½	Remy	L
Mitchell Big Six	—	—	7	2350	T	P	4¼x7	43.80	595.8	C	P	G	Ray.	Remy	C	S	3	F	144	37x5	Remy	L
Moon 6-50	2	2150	5	2150	L	T	3¾x5¼	33.75	347.8	C	P	P	St.	Del.	D	S	4	F	129	35x4½	Delco	L
Moyer G	—	—	5	3250	T	P	4½x5	48.60	477.1	P	P	G	Car.	Mea	C	S	3	F	135	35x4½	U. S. L.	R
National Six	—	—	5	2375	L	B	3¼x5½	33.75	364.4	SP	P	P	—	—	C	S	3	F	132	36x4½	Deaco	L
Norwalk D	2	2685	6	2785	T	T	3¾x5	36.06	353.7	S	P	P	Ray.	A. K.	D	S	4	F	131	37x4	West.	L
Norwalk C	2	3500	6	3500	T	T	4 x5½	38.40	414.7	S	P	P	Ray.	A. K.	D	S	4	F	126	39x5	West.	L

*Austin 55 and 77—Two-speed rear axle. Crane—Chassis only. De Soto—Without starter, $2085. Fiat 56—Rear tires, 37x5; Westinghouse lighting standard, starter $150 extra. Haynes—Electric gearshift. Locomobile—Rear tires, 37x5. Luverne—Electric lights, air starter. Marmon 48—Rear tires, 37x5. McFarlan T—Pneumatic gearshift; electric lights, air starter.

ADDRESSES OF GASOLINE CAR MAKERS—Continued.

Fal—F. A. L. Motor Car Co., Chicago, Ill.
Fiat—Fiat Automobile Co., Poughkeepsie, N. Y.
Flyer—Flyer Motor Car Co., Detroit, Mich.
Ford—Ford Motor Co., Detroit, Mich.
Franklin—H. H. Franklin Mfg. Co., Syracuse, N. Y.
Gleason—Bower Machine Works Co., Kansas City, Mo.
Glide—Bartholomew Co., Peoria, Ill.
Grant—Grant Motor Car Co., Findlay, O.
Great Eagle—U. S. Carriage Co., Columbus, O.
Great Southern—Great Southern Automboile Co., Birmingham, Ala.
Great Western—Great Western Automobile Co., Peru, Ind.
Havers—Havers Motor Car Co., Port Huron, Mich.
Haynes—Haynes Automobile Co., Kokomo, Ind.
Henderson—Henderson Motor Car Co., Indianapolis, Ind.
Herreshoff—Herreshoff Motor Co., Detroit, Mich.
Holly—Holly Motor Co., Mt. Holly, N. J.
Howard—Lexington-Howard Co., Connersville, Ind.
Hudson—Hudson Motor Car Co., Detroit, Mich.
Hupmobile—Hupp Motor Car Co., Detroit, Mich.
Illinois—Overholt Co., Galesburg, Ill.
Imperial—Imperial Automobile Co., Jackson, Mich.

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SPECIFICATIONS OF 1914 SIX-CYLINDER CARS.

Key to Abbreviations: Cylinder type—I, valves in the head; L, L head; T, T head. How cast—B, en bloc; P, in pairs; S, separately; T, in triplets. Lubrication—C, combination; P, pressure; S, splash; SP, splash with pump circulation. Cooling—A, air; P, pump; T, thermo-syphon. Fuel feed—G, gravity; P, pressure. Carburetor—Car., Carter; Flet., Fletcher; Hol., Holley; King., Kingston; Mar., Marvel; May., Mayer; New., Newcomb; Pl., Planhard; Ray., Rayfield; Sch., Schebler; St., Stromberg; Zen., Zenith; Zep., Zephyr. Ignition—A. K., Atwater Kent; Bos., Bosch; Br., Briggs; Conn., Connecticut; Del., Delco; Klee., Eisemann; King., Kingston; Mich., Michigan; Nat., National; Sim., Simms; Spl., Splitdorf; West., Westinghouse. Clutch—C, cone; CB, contracting band; D, disc; EB, expanding band. Transmission—F, friction; Pl., planetary; Pr., progressive; S, selective. Rear axle—D, dead; F, full floating; ½, semi-floating; ¾, three-quarter floating. Starting and lighting—G. & D., Gray & Davis; Leece-N., Leece-Neville; N. East., Northeast; Rush., Rushmore; Ward-L., Ward Leonard; West., Westinghouse. Driver—L, left; R, right; O, optional.

Make and Model	Roadster Seats	Roadster Price	Touring Seats	Touring Price	Cyl. Type.	How cast	Bore and Stroke	S.A.E.H.P.	Piston Displacement	Lubrication	Cooling	Fuel Feed	Carburetor	Ignition	Clutch	Transmission	Speeds	Rear Axle	Wheelbase	Tires	Lighting and Starting	Driver
Oakland 6-48	2	$1785	5	$1785	L	B	3½x5	29.40	288.6	SP	P	P	St.	Del.	C	S	3	F	123½	35x4½	Delco	L
Oakland 6-60	—	——	5	2450	L	P	4½x4¼	40.90	370.8	SP	P	P	St.	Del.	C	S	3	F	130	34x4½	Delco	R
Oldsmobile D-54	—	——	7	3150	L	P	4¾x5¼	43.80	446.7	S	P	P	St.	Del.	C	S	3	F	132	36x5	Delco	R
Packard 2-38	2	3750	7	3850	L	T	4 x5½	38.40	414.7	P	P	P	Own	Bos.	D	Pr	3	½	140	36x4½*	Bijur	L
Packard 4-48	2	4750	7	4850	L	T	4½x5½	48.60	520.8	P	P	P	Own	Bos.	D	Pr	3	½	144	37x5	Bijur	L
Palmer-Singer Brighton Six	2	2495*	5	2495*	T	T	4 x5½	38.40	414.7	SP	P	P	C.R.G.	West.	D	S	3	F	134	36x4½	West.	L
Palmer-Singer Magic 40	—	——	6	3250	—	T	3½x4¼	27.40	292.9	C	P	P	C.R.G.	Bos.	D	S	4	F	134	36x4½	West.	—
Palmer-Singer Magic 60	—	——	6	3250	—	T	4 x5½	38.40	424.2	C	P	P	C.R.G.	Bos.	D	S	4	F	140	36x4½	West.	—
Pathfinder Leather Stocking	—	——	7	2750	L	T	4½x5¼	40.90	420.9	C	P	G	Sch.	Mea	D	S	4	F	135	35x5	G. & D.	L
Pathfinder Daniel Boone	2	2222	5	2222	L	T	3¾x5¼	33.75	347.8	SP	P	G	Sch.	——	D	S	4	F	125	34x4½	electric	L
Peerless 38-6	2	4300	5	4300	T	P	4 x5½	38.40	414.7	S	P	P	Own	Bos.	EB	S	4	F	125	36x4½	G. & D.	O
Peerless 48-6	2	4800	7	5000	T	P	4½x6	48.60	572.5	S	P	P	Own	Bos.	EB	S	4	F	137	36x4½*	G. & D.	O
Peerless 66	2	5850	7	6000	T	P	5 x7	60.00	824.8	S	P	P	Own	Bos.	EB	S	4	F	140	38x5½	G. & D.	O
Pierce-Arrow 38 C-2	2	4300	5	4300	T	P	4 x5½	38.40	414.7	P	P	G	Own	Bos.	C	S	4	½	132	36x4½	P-West.	R
Peirce-Arrow 48 B-2	2	4850	5	4850	T	P	4½x5½	48.60	524.8	P	P	G	Own	Bos.	C	S	4	½	142	37x5	P-West.	R
Pierce-Arrow 66 A-2	2	5850	5	5850	T	P	5 x7	60.00	824.8	P	P	G	Own	Bos.	C	S	4	½	140	37x5*	P-West.	R
Pilot 60	2	2785	5	2785	T	B	4½x6	48.60	572.5	S	P	G	Opt.	Eise.	C	S	3	F	132	37x4½	G. & D.	O
Pilot 75	2	2885	6	2885	T	B	4 x6	38.40	452.4	S	P	G	Opt.	Eise.	C	S	3	F	132	37x4½	G. & D.	O
Premier Six	2	——	5	——	I	B	3½x5½	31.60	340.7	C	P	P	Car.	Eise.	D	S	3	F	132	36x4½	Remy	L
Premier 6-48	2	2785	5	2785	T	T	4 x5½	38.40	414.7	C	P	P	Car.	Eise.	D	S	3	½	132	36x4½	Remy	L
Pullman 6-46	2	2250*	5	2250*	L	T	3¾x5¼	33.75	347.8	C	P	G	——	Bos.	C	*S	4	F	130	36x4½	West.	L
Pullman 6-66	2	2850	5	2850	T	P	4¾x5¼	45.95	496.1	SP	P	G	St.	Bos.	D	S	4	F	138	37x5	West.	L
Rayfield D	2	2600	5	2600	L	B	4 x5½	38.40	414.7	P	T	P	Ray.	Mea	D	S	4	F	130	36x4½	——	R
Republic E	—	——	5	2950	T	P	4½x5	43.80	425.4	C	P	P	Car.	Del.	C	S	4	F	132	36x4½	Delco	L
Richmond T	—	——	5	1500	L	S	4 x4½	38.40	339.3	S	P	G	King	Mich.	C	S	3	½	123	34x4	Jesco	L
Speedwell H	—	——	5	2850	L	T	4¼x5¼	40.90	420.9	SP	P	P	St.	Bos.	D	S	3	F	135	37x5	Wagner	L
Speedwell Rotary	—	——	5	2850	—	T	4¼x5¼	40.90	420.9	P	P	P	St.	——	D	S	3	F	135	36x4½	Wagner	L
Staver 65-A	—	——	7	2550	T	B	4 x6	38.40	452.4	S	P	P	Ray.	Sim.	C	S	4	F	138	37x4½	Esterline	L
Stearns-Knight Six	2	4850	5	4850	—	P	4¼x5¾	43.80	489.4	C	P	P	St.	Bos.	D	S	4	F	140	37x5	G. & D.	L
Stevens-Duryea C-Six	2	5200	5	5750	L	P	4.31x5½	26.20	631.8	C	—	—	Own	Bos.	D	S	3	F	131	37x4½	*	R
Stevens-Duryea C-Six	—	——	7	6000	L	P	4.31x5½	26.20	631.8	C	—	—	Own	Bos.	D	S	3	F	138	37x5	*	R
Studebaker Six	2	1900	7	1575	L	B	3½x5	29.40	288.6	S	P	G	Sch.	Remy	C	S	3	F	121	34x4	S-Wagner	L
Stutz 6-E	—	——	6	2400	T	T	4 x5	38.40	376.9	P	P	P	St.	Spl.	C	S	3	¼	130	34x4½	S-Remy	R
Stutz 6-E	2	2250	—	——	T	T	4 x5	38.40	376.9	P	P	G	St.	Spl.	C	S	3	¼	120	34x4½	S-Remy	R
Touraine	2	3150	5	3150	T	T	4 x5½	38.40	414.7	S	P	P	Flet.	Bos.	D	S	4	F	134	34x4½	G. & D.	L
Vaughan Six	2	2850	4	2750	L	B	3¼x5½	33.75	364.4	C	P	P	Ray.	Mea	D	S	4	F	138	35x4½	Bijur	L
Velie 6-50	2	2350	5	2350	L	T	3¾x5¼	33.75	347.8	C	P	P	St.	Bos.	D	S	4	F	126	37x4½	G. & D.	L
Westcott 6-60	2	2485	7	2535	L	B	4 x6	38.40	452.4	—	P	—	Ray.	Bos.	C	S	3	—	128	37x4½	Jesco	R
White 60	2	4800	5	5000	L	B	4½x5¾	43.80	489.4	C	P	G	Own	Bos.	D	S	4	—	132	37x5	W-Entz	L
Winton	2	3250	5	3250	L	P	4½x5½	48.60	524.8	C	P	G	St.	Opt.	D	S	4	F	130	36x4½	G. & D.*	L
Zimmerman	—	——	5	2185	L	P	4 x5	38.40	376.9	S	*P	P	Sch.	Remy	D	S	3	F	132	36x4	*	O

*Packard 2-38—Rear tires, 37x5. Palmer-Singer Brighton Six—Wire wheels extra. Peerless 48-6—Rear tires, 37x5. Pierce-Arrow 66—Rear tires, 38x5½. Pullman — Wire wheels extra; electric gearshift. Stevens-Duryea—Electric lights, air starter. Stutz—Special rear axle. Winton—Electric lights, air starter. Zimmerman—Electric lights, optional starter.

ADDRESSES OF GASOLINE CAR MAKERS—Continued.

Jackson—Jackson Automobile Co., Jackson, Mich.
Jeffery—Thomas B. Jeffery Co., Kenosha, Wis.
Keeton—American Voiturette Co., Detroit, Mich.
King—King Motor Car Co., Detroit, Mich.
KisselKar—Kissel Motor Car Co., Hartford, Wis.
Kline-Kar—Kline Motor Car Corp., Richmond, Va.
Knox—Knox Automobile Co., Springfield, Mass.
Krit—Krit Motor Car Co., Detroit, Mich.
Lambert—Buckeye Mfg. Co., Anderson, Ind.
Lenox—Lenox Motor Car Co., Boston, Mass.
Lewis—L. P. C. Motor Co., Racine, Wis.
Lexington—Lexington-Howard Co., Connersville, Ind.
Locomobile—Locomobile Co. of America, Bridgeport, Conn.
Lozier—Lozier Motor Co., Detroit, Mich.
Luverne—Luverne Automobile Co., Luverne, Minn.
Lyons-Knight—Lyons-Atlas Co., Indianapolis, Ind.
Marathon—Marathon Motor Works, Nashville, Tenn.
Marion—Marion Motor Car Co., Indianapolis, Ind.
Marmon—Nordyke & Marmon Co., Indianapolis, Ind.
Maxwell—Maxwell Motor Co., Detroit, Mich.
McFarlan—McFarlan Motor Co., Connersville, Ind.
McIntyre—W. H. McIntyre Co., Auburn, Ind.
Mercer—Mercer Automobile Co., Trenton, N. J.
Meteor—Meteor Motor Car Co., Shelbyville, Ind.
Metropol—Metropol Motors Co., Port Jefferson, N. Y.
Metz—Metz Co., Waltham, Mass.
Mitchell—Mitchell-Lewis Motor Co., Racine, Wis.
Moline-Knight—Moline Automobile Co., East Moline, Ill.
Monarch—Monarch Motor Car Co., Detroit, Mich.
Moon—Moon Motor Car Co., St. Louis, Mo.
Morse—Easton Machine Co., South Easton, Mass.
Moyer—H. A. Moyer, Syracuse, N. Y.
National—National Motor Vehicle Co., Indianapolis, Ind.
Norwalk—Norwalk Motor Car Co., Martinsburg, W. Va.
Oakland—Oakland Motor Car Co., Pontiac, Mich.
Oldsmobile—Olds Motor Works, Lansing, Mich.
Overland—Willys-Overland Co., Toledo, O.
Packard—Packard Motor Car Co., Detroit, Mich.
Paige—Paige-Detroit Motor Car Co., Detroit, Mich.
Palmer-Singer—Palmer & Singer Mfg. Co., Long Island City, N. Y.
Partin-Palmer—American Mfg. Co., Ecorse, Mich.
Paterson—W. A. Paterson Co., Flint, Mich.
Pathfinder—Motor Car Mfg. Co., Indianapolis, Ind.
Peerless—Peerless Motor Car Co., Cleveland, O.
Petrol—Petrol Motor Car Co., Milwaukee, Wis.
Pierce-Arrow—Pierce-Arrow Motor Car Co., Buffalo, N. Y.
Pilot—Pilot Motor Car Co., Richmond, Ind.
Pope-Hartford—Pope Mfg. Co., Hartford, Conn.
Pratt—Elkhart Car Mfg. Co., Elkhart, Ind.
Premier—Premier Motor Mfg. Co., Indianapolis, Ind.
Pullman—Pullman Motor Car Co., York, Penn.
Rayfield—Rayfield Motor Car Co., Springfield, Ill.
Read—Read Motor Car Co., Detroit, Mich.
Regal—Regal Motor Car Co., Detroit, Mich.
Reo—Reo Motor Car Co., Lansing, Mich.
Republic—Republic Motor Car Co., Hamilton, O.
Richmond—Wayne Works, Richmond, Ind.
Saxon—Saxon Motor Co., Detroit, Mich.
Selden—Selden Motor Vehicle Co., Rochester, N. Y.
S. G. V.—S. G. V. Co., Reading, Penn.
Simplex—Simplex Automobile Co., New York City.
Spaulding—Spaulding Mfg. Co., Grinnell, Ia.
Speedwell—Speedwell Motor Car Co., Dayton, O.
Spoerer—Carl Spoerer's Sons Co., Baltimore, Md.
Staver—Staver Carriage Co., Chicago, Ill.
Stearns-Knight—F. B. Stearns Co., Cleveland, O.
Stevens-Duryea—Stevens-Duryea Co., Chicopee Falls, Mass.
Studebaker—Studebaker Corp., Detroit, Mich.
Stutz—Stutz Motor Car Co., Indianapolis, Ind.
Touraine—Touraine Co., Philadelphia, Penn.
Tribune—Tribune Motor Co., Detroit, Mich.
Vaughan—Vaughan Car Co., Kingston, N. Y.
Velie—Velie Motor Vehicle Co., Moline, Ill.

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Vulcan—Vulcan Mfg. Co., Painesville, O.
Westcott—Westcott Motor Car Co., Richmond, Ind.
White—White Co., Cleveland, O.
Willys-Knight—Willys-Overland Co., Toledo, O.
Winton—Winton Motor Car Co., Cleveland, O.
Zimmerman—Zimmerman Mfg. Co., Auburn, Ind.

SPECIFICATIONS OF ENCLOSED BODY DESIGNS.

SIX-CYLINDER LIMOUSINES.

Make and Model	Price	Seats	W. B.	Tires
Abbott-Detroit Belle Isle	$3500	7	130	35x4½
Austin 77	7000	7	141	37x5
*Chadwick	6500	7	133	37x4½
Chalmers 24	3600	7	132	36x4½
Cole Six	4000	7	136	36x4½
Cunningham	4900	7	124	36x4½
Dorris I	3000	7	121	36x4
Fiat 54	5000	7	123	36x4½
*Fiat 55	5500	7	128	36x4½
*Fiat 56	6000	7	135	36x4½
Franklin 6-30	3300	5	120	34x4½
Great Eagle B	4000	7	135	37x5
Great Eagle B	4250	10	135	37x5
Haynes 27	3850	7	136	36x4½
Jeffery Six	3700	5	128	36x4½
KisselKar 48-6	4100	7	132	36x4½
KisselKar 60-6	4900	7	142	37x5
Locomobile 38LD	5400	7	132	36x5
*Locomobile 48LD	6200	7	140	36x4½
Lozier	4450	6	127½	36x5
Marmon 41	4750	7	132	35x5
*Marmon 48	6250	7	145	36x4½
McFarlan T	4000	7	128	36x4½
Norwalk D	4000	6	131	37x4
Norwalk C	5000	6	136	39x5
Oldsmobile 54	4300	7	132	36x5
*Packard 2-38	4950	6	140	37x4½
*Packard 2-38	5000	7	140	37x4½
*Packard 4-48	6100	6	144	37x4½
*Packard 4-48	6150	7	144	37x4½
Peerless 38	5300	7	125	36x4½
*Peerless 48	6000	7	137	36x4½
Peerless 60	7000	7	140	38x5½
S. G. V., F	4250	7	120	35x4½
Stearns-Knight Six	6100	7	140	37x5
Stevens-Duryea C-6	5800	7	131	37x5
Stevens-Duryea C-6	6000	7	138	37x5
White 60	6300	7	132	37x5
*Winton	4350	7	130	36x4½
Winton	4600	7	130	36x4½

*All except Winton—Rear tires, 37x5. Winton—Three-quarter limousine.

FOUR-CYLINDER LIMOUSINES.

Make and Model	Price	Seats	W. B.	Tires
Abbott-Detroit 34-40	$3150	7	121	36x4½
Austin 55	5000	7	141	37x5
*Cadillac	2800	5	120	36x4½
Cadillac	3250	7	120	36x4½
Jeffery Four	3000	5	116	34x4
Knox 44	4400	7	opt	36x4½
Knox 45	4700	7	126	37x5
Marmon 32	4000	7	120	35x4½
National 40	4800	7	132	36x4½
Simplex 38	6400	6	137	35x5
Simplex 38	6500	7	137	35x5
*Stearns-Knight Four	5000	7	127	36x4½
White 40	5000	7	120	36x4½

*Cadillac—Inside drive. Stearns-Knight Four—Rear tires, 37x5.

SIX-CYLINDER COUPES.

Make and Model	Price	Seats	W. B.	Tires
Chalmers 24	$2850	3	132	36x4½
Cole Six	3000	4	136	36x4½
Franklin 6-30	2950	3	120	34x4½
Haynes 26	3200	4	130	36x4½
Henderson Six	2785	3	126	35x4½
*Hudson	1950	2	123	34x4
KisselKar 48-6	3350	5	132	36x4½
Kline-Kar 6-60	2895	2	133	37x5
Kline-Kar 6-50	3200	2	128	37x4½
Locomobile 38LD	5200	3	132	36x5
Lozier	3850	3	127½	36x4½
Marion G	2650	4	124	35x4½
McFarlan T	3300	4	128	36x4½
Moon 6-50	2750	3	129	35x4½
National Six	2850	3	132	36x4½
Packard 2-38	4450	3	140	37x5
Packard 4-48	5450	3	144	37x5
Peerless 38-6	5000	3	125	36x4½
Rayfield D	2750	..	130	36x4½
Stearns-Knight Six	5550	4	134	37x5
*Stevens-Duryea C-6	5000	3	121	36x4½
Stutz 6-E	2850	3	120	34x4½
White 60	5400	3	132	37x5
Winton	4350	4	130	36x4½

*Hudson—Cabriolet. Stevens-Duryea—Coupelet.

FOUR-CYLINDER COUPES.

Make and Model	Price	Seats	W. B.	Tires
Abbott-Detroit 30-40	$2250	4	116	34x4
Apperson	2350	4	116	34x4
Auburn 4-40	....	4	120	36x4
Buick B38	1800	3	112	34x4
Cadillac	2500	3	120	36x4½
Cameron	1200	2	115	32x3½
Cartercar 5	1900	3	116	36x4
Cole Four	2350	3	120	34x4½
Dispatch	1000	2	120	36x3½
*Ford T	750	6	100	30x3
Haynes 28	2700	4	118	34x4
Henderson DeLuxe	3285	3	116	35x4½
Herreshoff 4-30	1650	2	110	32x3½
Hupmobile 32	1350	3	106	33x4
*Jeffery Four	1950	2	116	36x4
KisselKar 40-4	2850	5	121	36x4
Kline-Kar 4-40	2585	2	120	36x4
Marion B	2150	4	117	34x4
Moon 42	2350	3	118	34x4
National 40	3500	3	132	36x4½
*Oakland	1585	2	112	33x4
Overland	1550	4	114	33x4
Paige 36	1850	4	116	34x4
*Pathfinder	2222	3	120	35x4½
Regal NC	1600	3	108	33x4
Stearns-Knight Four	4450	4	121	36x4½
Stutz 4-E	2600	3	120	36x4½
White 30	3250	3	110	34x4
White 40	4100	3	120	36x4½

*Ford—Town car, rear tires, 30x3½. Jeffery Four—All weather coupelet. Oakland—Cabriolet. Pathfinder—Coach.

SIX-CYLINDER LANDAULETS.

Make and Model	Price	Seats	W. B.	Tires
*Fiat 56	$6100	7	135	36x4½
Knox 46	5550	7	134	38x5
Locomobile 38LD	5500	7	132	36x5
*Locomobile 38LD	6300	7	140	36x4½
Marmon 41	....	7	132	35x5
Marmon 48	6350	7	145	36x4½
*Packard 2-38	4900	6	140	36x4½
*Packard 2-38	4950	7	140	36x4½
*Packard 4-48	5900	6	140	37x5
*Packard 4-48	5950	7	140	37x5
Peerless 38-6	5400	7	125	36x4½
*Peerless 48-6	6100	7	137	37x5
Peerless 60-6	7100	7	140	38x5½
Pierce-Arrow 38	5200	7	opt	36x4½
Pierce-Arrow 48	5800	7	opt	37x5
*Pierce-Arrow 66	6800	7	opt	37x5
Stearns-Knight Six	6200	7	140	37x5
Winton	4600	7	130	36x4½

*All—Rear tires, one size larger.

FOUR-CYLINDER LANDAULETS.

Make and Model	Price	Seats	W. B.	Tires
Cunningham M	$5000	7	124	36x4½
Fiat 54	5100	7	123	36x4½
*Fiat 55	5600	7	128	36x4½
Knox 44	4450	7	opt	36x4½
Knox 45	4750	7	126	37x5
Marmon 32	4100	7	120	35x4½
S. G. V., F	4250	7	120	35x4½
Simplex 38	6400	6	137	35x5
Simplex 38	6500	7	137	35x5
*Stearns-Knight Four	5100	7	127	36x4½

*Fiat and Stearns-Knight—Rear tires, 37x5.

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SIX-CYLINDER SEDANS.

Make and Model	Price	Seats	W. B.	Tires
Franklin 6-30	$3200	5	120	34x4½
Hudson 6-54	3100	5	135	36x4½
Jeffery	3250	5	128	36x4½
Marion G	2950	5	124	35x4½
Stearns-Knight Six	6100	5	134	37x4
Studebaker Six	2250	5	121	34x4

FOUR-CYLINDER SEDANS.

Make and Model	Price	Seats	W. B.	Tires
Apperson 4-45	$2500	5	120	36x4
Jeffery	2350	5	124	35x4½
Lyons-Knight	3900	5	130	36x5
Paige 36	1950	5	116	34x4
*Stearns-Knight Four	5000	5	127	36x4½

*Rear tires, 37x5.

SIX-CYLINDER BERLINES.

Make and Model	Price	Seats	W. B.	Tires
*Fiat 56	$6300	7	135	36x4½
Franklin 6-30	3400	5	120	34x4½
Peerless 38-6	5500	7	125	36x4½
Peerless 48-6	6200	7	137	37x5
Peerless 60-6	7200	7	140	36x5½
Stevens-Duryea C-6	6200	7	138	37x5

*Fiat 56—Rear tires, 37x5.

FOUR-CYLINDER BERLINES.

Make and Model	Price	Seats	W. B.	Tires
Cunningham M	$5000	7	124	36x4½
Fiat 54	5300	7	123	36x4½
*Fiat 55	5800	7	128	36x4½
Lyons-Knight	4300	7	130	36x5

*Fiat 55—Rear tires, 37x5.

SIX-CYLINDER MISCELLANEOUS.

Phaetons.

Make and Model	Price	Seats	W. B.	Tires
Hudson 6-40	$1750	6	123	34x4
Hudson 6-54	2250	7	135	36x4½
*Packard 2-38	3750	5	140	36x4½
*Packard 4-48	4750	5	144	37x5
Broughams.				
*Packard 2-38	4950	4	140	36x4½
*Packard 2-38	5000	6	140	36x4½
*Packard 4-48	5950	4	140	37x5
*Packard 4-48	6060	6	140	37x5
Pierce-Arrow 38	5200	5	opt	36x4½
Pieroe-Arrow 48	5800	5	opt	37x5
*Pierce-Arrow 66	6800	5	opt	37x5
Vestibuled Broughams.				
Pierce-Arrow 38	5400	7	opt	36x4½
Pierce-Arrow 48	6000	7	opt	37x5
*Pierce-Arrow 66	7000	7	opt	37x5
Landaus.				
Pierce-Arrow 48	6100	7	opt	37x5
*Pierce-Arrow 66	7100	7	opt	37x5
Vestibuled Landaus.				
Pierce-Arrow 48	6300	7	opt	37x5
*Pierce-Arrow 66	7300	7	opt	37x5
Vestibuled Landaulets.				
Pierce-Arrow 38	5400	7	opt	36x4½
Pierce-Arrow 48	6000	7	opt	37x5
*Pierce-Arrow 66	7000	7	opt	37x5
Berline-Limousines.				
Locomobile 38LD	5700	7	132	36x5
*Locomobile 48LD	6500	7	140	36x5
Berline-Landaulets.				
Locomobile 38LD	5800	7	132	36x5
*Locomobile 48LD	6600	7	140	36x5
Suburbans.				
Pierce-Arrow 48	6100	7	opt	37x5
*Pierce-Arrow 66	7100	7	opt	37x5
Vestibuled Suburbans.				
Pierce-Arrow 48	6300	7	opt	37x5
*Pierce-Arrow 66	7300	7	opt	37x5
Landau-Phaetons.				
Stevens-Duryea C-6	5400	7	138	37x5
*Stevens-Duryea C-6	5400	7	138	37x5
Semi-Berline.				
Stevens-Duryea C-6	5750	7	131	37x5
Inside Drive.				
Vaughan	3800	6	138	38x4½

*All—Rear tires one size larger.

FOUR-CYLINDER MISCELLANEOUS.

Phaetons.

Make and Model	Price	Seats	W. B.	Tires
Cadillac	$1975	4	120	36x4½
Brougham.				
S. G. V., F	4500	5	120	35x4½

STANDARD GASOLINE COMMERCIAL VEHICLES.

A Complete Directory of the Motor Truck Industry of the United States, Giving, in Concise Form, Names, Makers, Addresses and Capacities of Various Models.

Name	Manufacturer	Address	Models in tons capacity.
Available	Available Truck Co.	Chicago, Ill.	1
Armleder	O. Armleder Co.	Cincinnati, O.	1, 2, 2½ and 3
Auglaize	Auglaize Motor Car Co.	New Bremen, O.	¾, ¾ and 1
A. I. C.	American Ice Manufacturing Co.	New York City	5
Atterbury	Atterbury Motor Car Co.	Buffalo, N. Y.	¾, 1, 2, 3 and 5
Adams	Adams Bros. Co.	Findlay, O.	1, 1½ and 2
Avery	Avery Company	Peoria, Ill.	1, 2, 2, 3, 3 and 5
Autocar	Autocar Company	Ardmore, Penn.	1½
American	American Motor Truck Co.	Detroit, Mich.	1
A & R	Abendroth & Root Mfg. Co.	Newburgh, N. Y.	3, 4 and 5
Auburn	Auburn Motor Chassis Co.	Auburn, Ind.	¼ and ½
Akron	Akron Motor Car & Truck Co.	Akron, O.	
Auto Tractor	Auto Tractor Co.	Niles, Mich.	
Buick	Buick Motor Co.	Flint, Mich.	½ and ¾
Blair	Blair Mfg. Co.	Newark, O.	1½, 2¼, 3½ and 5
Best	Durant-Dort Carriage Co.	Flint, Mich.	½
Barker	C. L. Barker	Norwalk, Conn.	1
Bauer	Bauer Machine Works Co.	Kansas City, Mo.	½ and ¾
Bessemer	Bessemer Motor Truck Co.	Grove City, Penn.	1 and 1½
Brown	Brown Commercial Car Co.	Peru, Ind.	¾
Lambert	Buckeye Mfg. Co.	Anderson, Ind.	½, ¾, 1½ and 2
Butler	Huselton Motor Co.	Butler, Penn.	¾
Beck	Cedar Rapids Auto Works	Cedar Rapids, Ia.	½, 1, 2 and 3
Brockway	Brockway Motor Truck Co.	Cortland, N. Y.	¾, 1, 1 and 1½
B. A. Gramm	Gramm-Bernstein Motor Truck Co.	Lima, O.	1, 2, 3½ and 5
Baker	Baker & Bell Motor Truck Co.	Philadelphia, Penn.	
Best	Best Mfg. Co.	San Leandro, Cal.	½ and 1

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STANDARD GASOLINE COMMERCIAL VEHICLES—Continued.

Name	Manufacturer	Address	Models in Ton Capacity
Brooks	Brooks Latta Automobile Co.	St. Louis, Mo.	
Bucklen	H. E. Bucklin, Jr., Motor Truck Co.	Elkhart, Ind.	¾, 1½ and 2½
Buffalo	Buffalo Automobile Truck Co.	Buffalo, N. Y.	
Beaver	Beaver State Motor Truck Co.	Gresham, Ore.	
Couple-Gear	Couple-Gear Freight-Wheel Co.	Grand Rapids, Mich.	3½ and 6
Corbitt	Corbitt Automobile Co.	Henderson, N. C.	1
Crown	Crown Commercial Car Co.	North Milwaukee, Wis.	1 and 2
Coleman	Coleman Carriage & Harness Co.	Ilion, N. Y.	1 and 2
Chase	Chase Motor Truck Co.	Syracuse, N. Y.	½, 1, 1½ and 2
Commerce	Commerce Motor Car Co.	Detroit, Mich.	½
Clark	Clark Delivery Car Co.	Chicago, Ill.	½
Cleveland	E. C. Clark Motor Co.	Jackson, Mich.	¾
Cincinnati	Cincinnati Motors Mfg. Co.	Cincinnati, O.	
Luck Utility	Cleburne Motor Mfg. Car Co.	Cleburne, Texas	½
Caldwell	Chautauqua Motor Co.	Dunkirk, N. Y.	
Continental	Continental Truck Mfg. Co.	Superior, Wis.	1 and 1½
Cooper	Cooper Machine Works	Brooklyn, N. Y.	
Crawford	Crawford Automobile Co.	Hagerstown, Md.	¾
Crescent	Crescent Motor Co.	Middletown, O.	
Croce	Croce Auto Co.	Asbury Park, N. J.	
Christie	Front Drive Motor Co.	Hoboken, N. J.	
Curtis	Pittsburg Machine Tool Co.	Pittsburg, Penn.	
Danielson	Danielson Eng. Works	Chicago, Ill.	½
Dart	Dart Mfg. Co.	Waterloo, Ia.	½, 1 and 2
Dain	Dain Mfg. Co.	Ottumwa, Ia.	1
Dayton	Dayton Auto Truck Co.	Dayton, O.	¾, 1, 2, 3, 4, 5, 6, 7
De Kalb	De Kalb Wagon Works	De Kalb, Ill.	2
Devon Tractor	Merchant & Evans	Philadelphia, Penn.	4
Diamond T	Diamond T Motor Co.	Chicago, Ill.	½, 3 and 5
Dispatch	Dispatch Motor Car Co.	Minneapolis, Minn.	½
Dorris	Dorris Motor Car Co.	St. Louis, Mo.	¾, 2 and 3
Duryea	Duryea Motor Co.	Saginaw, Mich.	½ and ½
Duplex	Duplex Power Car Co.	Charlotte, Mich.	2
Durocar	Durocar Mfg. Co.	Los Angeles, Cal.	½
Duffy	Duffy Bros. Motor Truck Co.	San Francisco, Cal.	
Elk	Elk Motor Truck Co.	Charlestown, W. Va.	2, 3 and 5
Neustaedt	Neustaedt Motor Car Co.	St. Louis, Mo.	
Epperson	Epperson Commercial Truck Co.	St. Louis, Mo.	
Evans	Evans Motor Car Co.	Travers City, Mich.	
Ewing	Ewing Motor Truck Co.	Findlay, O.	
Fargo	Fargo Motor Car Co.	Chicago, Ill.	¾
Federal	Federal Motor Truck Co.	Detroit, Mich.	½
Four-Wheel Drive	Four-Wheel Drive Auto Co.	Clintonville, Wis.	½ and 3
Flint	Durant-Dort Carriage Co.	Flint, Mich.	¾
Fawrick	Fawrick Motor Car Co.	Sioux Falls, S. D.	½, ¾, 1 and 2
Gabriel	Gabriel Auto Co.	Cleveland, O.	
Garford	Garford Motor Car Co.	Elyria, O.	2, 3, 3, 5 and 6
Gay	S. G. Gay Co.	Ottawa, Ill.	¾ and 1
Geneva	Geneva Wagon Co.	Geneva, N. Y.	½ and ½
GMC	General Motors Truck Co.	Pontiac, Mich.	1, 2, 3½, 3½, 5, 5
Gramm	Gramm Motor Truck Co.	Walkerville, Ont.	1, 2 and 3½
G. A. Schacht	G. A. Schacht Motor Truck Co.	Cincinnati, O.	2
Gaylord	Gaylord Motor Car Co.	Gaylord, Mich.	
Great Southern	Great Southern Auto Co.	Birmingham, Ala.	
G. V.-Mercedes	General Vehicle Co.	Long Island City, N. Y.	6
Golden West	Golden West Motors Co.	Sacramento, Cal.	
Harvey	Harvey Motor Truck Works	Harvey, Ill.	1
Horner	Detroit-Wyandotte Motor Co.	Wyandotte, Mich.	1, 1½, 2, 3 and 5
Hupmobile	Hupp Motor Car Co.	Detroit, Mich.	½
Harder	Harder Auto Truck Co.	Chicago, Ill.	
Hatfield	Hatfield Auto Truck Co.	New York City	
Hexter	Roland Gas-Elec. Vehicle Co.	New York City	1½, 3½, 5 and 7
Ideal	Ideal Automobile Co.	Fort Wayne, Ind.	1, 1½ and 2½
IHC	International Harvester Co.	Chicago, Ill.	½ and ½
Indiana	Harwood-Barley Mfg. Co.	Marion, Ind.	1, 2 and 3
Internal Gear Drive	Internal Gear Drive Co.	Detroit, Mich.	
Imp	W. H. McIntyre Co.	Auburn, Ind.	½
Jeffery	Thomas B. Jeffery Co.	Kenosha, Wis.	¾, 1 and 1½
Jarvis	Jarvis & Huntington Automobile Co.	Huntington, W. Va.	2, 3 and 5
Juno	Juno Motor Truck Co.	Juneau, Wis.	
Johnston	Johnston Motor Car Co.	Johnstown, Penn.	
KisselKar	Kissel Motor Car Co.	Hartford, Wis.	¾, 1, 1½, 2½, 3½, 6
Kalamazoo	Kalamazoo Motor Vehicle Co.	Kalamazoo, Mich.	1½
Kosmath	Kosmath Co.	Detroit, Mich.	½
Knickerbocker	Knickerbocker Motor Truck Co.	New York City	2½, 4 and 5
Koehler	H. J. Koehler S. G. Co.	New York City	1
Krebs	Krebs Commercial Car Co.	Clyde, O.	½, ¾, 1 and 1½
Kearns	Kearns Motor Truck Co.	Beavertown, Penn.	3
Kelly	Kelly-Springfield Motor Truck Co.	Springfield, O.	1, 2, 3 and 5
King	A. R. King Mfg. Co.	Kingston, N. Y.	3½
Knox	Knox Automobile Co.	Springfield, Mass.	2, 3, 10 and 20
Kopp	Kopp Motor Truck Co.	Buffalo, N. Y.	1½, 3 and 5
Krickworth	Krickworth Motor Truck Co.	Chicago, Ill.	
Kleiber	Kleiber Co.	San Francisco, Cal.	
La France	American-La France Fire Eng. Co.	New York City	5 and 6
Landshaft	Wm. Landshaft & Sons	Chicago, Ill.	¾ and 1½
Lange	Lange Motor Truck Co.	Pittsburg, Penn.	1, 1½ and 2
Lewis	Lewis Motor Truck Co.	San Francisco, Cal.	2½, 3 and 5
Lippard-Stewart	Lippard-Stewart Motor Car Co.	Buffalo, N. Y.	¾ and 1½
Light	Light Commercial Car Co.	New York City	¼ and ½
Little Giant	Chicago Pneumatic Tool Co.	Chicago, Ill.	1 and 1
Locomobile	Locomobile Co. of America	Bridgeport, Conn.	5
Longest	Longest Bros. Co.	Louisville, Ky.	3
Lord Baltimore	Lord Baltimore Motor Truck Co.	Baltimore, Md.	1 and 2
Lauth-Juergens	Lauth-Juergens Motor Car Co.	Fremont, O.	1, 2, 3 and 5
Lincoln	Lincoln Motor Car Works	Chicago, Ill.	½
La Crosse	La Crosse Motor Truck Co.	La Crosse, Wis.	
Mack	International Motor Co.	New York City	1, 5 and 6
Maccarr	Maccarr Co.	Scranton, Penn.	¾, 1, 1½ and 2

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STANDARD GASOLINE COMMERCIAL VEHICLES—Continued.

Name	Manufacturer	Address	Models in Tons Capacity.
Mais	Mais Motor Truck Co	Indianapolis, Ind	1½, 2, 2½ and 3
Martin	Martin Carriage Works	York, Penn	1, 1½, 2½ and 4
Menominee	D. F. Poyer Co	Menominee, Mich	¾, 1 and 1½
Mercury	Mercury Mfg. Co	Chicago, Ill	½
Modern	Bowling Green Motor Car Co	Bowling Green, O	¾, 1 and 1½
Monitor	Monitor Automobile Works	Janesville, Wis	½ and 1
Moore	Pacific Metal Products Co	Los Angeles, Cal	1½, 2, 3, 4 and 5
Moon	Jos. W. Moon Buggy Co	St. Louis, Mo	½ and 1½
Mogul	Mogul Motor Truck Co	St. Louis, Mo	2, 2, 4, 6 and 6
Moreland	Moreland Motor Truck Co	Los Angeles, Cal	¾, 2 and 5
Morton	Morton Truck & Tractor, Inc	Harrisburg, Penn	2, 3, 5 and 10
Motokart	Tarrytown Motor Car Co	New York City	¼
McIntyre	W. H. McIntyre Co	Auburn, Ind	½, 1, 2, 3 and 5
Marinette	Marinette Motor Car Co	Marinette, Wis	⅛
Merchants	Merchants Automobile Co	Chicago, Ill	
Metropolitan	Metropolitan Automobile Co	Chicago, Ill	
Muelhauser	Muelhauser Machine Co	Cleveland, O	
Maxim	Maxim Tri-Car Co	Port Jefferson, N. Y	
Moore	Moore Motor Truck Co	Philadelphia, Penn	
Natco	National Motor Truck Co	Bay City, Mich	1
Nelson LeMoon	Nelson & LeMoon	Chicago, Ill	1, 2 and 3
New York	Tegetmeier & Riepe Co	New York City	1½
New Haven	New Haven Truck & Auto Works	New Haven, Conn	
O. K.	Star-Tribune Motor Sales Co	Detroit, Mich	½ and 1
Overland	Willys-Overland Co	Toledo, O	⅛
Ohio	Ohio Mfg. Co	Upper Sandusky, O	
Old Reliable	Old Reliable Motor Truck Co	Chicago, Ill	3 and 5
Owosso	Owosso Motor Co	Owosso, Mich	
Packard	Packard Motor Car Co	Detroit, Mich	2, 3, 4, 5 and 6
Palmer-Moore	Palmer-Moore Co	Syracuse, N. Y	¾
Pathfinder	Motor Car Mfg. Co	Indianapolis, Ind	1
Perfex	Perfex Co	Los Angeles, Cal	½
Palmer	Palmer-Meyer Motor Car Co	St. Louis, Mo	1 and 1½
Pope-Hartford	Pope Mfg. Co	Hartford, Conn	3 and 5
Peerless	Peerless Motor Car Co	Cleveland, O	3, 4, 5 and 6
Pierce-Arrow	Pierce-Arrow Motor Car Co	Buffalo, N. Y	2 and 5
Parsons	F. W. Parsons Co	Newton, Ia	
Phoenix	Phoenix Auto Works	Phoenixville, Penn	
Plymouth	Plymouth Motor Truck Co	Plymouth, O	1 and 2
Reo	Reo Motor Truck Co	Lansing, Mich	2
Rockford	Rockford Motor Truck Co	Rockford, Ill	¾ and 2
Republic	Alma Motor Truck Co	Alma, Mich	¾
Rogers	Rogers Motor Car Co	Omaha, Neb	
Rowe	Rowe Motor Co	Coatesville, Penn	¾, 1, 1½, 2, 3, 5
Sanford	Sanford Motor Truck Co	Syracuse, N. Y	1 and 1½
Selden	Selden Motor Vehicle Co	Rochester, N. Y	1
Service	Service Motor Car Co	Wabash, Ind	1½, 2 and 3
Signal	Signal Motor Truck Co	Detroit, Mich	¾
Siebert	Shop of Siebert	Toledo, O	¾

Specifications of Three Hundred and Twelve Gaso

NAME AND MODEL	Load Capacity, Pounds	Chassis Price	Wheel-base, Inches	TIRES			Motor Location	No. Cylinders	Bore and Stroke, Inches	S. A. E. H. P	CYLINDERS		Valve Location	Camshaft Drive	COOLING	
				Kind	Front	Rear					Shape	How Cast			Circulation	Radiator Suspension
Adams, A	2,000	$1,850	121-36	Solid	36x3½	36x4	Under hood	4	3.875x5.000	24.00	L-head	Block	Right	Gear	Pump	Cushions
Adams, D	3,000	2,300	136	Solid	36x3½	36x3½	Under hood	4	3.875x5.000	24.00	L-head	Block	Right	Gear	Pump	Cushions
Adams, E	4,000	2,500	140	Solid	36x4	36x4*	Under hood	4	3.875x5.000	24.00	L-head	Block	Right	Gear	Pump	Cushions
Admiral, C	3,000	1,475	125	Solid	34x3½	34x4	Under hood	4	3.500x5.000	19.60	L-head	Block	Right	Gear	Thermo	Springs
A. 1. C., C	10,000	3,500	136	Solid	36x6	40x6*	Under hood	4	4.250x6.750	28.90	L-head	Pairs	Left	Gear	Pump	Springs
Anglaize, H	2,000	950	96	Solid	36x3	36x3	Under seat	2	5.250x4.000	22.00	I-head	Sep		Gear	Thermo	
Anglaize, G	2,000	1,350	110	Solid	36x3	36x3½	Under hood	4	3.500x5.000	19.60	L-head	Block	Right	Gear	Thermo	
Armleder, B	2,000	2,200	136	Solid	40x4	40x5	Under hood	4	4.125x5.250	27.25	L-head	Block	Right	Gear	Pump	Springs
Armleder, H	4,000	2,150	136-60	Solid	40x4	40x3*	Under hood	4	4.500x5.000	32.40	L-head	Block	Right	Gear	Pump	Springs
Armleder, E	5,000	2,500	136-60	Solid	40x4	40x3½*	Under hood	4	4.500x5.000	32.40	L-head	Block	Right	Gear	Pump	Springs
Atterbury, A	1,500		118	Pneu	34x4	34x4	Under hood	4	3.500x5.000	19.60	L-head	Block	Right	Gear	Thermo	S & T
Atterbury, B	2,000		128	Solid	36x3½	36x4	Under seat	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	S & T
Atterbury, C	4,000		143	Solid	36x3½	36x3½*	Under hood	4	4.250x5.500	28.90	L-head	Block	Left	Gear	Pump	S & T
Atterbury, D	6,000		153	Solid	36x4	36x4*	Under hood	4	4.875x5.500	38.00	T-head	Pairs	Opp	Gear	Pump	S & T
Atterbury, E	10,000		153	Solid	36x5	42x6*	Under hood	4	4.875x5.500	38.00	T-head	Pairs	Opp	Gear	Pump	S & T
Autocar, F	3,000		97	Opt	34x4	34x5	Under seat	2	4.750x4.500	18.00	L-head	Sep	Side	Gear	Pump	Springs
Available, 25	2,000	1,350	120	Solid	36x3	36x3½	Under floor	4	3.750x4.500	22.50	L-head	Block	Right	Gear	Thermo	Springs
Avery, C-1	2,000	1,690	128	Solid	34x3½	34x5	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Avery, B-2	4,000	2,700	128	Solid	36x4	36x3½*	Under seat	4	4.750x5.000	36.10	L-head	Sep	Left	Gear	Pump	Springs
Avery, B-3	6,000	3,200	128	Solid	38x5	38x4*	Under seat	4	4.750x5.000	36.10	L-head	Sep	Left	Gear	Pump	Springs
Avery, A-3	6,000	3,200	140	Wood			Under seat	4	4.750x5.000	36.10	L-head	Sep	Left	Gear	Pump	Springs
Avery, B-5	10,000	4,500	140	Solid	38x6	38x5*	Under seat	4	5.250x5.750	44.10	T-head	Pairs	Opp	Gear	Pump	Springs
Barker, U	2,000	2,000	130	Solid	42x3½	42x5	Under hood	4	4.000x5.000	25.60	L-head	Block	Right	Gear	Opt	Springs
Bauer, A & C	1,000	1,000	96	Solid	36x2	36x2	Under hood	4	3.750x5.000	22.50	L-head	Block	Right	Gear	Thermo	Rigid
Bauer, B & D	1,500	1,000	96	Solid	36x2	36x2½	Under hood	4	3.750x5.000	22.50	L-head	Block	Right	Gear	Thermo	Rigid

**Drives on four wheels.

ABBREVIATIONS:—Tires: Pneu, pneumatic; *, dual tread. Motor Location: Bet Seats, between seats. Cylinders: Sep, separately cast. Valve Location: Opp, opposite; S & H, side and head. Camshaft Drive: Gear, type not known; Hel'l, helical. Cooling: Thermo, thermo-syphon. Radiator Suspension: S & T, springs and trunnions. Ingition: Sng, single; Doub, double; 2-Pt, two point; Auto, automatic; Gov, governed: Opt, optional. Motor Lubrication: Spl-pres, splash and pressure. Clutch: Exp bd, expanding band; Con bd, contracting band.

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STANDARD GASOLINE COMMERCIAL VEHICLES—Concluded.

Name	Manufacturer	Address	Models in Tons Capacity.
Speedwell	Speedwell Motor Car Co	Dayton, O	1, 4 and 6
Standard	Standard Motor Truck Co	Detroit, Mich	3 and 4
Star	Star Motor Car Co	Ann Arbor, Mich	1 and 1½
Stegeman	Stegeman Motor Car Co	Milwaukee, Wis	¾, 1, 2, 3 and 4
Stewart	Stewart Motor Corp	Buffalo, N. Y	¾
Sternberg	Sternberg Mfg. Co	Milwaukee, Wis	2, 2½, 3, 4, 5, 6, 7
Studebaker	Studebaker Corp	Detroit, Mich	¾
Sullivan	Sullivan Motor Car Co	Rochester, N. Y	1
Standard	Standard Motor Truck Co	Cleveland, O	1 and 1½
Stanley	Stanley Motor Carriage Co	Newton, Mass	¾ and 1
Superior	F. G. Clark Co	Lansing, Mich	
St. Louis	St. Louis Motor Truck Co	St. Louis, Mo	
Schleicher	Schleicher Motor Vehicle Co	New York City	2, 3 and 5
Schmidt	Schmidt Bros	Chicago, Ill	½ and ¾
Smith	A. O. Smith Co	Milwaukee, Wis	3½ and 5
Spoerer	Spoerer's Sons Co	Baltimore, Md	
Stapf	Stapf & Co	Dunkirk, N. Y	
Swanson	Swanson Motor Car Co	Chicago, Ill	
Toledo	Toledo Motor Truck Co	Toledo, O	
Transit	Transit Motor Car Co	Louisville, Ky	2, 3½ and 5
Trabold	Trabold Truck Co	Johnstown, Penn	¾, 1, 1½ and 2
Twin City	Brasie Mfg. Co	Minneapolis, Minn	1
Tiffin	Tiffin Wagon Co	Tiffin, O	½, 1 and 2
Toeppner	Toeppner Bros	Bay City, Mich	
Triumph	Triumph Motor Car Co	Chicago, Ill	1½
Tulsa	Tulsa Auto. & Mfg. Co	Tulsa, Okla	¾, 1 and 1½
Tuttle	Tuttle Mfg. Co	Canastota, N. Y	
Universal	Universal Motor Truck Co	Detroit, Mich	1½ and 3
U. S.	U. S. Motor Truck Co	Cincinnati, O	2 and 3
Universal	Universal Motor Co	Denver, Col	
Union	Union Motor Truck Co	San Francisco, Cal	2
Velie	Velie Motor Car Co	Moline, Ill	2 and 3
Veerac	Veerac Motor Co	Anoka, Minn	1
Vulcan	Driggs-Seabury Ordnance Corp	Sharon, Penn	2, 3, 4, 4½, 5 and 7
Van Winkle	Van Winkle Motor Truck Co	Atlanta, Ga	
Victor	Victor Auto. Mfg. Co	St. Louis, Mo	
Wade	Wade Commercial Car Co	Holly, Mich	⅓
Willys Utility	Willys-Overland Co	Lima, O	1
Wichita	Wichita Falls Motor Co	Wichita Falls, Tex	¾ and 3
Willet	Willet Engine & Truck Co	Buffalo, N. Y	¾
Wagenhals	Wagenhals Motor Co	Detroit, Mich	½
Ware	Ware Motor Vehicle Co	St. Paul, Minn	3½
White	White Company	Cleveland, O	¾, 1, 1½, 3 and 5
Witt-Will	Witt-Will Co	Washington, D. C	1, 2 and 4
Wilcox	H. E. Wilcox Motor Car Co	Minneapolis, Minn	1, 2 and 3
Walter	Walter Motor Truck Co	New York City	1¼, 2, 3, 3½, 4 5, 5, 6 and 7
Washington	Washington Motor Car Company	Hyattsville, Md	
Westman	Westman Motor Truck Co	Cleveland, O	
White Star	White Star Motor & Engineering Co	Brooklyn, N. Y	2, 3 and 5
Zimmerman	Zimmerman Mfg. Co	Auburn, Ind	½

line Commercial Vehicle Chassis in Tabulated Form

IGNITION			Carbureter	Motor Lubrication	TRANSMISSION						RUNNING GEAR				BEARINGS		NAME AND MODEL
						GEARSET					SPRINGS		CONTROL				
													Location				
System	Magneto	Control			Clutch Type	Type	Location	No. Forw'd Speeds	Gear Ratio on High	Final Drive	Front	Rear	Steering	Gear-Shift	Gearset	Rear Axle	
Sing...	Eisemann..	Hand....	Schebler....	Spl-Pres..	Disk...	Sel....	Amid..	3	7.45-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball...	Opt....	Adams, A
Sing...	Eisemann..	Hand....	Schebler....	Spl-Pres..	Disk...	Sel....	Amid..	3	7.45-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball...	Opt....	Adams, D
Sing...	Eisemann..	Hand....	Schebler....	Spl-Pres..	Disk...	Sel....	Amid..	3	7.45-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball...	Opt....	Adams, E
Sing...	Bosch.....	Fixed....	Schebler....	Spl-Pres..	Cone ..	Sel....	Unit J.	3	.....	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	Admiral, D
Sing...	Simms.....	Hand....	Holley.....	Splash...	Cone ..	Sel....	Amid..	4	8.00-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	A. I. C., C
Dual...	Remy.....	Gov.....	Schebler....	Spl-Pres..	Disk...	Plan...	Unit J.	2	4.00-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Plain ..	Roll...	Anglaize, H
Dual...	Remy.....	Hand....	Schebler....	Spl-Pres..	Disk...	Sel....	Unit M.	3	4.00-1	Int G....	½ Ell...	½ Ell...	Left...	Center.	Plain ..	Roll...	Anglaize, G
Sing...	Bosch.....	Hand....	Schebler....	Splash...	Disk...	Sel....	Unit M.	3	5.00-1	Bevel....	½ Ell...	Ell....	Left...	Center.	Ball...	Ball...	Armleder, B
Sing...	Bosch.....	Hand....	Schebler....	Splash...	Disk...	Sel....	Amid..	3	8.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball...	Ball...	Armleder, H
Sing...	Bosch.....	Hand....	Schebler....	Splash...	Disk...	Sel....	Amid..	3	8.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball...	Plain ..	Armleder, E
Sing...	Bosch.....	Fixed....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit M.	3	6.00-1	T Worm .	½ Ell...	½ Ell...	Left...	Center.	Ball...	Roll...	Atterbury, A
Sing...	Bosch.....	Fixed....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit M.	3	6.75-1	T Worm .	½ Ell...	½ Ell...	Left...	Center.	Ball...	Roll...	Atterbury, B
Dual..	Bosch.....	Hand....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit M.	3	Opt....	Opt.....	½ Ell...	½ Ell...	Left...	Center.	Ball...	Roll...	Atterbury, C
Dual..	Bosch.....	Hand....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit J .	3	8.40-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	Atterbury, D
Dual..	Bosch.....	Hand....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit J .	3	8.40-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	Atterbury, E
Sing...	Bosch.....	Fixed....	Stromberg..	Spl-Pres..	Disk...	Prog....	Amid..	3	7.10-1	Bevel....	½ Ell...	Plat....	Right..	Right..	Roll...	Roll...	Autocar, F
Dual...	Briggs.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Unit J .	3	6.00-1	Chain....	Ell....	Ell....	Left...	Left...	Ball...	Ball...	Available, 25
Dual...	Heinze.....	Hand....	Rayfield....	Spl-Pres..	Disk...	Sel....	Unit M.	3	7.95-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	Avery, C-1
Dual...	Eisemann..	Auto.....	Rayfield....	Spl-Pres..	Disk...	Sel....	Unit J .	3	18.00-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	Avery, B-2
Dual...	Eisemann..	Gov.....	Schebler....	Splash...	Disk...	Sel....	Amid..	3	13.73-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	Avery, B-3
Dual...	Eisemann..	Gov.....	Schebler....	Splash...	Disk...	Sel....	Amid..	3	13.73-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Plain..	Avery, A-3
Dual...	Eisemann..	Gov.....	Schebler....	Spl-Pres..	Disk...	Sel....	Unit M.	3	9.90-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	Avery, B-5
Sing...	Eisemann..	Fixed....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit M.	4	8.60-1	T Worm .	½ Ell...	½ Ell...	Left...	Center.	Ball...	Ball...	Barker, U
Doub..	Opt.....	Hand....	Schebler....	Splash...	Disk...	Sel....	Unit M.	3	5.00-1	Bevel....	½ Ell...	Ell....	Right..	Center.	Ball...	Roll...	Bauer, A & C
Doub..	Opt.....	Hand....	Schebler....	Splash...	Disk...	Sel....	UnitM.	3	5.00-1	Bevel....	½ Ell...	Ell....	Right..	Center.	Ball...	Roll...	Bauer, B & D

ABBREVIATIONS:—Gearset: Sel, selective; Prog, progressive; Plan, planetary; Fric, friction; Ind C, individual clutch. Gearset Location: Amid, amidships; Unit M, unit with the motor; Unit J, unit with the jackshaft; Unit X, unit with the rear axle. Final Drive: Int G, internal gear; Bevel, shaft with bevel; T Worm, shaft with top worm; Chain, by chain to the rear wheels. Springs: ½Ell, semi-elliptic; Ell, elliptic; ¾Ell, ¾ elliptic; Plat, platform. Bearings: Roll, roller; B & R, ball and roller; Opt, optional.

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Specifications of Three Hundred and Twelve Gaso

NAME AND MODEL	Load Capacity, Pounds	Chassis Price	Wheel-base, Inches	TIRES			Motor Location	No. Cylinders	Bore and Stroke, Inches	S. A. E. H. P	CYLINDERS		Valve Location	Camshaft Drive	COOLING	
				Kind	Front	Rear					Shape	How Cast			Circulation	Radiator Suspension
Bessemer, C	1,000	1,250	108	Solid	34x2½	34x3	Under hood	4	3.500x4.500	19 60	L-head	Block	Left	Gear	Thermo	S & T
Bessemer, B	4,000	1,800	120	Solid	34x3½	34x4	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Thermo	S & T
Bessemer, A	6,000	2,100	136	Solid	34x4	34x5	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Thermo	S & T
Best, A	1,000	750	78	Opt	32x2	34x2½	Under floor	2	4.500x4.500	16.20	L-head	Sep	Head	Gear	Thermo	Springs
Best, C	1,600	1,370	106	Opt	35x3	35x3½	Under hood	4	3.750x4.500	22.50	L-head	Block	Right	Hel'l	Thermo	Springs
Blair, C	4,000	2,850	114-21	Solid	34x4	34x3*	Bet seats	4	4.250x5.250	28.90	L-head	Block	Left	Hel'l	Pump	Springs
Blair, D	5,000	3,250	121-44	Solid	34x4	36x3½*	Bet seats	4	4.500x5.500	32.40	L-head	Pairs	Left	Hel'l	Pump	Springs
Blair, E	7,000	3,750	135-44	Solid	36x5	36x4*	Bet seats	4	4.500x5.500	32.40	L-head	Pairs	Left	Hel'l	Pump	Springs
Brown	1,500	1,650	122	Cush	34x4½	34x4	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Buckeye, V-1	800	900	106	Pneu	30x3½	31x4	Under hood	4	3.500x4.250	19 60	L-head	Block	Left	Gear	Pump	Springs
Buckeye, V-2	1,500	1,125	114	Opt	35x3	35x3½	Under hood	4	3.750x4.250	22 50	L-head	Block	Left	Gear	Pump	Springs
Buckeye, V-4	3,000	1,900	120	Solid	36x3½	36x4	Under hood	4	4.500x5.000	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Buckeye, V-5	4,000	2,200	120	Solid	36x4	36x5	Under hood	4	4.500x5.000	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Buick, 3	1,000	1,000	100	Pneu	33x4½	33x4½	Under hood	4	3.000x5.000	14.40	L-head	Block	Right	Gear	Thermo	Rigid
Buick, 4	1,500	1,125	122	Pneu	35x5	35x5	Under hood	4	3.000x5.000	14.40	L-head	Block	Right	Gear	Thermo	Rigid
Butler, 1914	1,500	1,650	126	Pneu	35x4½	35x4½	Under hood	4	3 750x5.250	22.50	L-head	Block	Left	Gear	Pump	Cushions
Chase, D	1,000	855	106	Solid	36x2½	36x2½	Under hood	3	4.125x4.000		2-cycle	Sep			Air	
Chase, K	2,000	1,350	106	Solid	36x2½	36x3	Under hood	3	4.125x4.000		2-cycle	Sep			Air	
Chase, H	2,000	1,200	106	Solid	36x2½	36x3	Under hood	3	4.125x4 000		2-cycle	Sep			Air	
Chase, L	3,000	1,675	112	Solid	36x3	36x3½	Under hood	3	4.500x5.000		2-cycle	Sep			Air	
Chase, J	4,000	2,100	120	Solid	36x3½	36x4	Under hood	3	4.500x5.000		2-cycle	Sep			Air	
Coleman, B	2,000	1,950	107	Solid	36x3½	36x4	Under seat	4	3.750x5 250	22.50	L-head	Block	Left	Gear	Pump	Springs
Coleman, C	4,000	2,400	117	Solid	36x4	36x3½*	Under seat	4	4.250x5.250	28.90	L-head	Sep	Left	Gear	Pump	Springs
Commerce, Del	1,000	875	104	Solid	32x3½	33x4	Under hood	4	3.000x4.500	14.40	L-head	Block	Right	Gear	Thermo	Rigid
Continental	3,000	1,850	110	Solid	36x3	40x3½	Under hood	4	4.000x	25.60					Pump	
Corbitt, F	2,500	2,000	130	Solid	36x3½	40x4	Under hood	4	3.750x5.000	22.50	L-head	Block	Left	Gear	Pump	Springs
Couple-Gear, A C†	12,000	5,600	144	Solid	36x5	36x5*	Under seat	4	5.750x6.000	53 00	T-head	Sep	Opp	Gear	Pump	Springs
Couple-Gear, A C T†	12,000	5,550	144	Solid	36x5	36x5*	Under seat	4	5.750x6.000	53.00	T-head	Sep	Opp	Gear	Pump	Springs
Crown, B	2,000	2,300	135	Solid	34x3½	38x5	Under hood	4	4.000x5.000	25 60	L-head	Block	Left	Gear	Pump	Springs
Crown, C	4,000	3,000	150	Solid	34x4	38x4*	Under hood	4	4.250x5.000	28.90	T-head	Pairs	Opp	Gear	Pump	Springs
Crexton, Taxi		1,800	121	Pneu	36x4	36x4	Under hood	4	4.125x5.500	27.25	L-head	Block	Left	Gear	Thermo	Springs
Danielson, A	3,000	2,000	115	Solid	36x3½	36x4	Under seat	4	4.250x4 250	28.90	T-head	Sep	Opp	Gear	Pump	Springs
Dart, B	2,000	1,300	114	Solid	36x3	36x3½	Under hood	4	4.063x4 500	27.10	L-head	Block	S & H	Gear	Pump	Trunn'ns
Dart, C	4,000	1,775	130	Solid	34x4	36x4	Under hood	4	4.125x5 500	27.25	L-head	Block	S & H	Gear	Pump	Trunn'ns
DeKalb, D-2	4,000	2,600	136-44	Solid	36x4	36x3½*	Under hood	4	4.125x5 250	27.25	L-head	Block	Left	Gear	Pump	Springs
Diamond, T. J	3,000	2,250	127-44	Solid	36x3½	36x5	Under hood	4	4.125x5.250	27 25	L-head	Block	Left	Gear	Pump	Springs
Diamond, T. G	6,000	3,350	144	Solid	36x5	36x5*	Under hood	4	4.500x5 500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Diamond, T. G	10,000	3,600	144	Solid	36x6	36x6*	Under hood	4	5.000x5 500	40 00	L-head	Pairs	Left	Gear	Pump	Springs
Dispatch, 1914	1,200	825	120	Pneu	36x3½	36x3½	Under hood	4	3 750x5 000	22.50	L-head	Block	Right	Gear	Thermo	Rigid
Derris, Del	1,500	2,100	132-44	Pneu	35x4½	35x4½	Under hood	4	4 375x5 000	30 63	I-head	Pairs	Head	Gear	Pump	Rigid
Derris, 2-ton	4,000	2,500	148	Solid	34x3½	36x3½*	Under hood	4	4.375x5.000	30 63	I-head	Pairs	Head	Gear	Pump	Rigid
Fargo, E	1,500	800	86-100	Solid	35x3	35x3	Under body	2	4.500x6.000	16.20	I-head	Sep	Head	Gear	Thermo	Rigid
Federal, G. H		1,800					Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Four Wheel Drive, G**	3,000	3,600	124	Solid	36x4	36x4	Under seat	4	4 250x5 000	28.90	T-head	Pairs	Opp	Gear	Pump	Trunn ns
Four Wheel Drive, B**	6,000	4,000	124	Solid	36x6	36x6	Under seat	4	4.750x5.500	36 10	T-head	Pairs	Opp	Gear	Pump	Trunn'ns
Gabriel, K		1,000	106	Solid	32x4	32x4	Under hood	4	3 500x5 000	19.60	L-head	Block	Left	Gear	Thermo	Rigid
Gabriel, H		1,500	126	Solid	34x4½	34x4½	Under hood	4	3 750x5 250	22.50	L-head	Block	Left	Gear	Pump	Rigid
Gabriel, L		2,500	154	Solid	36x5	36x5*	Under hood	4	4.125x5 250	27.25	L-head	Block	Left	Gear	Pump	Rigid
Garford, L	4,000	2,800	128	Solid	36x5	40x3½*	Under floor	4	4.250x5 250	28 90	L-head	Block	Left	Gear	Pump	Springs
Garford, J	6,000	3,500	128	Solid	36x5	40x4*	Under floor	4	4.250x5 250	28 90	L-head	Block	Left	Gear	Pump	Springs
Garford, K	8,000	3,850	128	Solid	36x5	40x5*	Under floor	4	4 250x5 250	28 90	L-head	Block	Left	Gear	Pump	Springs
Garford, D	10,000	4,500	128	Solid	36x6	40x6*	Under floor	4	4 250x5 250	28 90	L-head	Block	Left	Gear	Pump	Springs
Garford, F	12,000	4,850	128	Solid	36x6	40x7*	Under floor	4	4.250x5.250	28.90	L-head	Block	Left	Gear	Pump	Springs
Gay, F	2,000	1,475	114	Solid			Under hood	4	3.750x4 500	22 50	L-head	Pairs	Left	Hel'l	Pump	Springs
Gay, G	3,000	1,675	120	Solid	36x3½	36x4	Under hood	4	4.000x4 500	25.60	L-head	Pairs	Left	Hel'l	Pump	Springs
Geneva, 2	12,000	1,250	96	Solid	34x2	36x2½	Under hood	2	5.125x4 500	21.00	L-head	Sep	S & H	Gear	Thermo	Trunn'ns
G. M. C., VC	2,500	1,900	148½	Solid	34x3	36x5	Under hood	4	3 500x5 250	19 60	L-head	Block	Left	Gear	Pump	Rigid
G. M. C., SC	4,000	2,600	143	Solid	34x4	36x3½*	Under hood	4	4.000x6 000	25 60	L-head	Block	Left	Gear	Pump	Rigid
G. M. C., H	7,000	3,200	138	Solid	36x5	36x4*	Under seat	4	5 000x5 000	40.00	L-head	Pairs	Left	Gear	Pump	Ball Joint
G. M. C., HU	7,000	3,500	156	Solid	36x5	42x5*	Under hood	4	5 000x5 000	40.00	L-head	Pairs	Left	Gear	Pump	Rigid
G. M. C., KU	10,000	4,500	156	Solid	36x6	42x6*	Under hood	4	5.000x5 000	40.00	L-head	Pairs	Left	Gear	Pump	Rigid
G. M. C., KUL	10,000	4,600	208	Solid	36x6	42x6*	Under hood	4	5.000x5 000	40.00	L-head	Pairs	Left	Gear	Pump	Rigid
G. M. C., K	10,000	4,250	138	Solid	36x6	36x5*	Under seat	4	5.000x5.000	40.00	L-head	Pairs	Left	Gear	Pump	Rigid
B. A. Gramm, 1-ton	2,000	1,750	130	Solid	34x3½	36x4	Under hood	4	4.750x5.250	22.50	L-head	Block	Right	Gear	Pump	Springs
B. A. Gramm, 2-ton	4,000	2,750	128	Solid	36x4	36x3½*	Bet seats	4	4.500x5.500	32 40	L-head	Pairs	Left	Gear	Pump	Springs
B. A. Gramm, 3½-ton	7,000	3,600	140	Solid	36x5	36x5*	Bet seats	4	4 500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
B. A. Gramm, 5-ton	10,000	4,500	168	Solid	36x6	36x6*	Under hood	6	4.125x5.250	40.90	L-head	Threes	Right	Gear	Pump	Springs
Great Eagle, A			145	Pneu	37x5	37x5	Under hood	4	4.750x5.000	36.10	T-head	Pairs	Opp	Gear	Pump	Rigid
Great Eagle, D			145	Pneu	37x5	37x5	Under hood	6	4.500x6 250	48.60	T-head	Pairs	Opp	Gear	Pump	Rigid
Harvey, D	3,000	1,875	130	Solid	34x3½	38x4	Under hood	4	3 750x5.500	22 50	L-head	Block	Right	Gear	Pump	Trunn'ns

**Drives on four wheels. †Gas-electric power plant.

ABBREVIATIONS:—**Tires:** Pneu, pneumatic; *, dual tread. **Motor Location:** Bet Seats, between seats. **Cylinders:** Sep, separately cast. **Valve Location:** Opp, opposite; S & H, side and head. **Camshaft Drive:** Gear, type not known; Hel'l, helical. **Cooling:** Thermo, thermo-syphon. **Radiator Suspension:** S & T, springs and trunnions. **Ignition:** Sing, single; Doub, double; 2-Pt, two point; Auto, automatic; Gov, governed; Opt, optional. **Motor Lubrication:** Spl-pres, splash and pressure. **Clutch:** Exp bd, expanding band; Con bd, contracting band.

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line Commercial Vehicle Chassis in Tabulated Form

IGNITION			Carburetor	Motor Lubrication	TRANSMISSION					RUNNING GEAR				BEARINGS		NAME AND MODEL.
						GEARSET				SPRINGS		CONTROL				
System	Magneto	Control			Clutch Type	Type	Location	No. Forw'd Speeds	Gear Ratio on High	Final Drive	Front	Rear	Location: Steering	Location: Gear-Shift	Gearset	Rear Axle	
Sing.	Eisemann	Hand	Rayfield	Splash	Cone	Sel.	Unit J.	3	7.42-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Ball	Bessemer, C
Sing.	Eisemann	Hand	Rayfield	Splash	Cone	Sel.	Unit J.	3	6.50-1	Chain	½ Ell.	½ Plat.	Left	Center	Ball	Roll	Bessemer, B
Sing.	Eisemann	Hand	Rayfield	Splash	Cone	Sel.	Unit J.	3	6.50-1	Chain	½ Ell.	½ Plat.	Left	Center	Ball	Roll	Bessemer, A
Doub.	Remy	Gov	Marvel	Spl-Pres		Fric.	Amid.			Chain	½ Ell.	Ell.	Left	Left	Roll	Roll	Best, A
Doub.	Remy	Hand	Marvel	Splash	Cone	Sel.	Amid.	3		Bevel	½ Ell.	½ Ell.	Left	Center	Roll	Ball	Best, C
Sing.	Bosch	Fixed		Splash	Cone	Sel.	Amid.	3		T Worm	½ Ell.	½ Ell.	Right	Right		B & R	Blair, C
Dual	Bosch	Fixed		Splash	Cone	Sel.	Amid.	3		T Worm	½ Ell.	½ Ell.	Right	Right	Ball	B & R	Blair, D
Dual	Bosch	Fixed		Splash	Cone	Sel.	Amid.	3		T Worm	½ Ell.	½ Ell.	Right	Right		B & R	Blair, E
Dual	Mea	Hand	Excelsior	Splash	Disk	Sel.	Unit M.	3		Int G	½ Ell.	½ Ell.	Left	Center	Ball	Ball	Brown
Dual	Briggs	Hand	Excelsior	Spl-Pres		Fric.			3.60-1	Chain	½ Ell.	Ell.	Right	Right		Ball	Buckeye, V-1
Dual	Briggs	Hand	Schebler	Splash		Fric.			3.00-1	Chain	½ Ell.	½ Ell.	Right	Right		Ball	Buckeye, V-2
Dual	Briggs	Hand	Rayfield	Spl-pres		Fric.			3.00-1	Chain	½ Ell.	½ Ell.	Right	Right		Roll	Buckeye, V-4
Dual	Briggs	Hand	Rayfield	Spl-Pres		Fric.			3.00-1	Chain	½ Ell.	½ Ell.	Right	Right		Roll	Buckeye, V-5
Dual	Remy	Hand	Marvel	Splash	Cone	Sel	Amid	3		Bevel	½ Ell.	Ell.	Left	Center	Ball	B & R	Buick, 3
Dual	Remy	Hand	Marvel	Splash	Cone	Sel	Amid	3		Bevel	½ Ell.	Ell.	Left	Center	Ball	B & R	Buick, 4
Sing.	Bosch	Hand	Stromberg	Splash	Disk	Sel.	Amid	3	5.06-1	Bevel	½ Ell.	½ Ell.	Left	Center	Ball	Roll	Butler, 1914
Sing.	Bosch		Holley	In fuel		Plan.	Amid.	2	3.00-1	Chain	Ell.	Ell.	Right	Right		Ball	Chase, D
Sing.	Bosch		Holley	In fuel	Disk	Sel.	Amid	3	7.80-1	Chain	Ell.	Plat.	Right	Right	Roll	Ball	Chase, K
Sing.	Bosch		Holley	In fuel		Plan.	Amid	2	3.00-1	Chain	Ell.	Plat.	Right	Right	Ball	Ball	Chase, H
Sing.	Bosch		Holley	In fuel	Disk	Sel.	Unit M.	3	8.60-1	Chain	Ell.	Plat.	Right	Right	Roll	Roll	Chase, L
Sing.	Bosch		Holley	In fuel	Disk	Sel.	Unit M.	3	8.60-1	Chain	Ell.	Plat.	Right	Right	Roll	Roll	Chase, J
Dual	Remy	Hand	Schebler	Spl-Pres	Cone	Sel.	Unit J.	3		Chain	Ell.	Ell.	Right		Roll	Roll	Coleman, B
Dual	Remy	Hand	Schebler	Splash	Cone	Sel.	Unit J.	3		Chain	Ell.	Plat.	Right	Right	Roll	Roll	Coleman, C
Sing.	Bosch	Fixed	Holley	Splash		Fric.				Chain	½ Ell.	½ Ell.	Left	Left		Roll	Commerce, Del
Dual	Bosch				Cone	Sel.		3	8.25-1	Chain	½ Ell.	Plat.					Continental
Sing.	Bosch	Hand	Stromberg	Splash	Disk	Sel.	Amid.	3	8.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Roll	Ball	Corbitt, F
Dual	Mea	Hand	Stromberg	Spl-Pres						Int G	½ Ell.	½ Ell.	Right			Roll	Couple-Gear, A C†**
Dual	Mea	Hand	Stromberg	Spl-Pres						Int G	½ Ell.	½ Ell.	Right			Roll	Couple-Gear, A C T†**
Sing.	Bosch	Fixed	Stromberg	Pressure	Cone	Sel.	Amid.	4		T Worm	½ Ell.	½ Ell.	Left	Center	Ball	Ball	Crown, B
Sing.	Bosch	Fixed	Stromberg	Pressure	Cone	Sel.	Amid.	4		T Worm	½ Ell.	½ Ell.	Left	Center	Ball	Ball	Crown, C
Sing.	Eisemann	Auto	Planhard	Splash	Disk	Sel.	Amid.	3		Bevel	½ Ell.	½ Ell.	Left	Center	Plain	Ball	Croxton, Taxi
Doub.	Bosch	Hand	Schebler	Splash	Cone	Sel.	Unit J.	3		Chain	½ Ell.	½ Ell.	Right	Right	Ball	Ball	Danielson, A
Sing.	Eisemann		Stromberg	Splash	Cone	Sel.	Amid.	3		Chain			Left	Center			Dart, B
Sing.	Eisemann	Fixed	Stromberg	Splash	Cone	Sel.	Amid.	3		Chain	½ Ell.	½ Ell.	Left	Center			Dart, C
Sing.	Bosch	Fixed	Stromberg	Splash	Cone	Sel.	Amid.	3	7.13-1	Chain	½ Ell.	½ Ell.	Left	Center	Roll	Roll	DeKalb, D-2
Sing.	Bosch	Fixed	Rayfield	Spl-Pres	Disk	Sel.	Unit M.	3		T Worm	½ Ell.	½ Ell.	Right	Center	Roll	Roll	Diamond, T J
Dual	Bosch	Hand	Rayfield	Spl-Pres	Disk	Sel.	Amid.	3		Chain	½ Ell.	½ Ell.	Right	Right	Roll	Roll	Diamond, T G
Dual	Bosch	Hand	Rayfield	Spl-Pres	Disk	Sel.	Amid.	3		Chain	½ Ell.	½ Ell.	Right	Right	Roll	Roll	Diamond, T G
Dual	Splitdorf	Hand	Zenith	Pressure	Disk	Fric.	Amid.		4.00-1	Chain	Ell.	Ell.	Right	Center	Ball	Ball	Dispatch, 1914
Sing.	Bosch	Hand	Flechter	Splash	Disk	Sel.	Unit M.	3	4.93-1	Bevel	½ Ell.	½ Plat.	Left	Center	Roll	Roll	Dorris, Del
Dup'x	Bosch	Hand	Flechter	Splash	Disk	Sel.	Unit M.	3	7.65-1	Chain	½ Ell.	½ Ell.	Right	Right	Roll	Roll	Dorris, 3-ton
Dual	Luts	Hand	Holley	Splash		Fric.	Amid.		4.00-1	Bevel	½ Ell.	Plat.	Left	Left		Roll	Fargo, E
Sing.	Eisemann	Fixed	Stromberg	Splash	Cone	Sel.	Unit J.	3	7.09-1	Chain	½ Ell.	½ Ell.	Left	Center	Roll	Roll	Federal, G H
Sing.	Bosch	Hand	Stromberg	Spl-Pres	Disk	Ind C	Amid.	3	9.79-1		½ Ell.	½ Ell.	Right	Right	Ball	Ball	Four Wheel Drive, G**
Sing.	Bosch	Hand	Stromberg	Spl-Pres	Disk	Ind C	Amid.	3	8.90-1		½ Ell.	½ Ell.	Right	Right	Ball	Ball	Four Wheel Drive, B**
Sing.	Bosch	Hand	Stromberg	Splash	Cone	Sel.	Amid.	3	4.00-1	Bevel	½ Ell.	½ Ell.	Left	Center	Roll	Ball	Gabriel, K
Sing.	Bosch	Hand	Stromberg	Splash	Cone	Sel.	Amid.	3	4.25-1	Bevel	½ Ell.	½ Ell.	Left	Center	Roll	Roll	Gabriel, H
Sing.	Bosch	Hand	Stromberg	Splash	Cone	Sel.	Amid.	4	5.50-1	Bevel	½ Ell.	½ Ell.	Left	Center	Roll	Roll	Gabriel, L
Dual	Bosch	Hand	Own	Spl-Pres	Cone	Sel.	Amid.	3	9.17-1	Chain	½ Ell.	½ Ell.	Right	Right	Roll	Roll	Garford, L
Dual	Bosch	Hand	Own	Spl-Pres	Cone	Sel.	Amid.	3	10.74-1	Chain	½ Ell.	½ Ell.	Right	Right	Roll	Roll	Garford, J
Dual	Bosch	Hand	Own	Spl-Pres	Cone	Sel.	Amid.	3	10.74-1	Chain	½ Ell.	½ Ell.	Right	Right	Roll	Roll	Garford, K
Dual	Bosch	Hand	Own	Spl-Pres	Cone	Sel.	Amid.	4	13.31-1	Chain	½ Ell.	½ Ell.	Right	Right	Ball	Roll	Garford, D
Dual	Bosch	Hand	Own	Spl-Pres	Cone	Sel.	Amid.	4	15.63-1	Chain	½ Ell.	½ Ell.	Right	Right	Ball	Roll	Garford, F
Sing.	Eisemann	Fixed	Stromberg	Splash	Cone	Sel.	Amid.	3	6.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	Gay, F
Sing.	Eisemann	Fixed	Stromberg	Splash	Cone	Sel.	Amid.	3	7.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	Gay, G
Sing.	Bosch	Fixed	Schebler	Spl-Pres	Disk	Plan.	Unit J.	2	8.00-1	Chain	½ Ell.	Ell.	Right		Ball	Ball	Geneva, 2
Sing.	Bosch	Hand	Kingston	Splash	Cone	Sel.	Amid.	3	8.65-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	G. M. C., VC
Sing.	Bosch	Hand	Kingston	Splash	Cone	Sel.	Amid.	3	8.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	G. M. C., SC
Doub.	Mea	Hand	Holley	Splash	Disk	Prog.	Amid.	3	7.76-1	Chain	½ Ell.	½ Ell.	Right	Right	Ball	Roll	G. M. C., H
Doub.	Mea	Hand	Holley	Splash	Disk	Prog.	Amid.	3	9.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	G. M. C., HU
Doub.	Mea	Hand	Holley	Splash	Disk	Prog.	Amid.	3	12.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	G. M. C., KU
Doub.	Mea	Hand	Holley	Splash	Disk	Prog.	Amid.	3	12.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	G. M. C., KUL
Doub.	Mea	Hand	Holley	Splash	Disk	Prog.	Amid.	3	10.25-1	Chain	½ Ell.	½ Ell.	Right	Right	Ball	Roll	G. M. C., K
Sing.	Bosch	Hand	Schebler	Splash	Cone	Sel.	Amid.	3	7.00-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Ball	B. A. Gramm, 1-ton
Dup'x	Bosch	Hand	Schebler	Splash	Disk	Ind C.	Amid.	3	8.30-1	Chain	½ Ell.	½ Ell.	Right	Right	Ball	Roll	B. A. Gramm, 2-ton
Dup'x	Bosch	Hand	Schebler	Splash	Disk	Ind C.	Amid.	4	9.40-1	Chain	½ Ell.	½ Ell.	Right	Right	Ball	Roll	B. A. Gramm, 3½-ton
Dual	Bosch	Hand	Schebler	Splash	Disk	Ind C.	Amid.	4	11.90-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Roll	B. A. Gramm, 5-ton
Doub.	Eisemann	Hand	Rayfield		Cone	Sel.	Amid.	3		Bevel	½ Ell.	Plat.	Left	Left	Roll	Ball	Great Eagle, A
Doub.	Eisemann	Hand	Rayfield		Cone	Sel.	Amid.	3		Bevel	½ Ell.	Plat.	Left	Left	Roll	Ball	Great Eagle, D
Sing.	Eisemann	Auto	Holley	Splash	Cone	Sel.	Unit J.	3	8.20-1	Chain	½ Ell.	½ Ell.	Left	Center	Ball	Ball	Harvey, D

ABBREVIATIONS:—**Gearset:** Sel, selective; Prog, progressive; Plan, planetary; Fric, friction; Ind C, individual clutch. **Gearset Location:** Amid, amidships; Unit M, unit with the motor. Unit J, unit with the jackshaft; Unit X, unit with the rear axle. **Final Drive:** Int G, internal gear; Bevel, shaft with bevel; T Worm, shaft with top worm; Chain, by chain to the rear wheels; **Springs:** ½Ell, semi-elliptic; Ell, elliptic; ¾Ell, ¾ elliptic; Plat, platform. **Bearings:** Roll, roller; B & R, ball and roller; Opt, optional.

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Specifications of Three Hundred and Twelve Gaso

NAME AND MODEL	Load Capacity, Pounds	Chassis Price	Wheel-base, Inches	TIRES			Motor Location	No. Cylinders	Bore and Stroke, Inches	S. A. E. H. P	CYLINDERS		Valve Location	Camshaft Drive	COOLING	
				Kind	Front	Rear					Shape	How Cast			Circulation	Radiator Suspension
Horner, 1-ton	2,000	2,000	145	Solid	34x3½	34x4	Under hood		4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Bumper
Horner, 2-ton	4,000	2,650	145	Solid	36x4	36x3½*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Bumper
Horner, 1½-ton	3,000	2,250	145	Solid	36x4	36x4	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Bumper
Horner, 3-ton	6,000	3,200	145	Solid	36x5	40x4*	Under hood	4	4.500x3.500	32.40	L-head	Pairs	Left	Gear	Pump	Bumper
Horner, 5-ton	10,000	4,200	156	Solid	38x6	42x6*	Under hood	4	5.250x5.750	44.10	T-head	Pairs	Opp	Gear	Pump	Bumper
Hupmobile, 32	800		106	Pneu	32x4	33x4	Under hood	4	3.250x5.500	16.90	L-head	Block	Left	Chain	Thermo	Rigid
Ideal, I	2,000	1,500	115	Solid	36x3	36x3½	Under seat	4	3 750x4 500	22 50	L-head	Block	Left	Gear	Thermo	Springs
Ideal, H-2	3,000	2,000	124	Solid	36x3½	36x4	Under seat	4	4.125x5 250	27 25	L-head	Block	Left	Gear	Pump	Springs
Ideal, K	5,000	2,500	134	Solid	36x4	36x3½	Under seat	4	4 500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
International, MW	1,000		90	Solid	-x2	-x2	Under body	2	4.500x5 000	16.20	I-head	Sep	Head	Gear	Pump	Springs
International, MA	1,000		90	Solid	-x2	-x2	Under body	2	5.000x5.000	20.00	I-head	Sep	Head	Gear	Air	
Jeffery, 1514	1,500		120	Pneu	34x4½	34x4½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Hel'l	Pump	Springs
Jeffery, 2014**	2,000		130	Solid	34x3½	34x4	Under hood	4	3 750x5.250	22.50	L-head	Block	Left	Hel'l	Pump	Springs
Kalamazoo, B	3,000	1.590	110	Solid	36x3	36x4	Under hood	4	3 750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Kearns, A	1,500	850	100	Solid	36x2	36x2½	Under hood	4	3.500x4.000	19.60	L-head	Pairs	Right	Chain	Pump	Trunn'ns
Kelly, K-30	2,000	2,000	120-44	Solid	36x3½	36x4	Under hood	4	3.750x5 250	22.50	L-head	Block	Right	Gear	Pump	Springs
Kelly, K-40	6,000		150-72	Solid	38x5	42x5*	Under hood	4	4.500x6.500	32.40	T-head	Pairs	Opp	Gear	Pump	Springs
King, 3	7,000	3,350	120	Solid	36x6	36x4*	Under floor	4	4.500x5.500	32 40	L-head	Pairs	Left	Hel'l	Pump	Springs
Kissel kar, ½-ton	1,500	1,500	125	Pneu	34x4½	34x4½	Under hood	4	4.250x5.250	28.90	L-head	Pairs	Left	Chain	Pump	Springs
Kissel kar, 1-ton	2,000	1.850	140	Pneu	37x5	37x5	Under hood	4	4.500x5 250	32 40	L-head	Pairs	Left	Chain	Pump	Springs
Kissel kar, 1½-ton	3,000	2,100	132	Solid	34x3½	38x5	Under hood	4	4.250x5 250	28 90	L-head	Pairs	Left	Chain	Pump	Springs
Kissel kar, 2½-ton	5,000	2,750	144	Solid	36x4	38x4*	Under hood	4	4 500x5 250	32 40	L-head	Pairs	Left	Chain	Pump	Springs
Kissel kar, 3½-ton	7 000	3,350	162	Solid	36x5	40x5*	Under hood	4	4 875x5 000	38 00	L-head	Pairs	Left	Chain	Pump	Springs
Kissel kar, 6-ton	12,000	4,350	168	Solid	36x6	40x6*	Under hood	4	4.875x5 000	38 00	L-head	Pairs	Left	Chain	Pump	Springs
Knickerbocker, 3-ton	6,000	3,750	120	Solid			Under seat	4	4 500x5.500	32 40	T-head	Pairs	Opp	Gear	Pump	Springs
Knickerbocker, 4-ton	8,000	4,000	120	Solid			Under seat	4	4 500x5.500	32 40	T-head	Pairs	Opp	Gear	Pump	Springs
Knickerbocker, 5-ton	10,000	4,500	134	Solid			Under seat	4	4 500x5.500	32 40	T-head	Pairs	Opp	Gear	Pump	Springs
Knox, R-S	4,000	3,000	145	Solid	34x4	34x4*	Under hood	4	5.000x5.500	40.00	I-head	Sep	Head	Gear	Pump	Springs
Knox, Tractor	20,000	3.250	139	Solid	34x5	36x5*	Under hood	4	5 000x5 500	40 00	I-head	Sep	Head	Gear	Pump	Springs
Knox, Tractor	40,000	3,750	140	Solid	34x5	38x6*	Under hood	4	5.000x5.500	40 00	I-head	Sep	Head	Gear	Pump	Springs
Knox, Combination		4.100	145	Solid	40x5½	40x5½	Under hood	4	5.500x5.500	48.04	I-head	Sep	Head	Gear	Pump	Springs
Kessler, 1-ton	2,000	725	90	Solid	36x2½	36x2½	Under body	2	5.250x4.000	22.00	L-head	Sep	Side	Gear	Thermo	Springs
Kesmath, 1914	1,000	850	110	Pneu	32x3½	32x3½	Under hood	4	3.500x4.000	19 60	L-head	Pairs	Left	Gear	Pump	Springs
Krebs, E	1,000	950	100	Pneu	32x3½	32x3½	Under hood	4	3 500x4 000	19 60	L-head	Pairs	Left	Gear	Pump	Cushion
Krebs, BB	1,500	1,425	100	Pneu	34x4	34x4	Under hood	4	3.750x4.500	22.50	L-head	Block	Right	Gear	Thermo	Cushions
Krebs, AA	2,000	1,425	100	Solid	34x3	34x3	Under hood	4	3 750x4 500	22.50	L-head	Block	Right	Gear	Thermo	Cushions
Krebs, D & DD	3,000	1,775	118-44	Solid	36x3½	36x4	Under hood	4	3.750x5.250	22.50	L-head	Block	Right	Gear	Thermo	Cushions
LaFrance, 6-ton	12,000	5,500	144	Solid	36x5	38x6*	Bet seats	4	5.500x6.000	48.40	T-head	Pairs	Opp	Gear	Pump	Springs
Landshaft, C	1,500	1,000	117	Solid	34x2½	36x2½	Under hood	4	3.000x4.500	14.40	L-head	Block	Right	Gear	Thermo	Springs
Landshaft, J	3,000	1,800	134	Solid	34x3½	36x4	Under hood	4	4.125x5.250	27.25	L-head	Block	Right	Gear	Pump	Springs
Lange, C	2,000	2,250	125	Solid	36x3½	38x4	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Hel'l	Thermo	Springs
Lange, B	4,000	3,000	136	Solid	36x4	38x3*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Hel'l	Thermo	Springs
Lauth-Juergens, K	2,000	2,100	Opt	Opt	Opt	Opt		4	3.800x5.300	23.25	L-head	Block	Left	Gear	Pump	Springs
Lauth-Juergens, L	4,000	2,800	Opt	Opt	Opt	Opt		4	3.800x5.300	23.25	L-head	Block	Left	Gear	Pump	Springs
Lauth-Juergens, M	6,000	3,450	Opt	Opt	Opt	Opt		4	4.800x5.000	37.00	L-head	Sep	Left	Gear	Pump	Springs
Lewis, 21	5,000	3.250	144	Solid	34x4	36x3½*	Optional	4	4.250x5 000	28 90	T-head	Pairs	Opp	Gear	Pump	S & T
Lewis, 218	6,000	3.500	144	Solid	34x4	36x4*	Optional	4	4.250x5.000	28 90	T-head	Pairs	Opp	Gear	Pump	S & T
Lewis, 51	10,000	4,750	144	Solid	36x6	38x6*	Under seat	4	4.750x5.500	36.10	T-head	Pairs	Opp	Gear	Pump	S & T
Light, 800 lbs	800		66	Pneu	26x3	26x3		2	3.500x3.670	9.80		Sep		Gear	Air	
Lippard-Stewart, C	1,500	1,650	125	Pneu	35x4½	35x4½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Lippard-Stewart, F	3,000	2,300	145-58	Solid	36x3½	36x3*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Little-Giant, F	2,000	1,200	110	Solid	-x2½	-x3	Under seat	2	5.000x4.000	20.00	L-head	Sep	S & H	Gear	Thermo	Rigid
Little-Giant, H	2,000	1,350	110	Solid	-x2	-x3½	Under floor	4	3.750x5.500	22.50	L-head	Block	Right	Gear	Thermo	Springs
Locomobile, A	10,000	4,800	140-70	Solid	40x6	40x6*	Under seat	4	5.000x6.000	40.00	T-head	Pairs	Opp	Gear	Pump	Springs
Longest, 3-A	8,000	4,000	144-72	Solid	36x5	36x5*	Under hood	4	5.000x5.500	40.00	T-head	Pairs	Opp	Gear	Pump	Springs
Lord Baltimore, B	2,000	1,800	128	Solid	34x3½	36x4	Under hood	4	3.750x5 250	22.50	L-head	Block	Left	Gear	Pump	Trunn'ns
Lord Baltimore, D	4,000	2,300	142	Solid	34x4	36x3*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Trunn'ns
Maccarr, A	1,500	1,650	120-32	Pneu	36x4½	36x4½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Maccarr, B	2,000	1,900	Opt	Solid	36x4	36x5	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Maccarr, C	3,000	2,150	Opt	Solid	36x4	36x6	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Mack, 1-ton	2,000	2,000	Opt	Opt	Opt	Opt	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Chain	Pump	Rigid
Mack, 5-ton	10,000	4,000	Opt	Opt	Opt	Opt	Under hood	4	5.500x6.000	48.40	L-head	Pairs	Left	Chain	Pump	Rigid
Mais, C	3,000	2,750	119	Solid	36x4	36x5	Under hood	4	4.000x5.250	25.60	T-head	Pairs	Opp	Gear	Pump	Springs
Mais, D	3,000	2,800	132	Solid	36x4	36x5	Under hood	4	4.000x5.250	25.60	T-head	Pairs	Opp	Gear	Pump	Springs
Mais, E	4,000	2,950	132	Solid	36x4	36x4*	Under hood	4	4.000x5.250	25.60	T-head	Pairs	Opp	Gear	Pump	Springs
Mais, F	4,000	3,000	145	Solid	36x4	36x4*	Under hood	4	4.000x5.250	25.60	T-head	Pairs	Opp	Gear	Pump	Springs
Mais, G	5,000	3,200	145	Solid	36x4	36x4*	Under hood	4	4.315x5.250	29.76	T-head	Pairs	Opp	Gear	Pump	Springs
Mais, H	6,000	3,400	160	Solid	36x5	36x5*	Under hood	4	4.315x5.250	29.76	T-head	Pairs	Opp	Gear	Pump	Springs
Marmon, Delivery	1,500	2,500	120		32x4	32x4	Under hood	4	4.000x5.000	25.60	T-head	Pairs	Opp	Hel'l	Pump	Trunn'n
Martin, B	3,000		140	Solid	36x3½	40x4	Under hood	4	4.250x5.000	28.90	T-head	Pairs	Opp	Hel'l	Pump	Springs
Martin, S	3,000		121	Solid	36x3½	40x4	Under seat	4	4.000x5.000	25.60	L-head	Block	Side	Hel'l	Pump	Springs

**Drives on four wheels.

ABBREVIATIONS:—Tires: Pneu, pneumatic; *, dual tread. Motor Location: Bet Seats, between seats. Cylinders: Sep, separately cast. Valve Location: Opp, opposite; S & H, side and head. Camshaft Drive: Gear, type not known; Hel'l, helical. Cooling: Thermo, thermo-syphon. Radiator Suspension: S & T, springs and trunnions. Ignition: Sing, single; Doub, double; 3-Pt, two point; Auto, automatic; Gov, governed; Opt, optional. Motor Lubrication: Spl-pres, splash and pressure. Clutch: Exp bd, expanding band; Con bd, contracting band.

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line Commercial Vehicle Chassis in Tabulated Form

IGNITION			Carburetor	Motor Lubrication	TRANSMISSION						RUNNING GEAR				BEARINGS		NAME AND MODEL
						GEARSET			Gear Ratio on High	Final Drive	SPRINGS		CONTROL				
													Location				
System	Magneto	Control			Clutch Type	Type	Location	No. Forw'd Speeds			Front	Rear	Steering	Gear-Shift	Gearset	Rear Axle	
Dual	Mea	Gov	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	6.80-1	Chain	½ Ell	Plat	Left	Center	Roll	Roll	Horner, 1-ton
Dual	Mea	Gov	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	9.43-1	Chain	½ Ell	Plat	Left	Center	Roll	Roll	Horner, 2-ton
Dual	Mea	Gov	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	7.79-1	Chain	½ Ell	Plat	Left	Center	Roll	Roll	Horner, 1½-ton
Dual	Mea	Gov	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	9.40-1	Chain	½ Ell	Plat	Left	Center	Roll	Roll	Horner, 3-ton
Dual	Mea	Gov	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	13.42-1	Chain	½ Ell	Plat	Left	Center	Roll	Roll	Horner, 5-ton
Sing	Bosch	Hand	Zenith	Spl-Pres	Disk	Sel	Unit M.	3	3.86-1	Bevel	½ Ell	Cross	Right	Center	B & R	Roll	Hupmobile, 32
Sing	Eisemann	Hand	Schebler	Spl-Pres	Cone	Sel	Amid	3	6.70-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Ball	Ideal, I
Dual	Eisemann	Hand	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	6.70-1	Chain	½ Ell	½ Plat	Right	Right	Roll	Roll	Ideal, H-2
Dual	Eisemann	Hand	Stromberg	Spl-Pres	Disk	Sel	Unit M.	3	7.40-1	Chain	½ Ell	½ Plat	Right	Right	Roll	Roll	Ideal, K
Doub	Heinse	Hand	Schebler	Spl-Pres	Con Bd			2		Chain	Ell	Ell	Right	Right	Roll	Roll	International, MW
Doub	Heinse	Hand	Schebler	Spl-Pres	Con Bd			2		Chain	Ell	Ell	Right	Right	Roll	Roll	International, MA
Dup'x	Bosch	Hand	Rayfield	Spl-Pres	Disk	Sel	Amid	3	4.00-1	Bevel	½ Ell	½ Ell	Right	Right	Roll	Roll	Jeffery, 1514
Dup'x	Bosch	Hand	Rayfield	Spl-Pres	Disk	Sel	Amid	3	6.68-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Jeffery, 2014***
Sing	Bosch	Fixed	Kingston	Splash	Cone	Sel	Unit J	3		Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Kalamazoo, B
Doub	Remy	Hand	Schebler	Splash		Fric				Chain	Ell	Ell	Right	Right	Roll	Ball	Kearns, A
Sing	Eisemann	Auto	Breese	Spl-Pres	Cone	Sel	Amid	3	8.60-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Kelly, K-30
Sing	Eisemann	Auto	Schebler	Spl-Pres	Cone	Sel	Amid	3	11.60-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Kelly, K-40
Dual	Bosch	Fixed	Schebler	Spl-Pres	Disk	Ind C	Unit J	3	10.72-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	King, 3
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	5.00-1	Bevel	½ Ell	½ Ell	Left	Center	B & R	Roll	Kisselkar, ¾-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	5.00-1	Bevel	½ Ell	½ Ell	Right	Right	B & R	Roll	Kisselkar, 1-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	4	8.07-1	Chain	½ Ell	½ Ell	Left	Center	B & R	Roll	Kisselkar, 1½-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	4	9.95-1	Chain	½ Ell	½ Ell	Left	Center	B & R	Roll	Kisselkar, 2½-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	4	11.00-1	Chain	½ Ell	½ Ell	Left	Center	B & R	Roll	Kisselkar, 3½-ton
Sing	Bosch	Hand	Stromberg	Spl-Pres	Cone	Sel	Amid	4	12.70-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	Kisselkar, 6-ton
Dual	Bosch	Hand	Stromberg	Spl-Pres	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Left	B & R	Roll	Knickerbocker, 3-ton
Dual	Bosch	Hand	Stromberg	Spl-Pres	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Left	B & R	Roll	Knickerbocker, 4-ton
Dual	Bosch	Hand	Stromberg	Spl-Pres	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Left	B & R	Roll	Knickerbocker, 5-ton
Doub	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Unit M.	3	5.34-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Knox, R-3
Doub	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Unit M.	3	10.95-1	Chain	½ Ell	Cant	Right	Center	Ball	Roll	Knox, Tractor
Doub	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Amid	3	12.11-1	Chain	½ Ell	Cant	Right	Center	Ball	Roll	Knox, Tractor
Doub	Bosch	Hand	Scott	Pressure	Disk	Sel	Unit M.	3	5.34-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Knox, Combination
Sing	Bosch	Fixed	Schebler	Pressure	Cone	Plan	Amid	2	7.00-1	Chain	½ Ell	Ell	Left	Center	Plain	Plain	Koehler, 1-ton
Sing	Swiss	Fixed	Opt	Splash	Cone	Sel	Unit M.	3	4.00-1	Bevel	½ Ell	Ell	Left	Center	B & R	Roll	Kosmath, 1914
Sing	Bosch	Hand	Kingston	Splash	Cone	Sel	Unit M.	3	4.00-1	Bevel	½ Ell	½ Ell	Left	Center	B & R	B & R	Krebs, E
Sing	Bosch	Auto	Schebler	Splash	Cone	Sel	Amid	3	4.00-1	Bevel	½ Ell	½ Ell	Left	Center	Roll	Ball	Krebs, BB
Sing	Bosch	Auto	Schebler	Splash	Cone	Sel	Amid	3	6.40-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Ball	Krebs, AA
Sing	Bosch	Auto	Schebler	Splash	Cone	Sel	Amid	3	7.80-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Krebs, D & DD
2-Pt	Bosch	Hand	Schebler	Spl-Pres		Hyd				Chain	½ Ell	½ Ell	Right			Roll	LaFrance, 6-ton
Dual	Remy	Hand	Schebler	Splash	Disk	Plan	Amid	2	7.00-1	Chain	½ Ell	Plat	Right	Right	B & R	Ball	Landshaft, C
Dual	Bosch	Hand	Rayfield	Splash	Cone	Sel	Amid	3	7.00-1	Chain	½ Ell	Plat	Right	Right	Roll	Roll	Landshaft, J
Doub	Connect	Hand	Stromberg	Spl-Pres	Disk	Ind C	Amid	3		Chain	½ Ell	½ Ell	Left	Center	B & R	Roll	Lange, C
Doub	Connect	Hand	Stromberg	Spl-Pres	Disk	Ind C	Amid	3		Chain	½ Ell	½ Ell	Left	Center	B & R	Roll	Lange, B
Doub	Opt	Hand	Stromberg	Splash	Disk	Sel	Amid	4		Chain	½ Ell	½ Ell	Right	Right	Ball	Ball	Lauth-Juergens, K
Doub	Opt	Hand	Stromberg	Splash	Disk	Sel	Amid	4		Chain	½ Ell	½ Ell	Left		Ball	Ball	Lauth-Juergens, L
Doub		Hand	Stromberg	Splash	Disk	Sel	Amid	4	9.40-1	Chain	½ Ell	½ Ell	Right	Right	Plain	Ball	Lauth-Juergens, M
Dual	Bosch		Rayfield	Splash	Disk	Sel	Amid	3	8.25-1	Chain	½ Ell	Plat	Right	Right	B & R	Roll	Lewis, 21
Dual	Bosch		Rayfield	Splash	Disk	Sel	Amid	3	8.25-1	Chain	½ Ell	Plat	Right	Right	B & R	Roll	Lewis, 21S
Dual	Bosch	Hand	Rayfield	Splash	Disk	Sel	Amid	3	9.45-1	Chain	½ Ell	Plat	Right	Right	B & R	Roll	Lewis, 51
				Splash						Roller	½ Ell	½ Ell		Pedal			Light, 800 lbs
Sing	Eisemann	Fixed	Rayfield	Spl-Pres	Cone	Sel	Amid	3	5.00-1	Bevel	½ Ell	½ Ell	Left	Center	Roll	Roll	Lippard-Stewart, C
Sing	Eisemann	Fixed	Rayfield	Spl-Pres	Cone	Sel	Amid	3	7.75-1	T Worm	½ Ell	½ Ell	Left	Center	Roll	Roll	Lippard-Stewart, F
Dual	Kingston	Hand	Holley	Spl-Pres	Disk	Sel	Amid	3	7.20-1	Chain	½ Ell	Ell	Left	Center	Ball	Ball	Little-Giant, F
Dual	Kingston	Hand	Holley	Splash	Disk	Sel	Amid	3	7.20-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Little-Giant, H
Dual	Bosch	Fixed	Own	Spl-Pres	Disk	Sel	Amid	4	10.40-1	Chain	½ Ell	½ Ell	Right	Right	B & R	Roll	Locomobile, A
Dual	Bosch	Hand	Schebler	Pressure	Cone	Sel	Amid	4		Chain	½ Ell	½ Ell	Right	Right	Plain	Roll	Longest, 3-A
Sing	Eisemann	Fixed	Schebler		Disk	Sel	Unit M.	3		Int G	½ Ell	½ Ell	Left	Center			Lord Baltimore, B
Sing	Eisemann	Fixed	Schebler		Disk	Sel	Unit M.	3		Int G	½ Ell	½ Ell	Left	Center			Lord Baltimore, D
Doub	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Unit M.	3		Worm	½ Ell	½ Ell	Left	Center		Roll	Maccarr, A
Doub	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Unit M.	3		Worm	½ Ell	½ Ell	Left	Center		Roll	Maccarr, B
Doub	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Unit M.	3		Worm	½ Ell	½ Ell	Left	Center		Roll	Maccarr, C
Dual	Bosch	Hand	Hoyt	Pressure	Disk	Sel	Amid	3	5.50-1	Chain	½ Ell	Plat	Left	Center	B & R	Roll	Mack, 1-ton
Dual	Bosch	Hand	Breese	Spl-Pres	Cone	Sel	Amid	3	9.20-1	Chain	½ Ell	Plat	Right	Right	B & R	Roll	Mack, 5-ton
Sing	Eisemann	Auto	Rayfield		Exp Bd	Prog				Opt	Int G	½ Ell	½ Ell	Left			Mais, C
Sing	Eisemann	Auto	Rayfield		Exp Bd	Prog				Opt	Int G	½ Ell	½ Ell	Left			Mais, D
Sing	Eisemann	Auto	Rayfield		Exp Bd	Prog				Opt	Int G	½ Ell	½ Ell	Left			Mais, E
Sing	Eisemann	Auto	Rayfield		Exp Bd	Prog				Opt	Int G	½ Ell	½ Ell	Left			Mais, F
Sing	Eisemann	Auto	Rayfield		Exp Bd	Prog				Opt	Int G	½ Ell	½ Ell	Left			Mais, G
Sing	Eisemann	Auto	Rayfield		Exp Bd	Prog				Opt	Int G	½ Ell	½ Ell	Left			Mais, H
Dual	Bosch	Hand	Stromberg	Pressure	Cone	Sel	Unit X.	3	5.00-1	Bevel	½ Ell	Ell	Right	Right	Ball	Ball	Marmon, Delivery
2-Pt	Bosch	Hand	Stromberg	Pressure	Disk	Sel	Unit J	3	6.75-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Martin, B
Doub		Hand		Pressure	Disk	Sel	Unit J	3	7.95-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Martin, S

ABBREVIATIONS:—Gearset: Sel selective; Prog, progressive; Plan, planetary; Fric, friction; Ind C, individual clutch; Hyd, hydraulic. **Gearset Location:** Amid, amidships; Unit M, unit with the motor; Unit J, unit with the jackshaft; Unit X, unit with the rear axle. **Final Drive:** Int G, internal gear; Bevel, shaft with bevel; T Worm, shaft with top worm; Chain, by chain to the rear wheels. **Springs:** ½Ell, semi-elliptic; Ell, elliptic; ¾Ell, ¾ elliptic; Plat, platform. **Bearings:** Roll, roller; B & R, ball and roller; Opt, optional.

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Specifications of Three Hundred and Twelve Gaso

NAME AND MODEL	Load Capacity, Pounds	Chassis Price	Wheel-base, Inches	TIRES			Motor Location	No. Cylinders	Bore and Stroke, Inches	S. A. E. H. P	CYLINDERS		Valve Location	Camshaft Drive	COOLING	
				Kind	Front	Rear					Shape	How Cast			Circulation	Radiator Suspension
Martin, A	4,000	.....	155	Solid...	36x4	40x3½*	Under hood.	4	4.750x5.500	36.10	T-head...	Pairs.....	Opp.....	Hel'l.....	Pump....	Springs..
Martin, E	5,000	.....	132	Solid...	36x4	40x3½*	Under seat.	4	4.250x5.000	28.90	T-head...	Pairs.....	Opp.....	Hel'l.....	Pump....	Springs..
Martin, L	7,000	.....	145	Solid...	36x5	40x4*	Under seat.	4	4.750x5.500	36.10	T-head...	Pairs.....	Opp.....	Hel'l.....	Pump....	Springs..
Menominee, A-3	1,500	1,125	122	Solid...	32x3½	32x3½	Under hood.	4	3.750x4.500	22.50	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Rigid....
Menominee, B-3	2,000	1,400	.....	Solid...	34x3½	34x3½	Under hood.	4	4.000x5.000	25.60	L-head...	Pairs.....	Left.....	Gear.....	Thermo..	Springs..
Menominee, C	3,000	1,800	130	Solid...	36x4	36x5	Under hood.	4	4.000x5.000	25.60	L-head...	Pairs.....	Left.....	Gear.....	Thermo..	Springs..
M & E, 4-ton	8,000	2,750	114	Solid...	34x7*	40x6	Under seat.	4	4.125x5.250	27.25	L-head...	Pairs.....	Right....	Gear.....	Pump....	Springs..
Mercury, P	1,000	.....	85	Solid...	38x2	40x2	Under floor.	2	4.250x4.080	14.50	L-head...	Sep.....	Side.....	Gear.....	Air.....	.....
Miller, A	1,000	800	112	Pneu..	32x3½	32x3½	Under hood.	4	3.500x4.000	19.60	L-head...	Block....	Left.....	Gear.....	Pump....	Rigid....
Modern, F	1,500	1,500	136	Solid...	36x3½	36x3½	Under hood.	4	3.500x5.000	19.60	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Modern, G	2,000	1,700	136	Solid...	36x3½	36x4	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Modern, H	3,000	1,950	136	Solid...	36x3½	36x5	Under hood.	4	4.125x5.250	27.25	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Mogul, L	4,000	2,360	133-44	Solid...	36x5	38x3½*	Under hood.	4	4.125x5.250	27.25	L-head...	Block....	Left.....	Hel'l.....	Pump....	Springs..
Mogul, G	4,000	2,750	120	Solid...	36x4	36x5	Under seat.	4	4.125x5.250	27.25	L-head...	Block....	Left.....	Hel'l.....	Pump....	Springs..
Mogul, O	8,000	3,800	142	Solid...	36x6	40x5*	Under seat.	4	5.000x5.750	40.00	T-head...	Pairs.....	Opp.....	Hel'l.....	Pump....	Springs..
Mogul, M	12,000	4,700	155	Solid...	36x7	40x7*	Under seat.	4	5.250x5.750	44.10	T-head...	Pairs.....	Opp.....	Hel'l.....	Pump....	Springs..
Mogul, U	12,000	4,750	188	Solid...	36x7	40x7*	Under seat.	4	5.250x5.750	44.10	T-head...	Pairs.....	Opp.....	Hel'l.....	Pump....	Springs..
Monitor, G	1,000	1,050	110	Solid...	34x3	34x3	Under hood.	4	3.500x4.000	19.60	T-head...	Pairs.....	Opp.....	.....	Pump....	Springs...
Monitor, D	2,000	1,650	100	Solid...	34x3½	34x3½	Under seat.	4	3.750x5.000	22.50	T-head...	Pairs.....	Opp.....	.....	Thermo..	Springs...
Moon, A	1,000	1,350	112	Pneu..	33x4	33x4	Under hood.	4	3.500x5.000	19.60	L-head...	Block....	Side.....	Gear.....	Pump....	Rigid....
Moon, B	3,000	1,800	125	Solid...	36x3½	36x4	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Side.....	Gear.....	Pump....	Springs..
Moore, 1½-ton	3,000	1,950	130	Solid...	36x3½	36x4	Under hood.	4	4.125x5.250	27.25	L-head...	Block....	Side.....	.....	Pump....	Springs..
Moore, 2-ton	4,000	2,500	160	Solid...	36x4	36x3½*	Under hood.	4	4.125x5.250	27.25	L-head...	Block....	Side.....	.....	Pump....	Springs..
Moore, 3-ton	6,000	3,150	142	Solid...	36x5	36x4*	Under hood.	4	4.500x5.500	32.40	L-head...	Pairs.....	Side.....	.....	Pump....	Springs..
Moore, 4-ton	8,000	3,900	Opt	Solid...	36x5	36x5*	Under hood.	4	4.750x5.500	36.10	.....	.....	.....	.....	Pump....	.....
Moore, 5-ton	10,000	4,500	173	Solid...	36x6	42x5*	Under hood.	4	5.250x7.000	44.10	T-head...	Pairs.....	Opp.....	.....	Pump....	Springs..
Mora, 24	2,000	1,400	115	Solid...	36x2½	36x3	Under hood.	4	3.375x5.000	18.25	L-head...	Block....	Right....	Gear.....	Thermo..	Trunn'ns.
Moreland, 1500-lb	1,500	1,700	.....	.....	.....	.....	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Moreland, 2-ton	4,000	2,350	120-44	.....	.....	.....	Under seat.	4	4.500x5.500	32.40	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Springs..
Moreland, 5-ton	10,000	4,500	156-92	.....	.....	.....	Under seat.	4	5.250x7.000	44.10	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Motor, 15	2,000	1,925	104	Solid...	36x3½	36x3½	Under seat.	4	3.500x5.000	19.60	L-head...	Block....	Side.....	Gear.....	Thermo..	Springs..
Nelson-LeMoon, D-1	2,000	1,800	Opt	Solid...	37x3	37x4	Under hood.	4	3.750x5.250	22.50	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Rigid....
Nelson-LeMoon, D-2	4,000	2,250	Opt	Solid...	37x4	37x4*	Under hood.	4	4.125x5.250	27.25	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Rigid....
Nelson-LeMoon, D-3	6,000	2,750	Opt	Solid...	37x5	37x5*	Under hood.	4	4.500x5.500	32.40	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Rigid....
Nevada, H**	6,000	3,500	144	Solid...	36x6	36x6	Under seat.	4	4.500x6.750	32.40	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Springs..
New York	.....	2,000	129	.....	.....	.....	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
O. K., A	1,200	800	112	.....	32x3½	32x3½	Under hood.	4	3.500x4.250	19.60	L-head...	Pairs.....	Left.....	Gear.....	Pump....	Springs..
O. K., 1-ton	2,000	800	125	.....	34x3½	34x4	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Overland, 79	800	.....	114	Pneu..	33x4	33x4	Under hood.	4	4.125x4.500	27.25	L-head...	Sep.....	Left.....	Gear.....	Thermo..	Trunn'ns.
Packard, 2-ton	4,000	2,800	120-44	Solid...	34x3½	34x4	Under hood.	4	4.063x5.125	26.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Packard, 3-ton	6,000	3,400	Opt	Solid...	.....	.....	Under hood.	4	4.500x5.500	32.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Packard, 4-ton	8,000	3,550	Opt	Solid...	.....	.....	Under hood.	4	4.500x5.500	32.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Packard, 5-ton	10,000	4,500	144-68	Solid...	.....	.....	Under hood.	4	5.000x5.500	40.00	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Packard, 6-ton	12,000	4,650	120-68	Solid...	.....	.....	Under hood.	4	5,000x5.500	40.00	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs
Palmer-Moyer, 1-ton	2,000	1,600	118	Solid...	34x3½	34x4	Under hood.	4	3.750x5.500	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Cushions.
Palmer-Moyer, 2½-ton	3,000	1,975	130-44	Solid...	34x4	34x5	Under hood.	4	4.125x5.250	27.25	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Palmer-Moore, C	1,600	1,350	102	.....	36x2½	36x3	Under hood.	3	4.000x4.000	.....	2-cycle...	Sep.....	.....	.....	Air.....	.....
Pathfinder, 1-ton	2,000	.....	120	.....	.....	.....	.....	4	4.125x5.250	27.25	L-head...	.....	Side.....	Gear.....	.....	.....
Peerless, 3-ton	6,000	3,700	151-74	Solid...	36x4	40x4	Under hood.	4	4.500x6.500	32.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Peerless, 4-ton	8,000	4,000	151-74	Solid...	36x5	40x5	Under hood.	4	4.500x6.500	32.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Peerless, 5-ton	10,000	4,500	151-74	Solid...	38x6	42x6	Under hood.	4	4.500x6.500	32.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Peerless, 6-ton	12,000	.....	151-74	Solid...	38x7	42x7	Under hood.	4	4.500x6.500	32.40	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Perfex, 18	1,000	875	116	Pneu..	31x3½	31x3½	Under hood.	4	3.375x4.000	18.25	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Rigid....
Pierce-Arrow, X-2	4,000	3,000	150-80	Solid...	36x4	36x4*	Under hood.	4	4.000x5.500	25.60	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Trunn'ns.
Pierce-Arrow, R-5	10,000	4,500	Opt	Solid...	36x5	40x6*	Under hood.	4	4.875x6.000	38.00	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Trunn'ns.
Pope-Hartford, 3-ton	6,000	3,350	138½	Solid...	36x6	36x4*	Seat & hood	4	4.750x5.500	36.10	I-head...	Pairs.....	Head.....	Gear.....	Pump....	Springs..
Pope-Hartford, 5-ton	10,000	4,350	140	Solid...	36x7	42x6*	Seat & hood	4	4.750x5.500	36.10	I-head...	Pairs.....	Head.....	Gear.....	Pump....	Springs..
Progress, A	3,000	.....	.....	Solid...	36x3½	36x5	.....	4	4.125x5.250	27.25	L-head...	Pairs.....	Side.....	Gear.....	Pump....	Springs..
Progress, B	6,000	3,500	.....	Solid...	36x5	36x6	.....	4	4.500x5.500	32.40	L-head...	Pairs.....	Side.....	Gear.....	Pump....	Springs..
Reo, J	4,000	1,650	130-46	Solid...	36x4	36x3*	Under hood.	4	4.000x4.500	25.60	I-head...	Pairs.....	S & H ...	Hel'l.....	Pump....	Rigid....
Rockford, 1500-lb	1,500	1,500	126	Solid...	36x4½	36x4½	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..
Rockford, 2-ton	4,000	2,500	128	Solid...	36x4	36x3½*	Under hood.	4	4.250x5.000	28.90	T-head...	Pairs.....	Opp.....	Gear.....	Pump....	Springs..
Sanford, K	2,000	1,660	106	Solid...	36x3½	36x3½	Under seat.	4	4.000x4.500	25.60	L-head...	Pairs.....	Side.....	Gear.....	Pump....	Springs..
Sanford, L	3,000	1,910	118	Solid...	36x3½	36x4	Under seat.	4	4.000x4.500	25.60	L-head...	Pairs.....	Side.....	Gear.....	Pump....	Springs..
Saurer, 6½-ton	13,000	5,800	.....	.....	.....	.....	Under hood.	4	4.375x5.500	30.63	T-head...	Pairs.....	Opp.....	Chain....	Pump....	Rigid....
S & S, A	1,500	2,000	136	Solid...	36x4½	36x4½	Under hood.	4	4.125x5.250	27.25	L-head...	Block....	Left.....	Gear.....	Pump....	Rigid....
Schacht, 2-ton	4,000	2,650	139	Solid...	38x3½	40x3*	Under hood.	4	4.250x5.500	28.90	L-head...	Block....	Right....	Gear.....	Pump....	Springs..
Selden, J	.....	2,000	.....	.....	.....	.....	Under hood.	4	3.750x5.250	22.50	L-head...	Block....	Left.....	Gear.....	Pump....	Springs..

** Drives on four wheels

ABBREVIATIONS: Tires: Pneu, pneumatic; *, dual tread. Motor Location: Bet Seats, between seats. Cylinders: Sep, separately cast. Valve Location: Opp, opposite; S & H, side and head. Camshaft Drive: Gear, type not known; Hel'l, helical. Cooling: Thermo, thermo-syphon. Radiator Suspension: S & T, springs and trunnions. Ignition: Sing, single; Doub, double; 2-Pt, two-point; Auto, automatic; Gov, governed; Opt, optional. Motor Lubrication: Spl-pres, splash and pressure. Clut h: Exp bd, expanding band; Con bd, contracting band.

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line Commercial Vehicle Chassis in Tabulated Form

IGNITION			Carbureter	Motor Lubrication	TRANSMISSION						RUNNING GEAR				BEARINGS		NAME AND MODEL
						GEARSET			Gear Ratio		SPRINGS		CONTROL				
System	Magneto	Control			Clutch Type	Type	Location	No. Forw'd Speeds	on High	Final Drive	Front	Rear	Location Steering	Location Gear-Shift	Gearset	Rear Axle	
2-Pt...	Bosch.....	Hand....	Stromberg..	Pressure .	Disk...	Sel....	Unit J .	3	6.60-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	.....Martin, A
Doub..	.....	Hand....	.....	Pressure .	Disk...	Sel....	Unit J .	3	8.95-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	.....Martin, E
Doub..	.....	Hand....	.....	Pressure .	Disk...	Sel....	Unit J .	3	9.10-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	.....Martin, L
Dual...	Remy.....	Hand....	Schebler....	Spl-Pres..	Disk...	Sel....	Unit M.	3	2.12-1	Bevel....	½ Ell...	Plat...	Right..	.....	Roll...	Ball ...	.....Menominee, A-3
Dual...	Bosch.....	Hand....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit M.	3	.....	Bevel....	½ Ell...	Plat...	Right..	Center.	Ball ...	Roll...	.....Menominee, B-3
Dur'x .	Bosch.....	Hand....	Stromberg..	Splash...	Disk...	Sel....	Unit M.	3	8.00-1	Bevel....	½ Ell...	Plat...	Right..	Center.	Ball ...	Roll...	.....Menominee, C
Dual...	Bosch.....	Hand....	Stromberg..	Splash...	Disk...	Sel....	Unit J .	3	3.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	.....	Plain ..	..... M.& E 4-ton
Dual...	Remy.....	Fixed....	Own.....	Spl-Pres..	Disk...	Plan...	Unit M.	2	.....	Chain...	Ell....	Ell....	Right..	Right..	Plain ..	Roll...	.....Mercury, P
Sing...	Opt.....	Fixed....	.....	Splash...	Cone ..	Sel....	Unit M.	3	.....	Bevel....	½ Ell...	Ell....	Left...	Center.	Plain ..	Roll...	.....Miller, A
Dual...	Opt.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Unit J .	3	6.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	.....Modern, F
Doub..	Bosch.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Unit J .	3	7.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	.....Modern, G
Dual...	Bosch.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Unit J .	3	9.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	.....Modern, H
Sing...	Eisemann ..	Fixed....	Stromberg..	Splash...	Cone ..	Sel....	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball ...	Roll...	.....Mogul, L
Dual...	Bosch.....	Hand....	Stromberg..	Splash...	Disk...	Sel....	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Mogul, G
Doub..	Mea.....	Hand....	Stromberg..	Splash...	Disk ..	Prog...	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Mogul, O
Doub..	Mea.....	Hand....	Stromberg..	Splash...	Disk...	Prog...	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Mogul, M
Doub..	Mea.....	Hand....	Stromberg..	Splash...	Disk...	Prog...	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Mogul, U
Doub..	Mich.....	Hand....	Marvel.....	Splash...	Cone ..	Sel....	Unit M.	3	8.00-1	Bevel....	½ Ell...	Ell....	Left...	Center.	B & R.	Roll...	.....Monitor, B
Doub..	Bosch.....	Hand....	Rayfield....	Splash...	Disk...	Sel....	Unit M.	3	7.00-1	Bevel....	½ Ell...	Ell....	Left...	Center.	B & R.	Roll...	.....Monitor, D
Dual...	Remy.....	Hand....	Stromberg..	Splash...	Cone ..	Sel....	Unit M.	3	.....	Bevel....	½ Ell...	½ Ell...	Left...	Center.	Ball ...	Ball ...	.....Moon, A
Dual...	Remy.....	Gov.....	Stromberg..	.....	Cone ..	Sel....	Amid..	3	.....	Chain....	½ Ell...	Cross..	Left...	Center.	.....	Ball ...	.....Moon, B
Dual...	Bosch.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Amid..	3	6.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Plain ..	Roll...	.....Moore, 1½-ton
Dual...	Bosch.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Amid..	3	6.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Plain ..	Roll...	.....Moore, 2-ton
Dual...	Bosch.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Amid..	3	8.38-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Plain ..	Roll...	.....Moore, 3-ton
Dual...	Bosch.....	.....	.....	Splash...	Cone ..	Sel....	.....	3	.....	Chain....	½ Ell...	½ Ell...	.....	.....	.....	Roll...	.....Moore, 4-ton
Dual...	Bosch.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Amid..	4	9.82-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Plain ..	Roll...	.....Moore, 5-ton
Sing...	.....	Fixed....	Stromberg..	Splash .	Disk...	Plan...	Amid..	2	6.50-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball ...	Ball ...	.....Mora, 24
.....	West'se....	Auto.....	Schebler....	Splash...	Disk...	Sel....	Unit M.	3	5.10-1	T Worm .	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	.....Moreland, 1500-lb
.....	West'se....	Auto.....	Schebler....	Splash...	Disk...	Sel....	Unit M.	3	7.75-1	T Worm .	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	.....Moreland, 2-ton
.....	West'se....	Auto.....	Schebler....	Spl-Pres..	.....	Sel....	Amid..	4	10.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Moreland, 5-ton
Sing...	U & H.....	Fixed....	Zenith.....	Pressure .	Cone ..	Sel....	Unit J .	3	7.57-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Ball ...	Roll...	.....Natco, 15
Sing...	Bosch.....	Fixed....	Rayfield....	Splash .	Disk ..	Sel....	Unit M.	3	7.50-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	....Nelson-LeMoon, D-1
Dbal...	Bosch.....	Hand....	Rayfield....	Splash .	Disk ..	Sel....	Unit M.	3	8.50-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	....Nelson-LeMoon, D-2
Dual...	Bosch.....	Hand....	Rayfield....	Splash...	Disk...	Sel....	Unit M.	3	9.50-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	....Nelson-LeMoon, D-3
Dual...	Bosch.....	Gov	Holley.....	Spl-Pres..	Cone ..	Sel....	Amid..	3	.....	.....	½ Ell...	Plat...	Right..	Right..	Ball ...	Roll...	.....**Nevada, H
Sing...	Bosch.....	Fixed....	Stromberg..	Spl-Pres..	Cone ..	Sel....	Unit J .	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Roll...	Roll...	.....New York
Sing...	Bosch.....	.....	Opt.....	Splash...	Cone ..	Sel....	Unit M.	3	4.00-1	Bevel....	½ Ell...	.....	Left...	Center.	Plain ..	Roll...	.....O. K., A
Sing...	Bosch.....	.....	Opt.....	Splash...	Cone ..	Sel....	Unit M.	3	8.50-1	Bevel....	½ Ell...	.....	Left...	Center.	Plain ..	Roll...	.....O. K., 1-ton
Dual...	Spld'rf.....	Hand....	Schebler....	Splash...	Cone ..	Sel....	Unit X.	3	.....	Bevel....	½ Ell...	½ Ell...	Right..	Center.	Ball ...	Roll...	.....Overland, 79
Dual...	Eisemann ..	Auto.....	Own.....	Splash .	Disk ..	Prog ..	Unit J .	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Packard, 2-ton
Dual...	Eisemann ..	Auto.....	Own.....	Splash...	Disk ..	Prog ..	Unit J .	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Packard, 3-ton
Dual...	Eisemann ..	Auto.....	Own.....	Splash...	Disk ..	Prog ..	Unit J .	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Packard, 4-ton
Dual...	Eisemann ..	Auto.....	Own.....	Splash...	Disk ..	Prog ..	Unit J .	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Rol ...	.....Packard, 5-ton
Dual...	Eisemann ..	Auto.....	Own.....	Splash...	Disk ..	Prog ..	Unit J .	3	.....	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Roll...	.....Packard, 6-ton
Dual...	Bosch.....	Gov.....	Schebler....	Spl-Pres..	Disk...	Sel....	Unit M.	3	7.00-1	Chain....	½ Ell...	½ Ell...	Right..	Center.	Ball ...	Roll...	.....Palmer-Meyer, 1-ton
Dual...	Bosch.....	Gov.....	Stromberg..	Spl-Pres..	Disk...	Sel....	Unit M.	3	6.25-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	.....Palmer-Meyer, 2½-ton
Sing...	Bosch.....	Fixed....	Own.....	In fuel..	.....	Plan...	Amid..	2	.....	Chain....	½ Ell...	½ Ell...	Right..	Center.	Roll...	Roll...	.....Palmer-Moore, C
Dual...	Eisemann ..	.....	Schebler....	Spl-Pres..	Cone ..	Sel....	.....	3	.....	Bevel....	½ Ell...	.....	.....	.....	.....	.....	.....Pathfinder, 1-ton
Dual ..	Bosch.....	Hand....	Own.....	Splash...	Cone ..	Sel....	Amid..	4	7.47-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	B & R.	Roll...	.....Peerless, 3-ton
Dual..	Bosch.....	Hand....	Own.....	Splash...	Cone ..	Sel....	Amid..	4	8.70-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	B & R.	Roll...	.....Peerless, 4-ton
Dual ..	Bosch.....	Hand....	Own.....	Splash...	Cone ..	Sel....	Amid..	4	10.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	B & R.	Roll...	.....Peerless, 5-ton
Dual..	Bosch.....	Hand....	Own.....	Splash...	Cone ..	Sel....	Amid..	4	10.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	B & R.	Roll...	.....Peerless, 6-ton
Sing ..	Spld'rf.....	Fixed....	Stromberg..	Splash...	Cone ..	Sel....	Amid..	3	4.00-1	Bevel....	Ell....	Ell....	Left...	Center.	B & R.	Ball ...	....Perfet, 1¶
Sing ..	Bosch.....	Fixed....	Own.....	Pressure .	Cone ..	Sel....	Amid..	3	.....	T Worm .	½ Ell...	½ Ell...	Right..	Right..	Ball ...	B & R.	.....Pierce-Arrow, X-2
Doub..	Bosch.....	Hand....	Own.....	Pressure .	Cone ..	Sel....	Amid..	3	.....	T Worm .	½ Ell...	½ Ell...	Right..	Right..	Ball ...	B & R.	.....Pierce-Arrow, R-5
Dual...	.....	Hand....	Own.....	Spl-Pres..	Cone ..	Sel....	Amid..	4	11.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Plain ..	Roll...	.....Pope-Hartford, 3-ton
Dual...	.....	Hand....	Own.....	Spl-Pres..	Cone ..	Sel....	Amid..	4	16.20-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Plain ..	Roll...	.....Pope-Hartford, 5-ton
Dual ..	Opt.....	Hand....	Stromberg.	Spl-Pres .	Cone ..	Sel....	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Right	Right..	Ball ...	Roll...	.....Progress, A
Dual...	Opt.....	Hand....	Stromberg..	Spl-Pres..	Cone ..	Sel....	Amid..	3	.....	Chain....	½ Ell...	½ Ell...	Right	Right..	Ball ...	Roll...	.....Progress, B
Dual...	Nat'l.....	Hand....	Holley.....	Spl-Pres..	Disk...	Sel....	Amid..	3	8.78-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	.....Reo, J
Sing...	Pitt'ld....	Fixed....	Stromberg .	Splash...	Disk...	Sel....	Unit M.	3	5.00-1	Bevel....	½ Ell...	½ Ell...	.....	Center.	Ball ...	Roll...	.....Rockford, 1500-lb
Sing...	Pitt'ld....	Fixed....	Stromberg..	Pressure .	Cone ..	Sel....	Unit J .	3	7.00-1	Chain....	½ Ell...	½ Ell...	Left...	Center.	Roll...	Roll...	.....Rockford, 2-ton
Dual...	Remy.....	Gov.....	Schebler....	Splash...	Disk...	Sel....	Unit M.	3	9.00-1	Chain....	½ Ell...	Plat...	Right..	Right..	Ball ...	Roll	.....Sanford, K
Dual...	Remy.....	Gov.....	Schebler....	Splash...	Disk...	Sel....	Unit M.	3	9.00-1	Chain....	½ Ell...	Plat...	Right..	Right..	Ball ...	Roll	.....Sanford, L
Sing...	Eisemann ..	Hand....	Own.....	Pressure .	Cone	Sel .	Amid..	4	13.50-1	Chain....	½ Ell...	½ Ell...	Right..	Right..	Ball ...	Ball ...	.....Saurer, 6½-ton
Dual...	Bosch.....	Hand....	Rayfield. .	Splash .	Disk	Sel	Unit M.	3	4.50-1	Bevel....	½ Ell...	½ Ell...	Right..	Center.	Ball ...	Ball ...	.....S & S. A.
Doub..	.....	Hand....	Schebler....	Splash...	Cone .	Sel .	Amid..	3	.....	T Worm .	½ Ell...	¼ Plat .	Left...	Center.	.....	Roll...	.....Schacht, 2-ton
Dual...	Briggs.....	Hand....	Stromberg..	Pressure	Disk.	Sel..	Unit M.	3	7.82-1	Chain....	½ Ell...	½ Ell.	Left...	Center.	Ball ...	.....	.....Selden, J

ABBREVIATIONS:—Gearset: Sel, selective; Prog, progressive; Plan, planetary; Fric, friction; Ind C, individual clutch. Gearset Location: Amid, amidships; Unit M, unit with the motor; Unit J, unit with the jackshaft; Unit X, unit with the rear axle. Final Drive: Int G, internal gear; Bevel, shaft with bevel; T Worm, shaft with top worm; Chain, by chain to the rear wheels. Springs: ½Ell, semi-elliptic; Ell elliptic; ¼Ell, ¾ elliptic; Plat, platform. Bearings: Roll, roller; B & R, ball and roller; Opt, optional.

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Specifications of Three Hundred and Twelve Gaso

NAME AND MODEL	Load Capacity, Pounds	Chassis Price	Wheel-base, Inches	TIRES			Motor Location	No. Cylinders	Bore and Stroke, Inches	S. A. E. H. P	CYLINDERS		Valve Location	Camshaft Drive	COOLING	
				Kind	Front	Rear					Shape	How Cast			Circulation	Radiator Suspension
Service, J	1,500	1,350	115	Solid	36x3	36x3	Under hood	4	3.750x5.500	22.50	L-head	Block	Right	Gear	Pump	Springs
Service, K	2,000	1,475	115	Solid	34x3	34x3½	Under hood	4	3.750x5.500	22.50	L-head	Block	Right	Gear	Pump	Springs
Service, M	3,000	1,675	130	Solid	34x3½	34x4	Under hood	4	4.125x5.500	27.25	L-head	Block	Right	Gear	Pump	Springs
Service, Q	3,000	1,800	145	Solid	36x3½	36x5	Under hood	4	4.125x5.500	27.25	L-head	Block	Right	Gear	Pump	Springs
Service, P	4,000	2,375	150	Solid	36x4	40x3½*	Under hood	4	4.125x5.500	27.25	L-head	Block	Right	Gear	Pump	Springs
Service, H	6,000	2,975	171	Solid	36x5	40x5*	Under hood	4	4.250x5.500	28.90	L-head	Block	Right	Gear	Pump	Springs
Siebert, H	1,500	1,250	118	Solid	36x3	36x3½	Under hood	4	3.750x4.500	22.50	L-head	Block	Right	Hel'l	Thermo	Springs
Signal, ½-ton	1,500	1,350	115	Solid	34x3	36x3½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Rigid
Speedwell, Y	4,000	2,850	115	Solid	36x4	36x3½*	Under seat	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Speedwell, Z	8,000	3,750	115	Solid	36x5	36x5*	Under seat	4	5.000x5.000	40.00	L-head	Pairs	Left	Gear	Pump	Springs
Speedwell, X	12,000	4,400	139	Solid	36x6	36x6*	Under seat	4	5.000x5.000	40.00	L-head	Pairs	Left	Gear	Pump	Springs
Standard, 3-ton	6,000	2,750	Opt	Solid	36x5	36x5*	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Right	Gear	Pump	Cushions
Star, B	2,000	1,500	120	Solid	34x3	34x3½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Star, A	3,000	1,800	130	Solid	34x3½	36x5	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Stearns, 5-ton	10,000	3,800	144	Solid	34x5	38x5*	Under hood	4	4.750x6.000	36.10	L-head	Sep	Right	Chain	Pump	Springs
Stearns, 5-ton	10,000	3,900	180	Solid	34x5	38x5*	Under hood	4	4.750x6.000	36.10	L-head	Sep	Right	Chain	Pump	Springs
Stegeman, ½-ton	1,500	1,600	125	Pneu	34x4½	34x4½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Hel'l	Pump	Cradle
Stegeman, 1-ton	2,000	2,250	130-50	Solid	34x3	36x4	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Hel'l	Pump	Cradle
Stegeman, 2-ton	4,000	2,950	142-62	Solid	34x3½	36x3½*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Hel'l	Pump	Cradle
Stegeman, 3-ton	6,000	3,500	155	Solid	36x4	40x4*	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Hel'l	Pump	Cradle
Stegeman, 4-ton	8,000	3,950	155-75	Solid	36x5	40x5*	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Hel'l	Pump	Cradle
Sternberg, 2-ton	4,000	2,800	116-60	Solid	34x4	36x3½*	Under seat	4	4.250x6.750	28.90	L-head	Pairs	Left	Gear	Pump	Springs
Sternberg, 2½-ton	5,000	3,250	148	Solid	36x4	38x4*	Under hood	4	4.250x5.750	28.90	L-head	Pairs	Left	Gear	Pump	Rigid
Sternberg, 3-ton	6,000	3,400	130-60	Solid	36x5	40x4*	Under seat	4	4.250x6.750	28.90	L-head	Pairs	Left	Gear	Pump	Springs
Sternberg, 4-ton	8,000		144	Solid	36x5	40x5*	Under seat	4	4.500x6.750	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Sternberg, 5-ton	10,000	4,500	144	Solid	38x6	42x6*	Under seat	4	4.500x6.750	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Sternberg, 6-ton	12,000	4,750	144	Solid	38x6	42x6*	Under seat	4	4.750x6.750	36.10	L-head	Pairs	Left	Gear	Pump	Springs
Sternberg, 7-ton	14,000	5,000	144	Solid	38x7	42x7*	Under seat	4	4.750x6.750	36.10	L-head	Pairs	Left	Gear	Pump	Springs
Stewart, ½-ton	1,500	1,500	125	Pneu	34x4½	34x4½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Studebaker, ½-ton	1,500	1,050	106½		34x4½	34x4½	Under hood	4	3.500x5.000	19.60	L-head	Block	Left	Hel'l	Pump	Rigid
Sullivan, 51	2,000	1,050	120	Solid	36x2½	36x3	Under hood	2	4.500x4.500	16.20	I-head	Sep	Head	Gear	Thermo	Rigid
Tiffin, A	1,200	1,600	112	Opt	34x3	34x3	Under hood	4	3.750x4.500	22.50	L-head	Block	Right	Gear	Thermo	Springs
Tiffin, G	2,000	2,000	128	Solid	36x3½	36x4	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Springs
Tiffin, M	4,000	2,600	140	Solid	36x4	38x3½*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Trabold, ½-ton	1,500	975	105	Solid	36x2½	38x3	Under hood	4	3.500x5.000	19.60	L-head	Block	Side	Gear	Thermo	Trunn'ns
Trabold, C	2,000	1,475	128	Solid	36x3	38x4	Under hood	4	4.125x5.250	27.25	L-head	Block	Right	Gear	Pump	Trunn'ns
Trabold, 1½-ton	3,000		130	Solid	36x3½	38x4	Under hood	4	4.125x5.250	27.25	L-head	Block	Right	Gear	Pump	Trunn'ns
Trabold, 2-ton	4,000	2,450	130	Solid	36x4	38x4*	Under seat	4	4.250x5.500	28.90	L-head	Block	Right		Pump	Springs
Transit, F	4,000	2,850	144	Solid	36x4	36x4*	Under seat	4	4.125x5.250	27.25	L-head	Block	Left	Gear	Pump	Springs
Transit, T	7,000	3,500	144	Solid	36x5*	36x5*	Under seat	4	4.500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Transit, V	10,000	4,500	144	Solid	36x6	40x6*	Under seat	4	4.500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Twin City, 2-ton	4,000	1,350	104	Solid	34x3	36x3½	Under seat	2	5.000x5.000	20.00	L-head	Sep	Head	Gear	Thermo	Springs
Universal, C	3,000	1,950	130	Solid	34x3½	34x5	Under hood	4	3.750x5.250	22.50	L-head	Block	Right		Pump	Springs
Universal, A	6,000	3,400	132-50	Solid	36x5	36x4*	Under seat	4	4.000x5.500	25.60	T-head	Pairs	Opp		Pump	Springs
U. S., E	4,000	2,800	132	Solid	35x3½	37x3½*	Under hood	4	4.125x5.250	27.25	L-head	Block	Left	Hel'l	Pump	Springs
U. S., D	6,000	3,500	144	Solid	35x5	37x5*	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Hel'l	Pump	Springs
Veerac, B	2,000	1,100	86	Solid			Under floor	2	4.000x4.000		2-cycle	Sep			Air	
Velie, Y	4,000	2,850	148-72	Solid	36x4	36x4*	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Velie, Z	6,000	3,350	148-72	Solid			Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Vulcan, 2-ton	4,000	2,750	144	Solid	36x4	34x3½*	Under hood	4	4.375x5.500	30.63	L-head	Pairs	Left	Gear	Thermo	Trunn'ns
Vulcan, 3-ton	6,000	3,250	150	Solid	36x5	34x4*	Under hood	4	4.375x5.500	30.63	L-head	Pairs	Left	Gear	Thermo	Trunn'ns
Vulcan, 4-ton	8,000	4,000	162	Solid	36x6	36x5*	Under hood	4	4.375x5.500	30.63	L-head	Pairs	Left	Gear	Thermo	Trunn'ns
Vulcan, 4½-ton	9,000	4,250	162	Solid	36x6	36x5*	Under hood	4	4.375x5.500	30.63	L-head	Pairs	Left	Gear	Thermo	Trunn'ns
Vulcan, 5-ton	10,000	4,500	162	Solid	36x6	36x6*	Under hood	4	4.375x5.500	30.63	L-head	Pairs	Left	Gear	Thermo	Trunn'ns
Vulcan, 7-ton	14,000	6,000	156	Solid	36x7	42x7*	Under hood	4	4.750x5.500	36.10	L-head	Pairs	Left	Gear	Thermo	Trunn'ns
Wade, Delivery	800	400	72	Solid	36x2	36x2	Under body	1	4.500x6.000	8.10	L-head		Left	Gear	Air	
Wagenhals	800		80		30x3	34x4½		4	3.500x3.375	19.60	L-head	Pairs	Right	Gear	Pump	Rigid
Ware, A		3,000	Opt				Under hood	4	4.250x6.750	28.90	L-head	Pairs	Left	Gear	Pump	Trunn'ns
White, GBBE	1,500	2,100	133½	Pneu	34x4½	34x4½	Under hood	4	3.750x5.125	22.50	L-head	Block	Right	Hel'l	Pump	Springs
White, TBC	3,000	3,000	145½	Pneu	36x4½	36x4*	Under hood	4	3.750x5.125	22.50	L-head	Block	Right	Hel'l	Pump	Springs
White, GTA	6,000	3,700	163	Solid	36x5	40x4*	Under hood	4	3.75hx5.125	22.50	L-head	Block	Right	Hel'l	Pump	Springs
White, TC	10,000	4,500	165	Solid	36x5	40x6*	Under hood	4	4.250x5.750	28.90	L-head	Block	Right	Hel'l	Pump	Springs
Wichita, A	2,000	1,650	110	Solid	34x3	34x4	Under hood	4	3.250x5.000	16.90	L-head	Block	Left	Gear	Thermo	Springs
Wichita, B	4,000	2,100	118	Solid	34x3½	34x3*	Under hood	4	3.500x5.000	19.60	L-head	Block	Left	Gear	Thermo	Springs
Wichita, H	7,000	3,250	162	Solid	36x5	36x5*	Under hood	4	4.250x6.750	28.90	L-head	Pairs	Left	Gear	Pump	Springs
Wilcox, L	2,000		124					4	4.125x5.250	27.25						
Wilcox, N	4,000		118					4	4.250x4.500	28.90						
Wilcox, JA	6,000		128					4	4.250x5.000	28.90						
Willys, Utility 65	1,500	1,350	120		34x4½	36x3½	Under hood	4	4.125x4.500	27.25	L-head	Sep	Left	Gear	Thermo	Springs
Willet, M	1,500	1,650	125	Pneu	34x4½	34x4½	Under hood	4	3.750x5.250	22.50	L-head	Block	Left	Gear	Pump	Rigid
Willet, L	6,000	2,800	144-68	Solid	36x4	36x4*f	Under hood	4	4.500x5.500	32.40	L-head	Pairs	Left	Gear	Pump	Springs
Zimmerman							Under hood	2	4.750x4.000	18.00	I-head	Sep	S & H	Gear	Air	

** Drives on four wheels.

ABBREVIATIONS:—Tires: Pneu, pneumatic; *, dual tread. Motor Location: Bet Seats, between seats. Cylinders: Sep, separately cast. Valve Location: Opp, opposite; S & H, side and head. Camshaft Drive: Gear, type not known; Hel'l, helical. Cooling: Thermo, thermo-syphon. Radiator Suspension: S & T, springs and trunnions. Ignition: Sing, single; Doub, double; 2-Pt, two point: Auto, automatic; Gov, governed; Opt, optional. Motor Lubrication: Spl-pres, splash and pressure. Clutch: Exp bd, expanding band; Con bd, contracting band.

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line Commercial Vehicle Chassis in Tabulated Form

IGNITION			Carburetor	Motor Lubrication	TRANSMISSION						RUNNING GEAR				BEARINGS		NAME AND MODEL
						GEARSET					SPRINGS		CONTROL				
									Gear Ratio on High				Location				
System	Magneto	Control			Clutch Type	Type	Location	No. For'd Speeds		Final Drive	Front	Rear	Steering	Gear-Shift	Gearset	Rear Axle	
Dual	Briggs	Hand	Stromberg	Splash		Fric				Chain	½ Ell	½ Ell	Left	Left		Ball	Service, J
Dual	Briggs	Hand	Stromberg	Splash		Fric				Chain	½ Ell	½ Ell	Left	Left		Ball	Service, K
Dual	Briggs	Hand	Stromberg	Splash		Fric				Chain	½ Ell	½ Ell	Left	Left		Roll	Service, M
Sing	Eisemann	Fixed	Stromberg	Splash	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Center		Roll	Service, O
Sing	Eisemann	Hand	Stromberg	Splash	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Center		Roll	Service, P
Sing	Eisemann	Fixed	Stromberg	Splash	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Center		Roll	Service, H
Sing	Mea	Hand	Carter	Splash	Cone	Sel	Unit J	3		Chain	½ Ell	Ell	Left	Center	Ball	Ball	Siebert, H
Sing	Eisemann	Fixed	Stromberg	Splash	Cone	Sel	Unit J	3	7.50-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Signal, ½-ton
Sing	Eisemann	Auto	Schebler	Splash	Cone	Sel	Amid	3	9.36-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	Speedwell, Y
Sing	Eisemann	Auto	Schebler	Splash	Cone	Sel	Amid	3	10.28-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	Speedwell, Z
Sing	Eisemann	Auto	Schebler	Splash	Cone	Sel	Amid	3	10.28-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	Speedwell, X
Sing	Eisemann	Auto	Stromberg	Spl-Pres	Disk	Sel	Unit M	3	8.95-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Standard, 3-ton
Opt	Opt	Hand	Opt	Splash	Disk	Sel	Unit M	3	8.50-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	Star, B
Opt	Opt	Hand	Opt	Splash	Cone	Sel	Unit J	3	8.50-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Star, A
Dual	Bosch	Hand	Stromberg	Spl-Pres	Disk	Sel	Amid	4	9.00-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Stearns, 5-ton
Dual	Bosch	Hand	Stromberg	Spl-Pres	Disk	Sel	Amid	4	9.00-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Stearns, 5-ton
Sing	Eisemann	Gov	Carter	Spl-Pres	Disk	Sel	Unit M	3		Bevel	½ Ell	½ Ell	Left	Center	Ball	Ball	Stegeman, ½-ton
Sing	Eisemann	Gov	Carter	Spl-Pres	Disk	Sel	Unit M	3		Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Stegeman, 1-ton
Sing	Eisemann	Gov	Carter	Spl-Pres	Disk	Sel	Unit M	3		Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Stegeman, 2-ton
Sing	Eisemann	Gov	Carter	Spl-Pres	Disk	Sel	Unit M	3		Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Stegeman, 3-ton
Sing	Eisemann	Gov	Carter	Spl-Pres	Disk	Sel	Unit M	3		Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Stegeman, 4-ton
Dual	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	5.77-1	Chain	½ Ell	Flat	Right	Right	Ball	Roll	Sternberg, 2-ton
Sing	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	7.75-1	T Worm	½ Ell	½ Ell	Left	Center	Ball	Roll	Sternberg, 2½-ton
Dual	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	7.90-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Sternberg, 3-ton
Dual	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	10.40-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Sternberg, 4-ton
Dual	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	11.22-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Sternberg, 5-ton
Dual	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	9.84-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Sternberg, 6-ton
Dual	Eisemann	Auto	Holley	Splash	Disk	Sel	Amid	3	11.22-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Sternberg, 7-ton
Sing	Bosch	Fixed	Mayer	Spl-Pres	Disk	Sel	Amid	3		Bevel	½ Ell	½ Ell	Left	Center	Roll	Roll	Stewart, ½-ton
Dual	Remy	Hand	Schebler	Spl-Pres	Cone	Sel	Unit X	3	4.60-1	Bevel	½ Ell	Ell	Left	Center	Roll	Roll	Studebaker, ½-ton
Sing	Bosch	Fixed	Schebler	Spl-Pres	Disk	Plan	Unit J	2		Chain	Ell	Ell	Left	Center	Ball	Ball	Sullivan, S1
Sing	Bosch	Hand	Breese	Splash	Cone	Sel	Unit J	3	6.67-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Ball	Tiffin, A
Sing	Bosch	Hand	Schebler	Splash	Cone	Sel	Unit J	3	8.00-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Tiffin, G
Sing	Bosch	Hand	Schebler	Splash	Cone	Sel	Unit J	3	10.00-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Tiffin, M
Dual	Briggs	Hand	Stromberg	Spl-Pres	Disk	Plan	Unit J	2	7.50-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	Trabold, ½-ton
Dual	Briggs	Hand	Stromberg	Spl-Pres	Disk	Sel	Unit M	3	8.00-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Trabold, C
Dual	Briggs	Hand	Stromberg	Spl-Pres	Cone	Sel	Unit J	3	8.00-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	Trabold, 1½-ton
Dual	Briggs	Hand	Stromberg	Spl-Pres	Disk	Sel	Unit M	3	8.50-1	T Worm	½ Ell	½ Ell	Left	Center	Roll	Roll	Trabold, 2-ton
Sing	Mea	Hand	Rayfield	Splash	Disk	Sel	Unit J	3	9.00-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Transit, F
Sing	Mea	Hand	Rayfield	Splash	Disk	Sel	Unit J	3	10.74-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Transit, T
Sing	Mea	Hand	Rayfield	Splash	Disk	Sel	Unit J	3	13.00-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Transit, V
Sing	K W	Hand	Schebler	Spl-Pres	Disk	Plan	Unit J	2	10.00-1	Chain	½ Ell	½ Ell	Right	Right	Roll	Ball	Twin City, 2-ton
Dual	Eisemann	Hand	Zephyr	Splash	Disk	Sel	Unit M	3		T Worm	½ Ell	½ Ell	Left	Center	B & P	Roll	Universal, C
Dual	Eisemann	Hand	Zephyr	Splash	Disk	Sel	Unit J	3		Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Universal, A
Dual	Bosch	Hand	Stromberg	Spl-Pres	Cone	Ind C	Amid	3	8.00-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	U. S., E
Dual	Bosch	Hand	Stromberg	Spl-Pres	Cone	Ind C	Amid	3	7.80-1	Chain	½ Ell	½ Ell	Left	Center	Ball	Roll	U. S., D
Doub	Opt	Hand	Krice	In fuel	Disk	Plan	Amid	2	6.20-1	Chain	½ Ell	Ell	Left	Left	Ball	Ball	Veerac, B
Dual	Bosch	Fixed	Stromberg	Splash	Disk	Sel	Amid	3		Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Velie, Y
Dual	Bosch	Fixed	Stromberg	Splash	Disk	Sel	Amid	3		Chain	½ Ell	½ Ell	Right	Right	Roll	Roll	Velie, Z
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	7.90-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Vulcan, 2-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	7.90-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Vulcan, 3-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	7.90-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Vulcan, 4-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	7.90-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Vulcan, 4½-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	3	7.90-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Vulcan, 5-ton
Dual	Bosch	Hand	Stromberg	Splash	Cone	Sel	Amid	4	11.40-1	Chain	½ Ell	½ Ell	Right	Right	Ball	Roll	Vulcan, 7-ton
Sing	Wyco	Hand	Schebler	Splash	Disk	Sel	Unit J	2	5.00-1	Chain	Ell	Ell	Right	Right	Plain	Plain	Wade, Delivery
Dual	Spld'rf	Hand	Marvel	Splash	Cone	Plan	Unit M	2	6.00-1	Chain	½ Ell	½ Ell	Center	Pedal		Roll	Wagenhals
Sing	K W	Hand	Holley	Spl-Pres	Disk	Sel	Amid	3		Bevel	Ell		Right	Right	Roll	Roll	Ware, A
Sing	Bosch	Hand	Own	Spl-Pres	Cone	Sel	Amid	4		Bevel	½ Ell	½ Ell	Left	Center	Ball	Ball	White, GBBE
Sing	Bosch	Hand	Own	Spl-Pres	Cone	Sel	Amid	4		Bevel	½ Ell	½ Ell	Left	Center	Ball	Ball	White, TBC
Sing	Bosch	Hand	Own	Spl-Pres	Cone	Sel	Amid	4		Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	White, GTA
Sing	Bosch	Hand	Own	Spl-Pres	Cone	Sel	Amid	4		Chain	½ Ell	½ Ell	Left	Center	Ball	Ball	White, TC
Opt	Opt	Hand	Opt	Spl-Pres	Cone	Sel	Unit J	3	7.32-1	Chain	½ Ell	½ Ell	Right	Center	Roll	Ball	Wichita, A
Opt	Opt	Hand	Opt	Spl-Pres	Cone	Sel	Unit J	3	8.25-1	Chain	½ Ell	½ Ell	Right	Center	Roll	Ball	Wichita, B
Dual	Bosch	Hand	Opt	Spl-Pres	Cone	Sel	Unit J	3	9.39-1	Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Wichita, H
	Mea			Splash	Cone	Sel		3			½ Ell	½ Ell	Right	Center	Roll	Roll	Wilcox, L
Dual	Bosch			Splash	Cone	Sel		3			Ell	Flat			Roll	Roll	Wilcox, N
Dual	Bosch			Splash	Cone	Sel		3			Ell	Flat			Roll		Wilcox, JA
Dual	Spld'rf	Hand	Schebler	Splash	Cone	Sel	Amid	3	6.62-1	Chain	½ Ell	½ Ell	Right	Center	Ball	Roll	Willys Utility, 65
Sing	Eisemann	Auto	Zenith	Spl-Pres	Cone	Sel	Amid	3		Bevel	½ Ell	½ Ell	Left	Center	Roll	Roll	Willet, M
Sing	Eisemann	Auto	Zenith	Spl-Pres	Cone	Sel	Amid	3		Chain	½ Ell	½ Ell	Left	Center	Roll	Roll	Willet, L
Sing	At Kent	Hand	Schebler	Spl-Pres		Plan	Amid	2	2.00-1	Chain	½ Ell	Ell	Right	Right	Plain	Ball	Zimmerman

ABBREVIATIONS:—Gearset: Sel, selective; Prog, progressive; Plan, planetary; Fric, friction; Ind C, individual clutch. **Gearset Location:** Amid, amidships; Unit M, unit with the motor; Unit J, unit with the jackshaft; Unit X, unit with the rear axle. **Final Drive:** Int G, internal gear; Bevel, shaft with bevel; T Worm, shaft with top worm; Chain, by chain to the rear wheels. **Springs:** ½ Ell, semi-elliptic; Ell, elliptic; ¾ Ell, ¾ elliptic; Plat, platform. **Bearings:** Roll, roller; B & R, ball and roller; Opt, optional.

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CHASSIS AND BODY EQUIPMENT DATA.

The Types of Bodies Supplied as Stock by Manufacturers Designated by Models, and the Available Loading Space of Each, with Factory Prices.

TO THE agent who is seeking to interest a business man in the purchase of a mechanical transport, information relative to the dimensions of the body equipment regularly supplied by the manufacturer is of material importance. In many instances it will be found that the body installation is the one deciding factor in making the sale.

Of course, it is well known that it is possible to secure special designs in many instances, but the accompanying table is presented as an authentic guide to the standard equipment supplied by the various makers. In some cases it will be found that the manufacturer offers an option, the inference being, in the absence of definite information to the contrary, that the builder is prepared to meet the requirements of the purchaser upon the presentation of the specifications desired.

In view of the importance of the body equipment in meeting the needs of the individual business, carriage makers and many of those connected with the automobile industry, as garagemen and repair shop proprietors, have found it advantageous to supply what might be regarded as custom made designs. In the event that the prospective purchaser may be considering an installation of this type, the agent or the body maker will find the information contained in this table and that on the preceding pages of inestimable value, as indicating the chassis dimensions and those of the standard bodies produced by the chassis manufacturer.

The arrangement of the tables may be commented upon, as being with a view to presenting the greatest amount of information in a little space. It will be found that the machines are not only classified alphabetically, but according to capacity, and the agent or prospective purchaser should have little difficulty in obtaining the desired data without loss of time. Full opportunity also is afforded for making comparison of all the vehicles produced in this country in a particular class. Chassis prices and the prices of standard bodies are included, thus presenting a complete compendium of reliable statistics concerning American commercial cars, insofar as it is possible to obtain this information.

TRUCKS UNDER 1-TON CAPACITY

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Atterbury, A	1,500	.....	Optional	.....	3′ 6″	Opt.	Opt.
Bauer, A	1 000	$1,000	Open Ex	$1,150	3′ 7″	1′ 6″	6′
Bauer, B	1,500	1,000	Open Ex	1,250	3′ 7″	1′ 6″	7′
Bauer, C	1,000	1,000	Inclosed	1,250	3′ 7″	1′ 6″	6′
Bauer, D	1,500	1,000	Inclosed	1,350	3′ 7″	1′ 6″	6′
Bessemer, C	1,000	1,250	Optional	.....	Opt.	Opt.	Opt
Best, A	1,000	750	Open Ex	800	3′ 6″	2′ 7″	6′
Best, C	1,000	750	Panel	875	3′ 6″	2′ 7″	6′
Best, C	1,600	1,370	Open Ex	1,450	3′ 9″	2′ 9″	7′ 3″
Best, C	1,600	1,370	Panel	1,550	3′ 9″	2′ 9″	7′ 3″
Brown, ¾ ton	1,500	1,650	Optional	.....	3′ 8″	4′ 8″	7′ 6″
Buckeye, VI	800	900	Covered	950	3′ 4″	4′ 4″	5′ 6″
Buckeye, VII	1,500	1,125	Optional	1,200	3′ 8″	....	6′
Buick, 3	1,000	1,000	Open Ex	1,100	3′ 7″	Opt	5′ 2½″
Buick, 3	1,000	1,000	Stake	1,150	3′ 7″	Opt.	5′ 2½″
Buick, 3	1,000	1,000	Screen	1,200	3′ 7″	Opt.	5′ 2½″
Buick, 3	1,000	1,000	Panel	1,250	3′ 7″	Opt.	5′ 2½″
Buick, 4	1,500	1,125	Open Ex	1,250	3′ 7″	Opt.	8′ 2″
Buick, 4	1,500	1,125	Stake	1,300	3′ 7″	Opt.	8′ 2″
Buick, 4	1,500	1,125	Screen	1,350	3′ 7″	Opt.	8′ 2″
Butler, 1914	1,500	1,650	Express	1,775	4′	....	8′ 8″
Chase, 1,000-lb	1,000	855	Optional	900	3′ 8½″	10″	10′
Commerce, 1,000-lb	1,000	875	Panel	.....	3′ 5″	4′ 4″	5′ 4″
Dart, 750-lb	750	.....	.....	800	....	....	....
Dart, B	1,500	1,300	Express	1,300	3′10″	1′	....
Dispatch, 1914	1,200	825	Open	850	3′ 4″	....	6′
Dispatch, 1914	1,200	825	Panel	900	3′ 4″	....	6′
Dorris, ½-ton	1,500	2,100	Optional	.....	Opt.	Opt.	Opt.
Fargo, E	1,500	800	Express	900	3′ 9″	....	6′ 6″
Gabriel, K	.....	1,000	Optional	.....	Opt.	Opt.	Opt.
Geneva, 2	1,100	1,250	Panel	1,350	3′ 9″	4′ 7″	4′10″
Geneva, 2	1,200	1,250	Open Ex	1,300	3′ 9″	....	5′ 3″
Hupmobile, 32	800	.....	Inclosed	1,075	3′ 4″	4′ 8″	4′ 4″
International, MW	1,000	.....	Optional	.....	3′ 6″	11″	6′ 4″

TRUCKS UNDER 1-TON CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
International, MA	1,000	.....	Optional	.....	3′ 6″	11″	6′ 4″
Jeffery, 1514	1,500	.....	Optional	.....	Opt.	Opt.	Opt.
Kearns, A	1,500	$850	Open Ex	$1,175	3′ 6″	1′ 8″	6′
Kearns, A	1,500	850	Panel	1,200	3′ 4″	5′	5′
Kisselkar	1,500	1,500	Express	1,625	3′ 8″	...	7′
Kosmath, 1914	1,000	850	Optional	900	3′ 8″	Opt.	5′ 7″
Krebs, 3	1,000	950	Optional	.....	3′ 6″	4′ 8″	5′ 7″
Krebs, DB	1,500	1,425	Screen	1,600	3′10″	4′10″	6′10″
Krebs, DB	1,500	1,425	Panel	.....	3′10″	5′	6′ 8″
Landshaft, C	1,500	1,000	Express	1 075	3′ 7″	....	7′ 3″
Light, 800-lb	800	.....	.....	.....	3′ 8″	2′ 2″	1500
Lippard-Stewart, CI	500	1,650	Optional	.....	Opt.	Opt.	Opt.
Macarr, A	1,500	1,650	Express	1,825	3′ 7″	5′	7′
Marmon, Del	1,500	2,500	Optional	.....	2′10″	.....	4′ 4″
Menominee, A-3	1,500	1,125	Express	200	3′ 6″	.....	6′ 6″
Menominee, A-3	1,500	1,125	Stake	200	5′	.....	7′
Mercury, P	1,000	.....	Open Ex	750	3′ 2″	10″	6′
Mercury, P	1,000	.....	Canvas Pan	850	3′ 2″	4′ 6″	6′
Mercury, P	1,000	.....	Wood Pan	870	3′ 2″	4′ 6″	6′
Mercury, P	1,000	.....	Fore Door	900	3′ 2″	4′ 6″	6′
Miller, A	1,000	800	Optional	.....	3′ 8″	4′ 6″	5′ 7′
Modern, F	1,500	1,500	Optional	.....	Opt.	Opt.	Opt.
Monitor, G	1,000	1,050	Express	1,050	3′ 6″	.....	6′ 8″
Moon, A	1,000	1,350	Optional	1,450	4′	.....	6′
Moreland, ¾-ton	1,500	1,700	Optional	.....	Opt.	Opt.	Opt.
O. K., A	1,200	800	Optional	850	4′ 8″	5′10″	11′ 8″
Overland, 79	800	.....	Express	900	3′ 6″	.....	5′ 1″
Overland, 79	800	.....	Panel	950	2′ 8″	4′ 4″	5′ 4″
Palmer-Moore, C	1,600	1,350	Optional	.....	3′ 8½″	.....	6′ 8″
Perfex 18	1,000	875	Optional	.....	3′ 6″	.....	5′ 6″

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TRUCKS UNDER 1-TON CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Rockford, ½-ton	1,500	$1,500	Optional		Opt.	Opt.	Opt.
Service, J	1,500	1,350	Optional		Opt.	Opt.	Opt.
Sievert, H	1,500	1,250	Optional	$1,350	3′ 8″	1′ 5″	7′
Signal, ½-ton	1,500	1 350	Optional	1,450	3′10″		8′
Signal, ½-ton	1,500	1,350	Open Pan	1,525	3′10″	4′ 6″	8′
Signal, ½-ton	1,500	1,350	Inclosed Pan	1,550	3′10″	4′ 6″	8′
Signal, ½-ton	1,500	1,350	Express	1,500	3′10″	4′ 6″	8′
Stegeman, ½-ton	1,500	1,600	Optional		Opt.	Opt.	8′
Stewart, ½-ton	1,500	1,500	Panel	1,650	3′ 8″	5′	7′
Stewart, ½-ton	1,500	1,500	Top Ex	1,625	3′ 8″	5′	7′
Stewart, ½-ton	1,500	1,500	Open Ex	1,625	3′ 8″		
Stewart, ½-ton	1,500	1,500	Screen	1,650	4′ 8″	5′	7′
Stewart, ½-ton	1,500	1,500	Stake	1,625	4′ 8″		7′
Studebaker, Del	1,500	1,050	Panel	1,150	3′ 5½″		5′11″
Studebaker, Del	1,500	1,050	Express	1,150	3′ 7″		6′ 1″
Tiffin, A	1,200	1,600	Stake		5′		9′ 6″
Tiffin, A	1,200	1,600	Express		4′ 8″	4′	9′
Tiffin, A	1,200	1,600	Furniture		5′	4′ 8″	9′ 6″
Trabold, ½-ton	1,500	975	Express	1,075			8′
Wade, Del	800	400	Optional	425	3′		8′
Wagenhals	800		Optional	690	3′ 6″	2′ 6″	5′10″
White, GBBE	1,500	2,100	Optional	2,250	3′ 7″	5′	6′10″
Willys-Utility, 65	1,500	1,350	Express	1,400	3′10″	5′	8′
Willys-Utility, 65	1,500	1,350	Stake		3′10″	3′	8′
Willys-Utility, 65	1,500	1,350	Screen		3′10″	5′	8′
Willys-Utility, 65	1,500	1,350	Inclosed		3′10″	5′	8′
Willys-Utility, 65	1,500	1,350	Flat Top		3′10″	5′	8′
Willet, M	1,500	1,650	Optional		3′ 4″		7′ 4″
Zimmerman							

TRUCKS OF 1 TO 2 TONS CAPACITY

Adams, A	2,000	$1,850	Flare Board	$2,215	3′10″	1′ 2″	9′
Adams, A	2,000	1,850	Flare Board	2,283	4′ 6″	1′ 4″	11′
Adams, A	2,000	1,850	Stake	2,218	3′10″	3′ 4″	9′
Adams, A	2,000	1,850	Stake	2,238	4′ 6″	3′ 4″	11′
Adams, D	3,000	2,300	Flare Board	2,443	4′ 2″	1′ 2″	11′
Admiral, C	3,000	1,475	Express	1,525	4′	2′10″	9′
Admiral, C	3,000	1,475	Stake	1,525	Opt.	2′10″	9′
Anglaize, H	2,000	950	Express	950	3′ 4″	10″	8′
Anglaize, G	2,000	1,350	Express	1,400	3′ 6″	10″	8′10″
Armleder, B	2,000	2,200	Express	2,400	4′ 2″	5′10″	9′
Armleder, B	2,000	2,200	Panel	2,550	4′	5′10″	8′
Armleder, B	2,000	2,200	Express	2,375	4′ 2″	5′10″	9′
Atterbury, B	2,000		Optional		4′		8′
Autocar, F	3,000		Optional		4′ 3″	2′ 7″	9′
Available, 25	2,000	1,350	Express	1,450	3′ 8″	1′ 2″	8′ 6″
Available, 25	2,000	1,350	Furniture	1,500	5′	2′	9′ 6″
Available, 25	2,000	1,350	Grocers	1,500	3′ 8″	5′	8′ 6″
Available, 25	2,000	1,350	Panel Top	1,600	3′ 8″	5′	8′ 6″
Avery, 1-ton	2,000	1,690	Flare Board		4′		9′
Barker, U	2,000	2,000	Optional	2,075	3′ 8″		11′
Blair, 1½-ton	3,000	2,850	Optional		5′ 2″	Opt.	Opt.
Buckeye, V-4	3,000	1,900	Optional	2,000	3′10″		7′10″
Chase, K	2,000	1,350	Optional		3′ 8½″	1′ 2″	6′10″
Chase, H	2,000	1,200	Optional	1.250	3′ 8½″	1′ 2″	6′10″
Chase, L	3,000	1,675	Optional	1,750	4′ 2½″	1′ 4″	7′10″
Coleman, B	2,000	1,950	Stake		4′ 6″		8′ 6″
Coleman, B	2,000	1,950	Express		3′10″		8′ 6″
Continental	3,000	1,850					
Corbitt, F	2,500	2,000	Stake	2,085	4′	3′ 6″	11′
Corbitt, F	2,500	2,000	Flat	2,065	4′10″	3′ 6″	11′
Corbitt, F	2,500	2,000	Flare Board	2,075	4′	3′ 6″	11′
Crown, B	2,000	2,300	Optional		Opt.	Opt.	9′
Danielson, A	3,000	2,000	Optional		Opt.	Opt.	11′
Dart, C	3,000	1,775	Express		3′10″	1′ 2½″	
Diamond, T. J	3,000	2,250	Optional		Opt.	Opt.	Opt.
Federal		1,800					
Four Wheel Drive, G	3,000	3,600	Optional		Opt.	Opt.	Opt.
Gabriel, H		1,500	Optional		Opt.	Opt.	Opt.

TRUCKS OF 1 TO 2 TONS CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Gay, F	2,000	$1,475	Optional	$1,575	3′10″		8′
Gay, G	3,000	1,675	Optional	1,775	4′		9′
G. M. C., VC	2,500	1,900	Flare Board	2,062	4′ 6″	1′10″	10′
G. M. C., VC	2,500	1,900	Screen	2,145	4′ 6″	5′	10′
G. M. C., VC	2,500	1,900	Stake	2,040	4′ 6″	3′ 4″	10′
G. M. C., VC	2,500	1,900	Furniture	2,110	4′ 2″	5′	12′
G. A. Gramms, 1-ton	2,000	1,750	Optional		Opt.	Opt.	Opt.
Harvey, D	3,000	1,875	Furniture	2,000	3′10″	1′ 6″	10′
Harvey, D	3,000	1,875	Stake	2,000	5′	3′	10′
Horner, 1-ton	2,000	2,000	Optional		Opt.	Opt.	Opt.
Horner	3,000	2,250	Optional		Opt.	Opt.	Opt.
Ideal, I	2,000	1,500	Optional		3′ 8″	3′ 3″	8′ 6″
Ideal, H-2	3,000	2,000	Optional		4′ 6″	3′ 4″	10′
Jeffery, 2014	2,000						
Kalamazoo, B	3,000	1,590	Stake		5′		9′
Kalamazoo, B	3,000	1,590	Express		4′1″		8′ 9″
Kelly, K-30	2,000	2,000	Optional		Opt.	Opt.	Opt.
Kisselkar, 1-ton	2,000	1,850	Stake	1,975	3′ 4″		9′
Kisselkar, 1½-ton	3,000	2,100	Stake	2,250	5′ 5″		8′
Koehler, 1-ton	2,000	725	Open Flare	750	4′	1′ 5″	7′
Koehler, 1-ton	2,000	725	Express	790	4′	4′ 7″	7′
Koehler, 1-ton	2,000	725	Canvas Side	800	3′ 8″	4′ 5″	7′
Koehler, 1-ton	2,000	725	Panel	900	3′ 6″	4′ 5″	7′
Koehler, 1-ton	2,000	725	Stake	750	3′ 8″		7′
Koehler, 1-ton	2,000	725	Plumber	800	3′ 8″	1′	8′
Koehler, 1-ton	2,000	725	Baker	925	4′	4′ 8″	8′
Koehler, 1-ton	2,000	725	Furniture	825	4′ 2″	1′ 5″	9′
Krebs, AA	2,000	1,425	Flare Board	1,560	3′ 9″		6′10″
Krebs, D	3,000	1,775	Optional		3′10″		8′ 8″
Krebs, DD	3 000	1,775	Flare Board		4′ 2″		9′ 8″
Krebs, DD	3 000	1,775	Stake		5′ 6″		11′
Landshaft, J	3,000	1,800	Express	1,900	4′ 4″		10′
Lange, C	2,000	2,250	Optional		Opt.	Opt.	Opt.
Lauth-Juergens, K	2,000	2,100					
Lippard-Stewart, F	3,000	2,300					
Little Giant, F	2,000	1,200	Flare Board	1,275	3′ 8″	1′ 1″	9′ 6″
Little Giant, F	2,000	1,200	Canvas Top	1,325	3′ 8″	4′ 9″	9′ 6″
Little Giant, F	2,000	1,200	Stake	1,300	3′ 8″	2′ 6″	9′ 6″
Little Giant, F	2,000	1,200	Panel	1,375			
Little Giant, H	2,000	1,350	Flare Board	1,425	3′ 8″	1′ 1″	9′ 6″
Little Giant, H	2,000	1,350	Canvas Top	1,475	3′ 8″	4′ 9″	9′ 6″
Little Giant, H	2,000	1,350	Stake	1,450	3′ 8″	2′ 6″	9′ 6″
Little Giant, H	2,000	1,350	Panel	1,525			
Lord Baltimore, B	2,000	1,800	Screen	2,000	3′10″	6′	9′
Maccarr, B	2,000	1,900	Express	2,100	3′10	5′ 6″	8′ 6″
Maccarr, C	3,000	2 150	Express	2,250	3′10	5′ 6″	9′ 6″
Mack, 1-ton	2,000	2,000	Optional		Opt.	Opt.	Opt.
Mais, C	3,000	2,750	Optional		5′		8′ 3″
Mais, D	3,000	2,800	Optional		5′		10′ 6″
Martin, S	3,000						
Menominee, B-3	2,000	1,400	Express	1,500	3′10″		8′ 6″
Menominee, B-3	2,000	1,400	Stake	1,500	5′		8′ 6″
Menominee, C	3,000	1,800	Optional	1,950			10′
Modern, G	2,000	1,700					
Modern, H	3,000	1,950					
Monitor, D	2,000	1,650	Optional	1,750	4′		8′
Moon, B	3,000	1,800	Open Ex	1,900	3′10″		8′6″
Moon, B	3,000	1,800	Stake	1,950	3′10″		8′ 6″
Moon, B	3,000	1,800	Inclosed	1,950	3′10″		7′ 8″
Moon, B	3,000	1,800	Furniture	2,150	5′		9′
Moon, B	3,000	1,800	Top Stake	2,050	5′		8′ 5″
Moore, 1½-ton	3,000	1,950	Optional		Opt.	Opt.	9′ 6″
Mora, 24	2,000	1,400	Open Ex	1,515	3′ 9″		7′ 6″
Nateo, 15	2,000	1,925	Optional		Opt.	Opt.	Opt.
Nelson-LeMoon, D-1	2,000	1,800	Optional		Opt.	Opt.	Opt.
New York		2,000	Optional		Opt.	Opt.	Opt.
O. K., A	2,000	800	Stake	1,520	5′		10′
Palmer-Meyer, 1-ton	2,000	1,600	Optional		4′ 2″		6′ 2″
Palmer-Meyer, 1½-ton	3,000	1,975	Optional		4′ 2″		
Pathfinder, 1-ton	2,000		Stake		5′ 4″		5′11″
Pathfinder, 1-ton	2,000		Inclosed		3′ 8″	4′ 3″	6′ 8″
Progress, A	3,000		Brewery	2,900	5′	3′	10′
Progress, A	3,000		Express	2,850	5′	1′	10′
Progress, A	3,000		Platform	2,800	5′	4′	10′

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TRUCKS OF 1 TO 2 TONS CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Sanford, K	2,000	$1,660	Optional	$1,750	Opt.	Opt.	Opt.
Sanford, L	3,000	1,910	Optional	2,060	Opt.	Opt.	Opt.
Selden, J	.....	2,000	.....	.....	....	....	....
Service, Q	3,000	1,800	Optional	.....	Opt.	Opt.	Opt.
Service, K	2,000	1,475	Optional	.....	Opt.	Opt.	Opt.
Service, M	3,000	1,675	Optional	.....	Opt.	Opt.	Opt.
Star, B	2,000	1,500	Optional	1,600	5′	2′10″	7′
Star, A	3,000	1,800	Optional	1,950	5′	3′	10′ 8″
Stegeman, 1-ton	2,000	2,250	Optional	.....	Opt.	Opt.	Opt.
Sullivan, 51	2,000	1,050	Express	1,140	3′10″	2′10″	7′ 6″
Sullivan, 51	2,000	1,050	Stake	1,140	4′	2′10″	7′ 6″
Tiffin, G	2,000	2,000	Stake	.....	5′ 6″	....	10′
Tiffin, G	2,000	2,000	Express	.....	4′ 8″	4′	9′
Tiffin, G	2,000	2,000	Furniture	.....	5′ 6″	5′	10′
Tiffin, G	2,000	2,000	Coal	.....	4′	....	9′
Tiffin, G	2,000	2,000	Brewers' Case	.....	5′ 6″	....	10′
Trabold, C	2,000	1,475	Express	1,575	3′11″	3′ 2″	9′
Trabold, 1½-ton	3,000	.....	Express	1,900	Opt.	3′ 2″	9′ 6″
Universal, T	3,000	1,950	Stake	2,000	5′ 2″	3′ 4″	10′
Universal, C	3,000	1,950	Express	2,050	3′ 8″	2′10″	10′
Veerac, B	2,000	1,100	Express	1,150	3′ 6″	9′ 6″	7′ 4″
Veerac, B	2,000	1,100	Stake	1,175	4′11″	....	7′ 4″
Veerac, B	2,000	1,100	Inclosed	1,250	3′ 6″	4′ 4″	7′ 4″
White, TBC	3,000	3,000	Platform	3,150	....	....	....
White, TBC	3,000	3,000	Express	3,150	4′ 4″	5′ 6″	9′ 2″
Wichita, A	2,000	1,650	Stake	1,775	5′	....	8′ 6″
Wilcox, L	2,000	.....	.....	.....	....	....	....

TRUCKS OF 2 TO 3 TONS CAPACITY

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Adams, E	4,000	$2,500	Flare Board	$2,690	5′	1′ 2″	11′
Adams, E	4,000	2,500	Platform	2,643	5′	2′ 6″	11′
Armleder, H	4 000	2,150	Express	2,350	4′ 2″	5′10″	11′
Armleder, H	4 000	2,150	Panel	2,450	4′ 2″	5′10″	9′10″
Armleder, H	4,000	2,150	Stake	2,325	4′ 2″	5′10″	9′11″
Armleder, H	4,000	2,150	Furniture	2,450	5′ 6″	6′ 6″	11′
Armleder, E	5,000	2,500	Express	2,750	4′ 2″	5′10″	11′
Armleder, E	5,000	2,500	Ice	2,750	4′	4′	9′
Armleder, E	5,000	2,500	Bottle Beer	2,800	4′ 2″	6′	9′
Armleder, E	5,000	2,500	Furniture	2,850	5′ 6″	6′ 6″	11′
Armleder, E	5,000	2,500	Coal	2,800	4′ 4″	2′	9′
Armleder, E	5,000	2,500	Brewery	2,800	4′ 4″	3′ 6″	10′
Atterbury, C	4,000	.....	Optional	.....	5′	Opt.	10′
Avery, B	4,000	2,700	Optional	....	Opt.	Opt.	Opt.
Bessemer, B	4,000	1,800	Optional	.....	Opt.	Opt.	Opt.
Blair, D	5,000	3,250	Optional	.....	Opt.	Opt.	Opt.
Buckeye, V-5	4,000	2,200	Optional	2,300	3′10″	....	7′10″
Chase, J	4,000	2,100	Optional	2,200	4′ 6″	1′ 4″	9′10″
Coleman, C	4,000	2,400	Stake	.....	5′ 6″	....	10′ 6″
Coleman, C	4,000	2,400	Express	.....	4′	....	10′ 6″
Crown, C	4,000	3,000	Optional	.....	Opt.	Opt.	11′
De Kalb, D-2	4,000	2,600	Platform	.....	5′	Opt.	Opt.
De Kalb, D-2	4,000	2,600	Express	.....	5′	Opt.	Opt.
Dorris, 2-ton	4,000	2,500	Optional	.....	Opt.	Opt.	Opt.
Gabriel, L	.....	2,500	Optional	.....	Opt.	Opt.	Opt.
Garford, L	4,000	2,800	Optional	.....	Opt.	Opt.	Opt.
G. M. C., SC	4,000	2,600	Flare Board	2,770	5′	2′ 1″	10′
G. M. C., SC	4,000	2,600	Screen	2,855	5′	5′	10′
G. M. C., SC	4,000	2,600	Stake	2.747	5′	3′ 4″	10′
G. M. C., SC	4,000	2,600	Furniture	2,825	5′ 6″	5′	11′
B. A. Gramm, 2-ton	4,000	2,750	Optional	.....	Opt.	Opt.	Opt.
Horner, 2-ton	4,000	2,650	Optional	.....	Opt.	Opt.	Opt.
Ideal, K	5,000	2,500	Optional	.....	5′	3′ 5″	12′
Kisselkar, 2½-ton	5,000	2,750	Stake	2,900	5′11″	....	10′
Knox, R-3	4,000	3,000	Optional	.....	Opt.	Opt.	Opt.
Lange, B	4,000	3,000	Optional	.....	4′ 6″	Opt.	10′ 6″
Lauth-Juergens, L	4,000	2,800	Optional	.....	Opt.	Opt.	Opt.
Lewis, 21	5,000	3,500	Optional	.....	Opt.	Opt.	Opt.
Lord Baltimore, D	4.000	2,300	Screen	2,500	5′	6′	10′

TRUCKS OF 2 TO 3 TONS CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Mais, E	4,000	$2,950	Optional	.....	5′	....	10′ 6″
Mais, F	4,000	3,000	Optional	.....	5′	....	12′ 3″
Mais, G	5,000	3,400	Optional	.....	..	....	....
Martin, E	5,000	.....	Optional	.....	Opt.	Opt.	Opt.
Mogul, L	4,000	2,360	Express	.....	4′	....	11′
Mogul, L	4,000	2,360	Stake	.....	4′	....	11′
Mogul, L	4,000	2,360	Furniture	.....	5′	....	14′
Mogul, G	4,000	2,750	Optional	.....	5′	....	11′
Moore, 2-ton	4,000	2,500	Optional	.....	Opt.	Opt.	11′ 6″
Moreland, 2-ton	4,000	2,350	Optional	.....	Opt.	Opt.	Opt.
Nelson-LeMoon, D-2	4,000	2,250	Optional	.....	Opt.	Opt.	Opt.
Packard, 2-ton	4,000	2,800	Optional	.....	Opt.	Opt.	Opt.
Pierce-Arrow, X-2	4,000	3,000	Optional	.....	Opt.	Opt.	Opt.
Reo, J	4,000	1,650	Optional	$1,800	5′ 6″	....	9′10″
Rockford, 2-ton	4,000	2,500	Optional	.....	Opt.	Opt.	Opt.
Schacht, 2-ton	4,000	2,650	Optional	.....	Opt.	Opt.	11′
Service, P	4,000	2,375	Optional	.....	Opt.	Opt.	Opt.
Speedwell, Y	4,000	2,850	Box	2,950	6′	1′	10′ 6″
Speedwell, Y	4,000	2,850	Stake	2,950	6′	4′	10′ 6″
Stageman, 2-ton	4,000	2,950	Optional	.....	Opt.	Opt.	Opt.
Sternberg, 2-ton	4,000	2,800	Optional	.....	Opt.	Opt.	Opt.
Sternberg, 2-ton	5,000	3,250	Optional	.....	2′10″	3′10″	10′4½″
Tiffin, M	4,000	2,600	Stake	.....	6′	....	11′ 2″
Tiffin, M	4,000	2,600	Express	.....	5′	4′ 6″	10′ 6″
Tiffin, M	4,000	2,600	Furniture	.....	6′	5′	12′
Tiffin, M	4,000	2,600	Coal	.....	4′ 2″	....	10′
Tiffin, M	4,000	2,600	Brewery	.....	6′	....	11′ 2″
Trebold, 2-ton	4,000	2,450	Express	2,550	5′ 6″	3′ 2″	12′
Transit, F	4,000	2,850	Optional	.....	Opt.	Opt.	14′
Twin City, 2-ton	4,000	1,350	Optional	.....	4′	....	10′
U. S., E	4,000	2,800	Optional	.....	Opt.	Opt.	10′
Velie, Y	4,000	2,850	Optional	3,000	5′	Opt.	Opt.
Vulcan, 2-ton	4,000	2,750	Optional	.....	Opt.	Opt.	Opt.
Ware, A	.....	3,000	Optional	.....	Opt.	Opt.	Opt.
Wichita, B	4,000	2,100	Stake	2,250	5′10″	....	9′ 3″
Wilcox, N	4,000	.....	Optional	.....	Opt.	Opt.	Opt.

TRUCKS OF 3 TO 4 TONS CAPACITY

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Atterbury, B	6,000	.....	Optional	.....	6′	....	12′
Avery, B	6,000	$3,200	Standard	.....	6′ 4″	....	12′ 6″
Avery, A	6,000	3,200	Farm	.....	4′ 4″	....	10′ 4″
Bessemer, A	6,000	2,100	Optional	.....	Opt.	Opt.	Opt.
Blair, E	7,000	3,750	Optional	.....	Opt.	Opt.	Opt.
Diamond, T. G	6,000	3,350	Optional	.....	Opt.	Opt.	14′
Four Wheel Drive, B	6,000	4,000	Stake	$4,150	5′	3′	11′
Four Wheel Drive, B	6,000	4,000	Optional	.....	Opt.	Opt.	Opt.
Garford, J	6,000	3,500	Optional	.....	Opt.	Opt.	Opt.
G. M. C., H	7,000	3,250	Flare Board	3,565	5′ 6″	5′ 6″	14′
G. M. C., H	7,000	3,250	Brewery	3,497	5′ 6″	6′	14′
G. M. C., H	7,000	3,250	Furniture	3,520	6′	6′	14′
G. M. C., HU	7,000	3,500	Flare Board	3,795	5′ 6″	5′ 6″	12′
G. M. C., HU	7,000	3,500	Brewery	3,732	5′ 6″	6′	12′
G. M. C., HU	7,000	3,500	Furniture	3,755	6′	6′	13′
B. A. Gramm, 3½-ton	7,000	3,600	Optional	.....	Opt.	Opt.	Opt.
Horner, 3-ton	6,000	3,200	Optional	.....	Opt.	Opt.	Opt.
Kelly, K-40	6,000	3,400	Optional	.....	Opt.	Opt.	Opt.
King, 3	7,000	3,350	Optional	.....	Opt.	Opt.	13′
Kisselkar, 3½-ton	7,000	3,350	Stake	3,500	6′	....	13′
Knickerbocker, 3	6,000	3,750	Optional	.....	Opt.	Opt.	Opt.
Lauth-Juergens, M6	6,000	3,450	Optional	.....	Opt.	Opt.	Opt.
Lewis, 21S	6,000	3,250	Optional	.....	Opt.	Opt.	Opt.
Mais, H	6,000	3,400	Optional	.....	5′	....	14′
Martin, L	7,000	.....	Optional	.....	Opt.	Opt.	Opt.

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TRUCKS OF 3 TO 4 TONS CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Moore, 3-ton	6,000	$3,150	Optional	.....	Opt.	Opt.	Opt.
Nelson-LeMoon, D-3	6,000	2,750	Optional	.....	Opt.	Opt.	Opt.
Nevada, H	6,000	3,500	Optional	.....	Opt.	Opt.	Opt.
Packard, 3-ton	6,000	3,400	Optional	.....	Opt.	Opt.	Opt.
Progress, O	6,000	3,500	Brewery	$3,700	6′	3′ 6″	12′
Progress, O	6,000	3,500	Trunk	3,600	6′	...	12′
Progress, O	6,000	3,500	Package	3,700	6′	3′ 6″	12′
Progress, O	6,000	3,500	Bottle	3,800	5′ 9″	....	14′ 3″
Peerless, 3-ton	6,000	3,700	Platform	.....	6′	Opt.	Opt.
Pope-Hartford, 3-ton	6,000	3,350	Platform	3,550	6′ 6″	Opt.	14′
Service, H	6,000	2,975	Optional	.....	Opt.	Opt.	Opt.
Standard, 3-ton	6,000	2,750	Exp. & Stake	3,050	Opt.	Opt	12′ 3″
Standard, 3-ton	6,000	2,750	Dump	3,350	Opt.	Opt.	10′
Standard, 3-ton	6,000	2,750	Van	3,500	Opt.	Opt.	18′
Stegeman, 3-ton	6,000	3,500	Optional	.....	Opt.	Opt.	12′
Sternberg, 1914	6,000	3,400	Optional	.....	Opt.	Opt.	Opt
Transit, T	7,000	3,500	Optional	.....	Opt.	Opt.	14′
Universal, A	3,000	3,400	Stake	3,550	6′	3′ 8″	Opt.
U. S., D	6,000	3,500	Optional	.....	Opt.	Opt.	12′
Velie, C	6,000	3,350	Standard	3,500	6′	Opt.	Opt.
Vulcan, 3-ton	6,000	3,250	Optional	.....	Opt.	Opt.	Opt.
White, GTA	6,000	3,700	Standard	3,850	6′ 5″	....	13′
Wichita, H	7,000	3,250	Stake	3,450	7′	3′ 8″	13′
Wilcox, JA	6,000	.....	.....	.....	....	....	....
Willet, L	6,000	2,800	Optional	.....	6′	Opt.	Opt.

TRUCKS OF 4 TO 5 TONS CAPACITY

Garford, K	8,000	$3,850	Optional	.....	Opt.	Opt.	Opt.
Knickerbocker, 4	8,000	4,000	Optional	.....	Opt.	Opt.	Opt.
Longest, 3-A	8,000	4,000	Optional	.....	Opt.	Opt.	Opt.
M & E, 4-ton	8,000	2,750	Stake	$3,000	6′	....	12′
Mogul, O	8,000	3,800	Optional	.....	Opt.	Opt.	11′ 6″
Moore, 4-ton	8,000	3,900	Optional	.....	Opt.	Opt.	Opt.
Packard, 4-ton	8,000	3,550	Optional	.....	Opt.	Opt.	Opt.
Peerless, 4-ton	8,000	4,000	Platform	.....	6′	Opt.	Opt.
Speedwell, Z	8,000	3,750	Box	3,850	6′ 0″	1′	12′ 6″
Speedwell, Z	8,000	3,750	Stake	3,850	6′ 6″	4′	12′ 6″
Standard, 3-ton	8,000	2,750	Keg	3,050	Opt.	Opt.	18′
Standard, 3-ton	8,000	2,750	Tank	3,300	Opt.	Opt.	18′
Stegeman, 4-ton	8,000	3,950	Optional	.....	Opt.	Opt.	Opt.
Sternberg, 4-ton	8,000	.....	Optional	.....	Opt.	Opt.	Opt.
Vulcan, 4-ton	8,000	4,000	Optional	.....	Opt.	Opt.	Opt.
Vulcan, 4½ ton	9,000	4,250	Optional	.....	Opt.	Opt.	Opt.

TRUCKS OF 5 TONS CAPACITY

Atterbury, E	10,000	.....	Optional	.....	6′	....	14′
A. I. C., C	10,000	$3,500	Optional	.....	6′	....	12′ 6″
Avery, B-5	10,000	4,500	Stake	.....	6′ 4″	3′	14′
Diamond T, G	10,000	3,600	Optional	.....	Opt.	Opt.	14′
Garford, D	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
G. M. C., KU	10,000	4,500	Flare Board	$4,815	6′	6′	13′
G. M. C., KU	10,000	4,500	Brewery	4,745	6′	6′	13′
G. M. C., KU	10,000	4,500	Furniture	4,770	6′	6′	14′
G. M. C., KU	10,000	4,500	Dump	5,100	3′10″	2′ 3″	12′
G. M. C., KU	10,000	4,600	Lumber	4,750	4′5½″	4′	16′
G. M. C., K	10,000	4,250	Flare Board	4,575	6′	6′	14′
G. M. C., K	10,000	4,250	Brewery	4,502	6′	6′	14′
G. M. C., K	10,000	4,250	Furniture	4,520	6′	6′	14′
G. M. C., K	10,000	4,250	Dump	4,850	3′10″	2′ 3″	12′
B. A. Graham, 5-ton	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
Hernes, 5-ton	10,000	4,200	Optional	.....	Opt.	Opt.	Opt.
Knickerbocker, 5	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.

TRUCKS OF 5 TONS CAPACITY—Continued

NAME AND MODEL	Capacity, Pounds	Chassis Price	Body Style	Price with Body	LOAD SPACE Width	Height	Length
Lewis, 51	10,000	$4,750	Optional	.....	Opt.	Opt.	Opt.
Locomobile, A	10,000	4,800	Optional	.....	Opt.	Opt.	Opt.
Mack, 5-ton	10,000	4,000	Optional	.....	Opt.	Opt.	Opt.
Moore, 5-ton	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
Moreland, 5-ton	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
Packard, 5-ton	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
Peerless, 5-ton	10,000	4,500	Platform	.....	6′	.....	Opt.
Peerless, 5-ton	10,000	4,500	Hoist	.....	4′	2′ 3″	12′
Pierce-Arrow, R-5	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
Pope-Hartford, 5-ton	10,000	4,350	Stake	$4,550	6′ 6″	Opt.	14′
Pope-Hartford, 5-ton	10,000	4,350	Optional	.....	Opt.	Opt.	Opt.
Royal, A-5	10,000	4,500	Optional	.....	Opt.	Opt.	13′
Stearns, 5-ton	10,000	3,800	Platform	3,950	6′	5′	Opt.
Stearns, 5-ton	10,000	3,900	Platform	4,050	6′	5′	Opt.
Sternberg, 5-ton	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
Transit, V	10,000	4,500	Express	4,700	6′	Opt.	14′
Vulcan, 5-ton	10,000	4,500	Optional	.....	Opt.	Opt.	Opt.
White, TC	10,000	4,500	Standard	4,700	6′ 5″	...	13′

TRUCKS OF OVER 5 TONS CAPACITY

Couple Gear, AC	12,000	$5,600	Stake	$5,800	6′ 6″	....	14′
Couple Gear, AC	12,000	5,600	Canvas Top	6,000	6′ 6″	7′	14′
Couple Gear, AC	12,000	5,600	Panel	6,100	6′ 6″	7′	14′
Couple Gear, AC	12,000	5,600	Dump	6,100	4′ 6″	....	11′
Couple Gear, ACT	.....	5,550	Tractor	.....	Opt.	Opt.	Opt.
Garford, F	12,000	4,850	Optional	.....	Opt.	Opt.	Opt.
G. V., F V	12,000	.....	Optional	.....	Opt.	Opt.	Opt.
Kisselkar, 6-ton	12,000	4,350	Stake	4,500	6′	....	14′
Knox, Tractor	.....	3,250	.....	.....	....	....	....
Knox, Tractor	40,000	3,750	.....	.....	....	....	....
Knox, M-3	.....	4,100	Sing Tank	5,600	....	....	....
Knox, M-3	.....	4,100	Doub Tank	5,900	....	....	....
La France, 6-ton	12,000	5,500	Stake	.....	Opt.	Opt.	Opt.
Mogul, M	12,000	4,700	Optional	.....	Opt.	Opt.	Opt.
Mogul, U	12,000	4,750	Lumber	.....	6′	6′	15′10″
Packard, 6-ton	12,000	4,650	Optional	.....	Opt.	Opt.	Opt.
Peerless, 6-ton	12,000	.....	Platform	.....	6′	....	Opt.
Saurer, 6½-ton	13,000	5,800	Optional	.....	Opt.	Opt.	Opt.
Speedwell, X	12,000	4,400	Box	4,500	6′ 9″	1′	15′ 6″
Speedwell, X	12,000	4,400	Stake	4,500	6′ 9″	4′	15′ 6″
Sternberg, 6-ton	12,000	4,750	Optional	.....	Opt.	Opt.	Opt
Sternberg, 7-ton	14,000	5,000	Optional	.....	Opt.	Opt.	Opt.
Vulcan, 7-ton	14,000	6,000	Optional	.....	Opt.	Opt.	Opt.

PUBLIC SERVICE VEHICLES

Armleder, B	.....	$2,200	Bus	$2,750	12 Passengers
Armleder, B	.....	2,200	Patrol	3,200	.....
Armleder, H	.....	2,150	Bus	2,750	16 Passengers
Croxton, T	.....	1,860	Taxicab	2,500	.....
Great Eagle, A	.....	.....	Ambulance	.....	.....
Great Eagle, A	.....	.....	Hearse	.....	.....
Great Eagle, D	.....	.....	Ambulance	3,500	to $6,000
Great Eagle, D	.....	.....	Hearse	3,500	to $6,000
Koehler, 1-ton	2,000	725	Bus	1,000	12 Passengers
Koehler, 1-ton	2,000	725	Hose Wagon	1,650	.....
Little Giant, F	.....	1,200	Bus	1,900	12 Passengers
Little Giant, H	.....	1,350	Bus	2,050	12 Passengers
Martin, B	3,000	.....	Fire Wagon	5,000	.....
Martin, A	4,000	.....	Fire Wagon	5,000	.....
Moon, B	.....	1,800	Bus	3,200	.....
S. & S., A	1,500	2,000	Ambulance	3,250	.....
S. & S., A	1,500	2,000	Hearse	3,500	.....
Stewart	1,500	1,500	Undertaker	2,100	.....
White, TBC	3,000	3,000	Bus	.....	.....
White, TBC	3,000	3,000	Fire Wagon	.....	.....
White, GBBE	1,500	2,100	Patrol	.....	.....
White, GBBE	1,500	2,100	Ambulance	.....	.....
White, GBBE	1,500	2,100	Hearse	.....	.....
Willys-Utility, 65	1,500	1,350	Bus	.....	.....

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SPECIFICATIONS OF 1914 ELECTRIC TRUCKS.

The following tabulation gives the principal specifications of the different models or types built by 16 leading manufacturers of the electric service vehicle industry:

Argo, American Electric Car Co., Chicago, Ill.
Baker, Baker Motor Vehicle Co., Cleveland, O.
Borland-Grannis, American Electric Car Co., Chicago, Ill.
Buffalo, Buffalo Electric Vehicle Co., Buffalo, N. Y.
Capitol, Capitol Truck Mfg. Co., Denver, Col.
Commercial Truck, Commercial Truck Co. of America, Philadelphia, Penn.
Couple-Gear, Couple-Gear Freight-Wheel Co., Grand Rapids, Mich.
Detroit, Anderson Electric Car Co., Detroit, Mich.
Fritchle, Fritchle Auto & Battery Co., Denver, Col.
GMC, General Motors Truck Co., Pontiac, Mich.
General Vehicle, General Vehicle Company, Long Island City, N. Y.
Huebner, O. E. Huebner, Brooklyn, N. Y.
Urban, Kentucky Wagon Co., Louisville, Ky.
Van Auken, Van Auken Electric Car Co., Connersville, Ind.
Ward, Ward Motor Vehicle Co., New York, N. Y.
Waverley, Waverley Company, Indianapolis, Ind.

Name	Rated Loads, Lbs.	Model or Type	Wheelbase, In.	Make of Motor	Battery: Make	Battery: Ampere Hours	Battery: Miles a Charge	Maximum Speed, MPH	Forward Speed Ratios	Final Drive	Rear Axle Type	Tire Size, Front	Tire Size, Rear	Body Dimensions: Length	Body Dimensions: Width	Body Dimensions: Height	Chassis Weight, In Lbs.	Price Chassis Only
Anderson	1,000	1	100		Op.	150	50	14	4	S	F	32-3	34-3	72	48		2600	$1800
Anderson	2,000	2	100		Op.	225	50	12	4	S	F	32-3.5	34-3.5	96	48		3850	2050
Anderson	4,000	4	128		Op.	300	50	10	4	C	D	36-4	36-3.5	132	60		6300	2800
Anderson	7,000	7	144		Op.	375	45	8	4	C	D	36-5	36-5D	156	60		8000	3850
Anderson	10,000	10	144		Op.	450	40	7	4	C	D	36-6	36-5D	156	60		9300	4200
Argo	1,000	K-10	86		El.		50	16	5	S	F	34-3	34-3				2700	1750
Argo	2,000	K-20	96		El.		50	13	5	S	F	34-3.5	34-3.5	68	42		3000	2000
Argo	1,000	L-10	86		El.		50	15	5	S	F	34-3	34-3				2700	1850
Baker	1,000	X	86	GE	El.	112	45	15	5	C	D	36-3	36-3				3243	1900
Baker	2,000	O	102	GE	El.	140	40	13	5	C	D	36-3.5	36-3.5				4495	2300
Baker	4,000	U	120	GE	El.	168	40	10	5	C	D	36-4	36-3D				5842	2800
Baker	7,000	CC	137	GE	El.	224	40	9	5	C	D	36-6	38-4D				8634	3500
Borland-Grannis	1,500		96		Go.		50	15	5	C	D	32-4	32-4	74	45			2100
Buffalo	1,500		102	GE	Ph.	135	50	12	5	S	F	36-3.5	36-3.5					2200
Buffalo	2,000		102	GE	Ph.	165	45	12	5	S	F	36-3.5	36-3.5					2400
Capitol	1,000		108		Go.		60	12	4	W	F						1800	1800
Capitol	2,000		114		Go.		50	12	5	W	F						2500	2250
Capitol	4,000		130		Go.		50	12	4	W	F						5000	3000
Commercial Truck	500	A	85	GE				15	4	W	F	36-2.5	36-2.5				1500	1440
Commercial Truck	1,000	B	90	GE				15	3	W	F	36-2.5	36-3				1750	1640
Commercial Truck	2,000	C	100	GE				12	4	I	D	36-3.5	36-4				2300	2095
Commercial Truck	4,000	D	116	GE				10	4	I	D	36-5	36-3.5D				3100	2725
Commercial Truck	7,000	E	115	GE				9	4	I	D	36-3.5D	36-4D				5000	3530
Commercial Truck	10,000	F	132	GE				7	4	I	D	36-6	40-5D				6000	3935
Couple-Gear	7,000	H-8	102		US.	250	45	8	5	I	D	36-4D	36-4D				9000	4250
Couple-Gear	10,000	A-9	104		US.	280	35	8	5	I	D	36-5D	36-5D				10,000	4850
Fritchle	1,000		88				100	14	5	S	F	34-4	34-4				2000	1900
GMC	1,000	1	106		Op.			13	5	C	D	32-2.5	32-3.5				2540	1200
GMC	2,000	2	106		Op.			11	5	C	D	32-2.5	32-3.5				2780	1300
GMC	3,000	3	130		Op.			10	5	C	D	32-3					3040	1450
GMC	4,000	4	138		Op.			9	5	C	D	32-3	32-5				4005	1650
GMC	6,000	6	150		Op.			8	5	C	D	32-3.5	36-3.5				4765	1900
GMC	8,000	8	156		Op.			7	5	C	D	32-4	36-4				5620	2100
GMC	10,000	10	166		Op.			7	5	C	D	36-5	36-5				6225	2350
GMC	12,000	12	192		Op.			6	5	C	D	36-6	36-6				6820	2500
General Vehicle	750		76	GE			45	12	4	C	D	32-2.5	32-2.5	58	40	53	2500	1370
General Vehicle	1,000		87	GE			45	12	4	C	D	36-2.5	36-2.6	72	41	60	1750	1640
General Vehicle	1,000			GE			45	15	4	W	F							
General Vehicle	2,000		102	GE			45	10	4	C	D	36-3.5	36-3.5	96	48	66	4105	2100
General Vehicle	4,000		112	GE			45	9	4	C	D	36-4	36-3D	137	56	72	5755	2600
General Vehicle	7,000		128	GE			40	8	4	C	D	36-6	36-3.5D	154	60	72	7655	3250
General Vehicle	10,000		139	GE			35	7	4	C	D	36-7	36-5D	180	72	72	8615	3700
Heubner	500	6	72				35	10	3		D	20-1	28-2	48	46	42	800	500
Urban	1,000	10	86		El.		50	12	4	C	D	36-3	36-3	72	42		3220	
Urban	2,000	20	109		El.		45	10	4	C	D	36-3.5	36-5	103	48		5048	
Urban	4,000	40	116		El.		45	9	4	C	D	36-4	36-4D	132	68		5668	
Urban	7,000	70	130		El.		40	8	4	C	D	36-5	40-6D	148	80		8612	
Van Auken	750	A	80		El.		40	12	4	S	D	28-2	28-2	56	41	53	1380	1000
Ward	750	EO	80		Op.		60	14	4	C	D	30-2.5	32-3				1800	1050
Ward	1,250	EA	84		Op.		50	12	4	C	D	32-3	34-3.5				2100	1450
Ward	2,500	EB	96		Op.		45	10	4	C	D	34-3.5	36-5				2900	1900
Ward	5,000	EC	114		Op.		40	8	4	C	D	38-5	38-3.5D				4600	2400
Ward	10,000	ED			Op.		35	6	4	C	D	38-3.5D	40-5D				6700	2950
Waverley	1,000		90		Op.		50	14	4	S	F	34-2.5	34-2.5	73	43	56	3250	1325
Waverley	2,000		101		Op.		45	11	4	C	D	34-3.5	34-3.5	102	44	60	4570	1850
Waverley	4,000		114		Op.			9	4	C	D	36-4	36-3D	132	54	72	6370	
Waverley	7,000		127		Op.		30	7	4	C	D	36-6	36-3.5D	144	60	72	8130	
Waverley	10,000		136		Op.			6	4	C	D	36-7	36-5D	156	78	72	9575	3450

Motor—GE, General Electric. Batteries—Op., Optional; Ph., Philadelphia; Go., Gould; US., United States; El., Electric Storage Battery; Ed., Edison Storage Battery Company. Drive—C, chain; W, worm shaft and gear; S, shaft and bevel gear; I, internal gear. Rear Axle—F, floating or live; D, dead. Tires—D, following figures indicates dual equipment.

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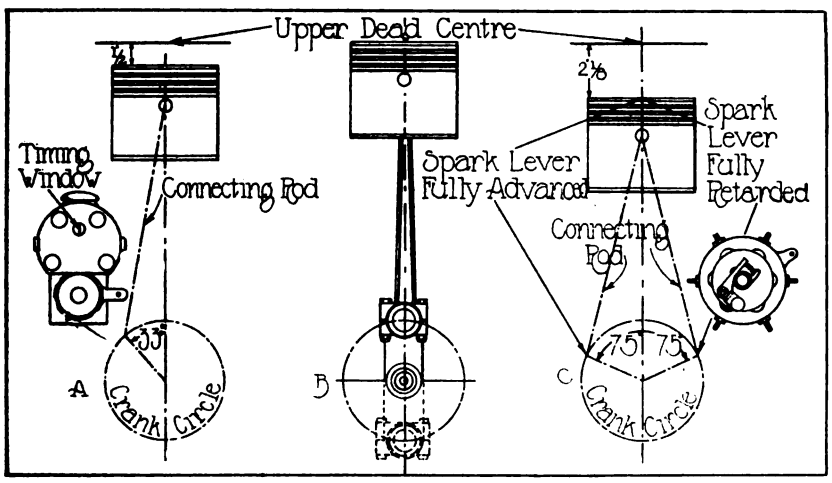
MAGNETO CARE AND ATTENTION.

The Work Necessary for Maintenance, Continued Service and Efficiency Described and Illustrated---Directions for Timing and Installations on 1914 Cars.

(By C. P. Shattuck.)

A REVIEW of the 1914 ignition system reveals a marked tendency toward single ignition, due to the general adoption of the motor starter, which relieves the motorist from cranking and the necessity of auxiliary or battery ignition for starting. Dual ignition (magneto and battery) is, however, to be found on many 1914 cars, and it is the exception rather than the rule that two sets of spark plugs are utilized.

While the experienced repairman is familiar with the principles of magnetos, there are many workmen who, while able to make minor adjustments, do not understand wherein the different makes vary in construction and operation, and it is for their benefit that the accompanying data and timing diagrams are presented.



Timing Diagrams, Showing Positions of Crank and Piston for Magneto Setting: A, Piston .5 Inch Before Top Dead Centre, Corresponding to 33 Degrees Crank Circle; B, Piston at Top Dead Centre, or Completion of Compression Stroke; C, Location of Piston with Spark Lever Fully Advanced and Retarded for Battery, Commutator and Coil Ignition.

Magnetos are classified under two general heads, low-tension and high-tension. The armature of the latter carries a primary and a secondary winding and no induction coil is required as is the case with the low-tension instrument, but with some types of true high-tension magnetos, a second or independent breaker mechanism is incorporated to interrupt the battery current as with the Bosch, Eisemann and Simms, for example.

The maximum efficiency or hottest spark is obtained from a magneto when its armature is in a certain position or when the greatest number of lines of force are cut, and as the primary current must be interrupted to induce a high-tension current in the secondary winding, it will be seen that the time of breaking of the low-tension current is a most important factor. This breaking of the low-tension current is accomplished by the interrupter mechanism, which is generally attached to and revolves with the armature shaft.

As it may be possible in the overhaul or in case of accident, that it will be necessary to remove the magneto, a knowledge of its setting will be of distinct value. This factor is determined by the engineers of the maker of the motors, and there are two methods, one by the position of the piston and the other by the flywheel or crank circle.

Accompanying illustrations show the progressive steps in disassembling, cleaning and adjusting 1914 types of magnetos. Wiring diagrams of four and six-cylinder motors are depicted with various firing orders, also clockwise and anti-clockwise rotations of the armature shaft.

ABBOTT-DETROIT.

34-40 and 44-50—Firing Order 1-3-4-2.
Belle Isle—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston dead centre, lever fully retarded. Full advance, spark occurs with crankshaft 18 degrees ahead of dead centre. Contact point gap .018 inch.

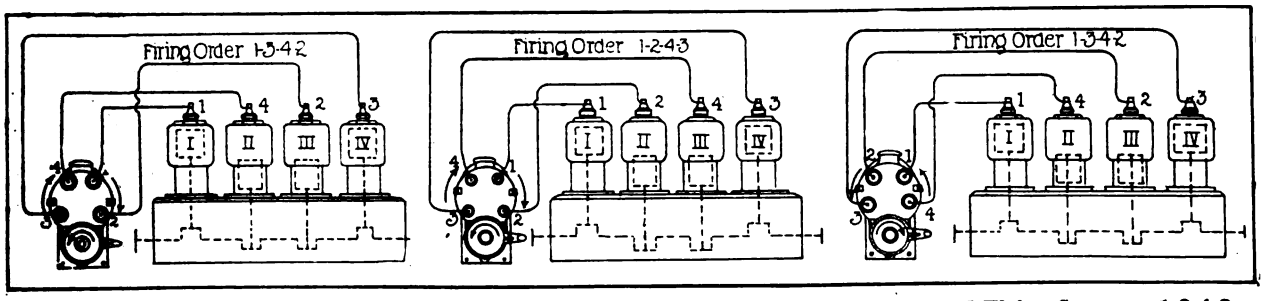
ALLEN.

40—Firing Order 1-2-4-3.

Magneto Setting—Piston top dead centre, lever fully retarded.

AMERICAN.

Scout—Firing Order 1-3-4-2.
644, 646 and 666—Firing Order 1-5-3-6-2-4.



Wiring Diagrams of Four-Cylinder Magnetos: At Left, Magneto Running Clockwise and Firing Sequence 1-3-4-2; Centre, Armature Rotating Clockwise and Firing Sequence 1-2-4-3; at Right, Magneto Running Anti-Clockwise and Firing Sequence 1-3-4-2—It Should Be Borne in Mind That the Rotation of the Distributor Is Opposite to That of the Armature Shaft.

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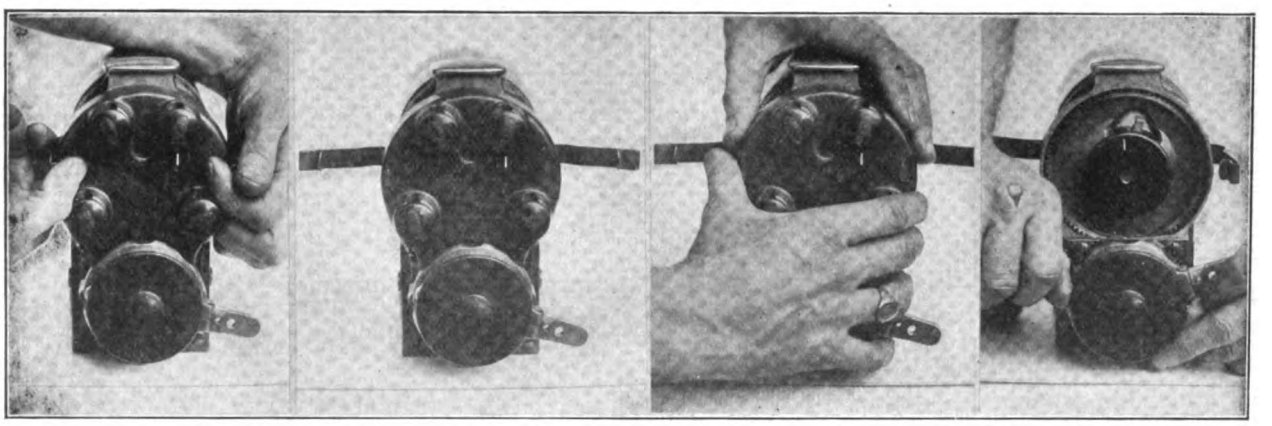

Fig. 1—Bosch ZR4: The Distributor Plate Is Retained by Two Holding Springs—Push Outward.

Fig. 2—Holding Springs Displaced and Distributor Plate Ready to Be Removed from Magneto.

Fig. 3—Grasp Distributor Plate, Pull Directly Forward, Place Carefully to One Side for Inspection.

Fig. 4—The Interrupter Housing Is Held by a Snap Ring and Is Removed as Shown.

Magneto Setting—Three-quarter inch after dead centre on flywheel.

ARBENZ.

Firing Order 1-3-4-2.

Magneto Setting—Piston .03125 inch late, lever fully retarded.

AUBURN.

4-40 and 4-41—Firing Order 1-3-4-2.

Magneto Setting—Piston .03125 inch late, lever fully retarded.

6-46 and 6-45—Firing Order 1-4-2-6-3-5.

Magneto Setting—Piston top dead centre, lever fully retarded.

BUICK.

B 24, 25, 36, 37 and 38—Firing Order 1-3-4-2.

Delco—With timer cam fully retarded, spark occurs 40 degrees past upper dead centre on firing stroke. With hand spark lever half-way advanced, spark occurs at approximately top dead centre.

B 55—Firing Order 1-4-2-6-3-5.

Delco—Piston dead centre with timer fully retarded.

CADILLAC.

Firing Order 1-2-4-3.

Delco—Changes being made in system.

CAMERON.

30—Firing Order 1-3-4-2.

Magneto Setting—Points break with piston on top dead centre, lever fully retarded.

CARTERCAR.

5 and 7—Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre. Magneto and spark lever half-way advanced.

CASE.

25 R and 35 S—Firing Order 1-3-4-2.

Magneto Setting—One thirty-second inch before top dead centre.

40 O—Firing Order 1-3-4-2.

Magneto Setting—One-sixteenth inch after top dead centre.

CHADWICK.

A—Firing Order 1-3-2-6-4-5.

Magneto Setting—From .75 inch before to .25 inch after top dead centre. (Piston.)

CHALMERS.

24—Firing Order 1-4-2-6-3-5.

Magneto Setting—One and one-half inches past centre, lever fully retarded.

CHANDLER.

Six—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston dead centre, lever fully retarded.

CHEVROLET.

Baby Grand and Royal Mail—Firing Order 1-2-4-3.

Magneto Setting—Piston dead centre.

L—Firing Order 1-4-2-6-3-5.

Magneto Setting—Piston dead centre.

COLE.

Four—Firing Order 1-3-4-2.

Six—Firing Order 1-5-3-6-2-4.

Delco—Piston dead centre, distributor fully retarded.

CONTINENTAL.

27—Firing Order 1-3-4-2.

Magneto Setting—Three-quarter inch after dead centre on flywheel.

CRANE.

4—Firing Order 1-4-2-6-3-5.

Magneto Setting—Full advance is 25 degrees early.

CRESCENT.

Ohio—Firing Order 1-3-4-2.

Magneto Setting—Ten degrees (flywheel) after top dead centre.

Royal—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston .03125 inch after top dead centre, lever fully retarded.

CROW ELK-HART.

D 42, 45, 52, 54, 55 and 56—Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre, lever fully retarded.

DETROITER.

A—Firing Order 1-2-4-3.

Magneto Setting—Two and one-half degrees after top dead centre.

DISPATCH.

Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre, lever fully retarded.

DORRIS.

I—Firing Order 1-3-4-2.

Magneto Setting—From 30 degrees late to five early.

DURYEA.

Two-Cylinder.

Piston dead centre, timer fully retarded.

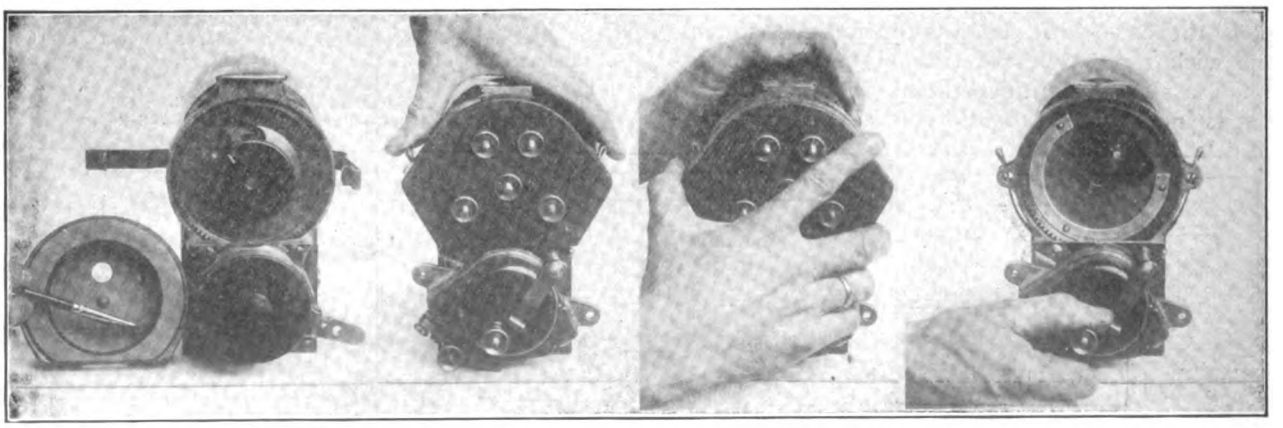

Fig. 9—Carbon Dust May Be Removed from Distributor with Brush Moistened with Gasoline.

Fig. 10—Bosch Dual: Compress Holding Springs by Moving Inward Until They Clear Plate Studs.

Fig. 11—Grasp Plate Firmly, Pull It Directly Forward and Place to One Side for Cleaning.

Fig. 12—To Remove End Cap or Cover, Push Holding Spring to the Right Until It Clears.

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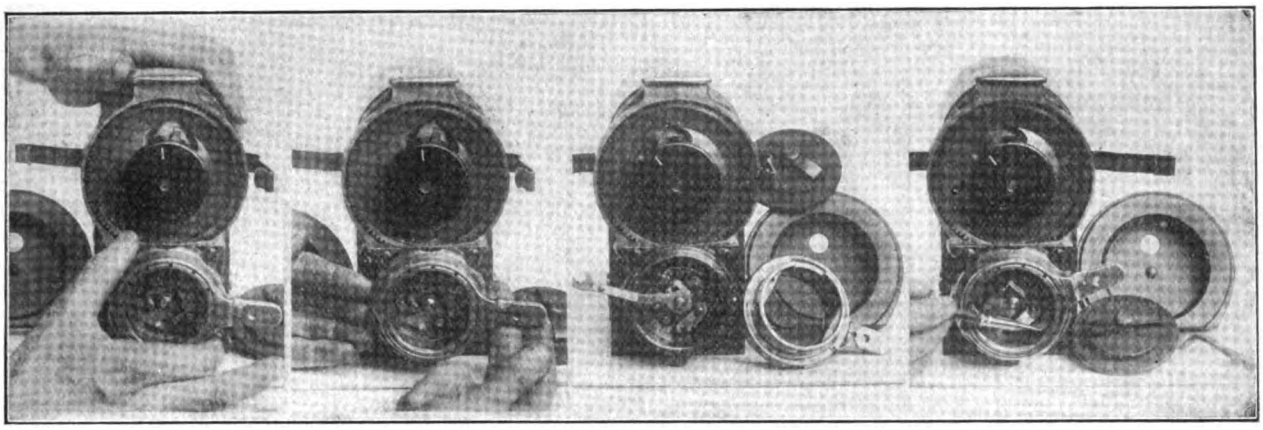

Fig. 5—To Unlock Rotate Lock Nut Until Its Red Slot Registers with a Similar Mark.

Fig. 6—The Complete Housing Is Displaced by Pulling It Directly Forward as Shown.

Fig. 7—To Remove Interrupter, Loosen Fastening Screw with Wrench and Take Out the Screw.

Fig. 8—A Dry, Soft Brush Is Best for Cleaning the Interrupter Mechanism, Which Is Not Lubricated.

EMPIRE.

31—Firing Order 1-3-4-2.

Magneto Setting—About .3125 inch advance to the piston travel. Fixed spark.

ENGER.

Firing Order 1-3-4-2.

Magneto Setting—Crankshaft dead centre.

FAL.

Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre, lever fully retarded.

FIRESTONE-COLUMBUS.

69 D, 60 E and 86 E—Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre, lever fully retarded.

90 E—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston dead centre, lever fully retarded.

FRANKLIN.

6-30—Firing Order 1-4-2-6-3-5.

Magneto Setting—One and one-half inches before dead centre or 9.5 degrees (flywheel), lever fully retarded.

GLIDE.

36 and 30—Firing Order 1-3-4-2.

Westinghouse—Piston top dead centre.

GRANT.

M—Firing Order 1-3-4-2.

Magneto Setting—Lever fully advanced, piston .3125 inch before top dead centre.

GREAT SOUTHERN.

50—Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre.

HAYNES.

28—Firing Order 1-3-4-2.

Magneto Setting—One sixty-fourth inch advanced on down stroke.

26 and 27—Firing Order 1-4-2-6-3-5.

Magneto Setting—One sixty-fourth inch advanced on down stroke.

HENDERSON.

De Luxe—Firing Order 1-3-4-2.

Magneto Setting—Points break .75 inch before dead centre, lever fully retarded. Battery side breaks .75 inch after dead centre, fully retarded.

Six—Firing Order 1-5-3-6-2-4.

Magneto Setting—Points break 1.5 inches before dead centre. Battery side breaks on dead centre.

HUDSON.

6-40 and 6-54—Firing Order 1-5-3-6-2-4.

HUPMOBILE.

32—Firing Order 1-2-4-3.

Magneto Setting—Piston dead centre, lever fully retarded.

IMPERIAL.

34 F B, 32 and 34 4 M—Firing Order 1-2-4-3.

54 and 44-6—Firing Order 1-5-3-6-2-4.

Magneto Setting—Points break with piston on dead centre.

INTER-STATE.

45—Firing Order 1-5-3-6-2-4.

JACKSON.

Majestic and Olympic—Firing Order 1-3-4-2.

Magneto Setting—Piston .125 inch before top centre.

Sultanic—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston .125 inch before top centre.

JEFFERY.

93—Firing Order 1-3-4-2.

96—Firing Order 1-4-2-6-3-5.

Magneto Setting—Piston dead centre, lever fully retarded.

KEETON.

F—Firing Order 1-5-3-6-2-4.

Magneto Setting—Points break 6.5 degrees before centre.

KING.

B—Firing Order 1-3-4-2.

Magneto Setting—Points break with lever fully retarded from centre to .5 inch past on flywheel.

KLINE-KAR.

4-30—Firing Order 1-2-4-3.

Magneto Setting—Three-eighths inch before firing centre.

4-40—Firing Order 1-2-4-3.

Magneto Setting—Nine-sixteenths inch before firing centre.

6-60—Firing Order 1-4-2-6-3-5.

Magneto Setting—Nine-sixteenths inch before firing centre.

Magneto Setting—Piston .75 inch before top centre, lever

KNOX.

44 and 45—Firing Order 1-3-4-2.

fully retarded. Battery, piston .375 inch before top centre.

KRIT.

L—Firing Order 1-3-4-2.

Magneto Setting—Piston .125 inch before top dead centre, lever fully retarded.

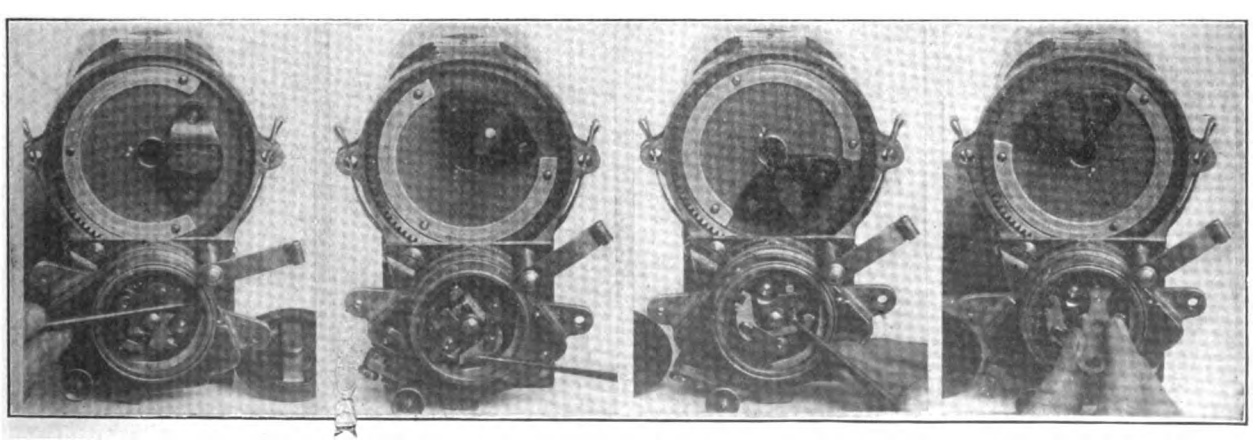

Fig. 13—Fibre Block Which Breaks Contact Points, Which Are Shown in Their Normal Position.

Fig. 14—Block Making Contact with Segment, Platinum Points Just Beginning to Break.

Fig. 15—Contact Points Fully Separated—Position for Adjusting and Measuring with Gauge.

Fig. 16—Loosen Lock Screw with Wrench, Turning to Left—Do Not Exert Uneven Pressure.

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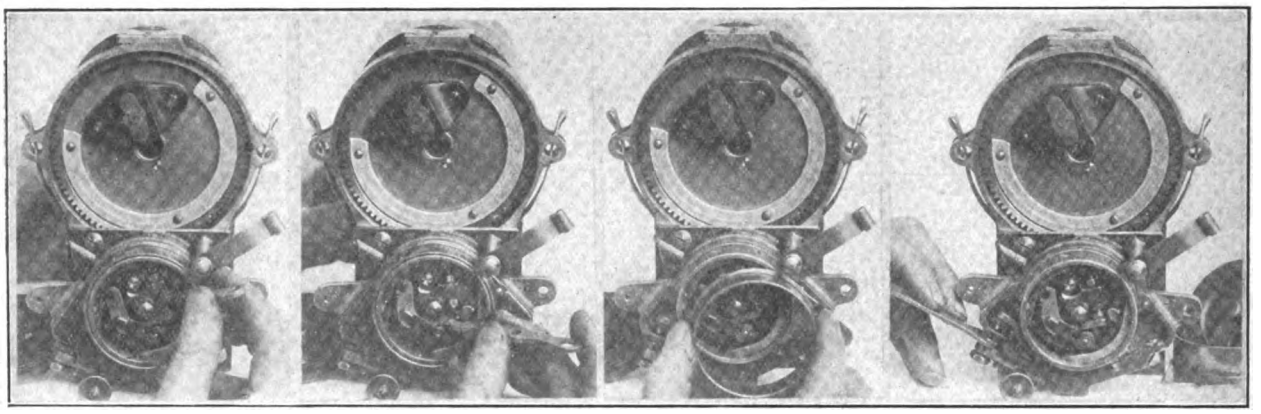

Fig. 17—Turn Nut to Right or Left to Decrease or Increase Gap, and Tighten Lock Nut Carefully.

Fig. 18—Insert Gauge Between Fully Separated Points—A Snug Fit Indicates the Proper Break.

Fig. 19—Battery Interrupter Mechanism Is Exposed by Pulling Forward Its Housing.

Fig. 20—To Adjust Points, Loosen Locking Nut with Wrench, Turn Screw and Tighten Locking Nut.

LEWIS.
Six—Firing Order 1-5-3-6-2-4.
Magneto Setting—Piston top dead centre, lever fully retarded. Full advance equals .234375 inch of piston stroke.

LOCOMOBILE.
48 LD and RD, 38 RD and LD—Firing Order 1-5-3-6-2-4.
Magneto Setting—Three-eighths to .4375 inch before top dead centre, lever fully advanced.

LOZIER.
Four—Firing Order 1-3-4-2.
77—Firing Order 1-4-2-6-3-5.
Magneto Setting—Piston dead centre, lever fully retarded.

LYONS-KNIGHT.
K4—Firing Order 1-3-4-2.
Magneto has six-inch range on 20-inch flywheel from one inch past centre to five inches before.

MARION.
B—Firing Order 1-3-4-2.
Magneto Setting—Piston .03125 inch after dead centre.
G—Firing Order 1-5-3-6-2-4.
Magneto Setting—Piston .03125 inch after dead centre.

MASON.
Firing Order 1-3-4-2.
Magneto Setting—Points break with piston on dead centre.

MAXWELL.
25-4 and 35-4—Firing Order 1-3-4-2.
50-6—Firing Order 1-4-2-6-3-5.
Magneto Setting—Points break with piston on dead centre, lever fully retarded.

McFARLAN.
64-T—Firing Order 1-5-3-6-2-4.
Magneto Setting—Five degrees past dead centre (flywheel) with lever fully retarded with Mea magneto. Dead centre and full retard with Bosch or Eisemann.

MOLINE-KNIGHT.
26-50—Firing Order 1-3-4-2.
Magneto Setting—Piston top dead centre.

MOON.
42—Firing Order 1-3-4-2.
6-50—Firing Order 1-5-3-6-2-4.
Delco—Spark breaks on centre in retarded position.

MORSE.
D—Firing Order 1-3-4-2.
Magneto Setting—Piston top dead centre, lever fully retarded.

MOYER.
E—Firing Order 1-3-4-2.
G—Firing Order 1-5-3-6-2-4.
Magneto Setting—Piston .375 inch after dead centre.

NATIONAL.
40—Firing Order 1-3-4-2.
Magneto Setting—Piston .0625 inch past top dead centre, lever fully retarded.
Six—Firing Order 1-5-3-6-2-4.
Magneto Setting—Piston .125 inch before top dead centre, lever fully retarded.

NORWALK.
C and D—Firing Order 1-4-2-6-3-5.
Atwater Kent—Piston is .093 inch past centre with distributor set at retard.

OLDSMOBILE.
54—Firing Order 1-5-3-6-2-4.
Delco—Spark occurs at piston dead centre with hand spark lever fully retarded or .390625 before dead centre with lever fully advanced.

OVERLAND.
79—Firing Order 1-3-4-2.
Magneto Setting—One and one-quarter inches after dead centre (flywheel), lever fully retarded.

PACKARD.
2-38—Firing Order 1-4-2-6-3-5.
Magneto Setting—Piston .5 inch before top centre, lever fully advanced.

PAIGE.
25 and 36—Firing Order 1-3-4-2.
Magneto Setting—Place No. 4 piston on top dead centre (Compression stroke). Points should just begin to break.

PALMER-SINGER.
L Brighton 6—Firing Order 1-4-2-6-3-5.
Magneto Setting—Twelve degrees early (flywheel) lever fully retarded. Battery, dead centre.

PARTIN-PALMER.
38—Firing Order 1-2-4-3.
Magneto Setting—Piston dead centre, lever fully retarded.

PATHFINDER.
Sixes—Firing Order 1-5-3-6-2-4.
Magneto Setting—One inch late.

PEERLESS.
38-6, 48-6 and 60-6. Firing Order 1-4-2-6-3-5.
Magneto Setting—At full retard, 7.5 degrees past dead

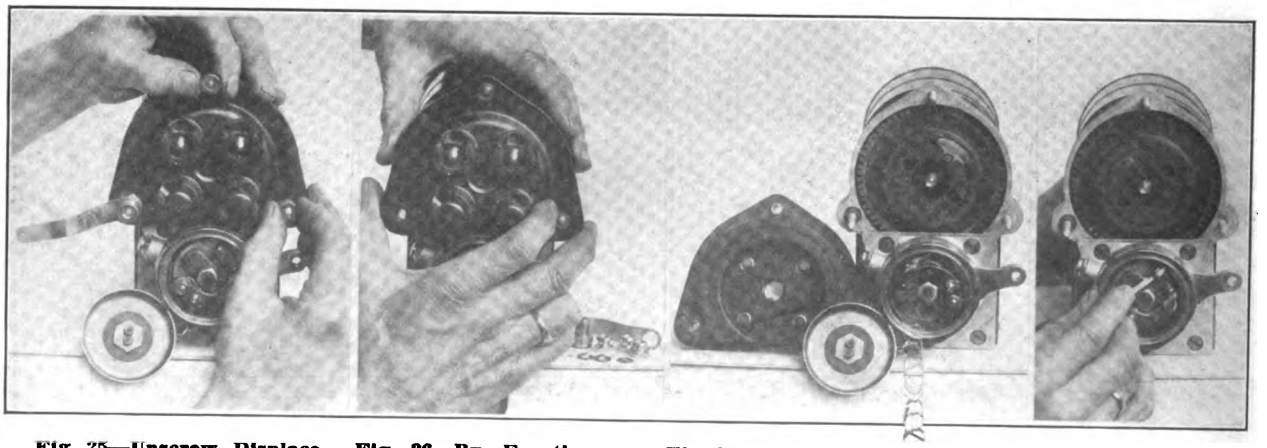

Fig. 25—Unscrew, Displace Knurled Nuts, Washers and Spring Holding Interrupter Cover or Cap.

Fig. 26—By Exerting an Even Pressure and Pulling Forward, the Distributor Plate Is Removed.

Fig. 27—End Cap and Plate Removed, Also Showing the Carbon Brushes and the Indicating Window.

Fig. 28—The Adjustable Contact Screw Has Two Lock Nuts and Both Must Be Loosened.

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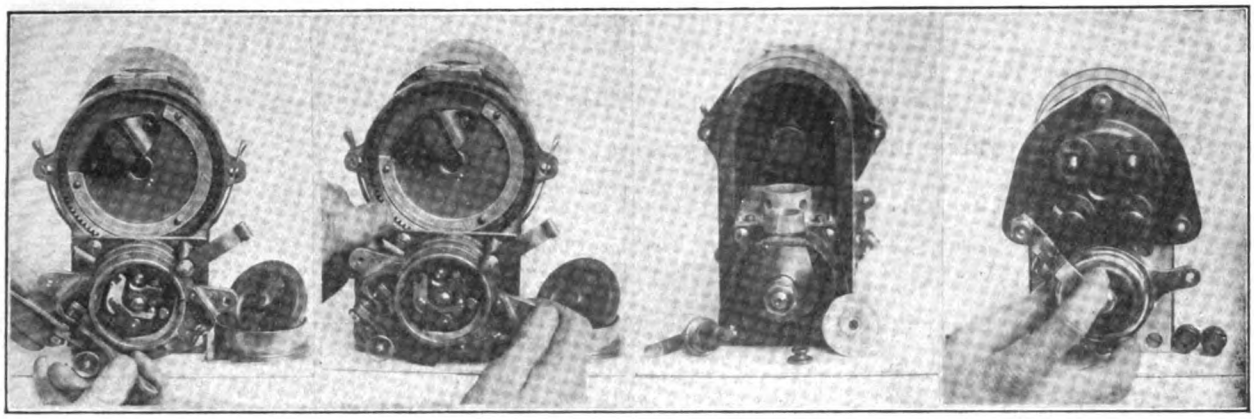

Fig. 21—Test Gap with Wrench Gauge and Tighten the Locking Nut on the Adjustable Screw.

Fig. 22—The Battery Interrupter Mechanism Is Removable by Pulling It Forward as Shown.

Fig. 23—Carbon Brush Is Displaced by Removing Nut, Spring, Knurled Nut and Unscrewing Holder.

Fig. 24—Splitdorf EU4: To Remove End Cap, Slip Flat Spring to Extreme Left and Displace Cover.

centre (flywheel), full advance, 15.8 degrees before dead centre.

PIERCE-ARROW.

Sixes—Firing Order 1-5-3-6-2-4.

Magneto Setting—Magneto mark on flywheel should be 4.8125 inches ahead of 1 and 6 top centre and 1 showing in timing window. Piston is .5 inch before top dead centre or 33 degrees of crank circle. Battery spark occurs with piston 2.125 inches before top dead centre or 75 degrees of crank circle with spark lever fully advanced.

PILOT.

50—Firing Order 1-3-4-2.

60—Firing Order 1-5-3-6-2-4.

Magneto Setting—Points break with lever fully retarded and piston on dead centre.

POPE-HARTFORD.

35—Firing Order 1-2-4-3.

Magneto Setting—Piston top dead centre. Maximum advance of magneto .5 inch on piston travel.

PREMIER.

6-48 and Weidely—Firing Order 1-4-2-6-3-5.

Magneto Setting—Piston dead centre, lever fully retarded.

REGAL.

C, T, N and NC—Firing Order 1-2-4-3.

Magneto Setting—Piston top dead centre, lever fully retarded.

REO.

Fifth—Firing Order 1-3-4-2.

Remy System—Piston top dead centre when indexing button on distributor engages.

RICHMOND.

R and S—Firing Order 1-3-4-2.

T—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston top dead centre, lever fully retarded.

SAXON.

A—Firing Order 1-3-4-2.

Atwater Kent—Piston dead centre, distributor fully retarded.

SIMPLEX.

38 and 50—Firing Order 1-3-4-2.

Magneto Setting—Piston .015625 inch before top dead centre.

75—Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre or slightly after.

SPAULDING.

H—Firing Order 1-3-4-2.

Magneto Setting—Piston dead centre, lever fully retarded.

SPEEDWELL.

H—Firing Order 1-5-3-6-2-4.

Magneto Setting—Points break with piston at top dead centre.

Rotary—Firing Order 1-5-3-6-2-4.

Magneto Setting—One-sixteenth inch after top dead centre, lever fully retarded.

STEARNS-KNIGHT.

Four—Firing Order 1-2-4-3.

Six—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston top dead centre, points breaking.

STEVENS-DURYEA.

C 6—Firing Order 1-4-2-6-3-5.

Magneto Setting—Figure 1 showing in timing window, 25 degrees before top dead centre (flywheel).

STUDEBAKER.

Four—Firing Order 1-3-4-2.

Six—Firing Order 1-5-3-6-2-4.

Remy System—Spark occurs .75 inch after top dead centre.

VELIE.

5 and 9—Firing Order 1-3-4-2.

10—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston top dead centre.

VULCAN.

27—Firing Order 1-2-4-3.

Magneto Setting—Piston dead centre, lever fully retarded.

WAHL.

Firing Order 1-3-4-2.

Magneto Setting—Piston .125 inch before top dead centre.

WINTON.

Six—Firing Order 1-5-3-6-2-4.

Magneto Setting—Piston .125 inch after top dead centre, lever fully retarded and points breaking.

ZIMMERMAN.

B6—Firing Order 1-4-2-6-3-5.

Magneto Setting—Full retard four degrees after dead centre (flywheel). Full advance 20 degrees.

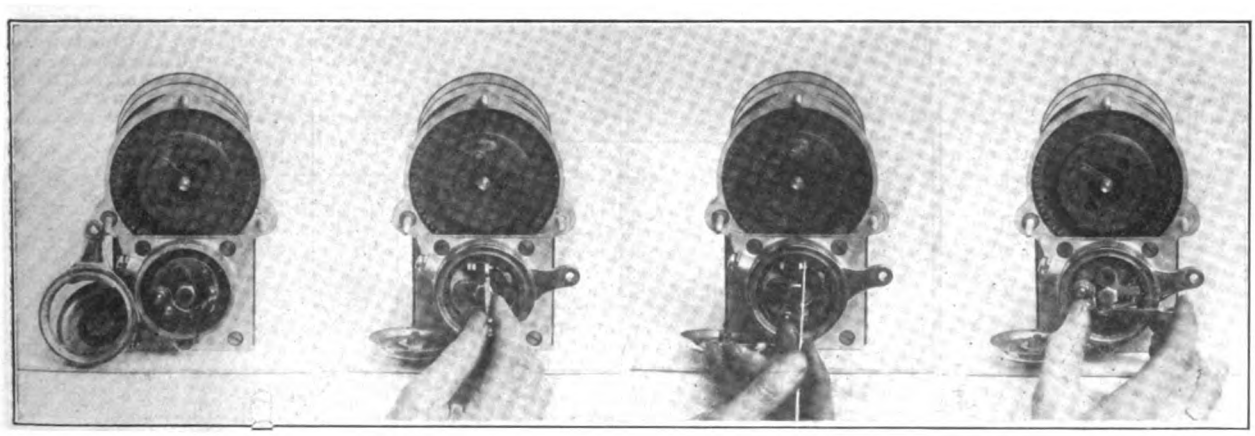

Fig. 29—Interrupter Housing Is Removable, Permitting Easy Access to the Breaker Mechanism.

Fig. 30—Turn Adjusting Nut to Right or Left to Increase or Decrease Gap and Tighten Lock Nuts.

Fig. 31—Platinum Points Are Trued and Cleaned with a Fine Jeweller's File and Must Be Even.

Fig. 32—Contact Points Should Be Fully Separated When Using Gauge to Determine Proper Gap.

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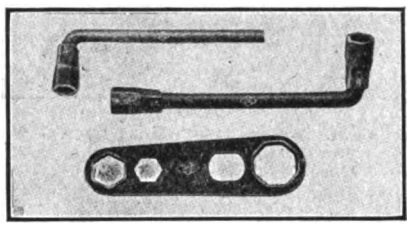
ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

MOSSBERG FORD WRENCHES.

Constructed to Remove Nuts from Cylinder Head and Hub Cap.

The Frank Mossberg Company, Attleboro, Mass., is manufacturing a number of useful tools for the model



T Ford car, some of which are shown in an accompanying illustration, these including single and double-end cylinder head socket wrenches and a hub cap member. The single-cylinder head wrench is known as the No. 620, the double as No. 625, and either of these tools makes it a simple matter to displace the nuts and replace them quickly and properly. The difficulty of reaching these nuts with ordinary tools is well known to owners. The hub cap wrench is a particularly well designed and constructed tool. The single end retails for 32 cents, double for 40 cents and the hub cap wrench for 25 cents.

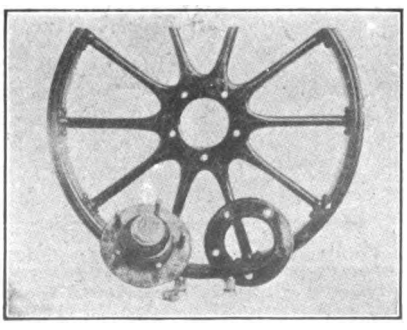
CROWN PRINCE WHEELS.

Demountable Design Constructed of Pressed Steel.

The use of pressed steel in motor car construction is becoming more general and a new application of the material, at least in this country, is noted in the Crown Prince pressed steel wheels, which are being marketed by Max Bacham, 845 Jefferson avenue, East, Detroit.

It is held that they are 200 per cent. stronger than wooden members, lighter, and considerably more durable. It is also claimed that much more tire mileage is obtained and that greater speed is possible. One of the qualities of the design emphasized is that it will not collapse; merely bend when subjected to severe stresses which would break wooden constructions. Being of metal the Crown Prince design cannot shrink or the spokes become loose.

The Crown Prince is a demountable wheel, and it is stated that it may be removed and an extra member is fitted in about one minute. It is retained by five nuts, which are displaced by a brace type of wrench. The wheels are equipped with either clincher or quick detachable rims and it is stated that they weigh only a few pounds more than the average demountable rim.



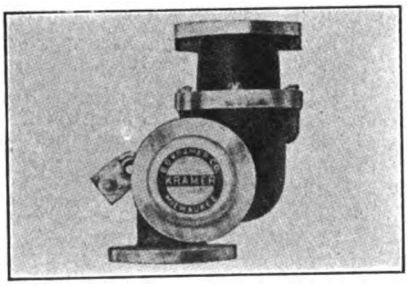
KRAMER GOVERNOR.

Automatically Controls Speed of the Gasoline Motor.

The B. G. Kramer Company, Milwaukee, Wis., is manufacturing the Kramer governor, which is especially for commercial vehicles, where it is desired to limit their speed to a predetermined number of miles an hour. The device is also applicable to pleasure cars. The instrument is designed to control and maintain a constant speed of an internal combustion engine by governing the velocity of the incoming gases.

It comprises a throttle, connected to a disc member, that is allowed to float under a constant spring tension in a tapered conduit, the tension of the spring determining the maximum motor speed. Upon the velocity of the incoming gases changing, due to variation in engine speed, the position of the disc in the conduit is affected. This results in altering the position of the throttle, allowing more or less mixture, as the case may be, to be fed to the cylinders, and as the condition may require.

An auxiliary control lever is provided, permitting the driver to obtain any variation of speed up to the

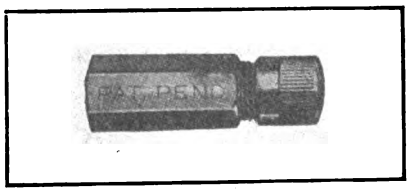


maximum afforded by the governor. It is pointed out that not only does the device make for efficiency and economy of fuel, but it cannot be tampered with.

SMITH EASY TIRE VALVE.

Replaces Usual Construction and Reduces Labor to a Minimum.

The Smith Tire Valve Company, box 1965, Boston, is marketing the

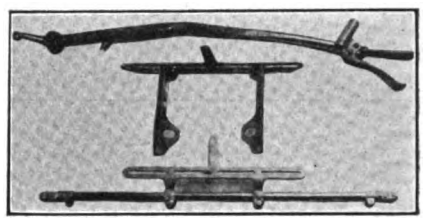


Smith easy pumping tire valve, which comes in sets of four and is moderately priced. It is easily attached to the valve stem, the plunger of which is removed, as the Smith replaces this member. One of the qualities of the Smith device is that the largest sized tire may be inflated with a minimum of effort with a hand pump. Another feature that will appeal to owners is that the Smith valve opens with a very slight pressure, permitting of utilizing the pump from the beginning to the end of the stroke. This makes for economy of time, in that it is figured that approximately 60 per cent. of the stroke is required to open the ordinary tire valve. The set retails for $2.

A. A. A. SPECIALTIES.

Include Headlight Rod, License Plate Holder and Brake Handle.

The A. Auto Appliance Company, 114 West Exchange street, Providence, R. I., is manufacturing three



new specialties for the model T Ford car. The one shown in the upper part of the illustration is an emergency brake pawl release handle, which is held to eliminate all vibration and noise and to improve the operation of the lever. The handle is one inch longer than the conventional member and is designed to fit the palm of the hand. It is made of high grade malleable iron and the release pawl is fitted with a heavy piano wire coil spring.

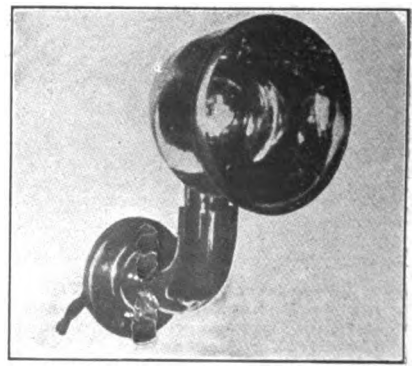
The device shown at the bottom of the illustration is an adjustable headlight rod, which prevents rattling of the lamps, and is also provided with a license number plate bracket. The holder is made of heavy brass tubing with bronze ends. The centre illustration depicts the A. A. A. number plate bracket.

PASCO ELECTRIC SIDE LIGHT.

Design Adapted to All Types of Cars and of Special Material.

The Portland Auto Specialty Company, 604 Fidelity building, Portland, Me., is marketing the Pasco electric side lamp, which is a very neat and compact design, intended for cars not equipped with electric lighting, although it is serviceable with any machine. It is designed to provide a large amount of light, a well designed parabolic reflector being employed.

The bulb is placed in a vertical position, a location making for maximum illumination. One of the qualities of the design is that the wiring is concealed, it being carried through the bracket, thence to the switch on the dash, etc. The lamps are constructed of a special combination silver metal, with polished nickel finished interiors and silver, brass or black enamel outside. They are listed to retail at $6 a pair, and the complete equipment includes two lamps, bulbs, wire and switch.



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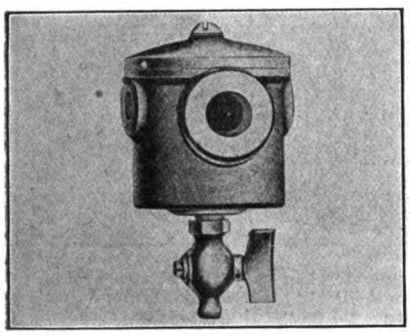
R. O. C. SUPERHEATER.

Raises Temperature of Fuel Before It Reaches Carburetor.

The National Economic Supply Company, 1777 Broadway, New York City, is marketing the R. O. C. Super-



heater, a device designed to raise the temperature of the fuel before it reaches the carburetor, and consequently, while it is in a liquid state. It is sprayed into the mixing chamber of the carburetor in the conventional manner but, as the gasoline is heated, it is obvious that it vaporizes readily.

The heat of the exhaust gases is utilized to raise the temperature of the fuel, the Superheater being connected in a branch line of the exhaust. The device is installed in the fuel line, consequently all gasoline passes through it before reaching the carburetor.

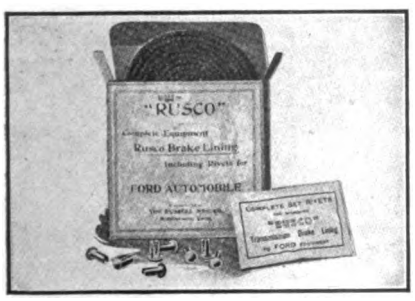
The advantages claimed for the Superheater are: Rapid vaporization of the fuel, a more homogeneous mixture in that precipitation is prevented, economy and less carbon. It is pointed out by the maker that low grades of motor fuel may be successfully used without carbonization. The R. O. C. Superheater is very compact, constructed of high grade material and retails for $5.

RUSCO FORD BRAKE LINING.

Constructed for Service Brake and Is Free from Metal.

While it is a well known fact that the output of the model T Ford flywheel generator is very large, the efficiency of the current producer is affected by metal particles, as these short circuit the dynamo. As the service brake band is located in practically the same housing, it is important that it should be lined with a friction material free from any metal.

The Russell Manufacturing Company, Middletown, Conn., is producing a special lining for the Ford brake, which is constructed of long fibre asbestos without wire or other metal. It comes in exact lengths for the brake, in a neat box, and sufficient rivets are provided for securing the material to the drum. The Rusco lining has a very high co-efficient of friction and sells for $1.

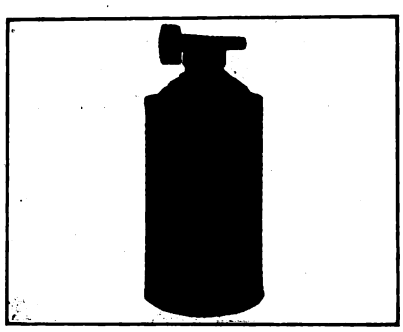


CARBONOX.

A Carbon Remover That Is Inexpensive and Practical.

Carbon is present in the cylinders of the internal combustion engine, the amount of the deposit depending upon the grade of lubricant and the quantity utilized. Formerly it was deemed necessary to dismantle the motor to remove it, but in these days it can be displaced easily. The Northwestern Chemical Company, Marietta, O., has been marketing for some time a carbon remover called Carbonox, a fluid, which is injected into the cylinders. The preparation does not dissolve the carbon, but attacks the charred oil that fastens the flakes of carbon to each other and to the cylinder, piston head, etc.

The method of use is simple. Carbonox comes in a can having a detachable spout and by means of the latter the fluid is injected through the spark plug opening. The result is that the carbon is loosened and is blown out in the exhaust. The amount present may be noted by holding a sheet of paper under the outlet. One of the qualities of Carbonox is that it provides an inexpensive method of

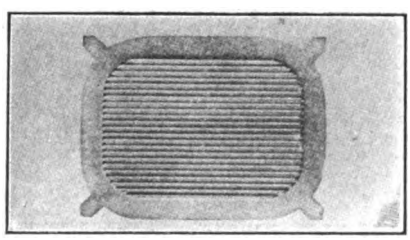


keeping the cylinders free from carbon, as the cost a cylinder is but a few cents. It retails for 75 cents.

PYRMA ALUMINUM HEEL PLATES.

Prevent Wear of Ford Floor Mat and Are Easily Attached.

After considerable service the rubber floor mat of the model T Ford car shows signs of wear where the



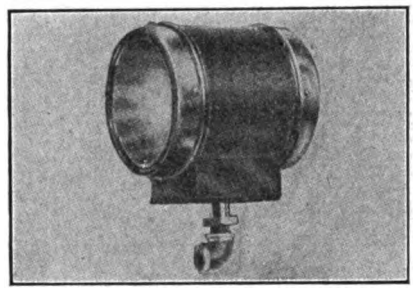
operator rests his feet when driving. This is due to placing the heels on the material and the feet in a position convenient to the pedals.

The Metallic Automobile Matting Company, Rochester, N. Y., is manufacturing the Pyrma aluminum heel plates for the Ford machine, and one of the qualities of the design is that the use of screws, rivets, etc., is eliminated when attaching the plates to the matting. The Pyrma is fitted with corners, which are bent down, placed on the mat and the positions of the holding members marked. Slits are then cut in the mat, the corner members inserted and bent to clinch. It is stated that the plates can be attached in three minutes. They are moderately priced.

AUTO FENDER SAFETY LAMP.

Shows a Double Green Light, Indicating Car's Position.

The Auto Fender Safety Lamp Company, Inc., Corinth, N. Y., is manufacturing the Auto fender safety



lamp, the utilization of which differs from conventional practise in motor car lighting. The lamp, which is an electrical unit, is placed on the left front fender, throws a double light, showing green to the front and rear, distinctly outlining the fender. This shows the position of the car to the driver approaching in the opposite direction.

The maker points out that the Auto fender safety lamp makes for safety in that it will show the driver of another car the position of the machine fitted with the device, and that the light may be distinguished easily for a considerable distance. One of the qualities of the light is that it has no glaring or dazzling effects even at close range. It is moderately priced; consumes but little current, and may be connected with the regular lighting system. It retails for $5.

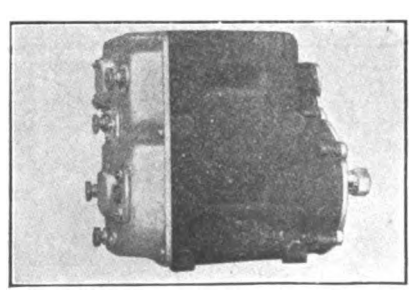
FISHER MOTOR-GENERATOR.

Lighting and Motor Starting System for Model T Ford Cars.

The Fisher Electrical Works, 1690 Larned street, West, Detroit, maker of electric lighting and motor starting systems, is manufacturing an equipment designed for service with the model T Ford automobile. It is a unit system, a motor-generator, and one of the qualities of the design is that it may be installed without machine work or drilling. It is a 12-volt, three-wire system, and six-volt lamps are employed.

The complete equipment comprises a silent chain, two sprockets, pulley for fan belt, zero line ammeter, starting and lighting switch, cables, adjustable supporting bracket, 12-volt 85 ampere-hour capacity storage battery and the motor-generator.

The unit is mounted on the left hand side of the motor, a special bracket being bolted to the power plant. Drive is by chain, a sprocket being fitted to the crankshaft. When current is led to the unit from the battery, it functions as a motor, rotating the crankshaft by means of the silent chain. Upon the motor starting, the current being cut out from the battery, the unit functions as a dynamo, charging the cells. The complete equipment retails for $120.



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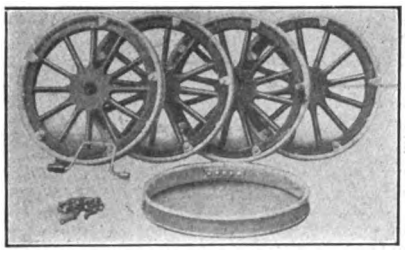
BAKER DEMOUNTABLE RIMS.

Designed Especially for Ford Cars and Come Painted.

The City Auto Tire & Supply Company, 1200 Huron road, Cleveland, O., is marketing Baker demountable



rims for the model T Ford car, and the design of these members is such that they may be applied readily. The equipment is shown in the accompanying illustration and comprises four wheels with rims attached and one extra rim. The new wheels are nicely painted, striped and varnished, and the usual brace wrench and 24 new hub bolts are included.

To attach the wheels the nuts and bolts of the old members are removed and the hubs driven out. The hubs are then inserted in the Baker wheels; the new hub bolts fitted and the nuts put on and tightened. The rims utilize 30 by 3.5-inch tires, the maker pointing out that this arrangement makes for convenience as well as tire economy. The wheels are hickory and the rims are made by the Universal Rim Company.

LIEBSON MOTOR STARTER.

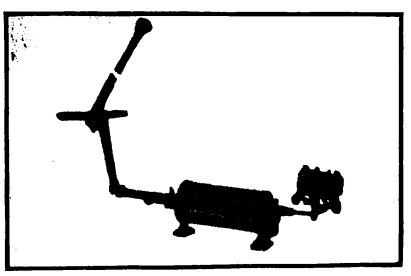
Employs Explosion of Gas to Rotate the Crankshaft.

The Liebson Self-Starter Company, 412 Georgia Life building, Macon, Ga., is marketing the Liebson self-starter, which is held to be adaptable to any make of car, does not require skilled mechanics to adjust it and weighs less than 10 pounds.

It differs from the conventional types of motor starters in that it is operated by compression and explosion, the principle involved being practically the same as that of an internal combustion engine. A lever operates a small brass pump, to which is attached a specially constructed carburetor. In moving the lever backward, fuel from the main tank is drawn by suction through the carburetor into the pump.

At the completion of the suction stroke, the proper amount of air is mixed with the fuel, and the next forward movement of the lever compresses the mixture, sending it through a pipe into a distributor having as many outlets as there are cylinders to the engine. An arrangement of valves actuated by cams makes for proper distribution of the gas, which is ignited by an electric spark.

A feature of the starter is that in forcing the charge into the cylinder there is sufficient pressure to start the crankshaft revolving, and the ignition is so timed that the explosion



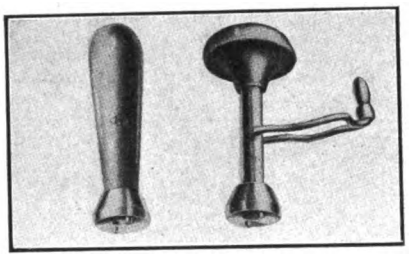
takes place after this movement has begun. From the above it would appear that the starter combines compressed air and explosion methods for starting. It retails for $60.

MOSSBERG VALVE GRINDERS.

Made in Two Styles, One Particularly for the Ford Motor.

The Frank Mossberg Company, Attleboro, Mass., is manufacturing two types of valve grinders for the model T Ford motor. That at the left in the illustration is termed the No. 600 and is designed after the repairman's favorite method of grinding valves, that of utilizing a rolling motion between the flattened hands. The Mossberg tool is so shaped that it fits the hand easily. It is of steel with wood handle and retails for 45 cents.

The Ford valve grinder No. 605 is constructed to permit of swinging a 90-degree circle, has a body of high grade metal and a wooden top. It is designed especially for the Ford

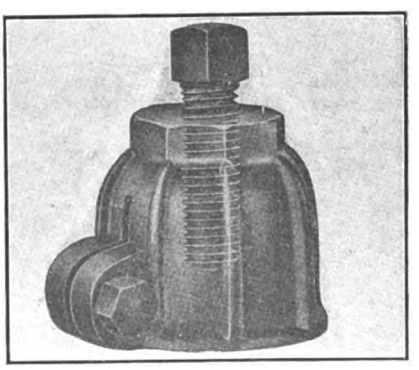


owner and is a very practical tool for the person who cares for his own machine. Both grinders are provided with pins which engage with recesses in the valve heads. The No. 605 retails for 50 cents.

MOSCO FORD WHEEL PULLER.

Provision Is Made for Variation of Treads of Hub.

Certain types of rear axles necessitate the use of a wheel puller when it is necessary to displace a wheel



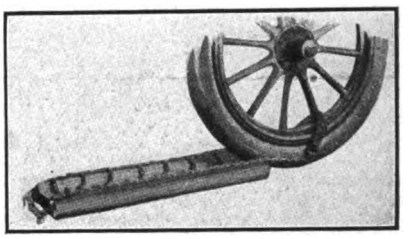
from the axle. The model T Ford car is one of these and, to enable the removal of the wheel without damaging it or marring the paint, the Motor Specialties Company, Waltham, Mass., has designed the Mosco wheel puller.

As will be noted by the accompanying illustration, it is made to be screwed on to the hub of the wheel, and a liberal sized set screw is employed to draw the wheel from the axle. One of the qualities of the Mosco is that a simple binding screw adjustment is incorporated. This adapts the device to any variation that may exist in the thread of the wheel hub, as well as eliminates danger of stripping. The Mosco is constructed of high grade material, nicely finished, and is inexpensive.

ROHE MOTOR CAR BLOCK.

Designed to Extricate Machine from Mud, Etc., by Own Power.

In the spring of the year, when visiting the country sections, and especially after a heavy fall of rain,



the driving wheels of the machine are likely to become mired unless one be careful. Usually the driver has to engage a pair of horses to extricate the machine when ordinary methods fail.

The Rohe Traction Block Company, Kenmard, N. D., is marketing the Rohe motor car block, which is designed to enable a car to extricate itself out of a mud hole or other place where traction cannot be obtained. The block is approximately 30 inches long and is placed, as shown in the accompanying illustration, with a chain attached to a strap. When power is applied the wheel in revolving draws the chain and block under it, thus providing a tractive surface.

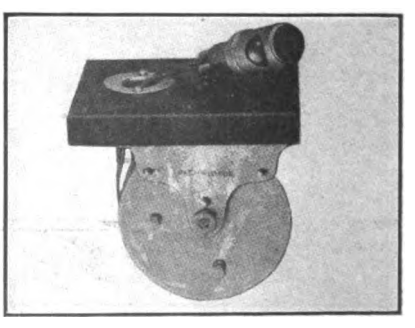
SMITH DUPLEX LAMP.

A Combination Dash and Inspection Light with Winding Spool.

Experienced motorists realize it is a dangerous proceeding to utilize a naked flame about the car when inspecting or making an adjustment at night when on the road or in the garage as more or less combustible vapor is present.

An electric lamp makes for safety, and among the late types of inspection members is the design marketed by J. W. Andrews & Co., Chicago. The Smith Duplex, as it is termed, is a combination unit, in that it combines the qualities of a regular dash light and a trouble lamp. The lamp is fitted into a socket in the dash, and, when the use of an inspection light is required, it may be removed easily and quickly. Sufficient length of high grade flexible cable is provided to permit use of the light at the rear of the machine if desired.

One of the features of the Smith Duplex is the method of carrying the cord. Instead of storing the equipment in the tool box as in conventional practise, the wire is wound upon a spool placed behind the dash. The winding member is neat and compact, as will be noted by the accompanying illustration. The Smith Duplex lamp comes complete with instructions for installing and the work is done easily. It retails for $4.75.



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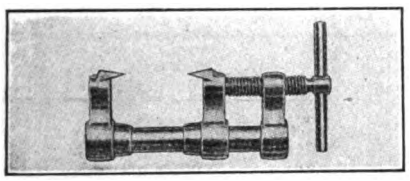
KNOWLSON SPRING SPREADER.

Chas. E. Miller Marketing an Inexpensive Practical Tool.

In these days of refinements more attention is being given to details formerly neglected. Few motorists



consider the springs as requiring attention, but it is a well known fact that these members should be lubricated; that is, the bearing surfaces of the leaves. The old method of cleaning and lubricating consisted of prying the leaves apart with a cold chisel or other convenient tool.

Chas. E. Miller, 97-103 Reade street, New York City, is marketing the Knowlson spring leaf spreader, which is easily operated and adjustable to any size spring. One of the qualities of the device is that it is not necessary to loosen the spring clips. As will be noted by the illustration, the tool has a screw member provided with a point. By rotating the screw the leaves are forced apart, enabling the introduction of the lubricant. The tool is made of drop forgings, nickel plated and polished, and weighs but 15 ounces. It can also be used to make a temporary repair to a broken spring. It retails for $1.50.

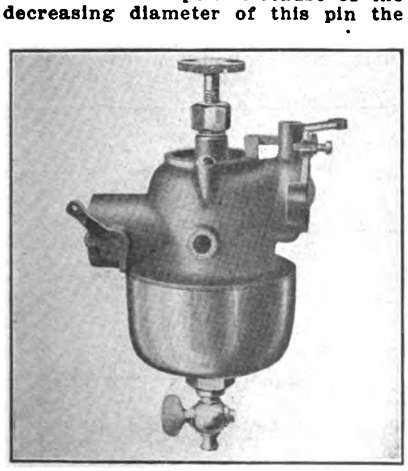
STEWART CARBURETOR.

Special Ford Design, Dash Adjusted and Heated by Hot Air.

The Detroit Lubricator Company, Detroit, manufacturing the Stewart carburetors, has developed a design for the model T Ford motor, which is held to be very efficient, easily installed, and to make use of the heat of the exhaust manifold. It is supplied either with thumb screw adjustment or to utilize the regular Ford dash adjusting rod.

The principle of operation of the Stewart is held to be entirely different from conventional types, and the maker states that the proportions of fuel and air are accurately determined, irrespective of the throttle opening. Use is made of a metering valve, which moves up and down, according to the suction of the motor, and it is held that the amount of fuel and air admitted to the mixing chamber increases or decreases in exactly the same ratio, obtaining the correct proportions at different speeds.

The lower end of the metering valve extends down into the gasoline and around a taper. Because of the decreasing diameter of this pin the higher the metering valve is lifted the larger will be the opening into the aspirating tube, and the more fuel will be drawn up. There is but one moving part, the metering valve.

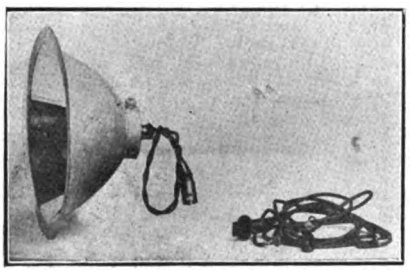


C-S FORD REFLECTORS.

High Grade Design with Many Practical, Useful Features.

The Culver-Stearns Manufacturing Company, Worcester, Mass., is marketing the C-S patented lighting outfit for model T Fords, which is designed to operate direct from the flywheel generator. The outfit consists of one pair of heavily silver plated reflectors, all necessary wiring, bulbs, switch, Ediswan connectors, etc.

One of the qualities of the design

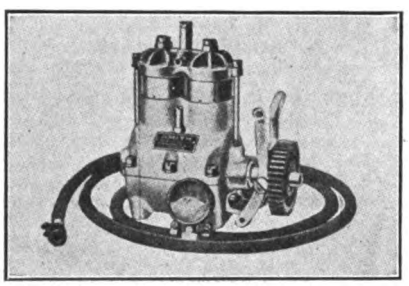


and one which will appeal to owners of Ford cars contemplating converting their gas lights into electric units, is that in the event a bulb becomes burned out or broken, it may be removed and a new one fitted without displacing the reflector. This is made possible by a patented device at the rear of the reflector, it being displaced by loosening a knurled nut and rotating the part slightly.

PERFECTION TIRE PUMP.

A Two-Cylinder Design with Complete Equipment.

The Smith Perfection power tire pump, marketed by the Smith Motor Devices Company, Dodgeville, N. Y.,



is a two-cylinder unit, with the cylinders made of a high grade brass tubing, tested to a capacity of 400 pounds to the square inch. The heads are of special steam bronze to reduce heating to a minimum. The best grade of aluminum is used in the upper and lower crankcases and the main shaft is of chrome nickel steel.

The bronze connecting rods are driven by means of an eccentric, a special drop forging, thus eliminating many parts. The die cast pistons have large wristpins, and compression packings prevent oil from reaching the air chamber. Gears, shifting lever, 15 feet of hose, pressure gauge and copper tubing are included.

Particular attention is called to the Classified Buyers' Guide in this issue. The concerns listed are wholly reliable and worthy. When writing advertisers please mention the Accessory and Garage Journal. Also kindly mention the Accessory and Garage Journal when writing for trade discounts and particulars of machinery, tools, supplies, equipment, accessories, etc.

UNIVERSAL TAIL LIGHT.

Electric Lamp, Solderless and Made in Two Styles.

The Combination Tail Light Company, 954 Tremont street, Boston, is manufacturing an attractive, compact

electric tail light termed the Universal. It is fitted with an ingenious device which throws a soft, strong light over the entire surface of the number plate, and the maker lays emphasis on this point, stating that glaring is eliminated, and that the illumination conforms with the laws. The lighting device is attachable or detachable instantly, overcoming troubles in replacing a damaged bulb with a new one. Any bulb with an Ediswan base and not more than 1.25 inches in diameter may be used.

One of the features of the design is the use of a combination socket, which will fit the bracket of any car. Soldering has been eliminated in the Universal, all parts being electrically welded, making for durability. It is made in two styles, C, having a steel back, nickel and enamel top and finished in nickel and black outside. The retail price is $5 and $4 respectively.

STANDARD AUTO-THERMO.

Indicates Temperature of Motor by That of Cooling Fluid.

The Standard Thermometer Company, 65 Shirley street, Boston, is marketing the Standard auto-thermo, which is a neat, compact device fitted to the radiator cap and is adapted for attachment to either the hinged or screw cap. It is fitted by boring a hole in the cap, inserting the extension and tightening a nut on the last named member. The part extending into the radiator actuates a hand which moves over a calibrated dial, the degree and direction of movement being influenced by the temperature of the fluid of the cooler, or, in other words, the motor.

The hand moves across transparent zones, and temperatures equalling that of freezing, maximum motor efficiency and steaming are shown. When the hand is in a vertical position, it indicates "Safe"; that is, the cooling water is at a temperature when the motor is operating at its maximum efficiency insofar as temperature is concerned. The auto-thermo comes in nickel, brass or black enamel and retails for $5.

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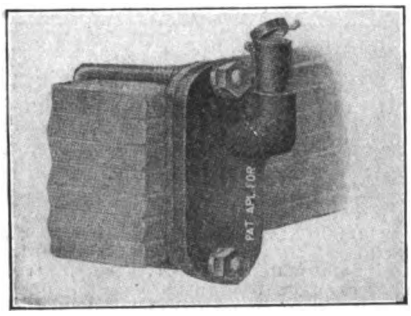
GRUS SPRING OILER.

Designed to Provide Constant Lubrication of Leaves.

Several designs have been marketed for forcing apart the leaves of the springs so as to lubricate the



bearing surfaces, but a new method of reducing friction is noted in the device being manufactured by Wm. Grus, Jr. & Co., 5213 Wayne avenue, Chicago. The Grus patent leaf spring oiler is attached permanently to the spring, being fitted about one-third the distance from the centre, as shown in an accompanying illustration.

The plate, which is bolted to the side of the springs, is provided with an oil receptacle, which has an opening registering with the springs, and the maker states that the lubricant will automatically find its way to the bearing surfaces. The oiler proper is provided with a cap, which excludes all foreign elements. The device is made in varying sizes for different springs and sells for $1.

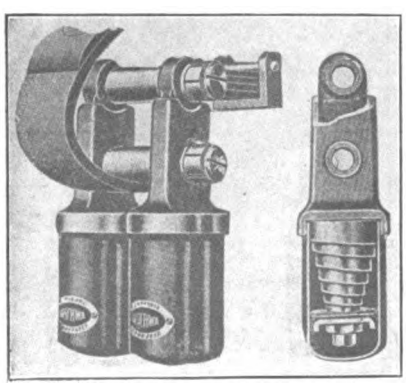
G-S SHOCK ABSORBERS.

Combine Spring and Compressed Air Principles.

The G-S "Geschwa" shock absorbers are marketed by the Geschwa Importation Company, Hartford, Conn., and road shocks, vibration, etc., are compensated for by the combination of a spring and novel use of the compression of air. The spring employed is not an ordinary coiled member. It is a flat, highly tempered spring, coiled in a spiral conical form, as shown in the smaller illustration, and it is stated that when it is compressed it forms a pneumatic air cushion, eliminating shocks, also controlling the rebound of the car springs.

An air chamber is provided at the bottom, this governing the spring suspension of the machine, and the compartment has a relief to equalize upward and downward movement. The arm attached to the shock absorber spring moves in a housing, and is secured to the lower spring when three-quarter elliptics are used, for example, while the top car spring is secured to a bolt extending through the housing of the absorber.

It is claimed by the maker that the

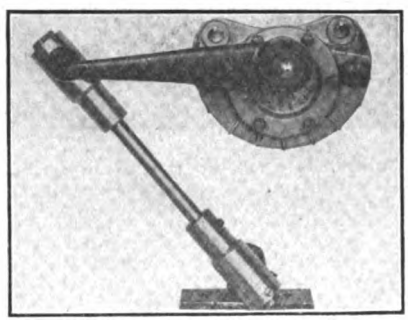


G-S can be completely telescoped without affecting flexibility or efficiency, and that the design is unbreakable. It is also stated that it can be attached or removed with slight expense, and that it may be adjusted to varying loads. The G-S absorbers are sold with a guarantee for one year, and are made for varying spring suspensions and different makes of machines.

HERZ SHOCK ABSORBER.

Utilizes Swinging Movement of a Steel Lever.

Herz & Co., 245 West 55th street, New York City, has brought out a shock absorber which is held to be a distinct departure from previous designs. In the Herz the resistance necessary for the absorption of the spring vibration is produced by the swinging movement of a steel lever in a specially compounded substance. The maker states that the design is simple and that there is nothing to get out of order. The cast iron box containing the substance also retains

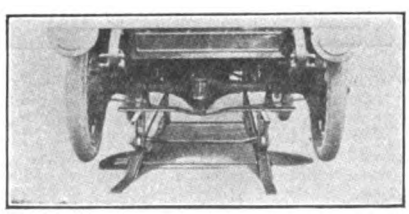


the bearings for the inside lever, and is secured to the frame of the car. The outside lever with a ball on its end is attached to a rod having a socket end, and the rod in turn is secured to the spring of the car. It is stated that the Herz absorber has been in service abroad for the past four years. It is guaranteed.

CADY AUTO-JACK.

Automatically Raises and Lowers the Automobile.

The Cady Auto Appliance Company, 755 Central avenue, Cleveland, O., is manufacturing the Cady Auto-Jack,



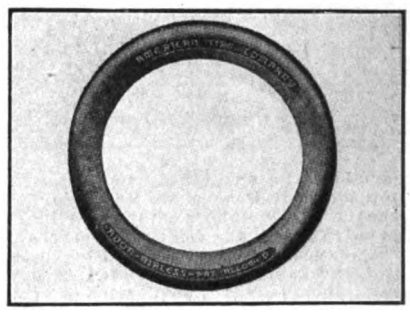
which is stated to be automatic in its action. It lifts all four wheels of the machine 1.5 inches clear of the floor without effort upon the part of the owner of the machine other than driving the car upon it. A small lever, easily operated, permits of removing the car from the jack when desired, and the maker states that a child can do the work.

The Cady Auto-Jack is constructed of steel and finished in aluminum. It is guaranteed against any defect in workmanship or material, and weighs, crated for shipment, 200 pounds. It retails for $30 and the maker points out that it will not only save its cost in tire economy, but it will be found to be decidedly useful in the repair and maintenance of the machine.

AVON AIRLESS TIRE.

Wool Felt Employed as a Material—Many Advantages Claimed.

The American Tire Company, Montello, Mass., is manufacturing the Avon airless tire, which is designed



for light and heavy trucks. It is made in both flat and round treads. The tire is the result of a series of experiments with wool felt by the inventor, and it is stated that none of the desirable resiliency of the pneumatic is sacrificed.

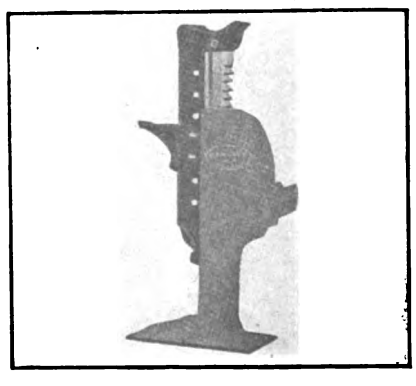
It is pointed out that the material utilized in the Avon tire can be subjected to enormous pressure without affecting it, as it will quickly resume its normal form. Among the advantages of the construction emphasized are: Creeping is eliminated, internal friction avoided and saturation prevented. It is obvious that wool felt is not affected by punctures nor susceptible to blow-outs. For the present manufacture of Avon tires will be confined to commercial vehicles.

BARRETT 1914 JACK.

New Design Has Several Practical Features of Interest.

The Duff Manufacturing Company, maker of the Barrett automobile jacks, has brought out a new design, termed the 1914. One of the qualities of the new jack is the casting integral with the malleable iron top, an adjustable lifting member, which is of advantage in that it permits using the jack where the height is less than the maximum of the regular top. The smaller top member slides and is secured by bolts. This construction adapts the jack to all types of machines.

The pawl points are machined all around, meshing perfectly, making for a large factor of safety, efficiency and convenience. The pawl bearings are also machined. The bearings, gears and racks are constructed of a high grade carbon steel and each jack is rigidly tested before leaving the factory. A tire tool lever is supplied with all the new styles marketed by this concern.



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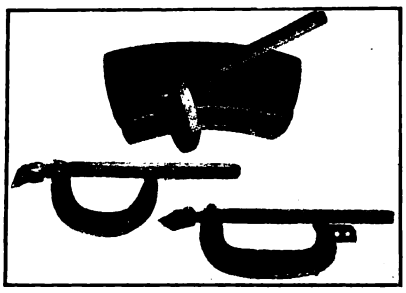
HOLDEN TIRE TOOLS.

Designed for Clincher Demountable Rims and the Ford Car.

The Holden Manufacturing Company, St. Paul, Minn., is producing the Holden tire tool, which is made



in standard and a special form, the latter for the model T Ford machine and shown in the lower right hand corner of the illustration. The Ford tool is made for three and 3.5-inch clincher tires.

The standard is designed especially for clincher demountable rims, and it is stated that it will loosen a shoe easily, no matter if it be frozen. By turning the handle outward just past dead centre it locks, holding the bead inward, facilitating removal when the rim is split crosswise. It is adapted to 3.5 and five-inch tires, is finished in aluminum and weighs but two pounds. The Standard sells for $1.25.

J. & B. FUEL SAVER.

Dash Device Automatically Controlling Extra Air to Intake.

As the efficiency of the motor largely depends upon the correct proportions of fuel and air, a number of devices for regulating the supply of air from the seat have made their appearance during the past year. The principle involved is that of admitting atmosphere when it is supposed that too large a quantity of gasoline is emerging from the jet of the carburetor, and when the motor is attaining high speeds.

The majority of the devices marketed provide for manual control; that is, the operator of the car utilizes his judgment as to the amount of air required. The device manufactured by Jones & Buckoke, 1413 Michigan avenue, Chicago, differs from conventional practise in that the air is admitted automatically and according to the speed of the engine.

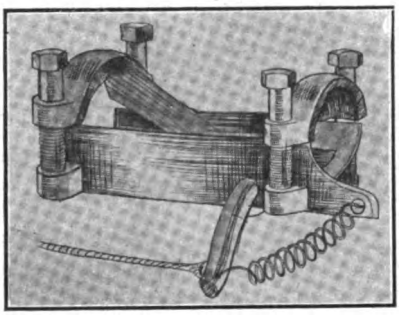
The J. & B. automatic fuel saver is located on the dash and is connected by a flexible tube to the intake manifold between the carburetor and the cylinders. The dash device contains an air valve, which opens and closes according to the varying suction which changes with the speed of the engine.

When the motor is running slowly the valve is closed, but as the speed picks up, a valve member is automatically released from its seat, and allows air to be drawn into the intake manifold, the extra atmosphere being in proportion to the requirements of the engine. It sells for $15.

X L CUT-OUT.

Cuts Out Exhaust by Means of a Movable Tongue.

The Auto Improvements Company, Bristol, R. I., has brought out a new design of muffler cut-out for model T Ford cars, although it is stated that it will be constructed for other makes. The maker claims that it is superior to the conventional types in that it cuts out all of the exhaust by means of a tongue. The last named member, when raised by a pedal, forms a partition in the exhaust line, forcing the gases to pass out through a rectangular opening. The absence of back pressure when not in service is emphasized by the inventor, also



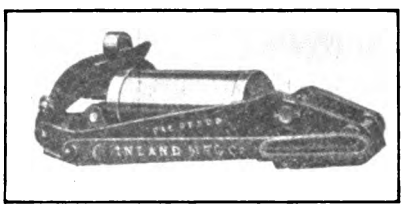
ease of attachment. In the illustration the tongue is shown raised. It retails for $3.

INLAND HAND PUMP.

Compact Design for Attachment to the Running Board.

The Inland hand pump is manufactured by the Inland Manufacturing Company, Chicago, and one of the features of the design is its compactness. It is 15 inches long when folded; is designed to be attached to the running board by a wing nut arrangement, and is operated by a lever, which also folds.

The cylinder and base are constructed of brass, the former having a bore of three inches and a stroke of of 5.625. The piston is of cold rolled



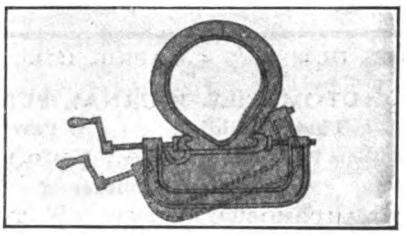
metal and is equipped with a leather packing. One of the qualities of the design emphasized is that it will not heat in service, a draught of air flowing through the cylinder at each compression stroke, it is stated. The pump comes complete with eight feet of high grade hose and a pressure gauge.

The Accessory and Garage Journal invites manufacturers, distributors and agents to co-operate in presenting to its readers new accessories, equipment, etc. The forwarding of suitable illustrations and data, does not place the contributor under any obligations. The editor of this department, however, reserves the right to discuss the practicability of the article submitted. The name of the manufacturer and street address should accompany all data, also the retail price.

CALNAN TIRE REMOVER.

Is Adapted to All Types of Tires and Rims and Ford Shoes.

James P. Calnan, West Upton, Mass., is manufacturing the Calnan tire remover, which is held to be a



very practical tool in that it is designed to loosen any type of tire or rim. One of the qualities of the construction emphasized is that it will fit all sizes.

The tool is operated from the front of the wheel, either when removing or replacing a casing, and it locks automatically, enabling the user to employ both hands if necessary. The equipment also includes a tire removal tool (not shown), which is provided with a ball end that is placed on the ground, and the other end is inserted between the shoe and the rim. By turning the wheel the tool separates the casing from the rim. The equipment sells for $2.25.

AUTO PARTS RADIATOR.

V Shaped Honeycomb Design for Model T Ford Cars.

The Auto Parts Company, Chicago, is marketing a special design of radiator for the model T Ford automobile. It is of the V shaped design, and is stated to be a genuine honeycomb type. It is constructed to replace the regular cooler and without any alteration or special fittings. It is made with two finishes, nickel plate and brass, the latter listing $2 less. The nickel plate retails for $35.

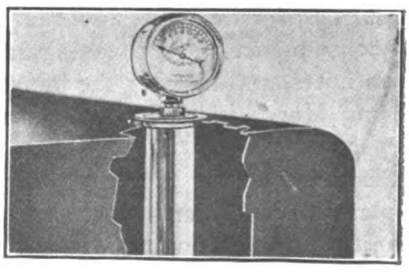
The company is also marketing the P. G. N. headlight, which provides three lighting equipments in one.

HANS TANK GAUGE.

Indicates Supply of Fuel by Magnet Principle.

The Hans Motor Equipment Company, La Crosse, Wis., manufactures a large number of designs of fuel gauges, one of which, a tank design, is shown in an accompanying illustration. It is mounted with its float chamber directly in the tank, the dial case being the only part visible. The type is designed for machines where the fuel container is very accessible.

The indicating hand moves over a calibrated dial, and is operated by a magnet mounted behind the dial. The working parts are enclosed in an air tight and dust proof chamber, and the maker states that the construction is leak proof. All of the Hans products are carefully tested before shipment. The gauge retails for $12.



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THE ACCESSORY AND GARAGE JOURNAL

VOL. III. APRIL, 1914. NO. 12.

AUTOMOBILE JOURNAL PUBLISHING CO.
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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

INCREASED FINANCING.

According to statistics compiled in financial circles, the demands for new capital by American railroads and industrial corporations during the month of March totalled $129,835,000, as compared with $118,449,600 during the same month of 1913. This indicates a substantial increase, although, as usual, a large amount was raised to meet maturing obligations. It is also stated that the maturities for April will total $61,847,000, as against $53,283,000 for March.

In this connection it may be added that money is not only easier, but much cheaper than it was a year ago. This has the effect of increasing the investment demand for bonds somewhat, although confidence is held not to have been revived sufficiently, as yet, to encourage offering bonds at a price which is regarded by railroad managers, for instance, as a fair rate of interest. In consequence, resort was again made to short term notes, and most of the increase in financing during March is held to have been in that class of securities.

Because of the fact that commercial money is plentiful and interest rates are on a lower level than they were a few months ago, there is a general feeling throughout the country, perhaps more noticeable in the West than in the East, that business confidence is improving rapidly. Money for permanent investment is becoming more abundant, and this is reflected, particularly on the Pacific Coast, in a marked improvement in the bond market. Bank deposits throughout the East have shown a decided upward tendency during the past month. In all sections there is a growing disposition on the part of states, counties and municipalities to borrow as heavily as their credit permits, creating a condition in which all the liquid capital from the accumulation of industry and thrift is quickly and constantly absorbed. This situation, and the exceptionally good crop outlook throughout the entire country, appears to warrant the statement that business conditions are gradually assuming normal proportions.

AUTOMOBILE COACH MAKER.

Within the past few months the number of concerns heretofore engaged in the production of carriages and wagons who have seen fit to announce their withdrawal from that field and their intention of devoting their efforts to satisfying the demand for distinctive automobile bodies, has been such as to merit comment. In some instances it has been noted that the firms taking this radical step have been among those with enviable reputations in the industry which they were leaving—concerns with long, successful careers behind them.

The production of specialized body designs really had its inception early in the history of the motor truck. Soon after the advent of the practical mechanical transport, it was demonstrated that a custom made installation often was necessary in order that the chassis might be enabled to serve its purpose most fully in a given business.

It would appear that the carriage builders seek to carry this proposition a step further, so that it is not too much, perhaps, to announce the arrival of the American automobile coach maker, as those engaged upon this class of work are termed abroad. That the field presents interesting possibilities to these men seems evident, else they hardly would have abandoned the positions in which they had become so firmly entrenched. Incidentally, their action offers a timely comment upon the growing importance of the automobile industry.

Success is won in any field of endeavor only by hard work and close application to details. The man who studies local conditions and places his business on a business basis is bound to succeed in selling automobiles.

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CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of April were as follows:

Pennsylvania dark	$2.50	Ragland	$ .70
Second sand	2.50	Illinois above 30°	1.45
Tiona	2.50	Illinois below 30°	1.45
Mercer black	2.00	Kan. & Okla.	.90
Cabell	2.07	Corsicana light	1.05
New Castle	2.00	Corsicana heavy	.65
Corning	2.00	Electra	1.05
Wooster	1.91	Henrietta	1.05
North Lima	1.49	Caddo, La., 38°	1.05
South Lima	1.44	Caddo, La., heavy	.60
Indiana	1.34	Spindletop	1.06
Princeton	1.40	Canadian oil	1.89
Somerset 32°	1.35		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	30½	30	20½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	20¼	20	19¾
73 a 76°	29½	29½	29
Stove	23	22¾	22½
Auto, 68-72°	25½	25¼	25

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16½
Refined, barrels	13	a	13½
Tank wagon delivery	..	a	9
Fuel, 31°	8¾	a	..
Fuel, 34°	9¾	a	..

Naphtha.

Auto in wood	..	a	20
Auto in garages, steel bbls	..	a	16
V. M. & P. deod., in steel	..	a	14
V. M. & P. deod., in wood	..	a	16

Gasoline.

86°	..	a	29½
74-76°	..	a	25¼
67-70°	..	a	22¼
Stove	..	a	21

ADDS MOTOR CAR DEPARTMENT.

Reduced Insurance Rates Responsible for Increased Interest in Automobile Fire Extinguisher.

When it became known recently that the leading fire insurance companies had granted a substantial reduction in their rates wherever the automobile or motor truck was equipped with an approved fire extinguisher, the Pyrene Company, 1358 Broadway, New York City, with New England branch at 176 Federal street, Boston, found a most gratifying increase in the interest among motor car owners in providing protection against loss by fire. The business of this company in Pyrene fire extinguishers for automobiles has grown so rapidly as a result that the officers have decided it is advisable to establish a special motor car department, in order that the needs of automobile users may be studied and their interests properly served.

This department is now in operation, with C. Louis Allen, for the past year New York manager of the Service Recorder Company, in charge. It will be the aim of this department to act in the nature of a general information bureau and counsel on all matters pertaining to automobile fire insurance, and those who have to do with such machines are cordially invited to make use of this service, which is offered without charge, at all times.

FEATURES SHOP COURSE.

Boston Auto School Is Calling Attention to the Facilities for Special Instruction Offered by It.

The Boston Auto School, 222 Columbus avenue, Boston, Mass., is directing particular attention to its shop course, in a neat little booklet issued recently. An interesting feature of the course is the opportunity afforded for a thorough training in magneto and carburetor work.

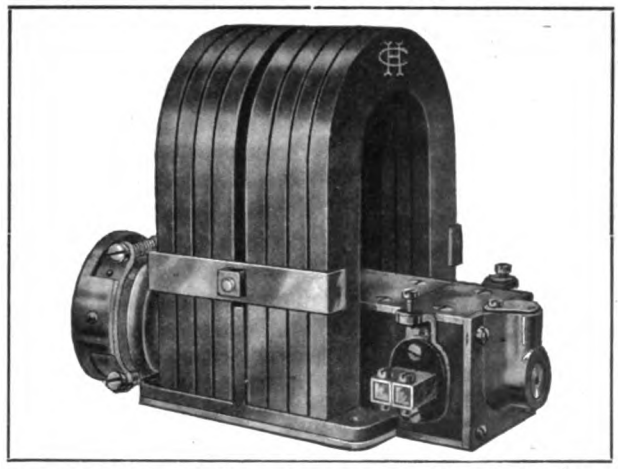
The company which maintains the school, Bonney & Greig, operates a repair shop, in which the students receive instruction while working on cars brought in for repairs, under the guidance of expert mechanics. In addition, the company has a service station for Rayfield carburetors and is continually installing this make of instrument on cars, as well as a department for overhauling magnetos and ignition systems. Instruction in these departments is free to those taking the shop course.

NEW LIGHTING GENERATOR.

Holtzer-Cabot Electric Company Marketing Permanent Field Type of Magneto Applicable for Automobiles.

The Holtzer-Cabot Electric Company, Brookline, Mass., is manufacturing what is termed the J S type of magneto, which is an electric generator of the permanent field type. Its output is 5.5 amperes continuously at 6.5 volts, which is high for the size of the instrument, which is not only compact, but is constructed with the same high grade material and workmanship for which the product of this concern is noted. One of the qualities claimed in the generator is that, on account of no energy being required to excite field windings, its efficiency is very high. It will generate equally well when run in either direction.

It is not claimed that it is universally applicable for motor car lighting, but is adaptable under the following conditions of service: For the large car, the owner of which prefers gas headlights and the use of electric side and tail lights, interior lighting, horn and battery ignition; for the complete lighting of large cars that are operated principally in the daytime; for the machine usually driven in a city where the use of headlights is restricted; for the complete lighting of small cars with headlights utilizing from 12 to 16 candlepower; for the



Holtzer-Cabot J S Type Magneto for Electric Lighting and Battery Charging.

earlier types of machines without magneto ignition, to supply the ignition current, side and tail lights, horn, etc.; for operating headlights without a battery connection or switches.

The magneto is provided with a governing pulley which prevents excessive armature speeds, and a six-volt, 60 ampere-hour battery is connected to the generator through a special reverse current cut-out and an ammeter. It is stated that the last named need not be of an expensive type, as its purpose is to indicate the current consumption of the lamps, and any decrease in the output of the dynamo due to the belt becoming loose or brushes becoming worn or stuck.

The magneto is mounted on a bracket and drive is taken by round belt from any convenient driving member such as the fan pulley, for example. The wiring plan is simple and the equipment is moderately priced. The Holtzer-Cabot Electric Company issues a booklet which gives in detail the equipment, and it will be mailed free on request.

OUTLOOK IS VERY BRIGHT.

Gramm-Bernstein Company Declares Semi-Annual Dividend of 3.5 Per Cent. and Sales Show Increase.

The Gramm-Bernstein Company, Lima., maker of B. A. Gramm's trucks, has declared its regular semi-annual dividend of 3.5 per cent., which was payable April 1. According to reports from the factory its affairs are in a decidedly prosperous condition, as indicated by the number of trucks sold, and the outlook for the coming year is exceedingly bright. General Sales Manager W. H. Moore is visiting the agents in the South and reports that the increase in sales in that territory will in all probability be very large.

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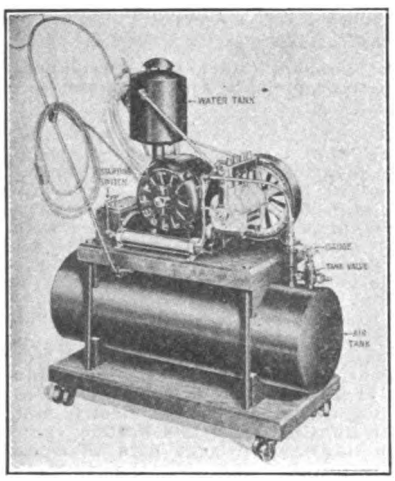
MACHINERY, TOOLS AND EQUIPMENT.

THE Kellogg Manufacturing Company, Rochester, N. Y., maker of the Kellogg four-cylinder air pumps, is marketing the Kellogg electric motor driven garage pump shown in an accompanying illustration. As will be noted, the pump, electric motor and storage tank are mounted as a unit.



Kellogg Electric Motor Driven Garage Pump.

The pump is a heavy duty, water jacketed four-cylinder unit, powerful and compact, and may be connected direct to the tire or to the tank, where air can be stored at a pressure of 150 to 200 pounds a square inch. A water tank is provided, the fluid circulating around the head of the cylinders of the pump, thence to the reservoir on the thermo-syphon principle. The bearings of the pump are of babbitt and the connecting rods of bronze. The pistons are of anti-friction metal, made leak proof by the company's exclusive cup washer construction. The cams are drop forged steel, carefully ground to size. Lubrication is by splash and the system is held to be very efficient.

The electric motor is .25 horsepower capacity and drive is by silent chain. A knife switch regulates the operation of the motor, and connected with this is a simple automatic air release, which permits the motor to attain full speed before receiving the full load. The maker states that this eliminates fuse troubles.

Two gauges are provided. One, conveniently located, indicates the exact air pressure in the storage tank, which is tested under 500 pounds pressure to the square inch, and the other is incorporated in the tire line.

The platform on which the equipment is mounted is fitted with rollers, permitting it to be moved about the garage or to the sidewalk when a tire is to be inflated with air stored in the tank. As previously mentioned, shoes may be inflated from the pump direct if desired, making for convenience.

The motors are supplied for either alternating or direct current, and when the former is to be used it is essential to state the number of cycles. In considering the installation of the equipment the maker states that it is important that the voltage be known and that the motor must receive its full number of volts if efficiency is desired. The Kellogg equipment comes complete or without the tank. The Kellogg Manufacturing Company will supply complete details on request.

AUTOMATIC TIME ADJUSTMENT.

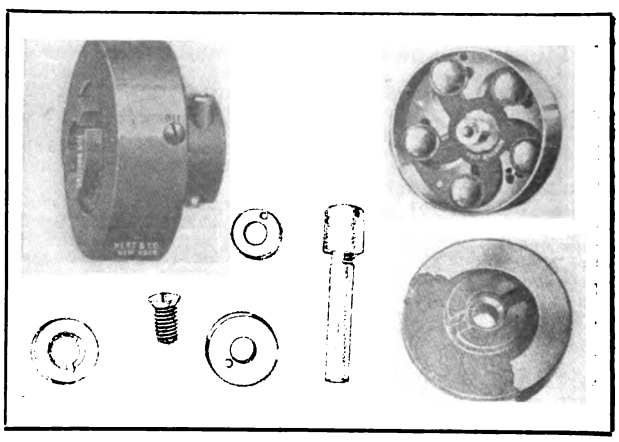
Herz & Co. Marketing Ignition Device Enabling Adjustment up to 40 Degrees.

Herz & Co., maker of electrical devices, is marketing the Herz patented automatic time adjustment for ignition apparatus. It is designed not only to prevent accident through back firing caused by improper advance of the spark, but it is held to make for economy in the operation of pleasure and commercial vehicles. The time of ignition is adjusted automatically in accordance with the number of revolutions, and the range is up to 40 degrees.

The components of the device are shown in an accompanying illustration and it will be noted that it comprises a coupling consisting of two juxtaposed discs, the construction being interposed between the magneto and driving shaft. Each disc is provided with five grooved curves running in an opposite direction to those in the other disc. Five steel balls are held in these grooves and function in a similar manner to the weights of a governor, being forced outward by centrifugal force in direct proportion to the speed of the motor. The maker states that this construction imparts a twist to the armature of the magneto in relation to the driving shaft.

It is held that any desired degree of adjustment may be obtained by altering the curves in a suitable manner, and that the absence of springs, journals, joints, etc., and the certainty with which the balls are guided, make for reliability of operation.

The device is supplied either as an integral part of the ignition apparatus or in the form of a coupling. Owing to the small space it occupies it is stated that in many instances it can be used



Herz Automatic Time Adjustment for Ignition Apparatus Up to 40 Degrees.

in place of the ordinary coupling and without alteration. Special literature is issued by the company and will be sent free on request.

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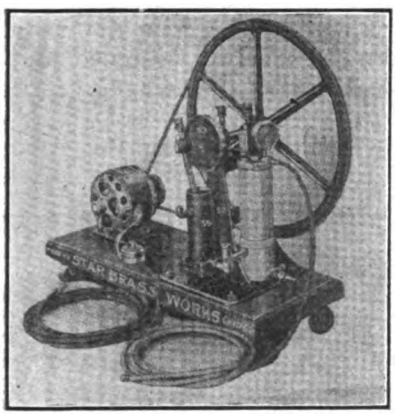
BINKS ELECTRIC TIRE PUMP.

Is Constructed to Withstand Severe Service and Is Held to Be Very Efficient.

The Star Brass Works, 1911 Fulton street, Chicago, is manufacturing the Binks electric tire pump shown in an accompanying illustration. It is designed both for public and private garages, and efficiency is one of its features.

The equipment is most complete and includes suitable length of hose, flexible lamp cord, etc. The compressor is constructed of the best grade of iron, neatly enamelled. The cylinder has a bore of two inches and a stroke of five, and is bored and ground to exact dimensions. The piston rings are of the same material as the cylinder and as carefully finished and fitted. All parts subject to friction are equipped with spring grease cups. The valves are of special design and material and, it is stated, will require no attention.

The compressor is operated by a .25 horsepower 110-volt direct or alternating current motor (60 cycles), and 15 feet of lamp cord with socket is included in the equipment. Lubricant is prevented from reaching the tires by a well designed oil extractor located between the pump and the hose. The relief valve may be set to any desired pressure, preventing over inflation or the bursting of tires. The outfit is mounted on a finished, painted platform two by 12 by 30 inches, and swivelling ball bearing casters make it an easy matter to move the equipment about the garage.



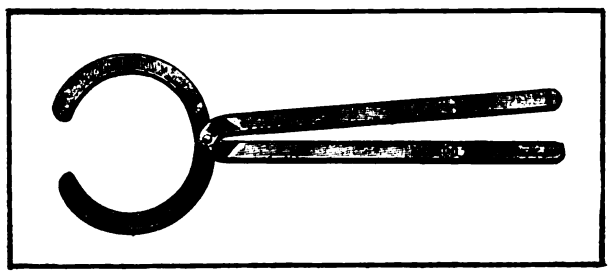
Binks Electric Tire Pump.

The Binks electric tire pump is constructed to withstand severe service and is liberally guaranteed by a maker having 14 years' experience in the production of pumps. Price lists and descriptive matter will be supplied upon request.

FORD PISTON RING CLAMP.

Nelson Device Compresses Rings, Enabling Easy Replacement Without Danger of Breaking.

The Nelson Manufacturing Company, 564 West Randolph street, Chicago, is marketing a number of Ford specialties, among which is a piston ring compressor shown in an accompanying illustration. It is designed especially for the Ford motor and could be employed with other engines the pistons of which are of similar diameter. The operation of the Nelson tool is obvious. It is placed about the ring and by exerting a slight pressure on the handles the ring is fully



Nelson Ford Piston Ring Clamp.

compressed. The tool is inexpensive and will save considerable time when replacing rings.

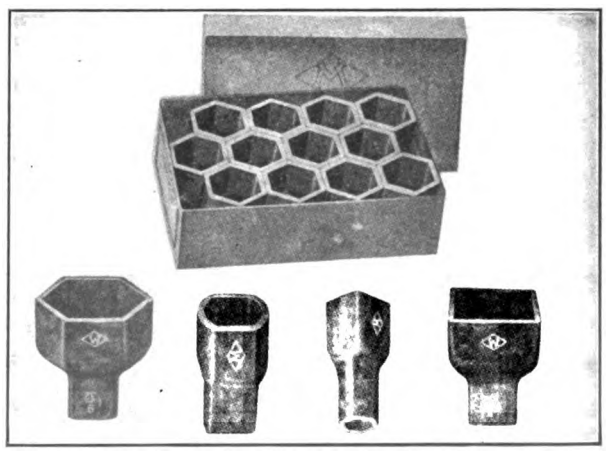
MOSSBERG SOCKET BRACE.

Is Designed to Fit All Sizes of Mossberg and Sockets Having a Standard Shank.

The Frank Mossberg Company, Attleboro, Mass., is manufacturing the Mossberg socket brace No. 360, shown in an accompanying illustration. A brace is a decidedly handy tool in the repair shop and garage and may be employed for a number of useful purposes, such as grinding in valves, removing the nuts of demountable rims, working about the power plant, etc.

The Mossberg brace is very efficient, being constructed of the finest grade of steel, dull nickel plated and with ebonized wood handle. It is 13 inches over all and is covered by the usual Mossberg guarantee. The chuck end of this brace holds all sizes of Mossberg sockets and those having a standard shank. The brace is moderately priced.

The company makes a specialty of pressed steel sockets, some of which are shown herewith. The product of the concern is well and favorably known among repairmen and the trade, as the sockets are constructed of pressed steel and hardened, and by their mottled finish. They fit hexagon and square nuts, set screws, and bolt



Mossberg Pressed Steel Sockets and Container.

heads. One of their qualities is that they are standard and will fit practically every socket set that is now on the market.

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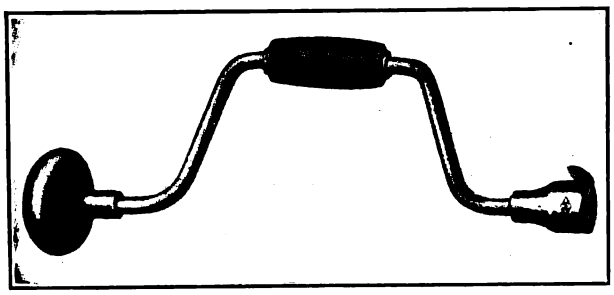
They are produced for U. S. standard hexagonal nuts and bolts, A. L. A. M. standard hexagonal nuts and screws, manufacturers' standard



Mossberg Socket Brace No. 360.

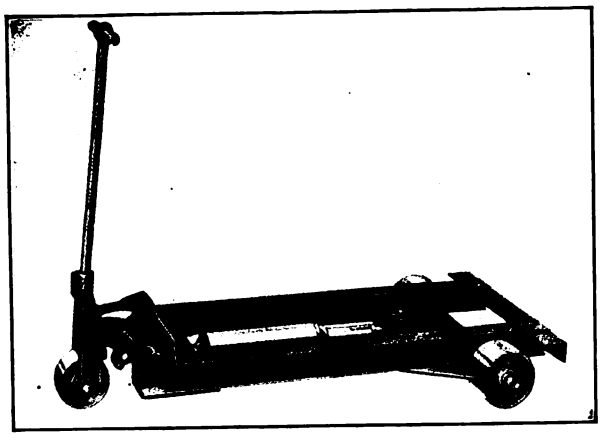
hexagonal headed bolts and for cap and coach screws. The maker calls special attention to the necessity when specifying, that dimensions of nuts should be given measured "across the flats", or, in other words, the smallest diameter of the nut or bolt head, and, unless the actual size of the socket is ordered, an allowance is made by the company of .03125 inch for clearance. The Mossberg sockets are marketed in attractive boxes, each containing one dozen. Prices and complete list of sizes will be mailed upon request.

COWAN TRANSVEYOR.

An All-Metal Construction Having Capacity up to 3500 Pounds and with Good Clearance.

The Cowan Truck Company, Holyoke, Mass., is manufacturing the Cowan transveyor, shown in an accompanying illustration, which is produced in four sizes, having capacities of 2000, 2500, 3000 and 3500 pounds respectively. One of the qualities of the truck is that it is an all-metal construction. It is designed to operate over rough floors, up and down inclines and with the platforms is held to save considerable time and labor in the transportation of material about the factory. It is pointed out by the maker that fully 75 per cent. can be saved in the ordinary factory equipment.

One of the features of the transveyor is its



The Cowan Transveyor Which Is Utilized with Special Platforms.

ample clearance when the platform is elevated, this being 2.75 inches. The type H transveyor is equipped with a specially designed hydraulic ram, and a few strokes of the handle will elevate maximum loads to a height of three inches, a clearance eliminating possibility of skids catching or encountering obstructions at the foot or top of inclines. It is stated that there is no possibility of the load being released until the operator presses a pedal, when the platform will slowly sink to the floor without shock or jar.

The front wheel of the all-steel construction is fully swivelled, making it possible to turn the machine in its length. The high grade ball bearings are protected by washers and dust caps, and the steering handle is at all times free, enabling the workman to guide the machine easily and accurately. The design of the handle is such that a straight pull is provided when removing the transveyor from beneath a platform. The wheels are six inches in diameter for the No. 1 and 2 types and seven for the others. The type H will be supplied with 10-inch wheels if desired. Specifications, dimensions and prices will be forwarded upon request. John Cronin, 118 Pearl street, Boston, is agent for the Cowan Truck Company.

LEAK-PROOF PISTON RINGS.

Are Made Concentric and So Designed as to Leave No Unsealed Openings.

The McQuay-Norris Manufacturing Company, St. Louis, Mo., is marketing the Leak-Proof piston head packing rings, which are a radical departure from the conventional types. As will be noted by an accompanying illustration, the rings are made in two pieces and the construction is on the angle iron principle. Consequently there are no unsealed openings, as the flange of each section completely seals the opening of the other, thus obtaining gas tight construction and making for perfect compression.

Leak-Proof Piston Ring.

The Leak-Proof rings are made concentric, instead of eccentric, and one of the qualities of the design is their equal tension on the cylinder walls.

The Leak-Proof rings are in service in a large number of motors, where trouble has been experienced through oil working up past the original members, and they are held to be decidedly efficient where imperfect compression is experienced. The McQuay-Norris Company is issuing a booklet on piston rings, etc., which contains much valuable and instructive data upon the subject. The brochure will be mailed free upon addressing department D of the company.

The Joseph N. Smith Company, Detroit, is publishing its 1915 catalogue. The line includes the Ackerman adjustable windshield, screw machine parts and small hardware.

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DOMESTIC TUNGSTEN LAMPS.

Are Stated to Have Great Vacuum, Insuring Long Life and Efficiency.

The Domestic Tungsten Lamp Company, Weehawken, N. J., is manufacturing the Domestic tungsten lamp for motor car service. A drawn tungsten wire is utilized and it is stated to have a greater vacuum than any other lamp made for automobile use. The vacuum is first produced by an ordinary oil vacuum pump, then a mercury pump. This is held to insure longer life and freedom from a tendency to become black. The company manufactures lamps in varying sizes and voltages. Catalogue and discounts will be forwarded upon request.

BEAN TROUBLE FINDER.

Designed to Locate Easily and Quickly All Ignition Faults.

L. H. Bean, Worcester, Mass., is marketing the improved Bean trouble finder shown in the accompanying illustration. It is designed to locate ignition troubles easily and quickly, and the maker states that faults in coils, short circuits, pitted contact points, loose terminals, magneto troubles, etc., can be expeditiously determined by its use.

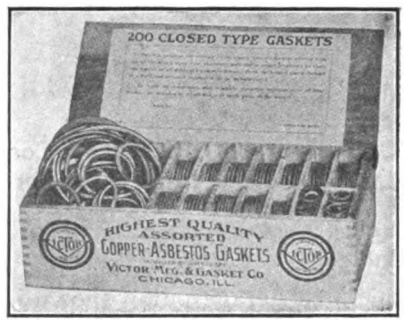
Bean Trouble Finder.

The device is operated as follows: In the event the engine misses, secure the trouble finder to the dash under the hood by the screws provided for this purpose. Attach the ground wire to any metal part of the chassis and start the motor. Take the handle from inside of the box and place the brass end on the terminals near the spark plug. If the spark misses in the glass of the finder, it denotes the coil is not adjusted properly. The action of the magneto may be tested in a similar manner; also all leads, etc.

VICTOR ASSORTED GASKETS.

Are Now Marketed in Assorted Sizes and Four Different Boxes Are Offered the Trade.

The Victor Manufacturing & Gasket Company, Troy and 21st street, Chicago, in addition to marketing its regular line of copper asbestos gaskets, is producing them in assorted sizes packed in boxes. Four different boxes are offered the trade, one of which shown in an accompanying illustration is for the model T Ford car.



Victor Assorted Gaskets.

Box No. 1 contains 12 complete sets of gaskets for the Ford car, these comprising that for the cylinder head, intake and exhaust, etc., and the company calls attention to the efficiency of the gaskets, stating that it supplies the maker of the Ford car with similar members in large quantities. Box No. 2 (that illustrated) contains 200 assorted copper asbestos gaskets selected from the most popular sizes universally used, and in proper proportion for everyday repairs on all makes of cars. The assortment is augmented by 65 selected sizes of gaskets to fit all makes of spark plugs marketed.

Box No. 3 has 50 assorted gaskets constructed especially for the intake and exhaust pipes and manifolds, exhaust flanges, carburetor connections, etc. There are 25 different sizes to choose from, making the equipment a valuable one to the repairman. Box No. 4 contains 100 assorted French type gaskets. All assortments are placed in a neat wooden box with steel hinge cover and the different sizes, etc., are located in compartments. Slips accompanying the boxes give the location and sizes. The trade prices will be forwarded upon request, also a catalogue.

GIDDINGS UNDER-CUT DRILL.

When Used with Special Chuck Bores Hole Which Locks Bearing Metal to Surface.

The Giddings under-cut drill is marketed by the Giddings Under-Cut Drill Company, 184 Summer street, Boston, and among the features of the tool is that when utilized in conjunction with a special chuck made by the company, it will bore an under-cut hole which locks the babbitt metal securely and permanently to any surface.

Victor Ford Gaskets.

The drills are made in standard sizes, .5, .625 and .75 inch. Special sizes are made to meet re-

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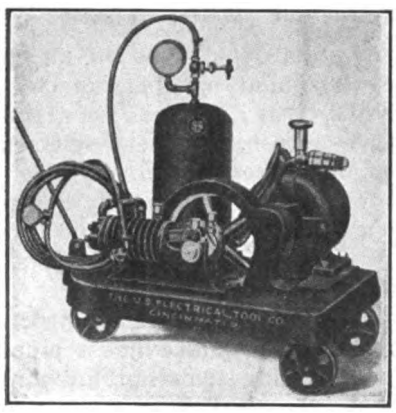
quirements. It is stated that the drills will bore a hole in five to 10 seconds, and that the best of material and workmanship are incorporated. Descriptive matter and price list will be mailed free on request.

U. S. AIR COMPRESSOR.

United States Electrical Company Marketing Complete Electrical Outfit for Garage Service.

The U. S. Electrical Tool Company of Cincinnati, O., is marketing the U. S. electrically operated garage pump shown in the accompanying illustration, and the maker states that it is constructed to withstand severe service. The complete equipment comprises an electric motor, single-cylinder compressor, air tank, suitable length of air hose, lamp cord and socket, gauges, etc., these being mounted on a low truck having caster wheels.



U. S. Electric Air Compressor.

Single castings are largely employed, the pump cylinder, bed and bearing brackets being cast in a single piece. The compressor has a single horizontal cylinder with deep air flanges for cooling, and is driven through a single gear reduction, there being a small pinion on the motor shaft and a very large gear on the pump shaft. Energy is supplied by a .25 horsepower Westinghouse motor, and the current supply is from the lighting system of the building, armored cable of suitable length and a rugged connector being provided. Lubrication of the compressor is by three oil cups. The method of motor lubrication is such that it will not require attention except after long periods of service.

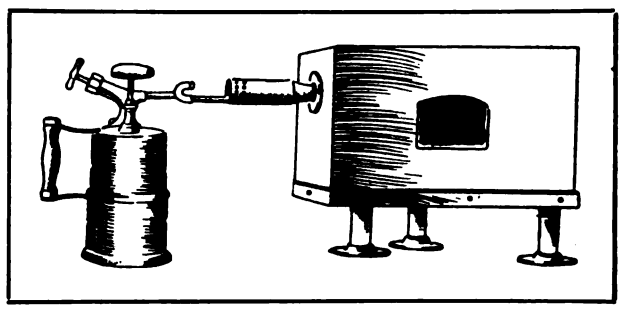
Air is pumped from the compressor to the tank, which is 12 inches high and six in diameter, and means are provided to trap any oil or moisture that may be present. Nothing but pure fresh air is pumped to the tires. The air hose is unusually long and constructed to meet the requirements of garage service. It is provided with a gauge to indicate the pressure, and the tank is equipped with a similar member of ample size. The usual shut off valve is included.

The maker calls special attention to the efficiency of the outfit, stating that it will inflate a 35 by four-inch tire from flat to 70 pounds in 1.5 minutes. The truck and wheels are of metal, and the equipment may be moved easily about the garage, a convenient handle being provided for this purpose. The U. S. Electrical Tool Company will supply additional details on request, also trade prices.

HAUCK KEROSENE TORCH.

High Temperatures, Efficiency and Low Cost of Operation Are Features Claimed.

The Hauck Manufacturing Company, 140 Livingston street, Brooklyn, N. Y., is marketing the



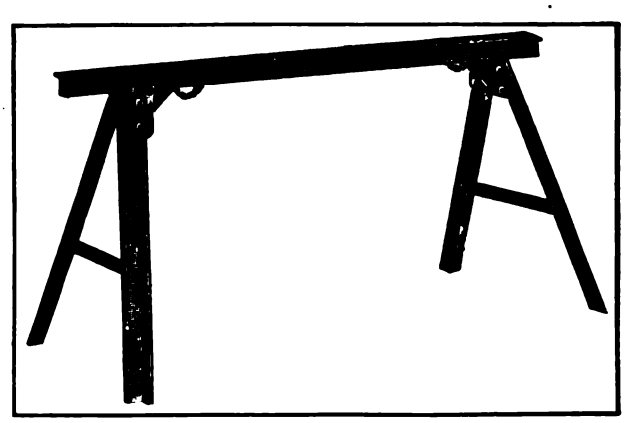
Hauck Kerosene Torch and Furnace.

Hauck patent kerosene torch, which is designed for general shop work and is held to be more efficient and economical than a gasoline unit. The maker states that the cost of operation is very low; that considerably more heat is obtained with kerosene than gasoline, and that the fuel is not only cheaper, but it is readily obtained. Another advantage in kerosene is held to be that it may be stored without restriction and is safer to use than gasoline.

FRASSE FOLDING TRESTLE.

Legs Are Provided with Locking Device and When Not in Service Make for Compactness.

Peter A. Frasse & Co., Inc., 421 Canal street, New York City, is marketing a patented folding steel horse or trestle, which is designed for garage and repair shop service. It is light, strong and made of high grade material. The legs are provided with a locking device, which makes for rigidity when in service, and the trestle cannot be folded until unlocked. One of the qualities



Frasse Folding Steel Trestle or Horse.

of the design emphasized is that it may be folded and stored in a small space. It is made in standard and special sizes.

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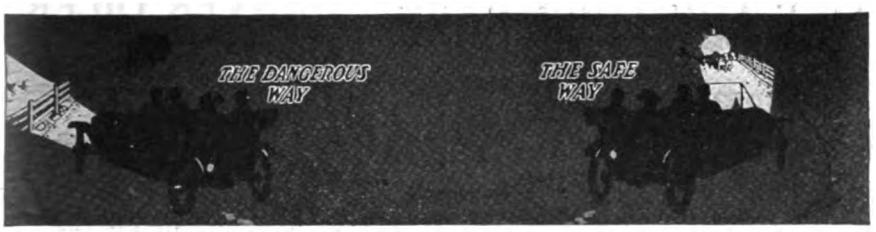


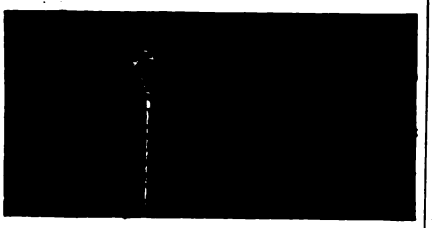
FOLLOW THE ROAD TO PROFIT WITH TURNING HEADLIGHTS

Every Ford car which comes into your garage is a live prospect for these safe and sane Turning Headlights. They automatically follow the slightest movement of the steering wheels and throw their light where you need it most—in the center of the curving road you are trying to follow in inky darkness.

There is a big demand for this device. The Safety First agitation is sweeping the country at present and the caution this has inspired in night driving, makes these supports quick sellers and profitable.

Turning headlights will never give you one minute of trouble after you have put them on—a quick job of 30 to 45 minutes. They won't rattle or work loose and are sold under a rigid "Money Back" guarantee if not found perfectly satisfactory after 30 days' trial. Retail price **$10.00** prepaid—and a good profit for our dealers.

Write us for the territory you can actually cover thoroughly—and prices. Order some sample sets at once. They will go fast. You get all the prospects in your section which our advertising develops.



Gasolock Your Cars

Here is the safest device yet invented to prevent joy riding and auto stealing. The Gasolock shuts off the gasoline with a simple touch of the foot or finger and can only be opened again by the Yale keys furnished with it.

The Gasolock saves automobile insurance against theft; it saves gasoline waste from leaky carburetors; it saves cars from joy riding wrecks.

Over 900 in Use in Detroit. We hold a basic patent on all devices for locking the gasoline supply and have started suit against infringers. This device can be installed in any car in 30 minutes and is positive protection.

There is a big field for the sale of the Gasolock in your city. Millions of dollars worth of cars are stolen yearly. Owners need this protection and will buy it readily. It is the simplest, safest, and cheapest high grade device on the market.

The Gasolock is beautifully finished in nickel plate and comes in several lengths to suit conditions. It sells for **$10.00** prepaid at retail—a small sum for absolute protection. Any car, motor truck or motorboat can use it.

Write us for our proposition and prices. Order a few and see how owners will take them away. Rather "Safety First" than a stolen car.

HEADLIGHT SUPPORT CO., MFR. AUTO DEVICES 1212 Dime Bank Building **DETROIT, MICH.**

GARAGE AND REPAIRMEN!

THE MARTELL Aligning Reamer

THE only device made by which a series of bearings may be perfectly aligned.

ADAPTABLE to any type or form of motor.

USE not restricted by any details of construction.

A high grade tool made from the finest of imported steel. A device that every up-to-date garage and repair shop should have.

Range of sizes from 1 5-8 to 2 1-4 inches.

SEND FOR CATALOG.

MARTELL MOTOR COMPANY

1928 Columbus Ave. **BOSTON, MASS.**

Dixon's Graphite Transmission and Differential Grease No. 677

Use this combination of high-grade grease and finest flake graphite—and most of the power that is now wearing out your gears and bearings will become useful at the driving wheels. That means more mileage per gallon of gasoline, and lower repair costs on your car. Learn more about car economies from "Lubricating The Motor", No. 49.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827

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DACO SPECIALTIES FOR FORD CARS

Combination Anti-Rattler and Grease Cup

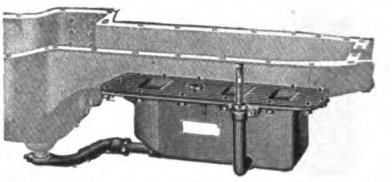
The DACO **Combination Anti-Rattler and Grease Cup** fits the steering rod ball of the Model T Ford car. **This anti-rattler is DIFFERENT FROM ANY OTHER ANTI-RATTLER being manufactured and is the only one that has self-contained lubrication.**

COMPARE IT WITH ANY OTHER AND YOU WILL SEE MANY FEATURES IN ITS FAVOR

We are ready to supply the demand for this device in any quantity, and we offer very liberal discounts to jobbers and dealers.

DANVER ACCESSORY COMPANY **Maker of DACO Ford Specialties**

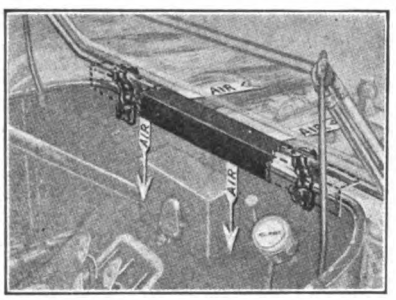
DANVER OILER



The DANVER OILER produces more lubricating capacity, provides constant circulation, is automatic and prevents smoking and fouled plugs. The only perfect oiler for Ford motors. Its principle is right. Easily fitted. A BIG SELLER. Write for descriptive matter and discounts.

18 Broadway, Pawtucket, R. I.

EXCELSIOR ADJUSTABLE VENTILATOR FOR MODEL T FORD



Admits Fresh Air
No Draughts

Excelsior Adjustable Ventilator provides proper ventilation of the front compartment of automobiles, where the excessive heat is unbearable. The **ventilator** admits fresh air but prevents draughts. The opening is adjustable and can be closed. Can be installed in a few minutes.

Black Enamel Finish.

Retail Price $3.00

Write for Discounts and Particulars.

C. B. WATTLES

441 BUTLER EXCHANGE **PROVIDENCE, R. I.**

"PASS THEM ALL"

Knox

BEST BY TEST

MOTOR CARS

Send for Pleasure or Commercial Catalogue.

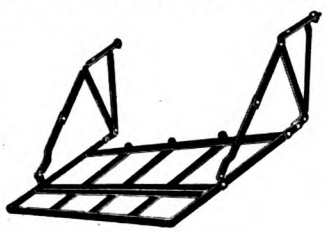
KNOX AUTO CO., Springfield, Mass.

"SPECIAL" 1914 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



1914 Ford Rack

This Rack Will Fit Any 1914 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

THE UNIVERSAL

SAFE-DURABLE-CONVENIENT AND ATTRACTIVE

ELECTRIC TAIL LAMP

Is a combination red danger signal light and a perfect number plate holder. Illuminating the rear number at night that meets the most exacting requirements of the law.

Can be easily attached to mudguard or body of any car. Artistic in design and finish and lends refinement to any machine.

Universal Lamps are sold by all leading dealers.

All lamps are sold complete with Mazda two candlepower, six-volt bulb. Finished in all standard colors.

COMBINATION TAIL LIGHT CO. 954 Tremont St., Boston, Mass.

The Famous Model "T" FORD SPECIAL

Master Vibrator

Price $10.00

THE BEST PROPOSITION FOR THE DEALER

NEW YORK COIL CO.

338 Pearl St.,
New York City, N. Y.

WESTERN BRANCH
1429 Michigan Ave.,
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New Departure

"TWO-IN-ONE"

Ball Bearings

The only ball bearing that takes load from any direction with equal efficiency.

Catalog for the asking

THE NEW DEPARTURE MFG. CO.
Bristol, Connecticut

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"BRUNNER" Belt Driven Air Compressors

For Garages and Service Stations

"Brunner" Air Compressors are well built—scientifically—with a full knowledge of the garage man's needs. They are made by specialists, men who make nothing but air compressors. "Brunner" Air Compressors are not a "side line."

They Stand the Test of Service

The "Brunner" line is complete—in sizes and types of machines. Each individual machine is backed by a genuine guarantee for service, durability and satisfaction. There are "Brunner" Air Compressors that have served for nine years—they serve everybody well.

Ask the man who has one, then consult your jobber or write us direct.

No. 17 Vertical

Two Cylinder Water Cooled, suitable for large garages and severe service. Capacity 7 feet of air and 170 pounds of pressure at 350 R. P. M. Used in connection with tanks 80 to 150 gallons. Oiled by splash system.

No. 102 Brunner Belt Driven

has repeatedly supplied more air and higher pressure with less power than any other compressor made of same capacity.

Two cylinder, oiled by splash feed system and has adjustable safety valves in cylinders.

Supplies 3 feet of air and 150 pounds pressure at 400 R. P. M.

No. 102 Brunner, Belt Driven

BRUNNER MANUFACTURING CO.

Main Office and Factory:
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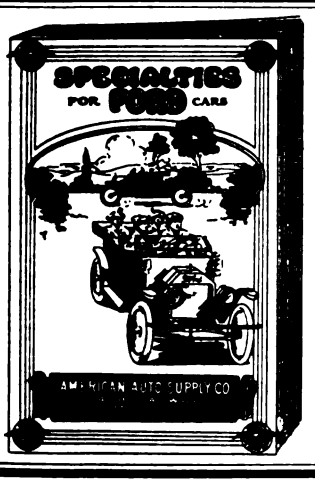
Hudson Terminal Building
30 Church Street



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Contains the **biggest, brightest and best** line of Ford and Overland Specialties ever placed on the market.

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The Dependable Signal — The Ford Special — The Horn with a clear Exhaust

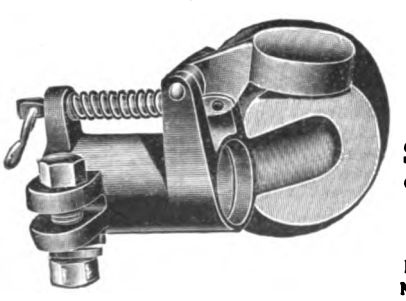
Especially designed for

THE FORD CAR

Embodying all of the features of the New Tremo. Clear Exhaust—No Clogging—No Humming—No parts to get out of order

No Coupling, as horn shank clamps over end of exhaust pipe

Easily attached in a few minutes



THE TREMO

Horn for the FORD CAR is the last word in Automobile Signals

A perfect warning at HIGH SPEED, blowing equally well when engine is throttled down.

Complete equipment, $4.00

PRICE LIST FOR TREMO HORNS.

No. 1—16 to 25 H. P., $6.00 No. 3—40 to 50 H. P., $7.00
No. 2—25 to 40 H. P., $6.50 No. 4—50 H. P., and over, $7.50

Dealers: Write Today for Special Discounts

The D. HENRY BONNER COMPANY, Makers, Cambridge, Mass., U. S. A.

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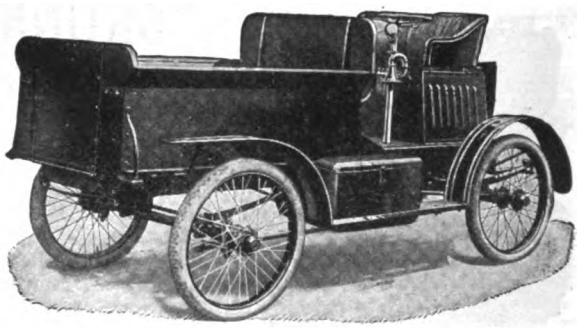
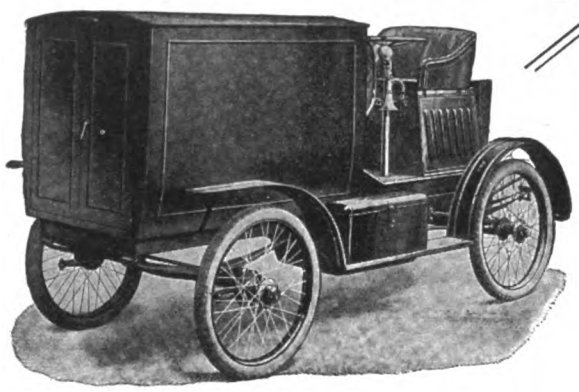
THE MOTOKART



is the Commercial light cavalry of the automobile business. If you are selling cycle cars your line will not be complete without the only strictly commercial four wheeler smaller than standard car built in the United States of America.

$365.00

Wide awake dealers wanted in every city, town or village where merchants deliver groceries, dry goods, etc.



THE MOTOKART COMPANY

FACTORIES:

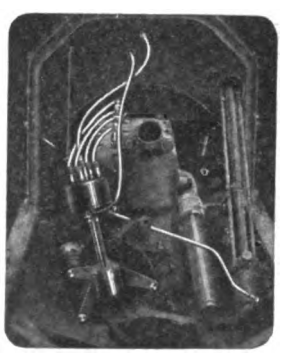
Peekskill, Tarrytown, N. Y.

GENERAL OFFICES:

1790 Broadway - - - - - New York City

Address All Correspondence, New York Office

Ford Dealers and Garagemen



Equip your customers' Ford cars with the ATWATER KENT FORD IGNITION SYSTEM. Your customers can prove the following results on their own car on a make-good-or-money-back basis:—

1. **Perfect ignition at all speeds from 3 to 40 miles per hour.**
2. **Smooth running without missing or uneven firing.**
3. **Easier starting in cold weather.**
4. **Vibrator and magneto trouble eliminated.**
5. **Will run idle at lowest possible speed and throttle down to 3 miles per hour on high.**
6. **Increases both power and speed and saves gasoline.**
7. **Lessens sooting of plugs and carbon deposits.**
8. **Quickly and easily installed without altering car in any way. No machine work—no holes to drill—a wrench and screw driver are the only tools necessary.**
9. **Costs much less than a magneto and gives better results on any car.**

Let us send you Circular L describing the ATWATER KENT SYSTEM for Ford and other cars.

ATWATER KENT MFG. WORKS 4932 Stenton Ave. Philadelphia

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a ***smooth running engine*** and a ***saving in gasoline.***

Territorial rights open. Address Dept. A.

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42 BROADWAY, NEW YORK, N. Y.

Sole Distributors for U. S. A. and Canada

How to Know Tire Vulcanizers

You'll do Tire Repairing eventually, so take no chance in buying your Vulcanizer. Don't trust to luck.

Buy the Machine the leaders use.

Buy the one all Tire Manufacturers use and endorse—then you are safe.

30 Leading Tire Manufacturers—practically every one in the U. S. use Akron-Williams Vulcanizers in their Factories, Branches and Service Stations.

That's your unfailing guide in buying.

Learn about our patented 3-Steam-Chamber Machines. Demand Akron-Williams for that reason alone.

Write us for catalogue No. 12 and get all the facts.

The Williams Foundry & Machine Co.

Ash Street, Akron, Ohio

The Waterhouse and Lester Co., San Francisco
Exclusive California Distributors

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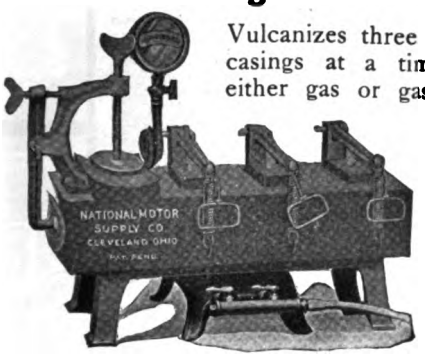
National Garage Steam Vulcanizer

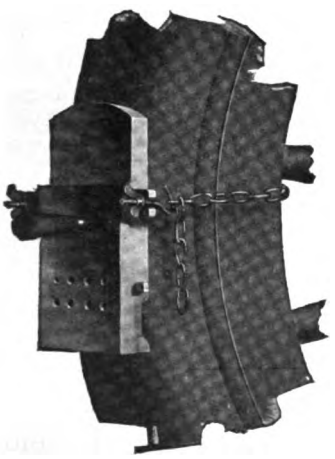


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

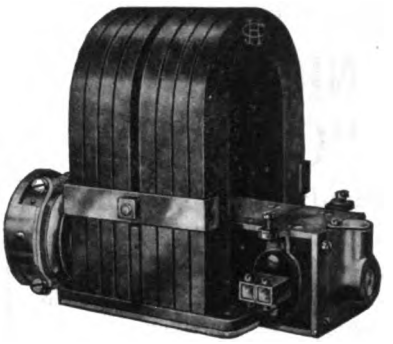
MANUFACTURED BY

THE NATIONAL MOTOR SUPPLY CO.

5604 Euclid Ave., Cleveland, O.

The Reaction Has Set In

against complicated and overgrown lighting systems



Holtzer-Cabot MAGNETO GENERATORS

do the work with far less trouble and expense.

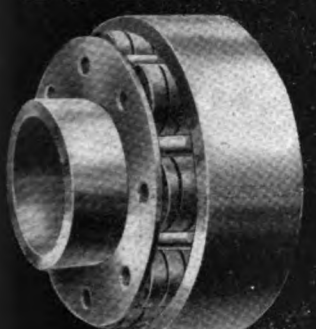
Some Reasons For Their Success

Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Low power consumption.

For FORDS, and other small and medium cars they are unsurpassed. ***Send for Booklet A-1807.***

THE HOLTZER-CABOT ELECTRIC CO.
BROOKLINE, MASS.
6161-65 SO. STATE ST. CHICAGO
101 PARK AVENUE, NEW YORK
1003 UNION TRUST BLDG. BALTIMORE

HYATT QUIET BEARINGS



For convenience of car owners a stock of the popular sizes of Hyatt Roller Bearings as used in motor cars is maintained in each of the cities indicated.

Address SERVICE DEPARTMENT.

SERVICE STATIONS.
169 Massachusetts Ave., Boston, Mass. (Telephone—Back Bay 1015.)
1120 Michigan Ave., Chicago, Ill. (Telephone—Wabash 3790.)
756 Woodward Ave., Detroit, Mich. (Telephone—Grand 4130.)
Fourth & Middlesex Sts., Harrison, N. J. (Telephone—Harrison 2190.)

SERVICE AGENTS.
Pence Automobile Company, 800 Hennepin Ave., Minneapolis, Minn.
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HYATT ROLLER BEARING CO.
DETROIT MICH. WORKS: NEWARK N.J.

THE HEINZE ELECTRIC COMPANY

MANUFACTURERS OF

Ignition and Generating Apparatus

LOWELL, MASS.

Factory and Main Office: LOWELL, MASS.

Sales Office: DETROIT, MICH.

THE BINKS ELECTRIC TIRE PUMP

A Necessity In Every Garage

Designed to meet the requirements of the public and private garage. With this pump the largest tires may be inflated as quickly as with any large cumbersome stationary outfit costing three times the money.

We do not approach the trade with this pump as novices, but do so as pioneers of the pump business offering an original product. The pump is absolutely right in every respect, and will do all we claim for it or money cheerfully refunded.

Specifications

Pump furnished complete with 1-4 h. p. AC or DC 110 volt, 60 cycle Motor, ready for operation. When air is wanted turn on switch. **PRICE $54**

THE STAR BRASS WORKS

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Actual Size
Convenient Handle Attached

Better Ignition

Keep the corroded contact points of spark plugs, coils and vibrators clean by using a file designed especially for this purpose.

NICHOLSON "Coil" Files

Remedy Ignition Troubles

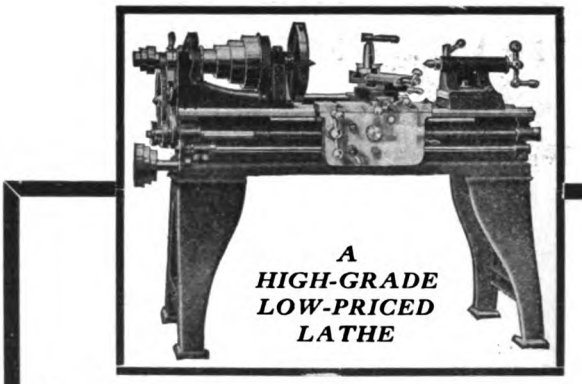
To introduce these files we will send postpaid to any part of the United States one dozen for one dollar and a half.

There is a NICHOLSON FILE for every possible use.

A postal will bring to you our *Catalog* showing 600 reproductions of files together with our booklet *"File Filosophy"* telling how to use them.

Your tool-kit is not complete without a NICHOLSON "Coil" File.

NICHOLSON FILE CO.
PROVIDENCE, R. I.



A HIGH-GRADE LOW-PRICED LATHE

For Automobile and General Repair Work

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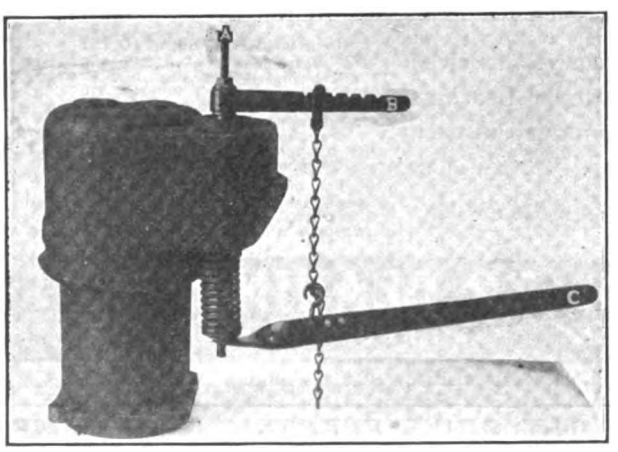
No time like the present; drop us a post card today while you're thinking about Lathes—and back will come our finely illustrated catalog telling all about "SEBASTIAN" Lathes.

The Sebastian Lathe Co.
123-125 Culvert St. CINCINNATI, OHIO



WINSOR PATENT ADJUSTABLE MOTOR VALVE REMOVER

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.
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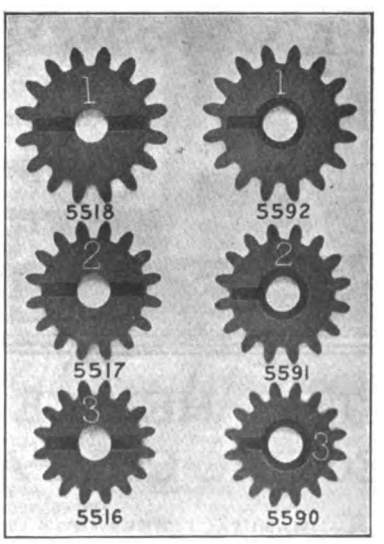
Extra barrels, each $1.20.
Dealers, Write Today for discounts. Manufactured by
Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

Speedometer Gears



Any of the above gears can be ordered by reference number appearing in illustration. We can also furnish other styles of speedometer gears to order. Write for Bulletin No. 4014. We make for automobiles, cleats, lever and crank handles, spring blocks, manifolds, thrust washers, gaskets, cam shaft gears, sheets, rods and tubes. Send us blue prints and let us quote you prices.

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Motorists Demand HAVOLINE—

Because our "special process" of manufacture exempts it entirely from the detrimental effects of destructive distillation, thereby retaining its molecular cohesion and offering the consumer the highest lubricating value yet the least carbon deposit.

Write to receive information concerning new price-scale policy and advertising plan.

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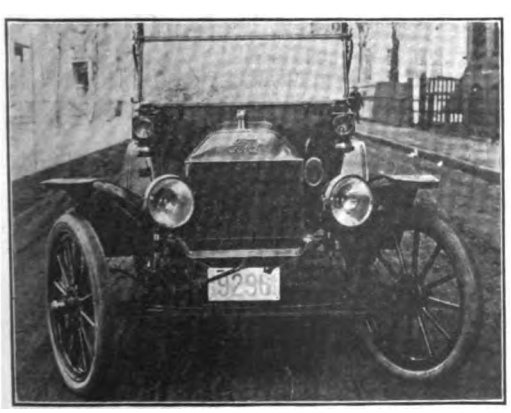

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A Live Wire for Dealers—Install one set—sell dozens. Everybody wants and needs them.

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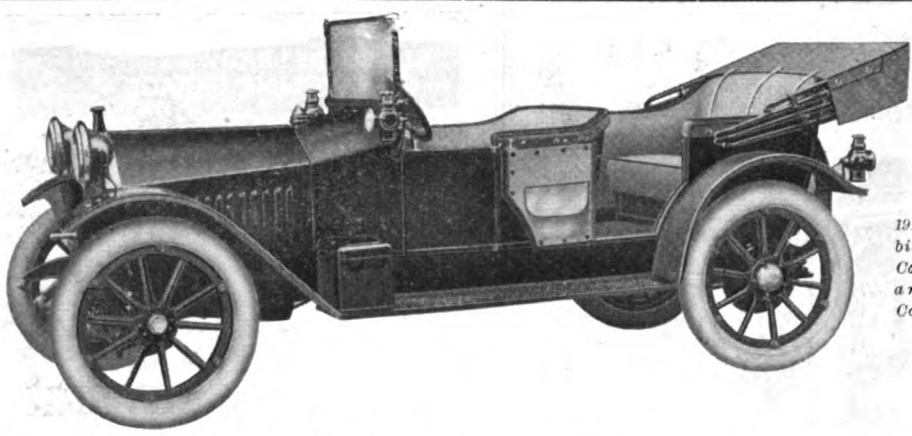

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They Pay You, Mr. Auto Owner

By adding wonderfully to the good looks of your car, by keeping the upholstery in such good condition that you can get $100 to $150 more for your car when you want to sell it. Your dealer can supply you, $12 up.

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We also make an exceptional line of Ford accessories. Write for description and prices.

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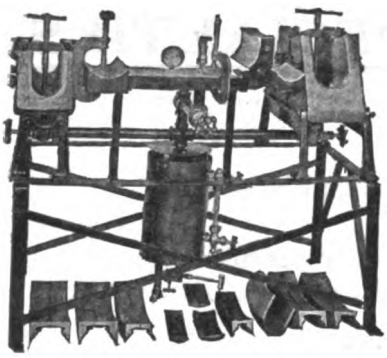

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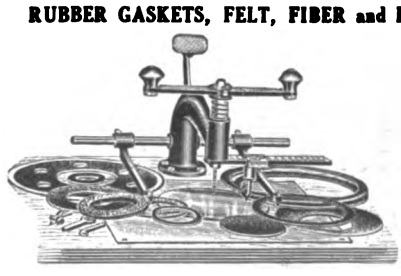

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Actual Size Complete Valve

Patents issued 1,043,224---1,050,942---1,078,347 and others Pending.

Actual Size Dust Cap Removed

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More Than 200,000 in Use.

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Agencies Wanted in All Unassigned Territory. Write for Terms and Discounts.

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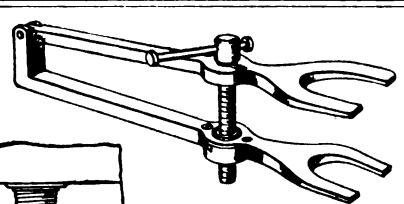
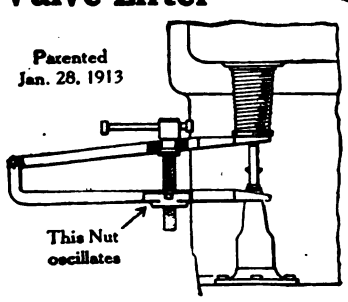


Patented Jan. 28, 1913



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It works like a vise and holds like a vise. It is convenient to handle and easy to operate. It holds the spring rigid and enables the operator to work with both hands. Can be used on any car.

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Coxajusto ADJUSTABLE TO ANY LOAD

Shock Absorbers. They absolutely absorb the shock. Make automobiling a pleasure, float on Coxajusto. A turn of the cap at the base of the absorber adjusts the tension of the tapered helical spring. A simple twist of the wrist —that's all. It's the adjustment feature that placed the Coxajusto at the top of the heap.

Put a set on your demonstrator. They will help you make sales.

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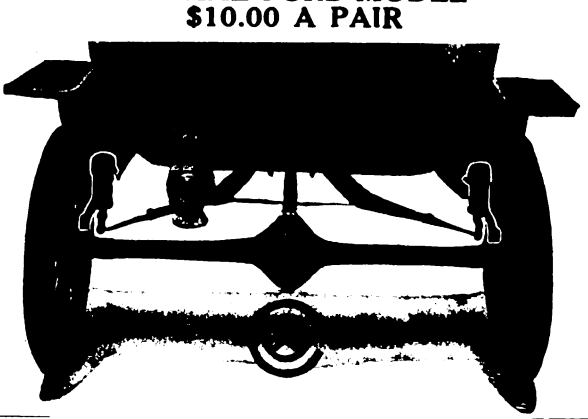

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SEALED POLISAVER CANS

Once Used--Always Demanded!

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in all	One Qt. "	[24 " "]	" "	.50
popular	One Pt. "	[48 " "]	" "	.35
sizes	1-2 " "	[48 " "]	" "	.25
Satisfaction	1-4 " "	[48 " "]	" "	.15
Guaranteed	Two Oz. "	[72 " "]	" "	.10

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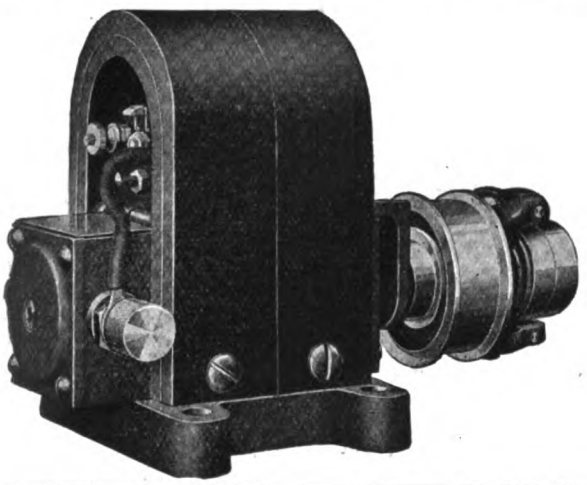

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The Eureka Lighting Outfits from $20 to $50

Depending on Capacity Required. Write for Details.

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Special fittings furnished, which make installation easy for any garage man.

DEALERS—There's big profit for you in selling our lighting outfit. Write us today.

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Ford owners $2.50 per thousand names--- 1914 Registration

OWNERS AUTO LIST COMPANY

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Garage and Machine Shop For Sale

Everything up to date. Completely equipped. $2000 worth of business done monthly, with splendid chance to increase. Richest town of upper New Jersey. $3500 cash takes it. Address Box X, Accessory & Garage Journal.

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Auto Mfrs., U. S. and Canada—626—$3.
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AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $3 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.

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All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.

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Full auto wheel making equipment of DEFIANCE MACHINERY. Nearly new. Liberal discount. Jamestown Wheel & Mfg. Co., Jamestown, N. Y.

FOR SALE—A COMPLETE MACHINE SHOP

The outfit includes tools, a lathe, milling machine, shaper, drill press, emery stand, wheels and pipe tools. Taps, dies and reamers of all kinds. Drills of all sizes.
A Complete Outfit for an Automobile Repair Shop.
Otto Reppert, North Eleventh St., Decatur, Ind.

FORD CARS beautified and protected with our **License Holder.** Price $1.25 prepaid. Our locking arrangement means security. Sample 50c prepaid. Dealers, write for prices. Ernest Benninghofen, Hamilton, O.

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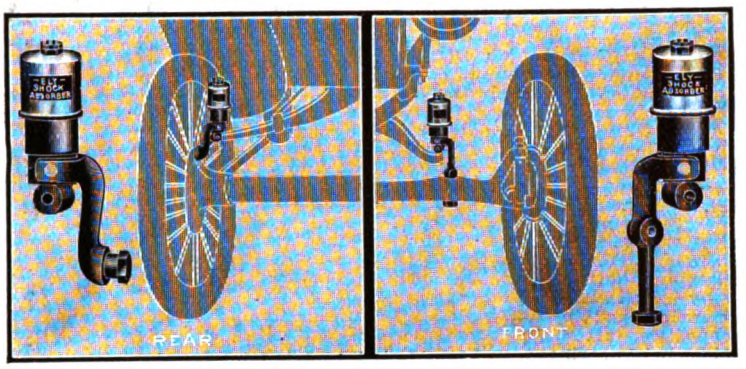
FOR FORD CARS

$12.50
PER SET OF FOUR



$7.00
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Simple Efficient Durable
Guaranteed For One Year

DEALERS:—Write for Special Discounts in Quantities.

DONNELLY MOTOR EQUIPMENT CO. - 1785 Broadway, New York City

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MADE BY THE **WORLD'S LARGEST** GASKET MANUFACTURERS, WHO DO BUT ONE THING AND DO THAT ONE THING WELL.
SPECIALISTS ON CYLINDER HEAD GASKETS.
WRITE FOR ILLUSTRATED DESCRIPTIVE MATTER, A BEAUTIFULLY ILLUSTRATED CATALOGUE AND PRICES TODAY.
SOMETHING NEW TO JOBBERS AND DEALERS ON **FORD** AND OTHER BOXED ASSORTMENTS.

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ACCESSORY AND GARAGE JOURNAL.
Times Building, Pawtucket, R. I.

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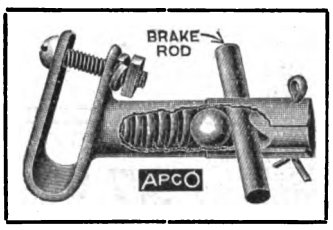
NEW AND ATTRACTIVE LINES FO

The Name Apco is well known to the trade and the owner of this trade mark, the Auto Parts Company, Providence, R. I., is calling the attention of jobbers and dealers to its brake rod support in a novel manner. Elsewhere in this issue will be noted the advertisement of the company, which offers to send a sample set of the ball bearing brake rod supports for 75 cents, which is considerably less than the usual price.

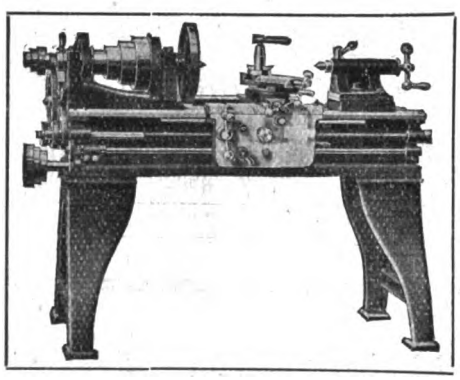


Apco Brake Rod Support.

The device is shown in an accompanying illustration and it is stated by maker that it is the only brake rod support that can be attached without removing members to which it is fitted. Only a screw driver is necessary to tighten clamping bolt. The brake rod is prevented from vibrating by a ball and plunger, the tension being automatically maintained by a spring. The brake rod is slipped into position after removing a cotter pin and plunger. Being ball bearing the brake rod support does not interfere with the movement of the rod, in operation. The Auto Parts Company is issuing a new catalogue containing many new Ford accessories, which will be mailed free upon request.

★

The Sebastian Lathe Company, 125 Culvert street, Cincinnati, O., is issuing its new catalogue of high grade engine lathes, tools and attachments for automobile and general repair work. The booklet is finely illustrated and contains complete descriptions of the lathes, and their attachments, as well as dimensions, prices, etc.



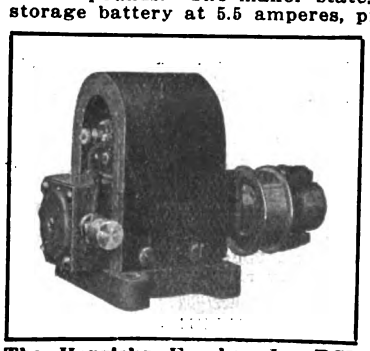
Sebastian Lathe.

The engine lathes are built from entirely new patterns and designs, and are modern and practical in every particular. Special care is given in their construction, and the best of workmanship and high grade material are incorporated. The company builds lathes for manufacturing, jobbing, or the repair shop, and a number of designs especially adapted for the automobile manufacturer and the garage. A postal addressed to the company will bring the catalogue referred to, in which full particulars are given.

★

The Henricks Novelty Company, Indianapolis, Ind., electrical engineer, one of the oldest magneto manufacturers in the West, has brought out an electrical lighting system for small automobiles, which is specially adapted to the model T Ford, Maxwell, etc. One of the qualities of the system is that it may be utilized for ignition purposes, as the generator is capable of maintaining a storage battery in a fully charged condition, as well as supplying sufficient current for lighting.

The small generator recommended for the Ford, Maxwell, cyclecars, etc., is known as the Eureka, Jr., type BC2. As will be noted by the accompanying illustration, it is a very compact unit, and its weight complete is but 14 pounds. The maker states that it will charge a storage battery at 5.5 amperes, providing ample current for 30 to 35 candle-power lights in addition to ignition. One of the features of the dynamo is that it can be employed for lighting the lamps direct or for charging a battery. The use of a battery is preferred, as lighting of the side and tail lamps is made possible when the engine and dynamo are inoperative.



The Henricks Eureka, Jr., BC2 Generator.

The Eureka is a well tried and proven generator, having been on the market for over six years, and the company points out that it has given efficient service on all types of motor cars and power boats. It is of the permanent magnet type, making for economy of power, and all material and workmanship are strictly first class.

A simply constructed automatic cut-out is placed between the magnets, this being operated by the governor. The cut-out is in the form of a switch, connecting the generator to the battery when the speed of the dynamo is such to generate six volts. It is pointed out that the cut-out has few parts, is simple in construction and requires no attention.

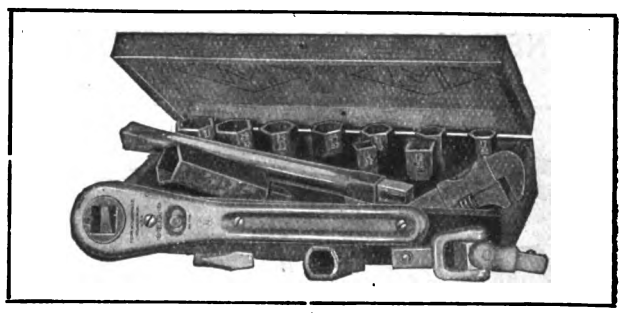
The governor is of the centrifugal type and so controls the speed of the armature that overcharging is held to be impossible. The speed of the armature is constant after attaining its maximum, regardless of the speed of the motor.

Special brackets are provided for mounting the generator with Ford and Maxwell cars. The company points out that the compactness of the dynamo permits of easy installation, and that it can be driven by a friction wheel or by a V belt. The latter method is recommended when possible. Silent chain drive is also advisable. The Eureka BC2 with cut-out and governor retails for $30, but it is pointed out that when used for direct lighting the cut-out and battery are not required. The company markets storage batteries, lamps, etc., and issues a very complete catalogue illustrating and describing its product, which will be mailed free upon request.

In addition to the Eureka BC2 dynamo, the dimensions of which are 8.5 by four by six inches, the Henricks Novelty Company manufactures three other types.

★

The Frank Mossberg Company, Attleboro, Mass., is manufacturing a special socket wrench set for the model T Ford car and one of the qualities of the equipment emphasized is that certain components not accessible with the usual wrench set can be reached with it. In designing the set particular attention has been paid to producing sockets which will reach every part, and the result is a very practical outfit.



Mossberg Ford Socket Wrench Set.

The set is known as the No. 15 and includes the Mossberg ratchet socket wrench No. 350, a tubular extension bar, universal joint, screw driver bit, spark plug socket and nine regular, mottled, thoroughly hardened pressed steel sockets. The last named members include a special oval socket for the three crankshaft bearing bolts, difficult members to reach with conventional types of tools. The equipment comes in a neat wooden box or a flexible fibre case and retails for $5.70. Trade discounts will be forwarded upon request, also catalogue of the Mossberg lines.

★

The Connecticut Telephone & Electric Company, Inc., Meriden, Conn., is manufacturing a very compact, neat master vibrator for the model T Ford car, which is constructed with the same care and high grade material as is characteristic of the products of this company. It draws a minimum amount of current from the flywheel magneto, making it possible to start the engine easily, and makes for perfect synchronization of the spark. One of the qualities of the Connecticut is that it is of the flush dash type, with switch integral with the coil, which comes equipped with the Connecticut terminals. The vibrator retails for $9 and is sold under a guarantee. Bulletin 48 explains the device fully, trade prices for which will be mailed upon request.

★

The Pyrene Manufacturing Company, 1358 Broadway, New York City, maker of the well known Pyrene fire extinguisher, which has been approved by the Automobile Underwriters' Conference, which organization has reduced insurance premium 15 per cent. when the car is equipped with the device, has inaugurated a publicity campaign with owners, the result of which will be decidedly beneficial to the trade. As will be noted by an advertisement of the company appearing elsewhere in this issue, the signing of a coupon and mailing it to the company will bring the special proposition now being offered.

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R THE JOBBER, DEALER, GARAGE.

The Harding Specialty Company, 755 Boylston street, Boston, has brought out a new device for the garage, repair shop and service station, that presents practical features in that considerable time and labor may be saved by its use. It is termed the Little Giant magnetic trouble lamp, a combination unit, as it includes lighting means as well as a magnet.

The advantages of such a tool are obvious. Frequently a nut or bolt is dropped into the crankcase or gearcase of a car, or some other part difficult of access by the hand, which not only results in consuming considerable time in removing the pieces, but often compels the dismantling of certain components.

The Little Giant operates by electricity, and being attached to a flexible cable, can be inserted easily. The magnet has sufficient pull to lift fairly heavy objects, such as pliers, etc. It consumes but little current and retails for $3.

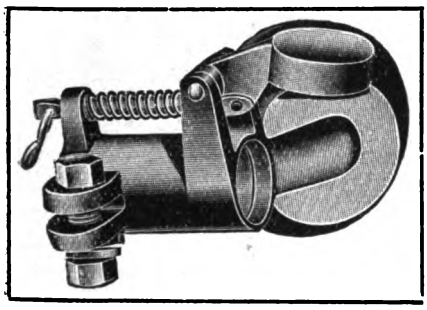
The Harding Specialties Company is also marketing the Boston tail light detector, which is a dash device for warning the driver of the car when the tail light becomes extinguished. It flashes a "Red Eye" signal, and is easily attached. It retails for $5. Complete details and discounts will be supplied upon request.

★

The Dreadnaught Tire & Rubber Company, New York City and Baltimore, Md., is marketing the Dreadnaught tire, which carries a guarantee of 5000 miles and with which the dealer can make adjustments on the spot. The company has a very attractive, exclusive selling proposition and has some territory open for a live wire. Complete details will be sent upon application to Henry G. Pagin, general sales agent, 1790 Broadway, New York City.

★

The D. Henry Bonner Company, Cambridge, Mass., is manufacturing the Tremo horn for the model T Ford car, also two designs for larger machines. It is operated by the exhaust, and, as will be noted by the accompanying illustration, the egress of the gases is not obstructed by the signal, which is absolutely free from any whistling noise.



Tremo Ford Special Horn.

One of the qualities of the Tremo is the elimination of the usual coupling. The attaching means are incorporated with the horn itself, a shank clamping over the extension of the exhaust pipe, it being locked by a simple bolt and nut. As the dimensions are accurate the shank fits closely and easily.

The signal is obtained by the usual linkage, which accompanies each horn, and it is stated that the Tremo operates equally well when the engine is throttled down. The design is simple and there are no parts to get out of order, or to be adjusted or cleaned. The complete equipment retails for $4. Special discounts are given to the trade upon application. The company manufactures four sizes, in addition to the Ford special.

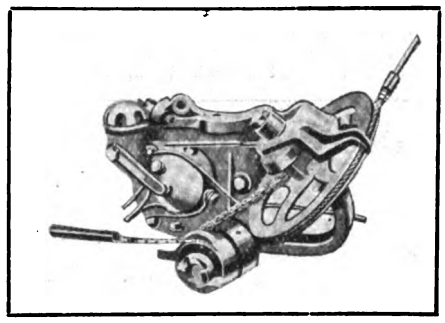
★

The Bowling Green Sales Company, 82 Flatbush avenue, Brooklyn, N. Y., exclusive sales agent for the Ball carbon remover, announces that it has territorial rights open and that complete details can be obtained by addressing department A. Ball carbon remover differs from the conventional chemical compounds designed to remove carbon deposits from the cylinders in that it can be used freely and when the motor is operating in service. It is put up in tablet form, is deposited in the cylinders through the spark plug openings, the plugs replaced and the motor used as usual. The only requirement made is that the compound be used when the motor is hot.

One of the qualities of Ball carbon remover emphasized is that it does not affect the oil; in fact, it is stated that the chemicals provide lubrication in themselves. Another feature is that there are no waits, and that by employing a few at stated intervals the cylinders are maintained in a highly efficient condition at a minimum of expense. The tablets come in screw cap boxes, sufficient to clean from 12 to 36 cylinders, and are inexpensive. They are fully guaranteed.

★

The Automatic Appliance Company, 172 Columbus avenue, Boston, is marketing the Boston starter, designed especially for Ford motors. It is a mechanical starter, which operates from the seat and starts the engine with the same certainty as though the crank were used. One of the qualities of the Boston is that it does not interfere with the use of the usual starting crank. The starter is provided with an automatic release for protection, and as a further precaution the spark is automatically retarded before the engine is turned over.

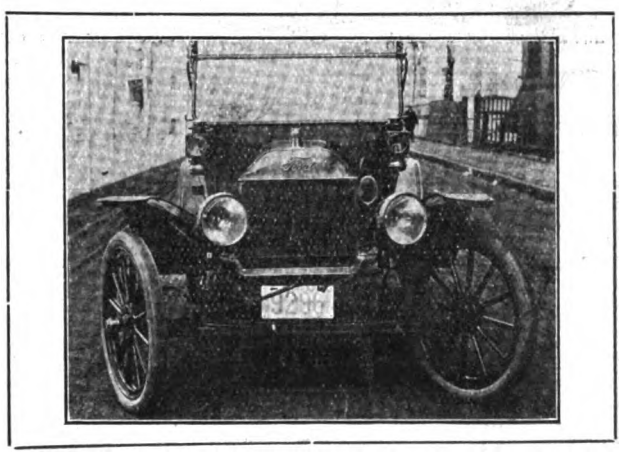


Boston Starter for Ford Cars.

The device may be installed easily and without interfering with or changing the appearance of the machine, as the equipment, with the exception of the operating handle, is fitted under the hood. The handle is installed within convenient reach of the driver, and is connected with the starter mechanism by a special cable. As considerable leverage is obtained by the starter proper, the motor may be turned over easily by a child. The entire construction is neat and substantial. The equipment, ready to install, retails for $25, F. O. B. Boston. The company has an attractive selling agency plan, the details of which will be forwarded upon request.

★

The Auto Protector Company, 58 Tyler street, Springfield, Mass., is marketing the Clear Ahead lamp bracket, a construction that is easily attached to the car without alterations. As will be noted by the accompanying illustration, which depicts the device fitted to a model T

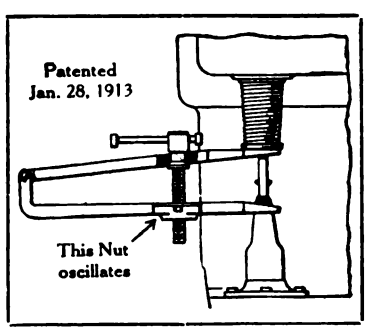


The Clear Ahead Lamp Bracket.

Ford machine, the attachment turns the lamps to the right or left or in the same direction as the steering wheel is turned. This enables the driver to negotiate sharp curves at night, as the sides of the road are illuminated as well as the centre. The Ford special retails for $12.50 and the regular or standard type for $15. The company will supply complete descriptive matter and trade discounts upon application.

★

The C. P. Improved Valve Lifter, manufactured by the Clinton Machine Works, 460 High street, Clinton, Mass., is a practical, universal valve lifter and is inexpensive, retailing for $1. As will be noted by the accompanying illustration, which shows the tool in service, it operates in a manner similar to a vise, a threaded member being actuated by a lever. By placing the forks of the lifter on the pushrod and valve spring, the screwing of the threaded member moves the upper fork upward, compressing the spring. The lower fork carries an oscillating nut, compensating for the movement of the upper fork. As is obvious from the illustration, the spring is locked, enabling the workman to use both hands to remove the retaining key or pin, an advantage where these members are



C. P. Improved Valve Lifter in Position.

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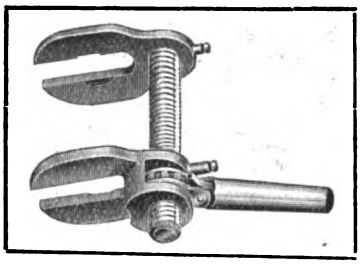
burred and require force. The design also eliminates the possibility of the tool slipping and injuring the hands. It is adapted to any type and make of motor.

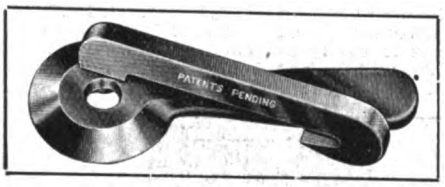
★

The Morgan Manufacturing Company, Newport, R. I., maker of automobile specialties, has brought out a new brass and metal polish termed MorganBrite, which is not only held to impart a lustrous finish, but an enduring one. It comes in the sealed Polisaver cans, in all popular sizes, and the prices are very attractive. The company has an interesting proposition and samples for the trade, which may be obtained by writing department F.



Morgan Utility Tool.

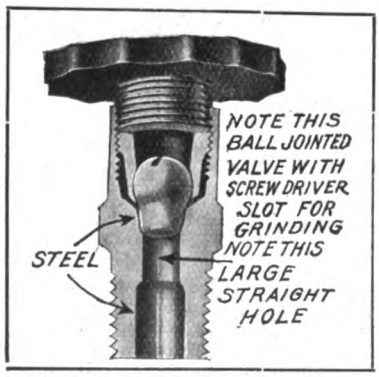
Among the many specialties manufactured by the company is the Morgan rolling edge spring leaf opener, shown in an accompanying illustration. The design is simple and efficient and reduces to a minimum the work of separating the leaves of a spring when lubrication of these members is necessary. By placing the chisel point of the tool between the leaves of the spring near the end, and the edge of the rolling tool on the other side, the leaves are separated by a slight pull of the handle.



Morgan Spring Leaf Opener.

The device is manufactured in several sizes, these ranging from that adapted to a cyclecar to that for a locomotive. The finishes are mottled steel, nickel plate, satin and nickel plate polish. The automobile sizes retail for 50, 65 and 75 cents respectively. The size B takes a two-inch width spring, and the size C a 2.5.

The Morgan utility tool, as the name implies, is designed for a number of useful purposes. It can be utilized as a valve spring lifter, and its construction is such that it can be locked to hold a load in either direction. The tool can also be employed as a clamp, patch holder, spring compressor or stretcher, hand vise, drill jig, etc. It is made of a very tough steel and will withstand severe service. It comes in sheradized or nickel plate finish, retailing for $2 and $2.25 respectively.



Morgan Priming Cup.

The Morgan priming cup differs materially from conventional types, as will be noted by an accompanying illustration. One of the qualities of the device is that it may be operated when the motor is hot without injuring the hands. Another feature is the use of a ball jointed valve, which is an advantage in that it may be ground if necessary. The Morgan Manufacturing Company will forward its catalogue and trade prices upon request.

★

The Platt & Washburn Refining Company, 1 Broadway, New York City, was incorporated in 1885, and its Veedol is an automobile lubricant made from the best Pennsylvania crude petroleum and the result of 30 years' experience with every kind of lubricating oil. The company states that it has tested the product, not only by every method known to science, but in actual service under the severest conditions in every standard type of car. It, therefore, is confident that Veedol will give satisfaction and will prove a business builder for the dealer.

At present it is interested in extending its representation, desiring a responsible agent in every automobile centre in the country. It has an entirely new selling plan, which it is anxious to explain to dealers where there is no agent in the vicinity, and it is prepared to back up its representatives with what the company believes is the most intensive consumer advertising campaign ever put in operation for a lubricating oil.

★

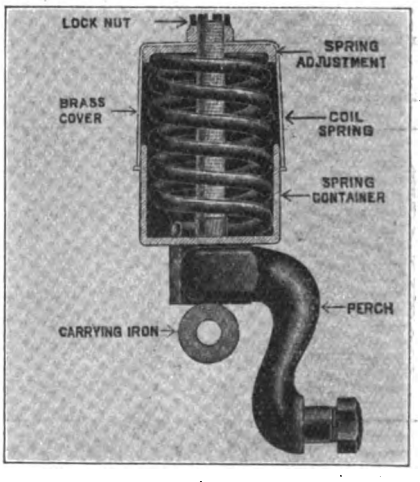
New Departure Ball Bearings can be obtained readily by the trade, as the New Departure Manufacturing Company, Bristol, Conn., has established a special service for garages, repairmen and dealers by appointing distribution agents in all sections of the country. These concerns carry a stock of New Departures and can furnish single row, double row and Radax bearings for replacement and repair work on the shortest notice. To save time, the company recommends that orders be placed with the nearest distributor, a list of which will be found elsewhere in this issue.

★

The Standard Woven Fabric Company, Framingham, Mass., maker of the well known Multibestos brake lining, is issuing a special booklet on the subject of brake material, which will be of interest to every garageman, dealer and repairman. It abounds with interesting data, as well as information that should be in the possession of every person connected with the automobile industry. By filling out the coupon attached to the advertisement of the Standard Woven Fabric Company in this issue, and mailing it, the booklet will be sent free.

★

The Ely Shock Absorbers for Ford cars are marketed by the Donnelly Motor Equipment Company, 1785 Broadway, New York City, and come in sets of two and four. One of their qualities is that they eliminate the disagreeable vibration when traversing pavements, as well as take care of heavier shocks when operating on rough highways, etc.



Ely Shock Absorber for Ford Cars.

Another feature of the Ely is that provision is made for adjusting the tension of the coil spring to conform to the varying weight of the equipment, passengers, etc.

As will be noted by an accompanying illustration, the design is of simple construction and is one that should make for efficiency and durability. It comprises a coil spring of a high grade, tempered steel; a carrying iron and a perch. The spring is contained within a brass cover, which is made oil tight in case the use of lubricant is desired. The principle of the Ely absorber is a spiral auxiliary spring providing a pivot point suspension.

The absorbers are easily fitted, the maker stating that any owner can attach them in a few minutes. They are made for both the front and rear springs, and are guaranteed against imperfection of workmanship and material for one year. They come finished in specially prepared black rubber and the selling proposition is an interesting one, both to the trade and purchaser. Being constructed to eliminate minute vibration, as well as shocks, they save tires and the car mechanism from undesirable stresses. Prices, etc., will be forwarded upon request.

★

The Motor Parts Company, 185-187 Columbus avenue, Boston, Mass., was organized a little more than a year ago with a view to meeting the needs for quick service, quality products and the fullest measure of satisfaction which was believed to exist in the New England territory. Under the management of F. W. Wilkenning, the same policy of quality, efficiency and service which had previously marked the success of the Motor Parts Company, 818 North Broad street, Philadelphia, was adopted, and every effort has been made to place this organization on a basis where it could best serve the public. Early in the year it was deemed advisable to locate a branch house in Springfield, Mass., at 143 Chestnut street. The organization has now been extended to include representative concerns in commercial centres throughout New England, each of which has a fully equipped laboratory for the adjustment and repair of Bosch ignition systems.

In addition to Bosch magnetos and spark plugs, the company is distributor for a long line of other special-

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RER THAT WILL BE IN DEMAND.

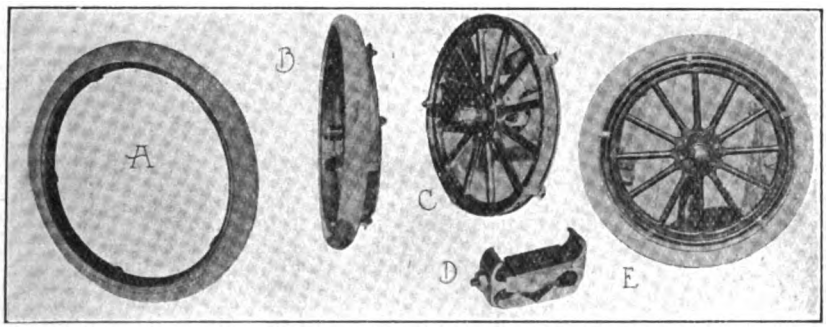
ties, including Kemco fan type generators, Zenith carburetors, Leak-Proof piston rings, etc. It is possible to purchase Bosch ignition system parts and spark plugs of any of the associated companies at the same price that is charged by the main house at Boston or the branch house in Springfield, and, in addition, each of these companies carries in stock a full line of the other specialties handled by the Motor Parts Company. The object sought is to afford a co-operative plan, in which combined resources afford the fullest benefit through mutuality of endeavor.

★

The Chester Demountable Rim Company, Fall River, Mass., is manufacturing a demountable rim for the model T Ford car, which will appeal to owners desiring to equip their machines with demountable rims, in that the car is not laid up or the wheels altered. As will be noted by the accompanying illustration, it differs from conventional practise, in that no cutting down of the spokes or building up of the felloes, drilling, fitting new bands, etc., is necessary. Another quality of the design is that there are no bolts to work loose on the felloe, and that only five nuts are required. Rings, levers, etc., are also eliminated.

A feature of the Chester rim lies in the statement made by the maker that the equipment can be attached in 20 minutes or less. The regular clincher rim is not disturbed, as the retaining construction shown at D is easily fitted to the old rim as indicated at C. The new rim A has spot welded edges and is slipped over the old member as illustrated at B. The rim and its casing is secured by a simple clamp and locking nut, there being five of these members. Their removal and replacement are accomplished by a double socket wrench, which accompanies each equipment.

Another quality of the Chester rim is that the same



Chester Demountable Rim for Ford Cars: A, Rim with Spot Welded Edges; B, Rim Being Demounted; C, Attachments in Position to Receive Rim; D, Members, Which Hold Rim to Wheel; E, Rim Locked in Place.

size shoes, 32 by three inches, are used all around. This oversize makes for easier riding qualities and tire economy, and the company is prepared to supply some interesting figures on tire mileage obtained with its equipment. Complete details and prices will be supplied upon request.

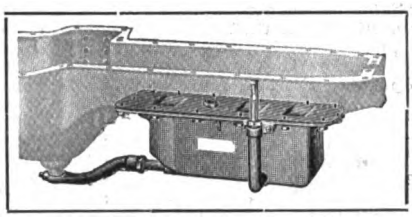
★

Panhard Oil has been on the market since 1904, which is practically the same as stating that its history is coincident with that of the automobile industry. Its checkerboard cans have become so well known among motorists as to establish a trade mark readily recognized as representing a standard product. The maker, George A. Haws, 148 Front street, New York City, explains that its policy always has been that of building for a permanent success. Its efforts have been directed toward the production of a lubricant which, in actual use, would be able to make good every claim advanced for it. Dealers, particularly those in sections where Panhard oil is not now represented, are invited to adopt the same policy by co-operating with the maker under a new sales plan, details of which will be forwarded upon request.

★

The International Metal Polish Company, Indianapolis, Ind., maker of Blue Ribbon metal polish, nickel polish, auto body gloss and radiator cement, has brought out a new article termed the Blue Ribbon cold cream soap. Among the features of the new soap is that it contains no grit and the use of water is not required. It is also stated that it leaves the hands soft and clean, and that chapped hands are avoided because of the absence of water. The company anticipates a large demand for cold cream soap by the owners, and is prepared to supply the trade, which can obtain complete details, as well as a sample, by writing the factory or the New York office, 335 Broadway. The full size can of cold cream soap retails for 10 cents.

The Danver Accessory Company, 18 Broadway, Pawtucket, R. I., maker of Daco specialties for the Ford car, is marketing, in addition to its brake rod support, brake shoes, combination anti-rattler and grease cup, the Danver automatic oiler. This replaces the lower half of the Ford crankcase and, by the use of a novel arrangement of compartments into which the connecting rods dip, and a standpipe, a constant level of the oil is maintained regardless of the supply in the reservoir. The lubricant is constantly circulated, a method making for economy in that an efficient working temperature of the oil is obtained. As the level is regulated regardless of grades and supply, smoking is eliminated, as well as waste of the lubricant. The oiler comes complete for attachment and an accessible gauge is included. Trade discounts and descriptive matter will be supplied upon request.



Danver Ford Automatic Oiler.

★

The Connecticut Shock Absorber Company, Meriden, Conn., is manufacturing the Connecticut shock absorber for model T Ford cars, which involves the same principles and material as used on the large members. Ease of installation and efficiency are emphasized in the design, which retails for $15. The construction, etc., is explained in bulletin No. 46 issued by the company.

★

The Salvador Motor Company, 126 Massachusetts avenue, Boston, Mass., has an interesting proposition for dealers in unassigned territory, respecting its Salvador cyclecar, the dimensions of which, according to the definition of the Cyclecar Manufacturers' National Association, place it in the light car division of the cyclecar field. This machine is said to have been designed by G. B. Mansur, formerly with the De Dion-Bouton Company, Paris, and to incorporate a number of foreign features, which have been adapted to meet the requirements of American road conditions. The motor is a four-cylinder, four-cycle unit, rated at 15 horsepower, which delivers power to the bevel gear rear axle through a cone clutch, three-speed selective gearset and propeller shaft. Springs are quarter-elliptic in front and cantilever type in the rear. The body is arranged to seat two passengers side by side, with the driver at the left. The company states that applications for territory must be made immediately, as the output for the present year is rapidly being allotted.

★

The Headlight Support Company, 1212 Dime Bank building, Detroit, manufacturer of auto devices, is marketing Turning Headlights for model T Ford automobile, and one of the qualities of the design is that they may be quickly and easily attached. As the name implies, the device actuates the headlights so that they automatically follow the slightest movement of the steering wheel, thereby throwing the light where it is needed

Showing Advantage of Headlight Support Company's Turning Headlights.

most. When rounding a curve the rays are so projected that the inner portion, as well as the centre of the road, is illuminated, making for safety.

The advantages over the fixed types of lamps are obvious. The Turning Headlights permit of driving with safety over unknown roads, entering curves and turning out for approaching vehicles, as the lamps automatically turn as above explained.

The maker states that the lamps will not rattle or work loose and that they are sold under a liberal guarantee. The retail price is $10, and the company has territory open, as well as a good proposition for the trade. Full particulars as to sample sets, prices, etc., will be

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LABOR SAVING EQUIPMENT FOR

forwarded upon request. The company also markets the Gasolock, which has been described in these columns.

★

The Stevens Manufacturing & Supply Company, Fisher building, Chicago, is marketing the Stevens auto tire check valve, shown in complete form and with the dust cap removed in the accompanying illustrations, which are of actual size. One of the qualities of the design is its simplicity, there being but four parts as compared with 11 in conventional types. The maker points out that there are no springs to wear out; that the action is positive, and that the greater the air pressure in the tire the tighter the valve is closed.

One of the features of the Stevens is that the valve operates the full length of the pump compression stroke. This makes inflating tires easy and insures the proper pressure because of the ease of operation. It is also stated that a child can operate the pump with one hand when Stevens valves are fitted.

Stevens Auto Tire Valve.

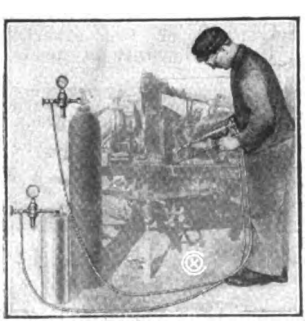
The device consists of a hexagon brass barrel with a thread cut on the small end to fit any standard pump connection. The other end is tapped to screw onto the valve stem, and has a channel through the entire length of the barrel for the passage of the air. The hexagon chamber is taper bored for a rubber plunger, and the chamber is machined true and smooth on the inside to permit the plunger to move freely. A fibre washer prevents air from leaking.

The Stevens can be applied to any valve stem and the maker states that they are used by leading racing drivers. They retail for $1 the set and are accompanied by a 30-day trial guarantee. Agencies are wanted in all unassigned territory. Terms and discounts will be supplied upon request.

★

The Cox Brass Manufacturing Company, Albany, N. Y., is marketing the Cox combination welding and decarbonizer outfit, shown in an accompanying illustration. The dual equipment comprises a highly polished oak case, nickel trimmed, with a cover and handle. The case contains a welding torch, six interchangeable tips, sufficient to do welding on all kinds of work; one oxygen reducing and regulating valve, with gauge and shut-off; one acetylene reducing valve, with gauge and shut-off, fitted with special coupling for attaching to Prest-O-Lite gas tank; 12 feet of acetylene hose and a complete assortment of welding rods for welding copper, brass, iron, bronze, steel and aluminum. The wrenches, goggles, etc., are packed in a special, convenient case. In addition there is included a decarbonizing torch and swab for removing carbon from motor cylinders by the oxygen process. The last named provides the dual equipment to which reference is made above.

The company calls attention to the low cost of the apparatus, which is marketed as a unit or separately. A special gauge showing the supply of oxygen on hand is listed at a slight extra cost. The company supplies complete instructions for the use of both systems, and maintains a free service department for the benefit of its customers. Special attention is called to the regulator or reducing valves. These are so constructed as to automatically reduce the pressure of the oxygen from that of the tank of 1800 pounds, and that of the acetylene tank from a pressure of 200 pounds, to a low, workable pressure of from zero to 25 pounds. The pressure is regulated to an even consistency and does not vary from a set amount. Complete details and price lists will be forwarded upon application to the company.



Cox Welding Equipment.

The Cox Brass Manufacturing Company is also marketing the Cox-ajusto shock absorbers, which are not only adjustable to any load, but to any car. Adjustment is obtained by turning a cap at the base of the absorber, it regulating the tension of a tapered helical spring. Complete information and trade price lists will be forwarded by mail.

★

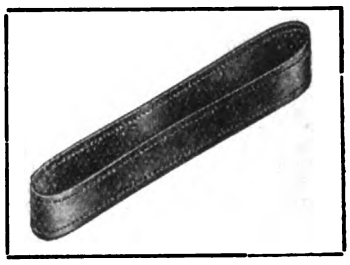
The Frank Miller Company, 351 West 26th street, New York City, is marketing a water proof dressing for leather tops, cushions, seats, upholstery, straps, etc., which is not only moderately priced, but is held to make an old top, or other similar equipment, look like new. The preparation restores the life of the material, and is especially adapted to tops that have become hardened and lustreless.

The company also markets a mohair top dressing, which is compounded for pantasote and similar materials. It is not a varnish; contains no injurious ingredients and imparts a new velvety finish without hardening the surface. Descriptive matter and prices will be mailed upon request.

★

The Perkins Campbell Company, 626 Broadway, Cincinnati, O., is marketing an attractive line of accessories for Ford cars, these including the Latigo fan belt, steering gear boots, crank holder, hood strap, license and tire straps, top rest, rebound straps, license holder and several other practical devices.

The fan belt which is shown in an accompanying illustration is made of genuine Latigo leather, a strong material, impervious to the action of oil, water or heat. The maker states it will not stretch or burn, and that it is very flexible. The belt retails for 50 cents.



Campbell Latigo Ford Fan Belt.

The steering gear boots come three to a set and are made of weather proof leather, laced on. Their construction makes it possible to pack the joints with grease, reducing wear to a minimum, as well as preventing the entrance of foreign and abrasive elements. The set retails for $1.

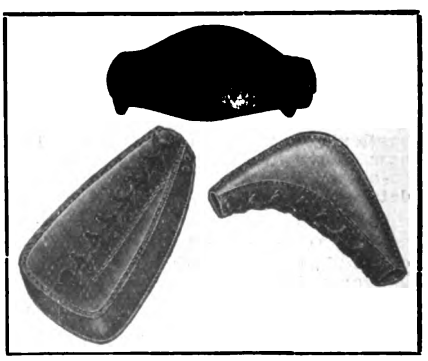
The company is featuring water proof seat covers, which protect the upholstery of a car, preventing its deterioration, and depreciation in the value of the machine. The covers, which include top members, are made of double, water proof, high grade cloth, over special patterns to insure accurate fit. The maker states that they will not shrink or stretch out of shape. Attachment is by means of screw glove fasteners. It is pointed out that they are easily fitted.

The company carries in stock seat covers for all models, including Buick, Cadillac, Ford, Hudson, Maxwell, Overland, etc., and an accompanying illustration depicts a 1914 Hupmobile equipped with the Campbell seat and door covers. The equipment is moderately priced, and the company will forward complete data and prices on request.

★

The Waite Auto Supply Company, 81 Exchange place, Providence, R. I., is one of the largest, if not the largest, exclusive automobile supply and jobbing houses in New England, and its location—within three minutes of all shipping lines, either by rail or water—is such as to afford excellent facilities for quick service. Dealers are not only invited, but urged to send at once for the latest issue of the big Waite catalogue, which lists in detail the complete line of accessories, supplies and fittings carried by this concern.

These include Rayfield carburetors, Mea magnetos, Batavia tires, Waite Success dry cells, garage air compressors, Success spark plugs, Klaxon electric horns, automobile springs, machine and hand tools, overhead washers, gasoline storage systems, etc., and among the new lines added recently are the following: Halliday Ford shock absorbers, Leak-Proof piston rings, vises, taps and dies, Raybestos brake lining, tungsten bulbs, G. B. valve tools, Barrett jacks, Keystone greases and Empire piston ring compressors. The company makes a specialty of guaranteed service, and uses every effort to insure satisfaction in all respects.



Campbell Ford Steering Gear Boots.

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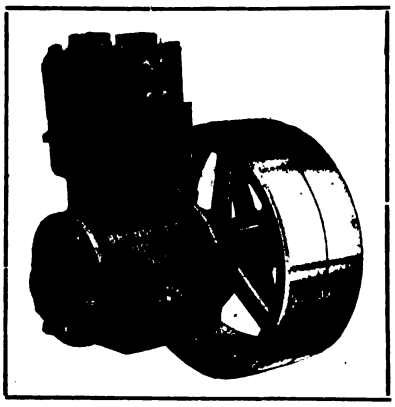
THE GARAGE AND REPAIRMAN.

The Brunner Manufacturing Company, Utica, N. Y., is well known among the trade as the maker of high grade compressors for garages, repair shops and service stations. This concern has made a specialty of power driven compressors for years, and each Brunner machine is backed by a guarantee for service, durability and satisfaction. The company calls attention to the statement that some of its compressors have been in use for nine years and are still efficient.

All types and sizes of machines are constructed to meet requirements and accompanying illustrations depict two garage types, the No. 17 vertical and the No. 102. Both are belt driven units. The No. 17 is a vertical, two-cylinder compressor, adapted for large garages and service stations where severe service is required. It has a capacity of seven feet of air and 170 pounds pressure at 350 revolutions a minute, and is used in connection with tanks of 80 to 150 gallons capacity. Lubrication is by the splash system.



No. 17 Vertical Brunner Compressor.

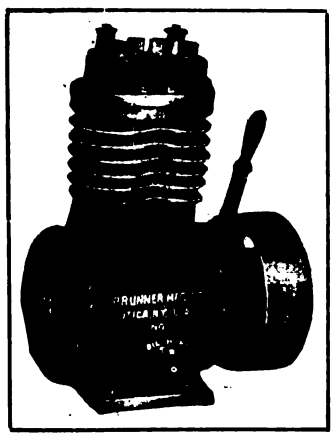
The No. 102 Brunner is a two-cylinder unit, lubricated by the splash system and has adjustable safety valves in the cylinders. The company states that it will supply more air and higher pressure with less power than any other compressor made, of same capacity. It supplies three feet of air and 150 pounds pressure at 400 revolutions a minute. The Brunner Manufacturing Company produces a variety of compressors, prices and details of which will be forwarded upon request.

★

The Rub-On Manufacturing Company, 89 Brayton street, Buffalo, N. Y., is marketing a number of preparations for renewing shabby parts of the automobile, these including restoratives for the top, upholstery, etc. Among these is Rub-R-Tite, which provides a black, water proof, flexible coating for a top, one that will not crack in zero weather, it is stated. The preparation is easy to apply. It comes in various sizes and is adapted for mohair, leather or rubber, and imitations of these materials.

The company also manufactures Rub-On concentrated lining dye, which is prepared especially for tops that have become discolored through neglect or long service. It is applied with a sponge, and it is stated that it is impervious to water and that it will not injure the material. It comes in black only.

Col-R-Ol is for renewing the appearance of either leather or imitation cushions and upholstery. It is claimed that it gives a fast, water proof color to the material to which it is applied and that it will dry quickly. It redyes the same or a darker color, and comes in black, green, maroon, red or tan.



No. 102 Brunner Compressor.

The elastic or Rub-On varnish is colorless and is for restoring the finish of the body, etc. Gloss Film is also produced by the company, a paste that puts a transparent smooth film over the varnish, thus preserving it.

Sta-Fix radiator mend, as the name implies, is for repairing leaks in the radiator. It stops leaks by forming a hard cement when the fluid becomes exposed to the air. It is mixed with the cooling fluid.

The Stay-On enamel produced by this concern is adaptable for metals and with it a hard, semi-bright, black finish is obtained. It will dry thoroughly when exposed to the air or it may be baked on, as desired. It is applicable to all metal parts of the machine, such as lamps, fenders, radiator, hood, etc., and is held to be very durable and lasting.

The Rub-On Manufacturing Company is also marketing the Auto Turn Jack, by means of which one person can raise the heaviest car easily and place it in the desired location. It is designed to economize space in the garage, as well as to save considerable labor. It has an instant adjustment for all heights of axles, and the length of the handle is five feet. It fulfills practically the same function as a turntable and is placed under a machine very quickly and from different angles. Tipping up the jack handle and lowering the lifting post permit placing the jack under an axle, while pulling down the long handle, causing the jack wheels to run under the machine's axle past dead centre, raises its front end. The company has a free cabinet proposition which will be mailed with complete data on its line, as well as prices.

★

Havoline Oil enjoys an enviable reputation among motorists, having been on the market practically since the inception of the industry. The Indian Refining Company, New York City, has prepared a new price scale policy and advertising plan, designed to make an especial appeal to dealers, full particulars regarding which may be obtained by addressing department M. Havoline oil is stated to be refined only from one uniform base, the lubricating fraction of which is held to be superior to that of other crude oils, thus assuring the customer the same high quality and lubricating value regardless of the time at which he purchases.

From the dealer's viewpoint, this is considered of the greatest importance, since it makes possible guaranteeing uniformity of quality and correspondingly good results for all time. The company is prepared to assist its representatives in every way in bringing its product to the attention of new customers.

★

The Monarch Manufacturing Company, 213 North Main street, Dayton, O., maker of welding and decarbonizing outfits, has evolved an interesting proposition for the trade, one that is a departure from conventional sales methods. By it a repair shop, garage, service station, etc., is enabled to obtain a complete welding and decarbonizing equipment at a very small expenditure. Details of the offer will be submitted by the company upon request.

The advantages of such an outfit are well known to the trade, as it permits of saving considerable time in the welding of parts that would otherwise have to be sent outside. The uses to which a welding equipment may be put are so numerous that a large number of shops have installed them. The Monarch Manufacturing Company's equipment is most complete and the concern is prepared to submit interesting figures showing the profits possible with its outfits.

★

The Nicholson File Company, Providence, R. I., an old and well known maker of files, has brought out what is termed a coil file for remedying ignition troubles. It is a handy little tool, which will prove of value in the garage, repair shop and service station, as well as with owners, as it is designed especially for trueing up the platinum points of coils and can be used with magnetos or any other ignition device employing platinum contact points. The file is so cut that it will true points without removing too much metal, as is usually done when employing ordinary members. The company produces all types of files and a postal will insure the receipt of a catalogue showing 600 reproductions of files, together with a booklet entitled "File Filosophy", a valuable treatise on the use and maintenance of files.

★

The American Vulcanized Fibre Company, Wilmington, Del., is manufacturing speedometer gears in standard sizes and is prepared to furnish at short notice special sizes to meet requirements. Data on speedometer gears are included in bulletin No. 4014, which will be forwarded upon request. The company makes a specialty of cleats, lever and crank handles, spring blocks, manifolds, thrust washers, camshaft gears, sheets, rods and tubes, and will quote prices on special work upon the receipt of blue prints or drawings.

EDITOR'S COMMENT.

Manufacturers, distributors, agents and dealers are invited to forward to the editor of The Accessory & Garage Journal, catalogues, circulars or other descriptive matter of their lines for publication in this department. When possible cuts or suitable illustrations should be included. The publication of descriptive articles does not place the contributor under any obligation whatsoever, but the editor reserves the right to utilise or return any article submitted. It is important that the street address be given, also name of maker if lines are handled by a distributor or agent.

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alden & Goulding Co., Worcester, Mass.
Auto Parts Co., Providence, R. I.
Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.
Dauer Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Miller, Chas. R., 97-103 Reade St., New York.
Branches: 202-204 Columbus Ave., Boston; Bridge and Dwight Sts., Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave., and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 318 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 259 Peachtree St., Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 135 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Weits Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Weyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago.; 1786 Broadway, New York City; 805 Woodward Ave., Detroit.
Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Edison Storage Battery Co., 137 Lakeside Ave., Orange, N. J. (Edison.)
Electric Storage Battery Co., Philadelphia. (Exide.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)
Weits Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)
Russell Mfg. Co., Middletown, Conn. (Russco.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)
Branches: 1140 Michigan Ave., Chicago; 1211 Woodward Ave., Detroit; 1902 Broadway, New York City.

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

American Voiturette Co., Detroit. (Keeton.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Henderson Motor Car Co., Indianapolis. (Henderson.)
Jackson Automobile Co., 1400 Main St., Jackson, Mich. (Jackson.)
Knox Automobile Co., Springfield, Mass. (Knox.)
Lexington-Howard Co., 131 Main St., Connersville, Ind. (Lexington and Howard.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Metz Co., Waltham, Mass. (Metz.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Premier Motor Mfg. Co., Indianapolis. (Premier.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Alma Motor Truck Co., Detroit. (Republic.)
Factory: Alma, Mich.
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Blair Mfg. Co., Newark, O. (Blair.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
Garford Co., Elyria, O. (Garford.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
MotoKart Co., 1790 Broadway, New York City. (MotoKart.) Factories, Peekskill and Tarrytown, N. Y.
Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Studebaker Corp, Detroit, Mich. (Studebaker.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Automobile Co., Springfield, Mass. (Knox and Martin Tractor.)
Willys-Overland Co., Toledo, O. (Overland.)

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BUYERS' GUIDE---Continued

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)
Miller, Chas. E., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYCLECARS.

Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 80 Flatbush Ave., Brooklyn, N. Y. (Ball Carbon Remover.)
Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Milwaukee Auto Specialty Co., 128 Second St., Milwaukee.
Northwestern Chemical Co., The, Marietta, O. (Carbonox.)
Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FIRE EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., Marietta, O. (Fire-Fly.)
Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FORD AUTOMOBILE SPECIALTIES.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS AND GASKET CUTTERS.

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHTS, TURNING.

Headlight Support Co., 1217 Dime Bank Bldg., Detroit.

HORNS.

Bonner, D. Henry, Co., Cambridge, Mass. (Tremo.)
Garford Mfg. Co., Elyria, O. (Tuto.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)

IGNITION APPARATUS.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMPS, TAIL. (See Tail Lights.)

LIGHTING SYSTEMS, ELECTRIC.

Garford Mfg. Co., Elyria, O. (Dynalux.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

LOCKING DEVICES.

Headlight Support Co., 1217 Dime Bank Bldg., Detroit. (Gasolock.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Hawe, Geo. A., 148 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York City. (Havoline.)
Miller, Chas. E., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)
Northwestern Chemical Co., Marietta, O. (Gear-Silence.)
Platt & Washburn Refining Co., 7 Broadway, New York City. (Veedol.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Eisemann Magneto Co., 225-227 W. 57th St., New York City. (Eisemann.)
Branches: 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.
Heinze Electric Co., Lowell, Mass. (Heco.)
Holtzer-Cabot Co., Brookline, Mass.
Branches: 101 Park Ave., New York City; 6161-65 So. State St., Chicago; 1005 Union Trust Bldg., Baltimore, Md.
Marburg Bros., 1790 Broadway, New York. (Mea.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LISTS.

Owners' Auto List Co., Albany, N. Y.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Kent Pocket.)
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)
Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PACKING, FIRE.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., Marietta, O.

PRIMERS.

Duelec Vaporizing Primer Co., 14 No. Broadway, Yonkers, N. Y. (Duelec Vaporizing.)

PUBLICATIONS, AUTOMOBILE.

The Automobile Journal, 24 issues, $1.00 the year.
The Motor Truck (Commercial Car), Monthly, $2.00 the year.
The Accessory and Garage Journal, monthly, $2.00 the year.
Motor Truck Construction, Operation, Care and Repair.....$1.00
The A B C of Aerial Navigation.....$1.00
The A B C of Motor Car Operation.. .50
Overhauling, Rebuilding and Equipping the Motor Car..... .50
Lighting the Motor Car by Electricity.. .50
The A B C of Internal Combustion Engine Maintenance and Repair..... .25
The A B C of Carburetor Construction, Maintenance and Repair..... .25
The A B C of Magneto Systems..... .25
The A B C of Battery Ignition Systems .25
The Motorcycle, Maintenance, Repair and Construction..... .25
The A B C of Motor Car Chassis Maintenance and Repair..... .25
Maintenance and Repair of Motor Car Tires ..... .25
Sent Postpaid to any address in United States upon receipt of price. Address all communications to The Automobile Journal, Pawtucket, R. I.

PUMPS, OILS AND GREASE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Green & Swett Co., 737 Boylston St., Boston. (Tri-Phoon Car and Garage.)

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BUYERS' GUIDE---Continued

Shawver Co., Springfield, O.

REAMERS.

Martell Motor Co., 1928 Columbus Ave., Boston. (Martell Aligning.)

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Derian.)

Chester Demountable Rim Co., Fall River, Mass. (Chester Demountable.)

United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, Birmingham, Ala.; London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

SEAT COVERS.

Perbing Campbell Co., 622 Broadway, Cincinnati, O.

SELF-STARTERS. (See Motor Starters.)

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.

J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Colgate & Co., 199 Fulton St., New York City. (Moto-Gloss and Mechanics' Soap Paste.)

Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.

Heinze Electric Co., Lowell, Mass. (Heco Priming.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Mosler, A. B. & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)

Silvos Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

SPEEDOMETERS, RECORDERS, ETC.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Electric.)

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TAIL LIGHT DETECTORS.

Harding Specialties Co., Inc., 755 Boylston St., Boston. (Boston.)

TAIL LIGHTS.

Combination Tail Light Co., 954 Tremont St., Boston. (Universal Electric.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS, TIRE INFLATING.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)

Shawver Co., Springfield, O. (Tools.)

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)

Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.

Mots Tire & Rubber Co., Akron, O.

United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)

Polack Tyre & Rubber Co., 246 W. 59th St., New York City. (Polack.)

United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

VALVE LIFTERS.

Winsor Mfg. Co., Providence, R. I.

VARNISHES, ETC.

Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VENTILATORS.

Wattles, C. B., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VIBRATORS. (See Master Vibrators.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

National Motor Car Supply Co., 5604 Euclid Ave., Cleveland. (National Garage Steam and Wizard Automatic.)

Vanderpool Co., Springfield, O.

Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.

Cutter, George A., Taunton, Mass.

Mossberg Co., Frank, Attleboro, Mass.

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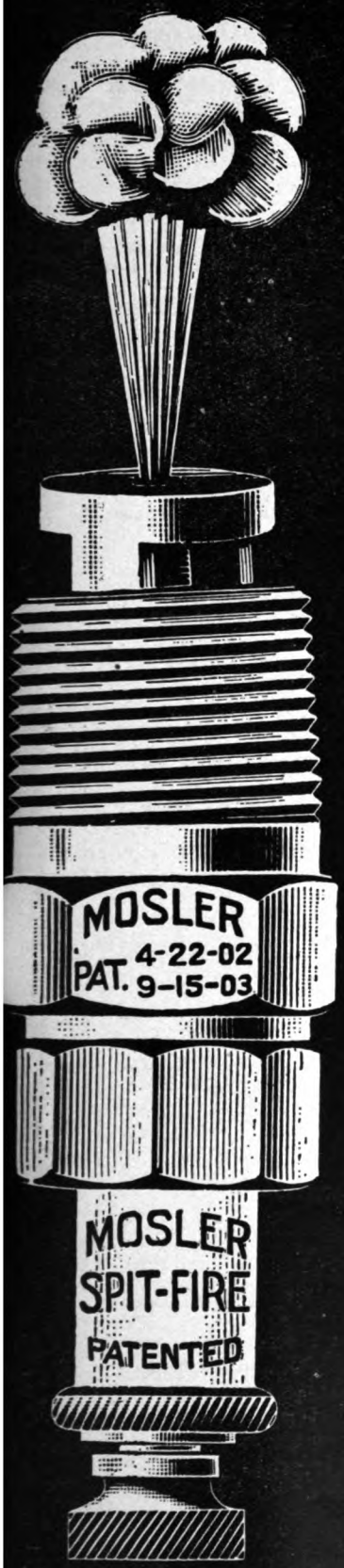

Write for Dealers' Price Schedule

IF YOU WANT NEW BUSINESS

If you want to increase your sales Sell the Goods the Public Knows

MOSLER'S "SPIT-FIRE" PLUG is better known than any other spark plug. It is more advertised, is to be found as equipment on more Automobiles, Motor Cycles, Motor Boats, and stationary Gas Engines than any other spark plug made.

This fact means rapid sales for the man who handles the "Spit-Fire".

Mosler's "Spit-Fire" Plugs Are Guaranteed Forever as to workmanship and material.

See our Red Tag guarantee attached to every platinum pointed "Spit-Fire" Plug. MOSLER'S "SPIT-FIRE" Plugs give the hottest spark and actually INCREASE HORSE POWER.

A stock of "SPIT-FIRE" Plugs means profit for you and ABSOLUTE SATISFACTION for your customers.

They are made in Every Size and in Every Style.

We recommend Genuine Iridium Platinum Points: the best magneto plugs made, equally efficient with battery or magneto spark. Remember that PLATINUM POINTS LAST FOREVER.

Write today for our proposition. It will pay you.

A. R. MOSLER & CO.

NEW YORK, N. Y.

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A Good Old Standby

Make your store
the centre of

Weed
Anti-Skid
Chain
activity

DO you display Weed Chains in your windows? Do you take advantage of every opportunity to remind the motorists in your community that your store is the hub around which Weed Chain activity whirls?

If you will only say the word, our Advertising Department will explain what *"Weed Service for Live Dealers"* really means in dollars and cents to you. ***We have Papier-mache tires, 30x3½, on which you can display our chains in your windows, and attractive cards, booklets, etc., on which we will imprint your name and address.*** All you have to do is to invest one cent in a postal card on which to assure us that you really desire to ***"Make your store the center of Weed Anti-Skid Chain activity" in your community.***

Awaiting your valued inquiry, we are, yours for co-operation,

Weed Chain Tire Grip Company

28 Moore Street - - - - - - New York

Manufactured for Canada by Dominion Chain Company, Limited; Main Office, Shaughnessy Bldg., Montreal, Canada

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GUARANTEED TO REACH ALL TRADE INTERESTS.

20 CENTS the COPY

Industrial News Pages 13-15, Manufacturers 16-17, Garage System 19-23, Quotations 24, Trade Information Exchange 25-26, Personals 27-28, Trade Addresses, 29, New Accessories 30-33, Incorporations 34-35, New Car Agencies 36-39, New Concerns 39-40, Removals 41, Insurance Rates 46-48, Fires 48, Foreign Opportunities 48, Patents 50, New Buildings 51-52, Buyers' Guide 62-63-64.

THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., MAY, 1914.

646766

PANHARD OIL

Dealers' Bulletin No. 6.

A New York newspaper which had been investigating the tea business, recently published an article which read in part as follows:—

> "Unhappily there are many 60-cent teas on the market which are worth about 17 cents a pound, sometimes less. The lowest grade stuff, even siftings and dust, which will make up a cup of tea with a tea flavor, can be put in a fancy package and sold at a fancy price, at an enormous profit to the faker and a corrupted taste to the user."

This applies with equal force to the automobile oil business. Are *you* basing your hope of a permanent oil trade on a product of this kind? If so, are you wise?

Panhard Oil has been known since 1904 as the best. It is building for permanent success. So is the dealer who sells it. Write now for details.

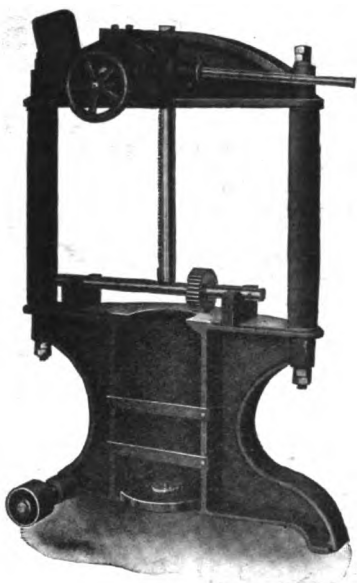
GEORGE A. HAWS, 148 FRONT ST., NEW YORK

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

The No. 15 Greenerd Arbor Press

Was Designed Especially for Garage Work. This press is Needed in an Automobile Repair Shop for Two Reasons:



First—It will repay its cost in a short time.

Second—Many automobile owners are mechanics, or at least mechanical, and realize the mutual benefit of tools to "do things right."

The No. 15 Press has many advantages that will at once appeal to the automobile machinist.

MANIPULATION

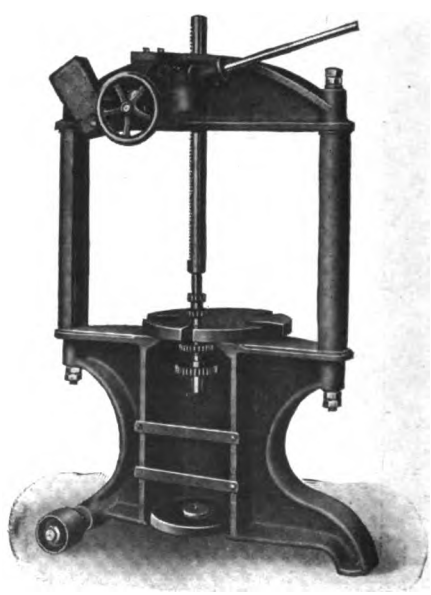
Rapid and easy. The ram can be quickly run up or down by the small hand wheel in front of the press.

ADVANTAGES OF DESIGN

Thirty-six inches between the uprights, 12 inches opening under the plate, 26 inches over the plate, 48 inches over the lower or auxiliary plate. Mounted on wheels the press can be easily moved to the center of your shop to straighten an axle, or over a trap hole through which a crank shaft may be placed to remove a flywheel.

AUXILIARY PLATE

at the bottom of the chamber under the revolving plate having a receding center and a self-conforming surface to press against —very convenient when needed. This plate is removable.



POWER

One man can exert ten tons pressure, two men sixteen tons. This statement is not "trade talk," it's true. The workman "feels" what he is doing. For this reason a pressure gauge is hardly necessary with a Greenerd Arbor Press.

THE GEARING

is all of special steel "heat treated." The gears having the greatest strain are chrome vanadium. Greenerd Arbor Presses are built to use, and to endure. Weight 1300 pounds. We build 15 sizes, exerting from a few pounds to 40 tons.

EDWIN E. BARTLETT CO.

322 A Street, Boston, U. S. A.

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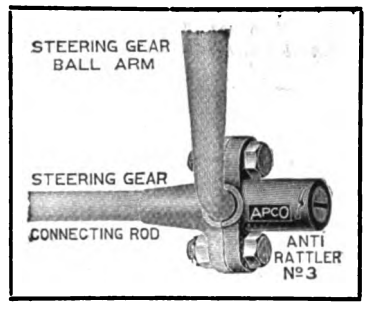
TRADE APCO MARK

ANTI-RATTLER PRICES

75 CENTS LIST REDUCED 50 CENTS DEALER

The APCO Steering Rod Anti-Rattlers licensed under the Towle Patent have been materially reduced in price. These goods come packed in individual cartons, fifty cartons in a corrugated box.



They are NICKEL PLATED and POLISHED.

You know the demand for these goods and at the reduced prices the sale will be enormous.

Send your order to our nearest branch.

The largest manufacturers of Ford Specialties in the world.

AUTO PARTS COMPANY

Providence, R. I.

Auto Sundries Co., 18 Broadway, New York City, Foreign Distributors.
Fraser Motor Specialties Co., 1912 Grand Ave., Kansas City, Mo.
H. A. McRae & Co., Schuylerville, N. Y.
Ohio Ford Shop, 806 Race St., Cincinnati, Ohio.
E. H. Talcott, 722 Pine St., Seattle, Wash.
Western Rubber & Supply Co., Los Angeles, Pasadena, and San Diego, Cal.
John V. Wilson Co., 1424 Vine St., Philadelphia, Pa.
John V. Wilson Co., 3020 Michigan Ave., Chicago, Ill.
John V. Wilson Co., 220 Pleasant St., Boston, Mass.

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Write To-day for Our New 1915 Proposition

1882-1914

THE SLATE

The dealer who is building his business on a permanent basis, will give due consideration to the following:

The Parent Company of the Sullivan Motor Car Company was established in 1882 by Hughson & Sullivan, pioneers in the wholesale carriage business. In 1889 the name of the company was changed from Hughson & Sullivan to Sullivan Brothers. T. J. Sullivan, founder of the company, is still actively connected with the business. The firm of Sullivan Brothers is still engaged in the wholesale carriage business and in the same plant in which they started. In 1911 the Sullivan Motor Car Company was formed and the Sullivan commercial vehicles have been produced in quantities from that time. The personnel of the Sullivan Motor Car Company includes T. J. Sullivan, D. E. Sullivan and George T. Sullivan.

The Sullivan Motor Car Co.
Rochester, N. Y.

The Truck Buyer Today Buys Value

The problem the dealer must meet is that of efficiency.

The dealer must guarantee the definite service of every truck sold—to succeed, that guarantee must be realized by the purchaser.

The guarantee of service means that the machine must be equal to all requirements—the necessity of making this guarantee, is a potent reason for dealers to market the

NEW 1915 SULLIVAN MOTOR TRUCK

Which is the development from 30 years' study of motor vehicle problems. The first Sullivan Motor Truck, built four years ago, has proven the worth of these machines. It is doing work daily, as well as when placed in service. The

NEW 1915 SULLIVAN MOTOR TRUCK

Has been proven by long continued service in all conditions of operation.

Its Development Was Logical Perfection of a Standard Type

Careful study of the transportation departments of hundreds of merchants and manufacturers proved that the greatest number require vehicles of 3000 pounds maximum load capacity, and the 1915 Sullivan Motor Truck was designed to serve the purposes of the business interests that constitute the largest and most constant market.

This Means the Biggest Field for Sullivan Truck Dealers

The price is $1600, and this buys the highest quality that can be put into a machine—a quality that the builder and the dealer can in every way guarantee—a quality that means constant service, long endurance and maximum economy.

The Sullivan 3000 Pound Truck is the Greatest Value the Industry Has Produced

Live wire agents can make many sales, make big profits and establish themselves as leaders of the motor vehicle trade.

Write for Our 1915 Dealers' Territorial Proposition
It Is Broad, Liberal and Progressive

SULLIVAN MOTOR CAR COMPANY
ROCHESTER, NEW YORK

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BUDA BOSCH HARTFORD LEFEVER

RUSSELL HYATT S.A.E. TIRES

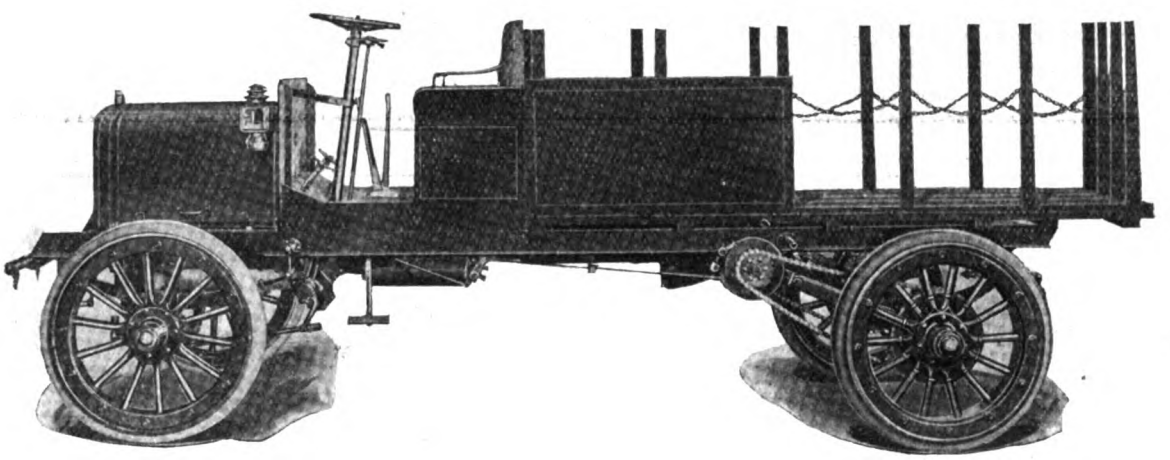
WE HAVE THE TRUCK NAME YOUR TERRITORY

Sullivan Motor Trucks

The Development from Thirty Years' Experience in Commercial Vehicle Construction

Represent the Largest Value Ever Offered to Business Men for $1600

This Price Guarantees to the Dealer and the Buyer the Highest Quality, the Quality That Means Service and Satisfaction and Economy.



PRICE $1600 (Chassis), Maximum Capacity 3000 Pounds.

A Standard Truck, Constructed of the Highest Quality Standard Parts. Every Detail of Design Makes for Simplicity, Accessibility, Economy of Operation and Maintenance, Built for Service Wherever Highways Exist and Business Is Transacted. A Machine for Universal Utilities.

THE SPECIFICATIONS:

Motor—Four-Cylinder, Vertical, Cast Enbloc, Bore 3¾"x4½" Stroke.
Ignition—Bosch Magneto.
Transmission—Selective Sliding Gear, Three Speeds Forward and Reverse.
Front Axle—I-Beam Drop Forging. Roller Bearings.
Rear Axle—Drop Forging 1⅝"x2¼". Roller Bearings.
Springs—Front, Semi-Elliptic; Rear, Half Platform.
Frame—Channel Steel, 5" Section.
Brakes—Service on Jackshaft; Emergency on Rear Wheels.
Chains—Quick Detachable, Heavy Duty.
Wheels—Front, 14 1¾" Spokes; Rear, 14 2" Spokes; Best Second Growth Hickory.
Tires—S. A. E. Standard, 36"x3" Front, 36"x4" Rear.
Clutch—Leather-Faced Cone.
Cooling—Vertical Tube Radiator, Thermo-Syphon.
Control—Levers in Center.
Wheelbase—129".
Tread—56".
Speed—Maximum Allowed by Governor, 18 Miles.
Equipment—Horn, Tools, Three Oil Lamps and Driver's Seat.

SULLIVAN MOTOR CAR COMPANY
ROCHESTER, NEW YORK

MAIL IT TODAY
Send Full Particulars of Your 1915 Dealers' Proposition

TEAR THIS COUPON HERE

Name _____
Street _____
City _____
State _____

To Sullivan Motor Car Company
ROCHESTER, NEW YORK

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

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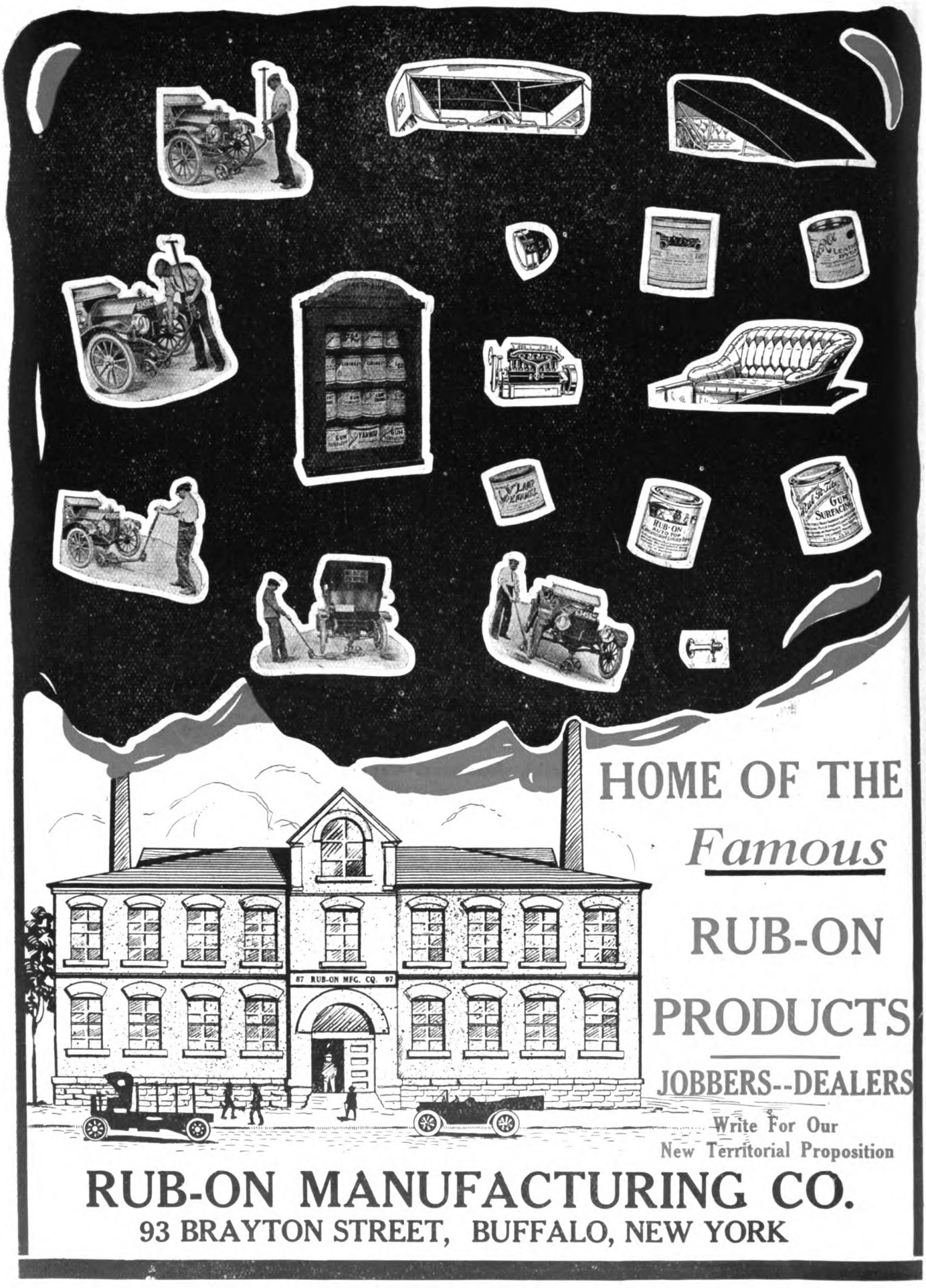

HOME OF THE

Famous

RUB-ON

PRODUCTS

JOBBERS--DEALERS

Write For Our
New Territorial Proposition

RUB-ON MANUFACTURING CO.

93 BRAYTON STREET, BUFFALO, NEW YORK

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The best oil in the market is the most profitable in the end

There's money in handling "quality" goods of any kind—they mean repeat orders, the sure building up of a business—big profits in the end.

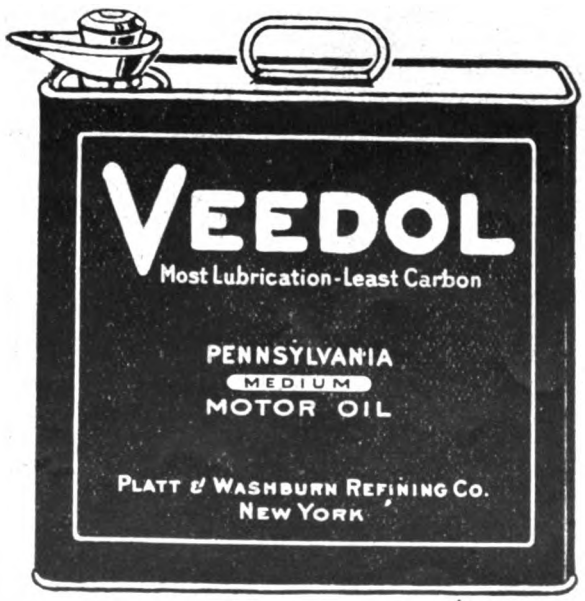
Here's a quality oil from a Pennsylvania base, the result of our 30 years' experience with lubricating oils. Its flash and fire tests, its viscosity and lubricating value in the heat of the combustion chamber, its small residuum of carbon, make it the most nearly perfect lubricant ever put on the market.

VEEDOL

When you sell Veedol you sell Service---the most lubrication with the least carbon deposit.

Veedol will be a business-builder for you, because a car owner who buys it gets lubrication, not merely oil. He gets more mileage for his money and freedom from costly repairs. He gets satisfaction, and he will be back for more of it at the same price.

We want responsible representatives for Veedol everywhere. If there is no agent near you, write at once for terms and for full information of our intensive consumer advertising for Veedol.



Platt & Washburn Refining Co.

Established 1885

1 Broadway, New York City
88 Broad Street, Boston.

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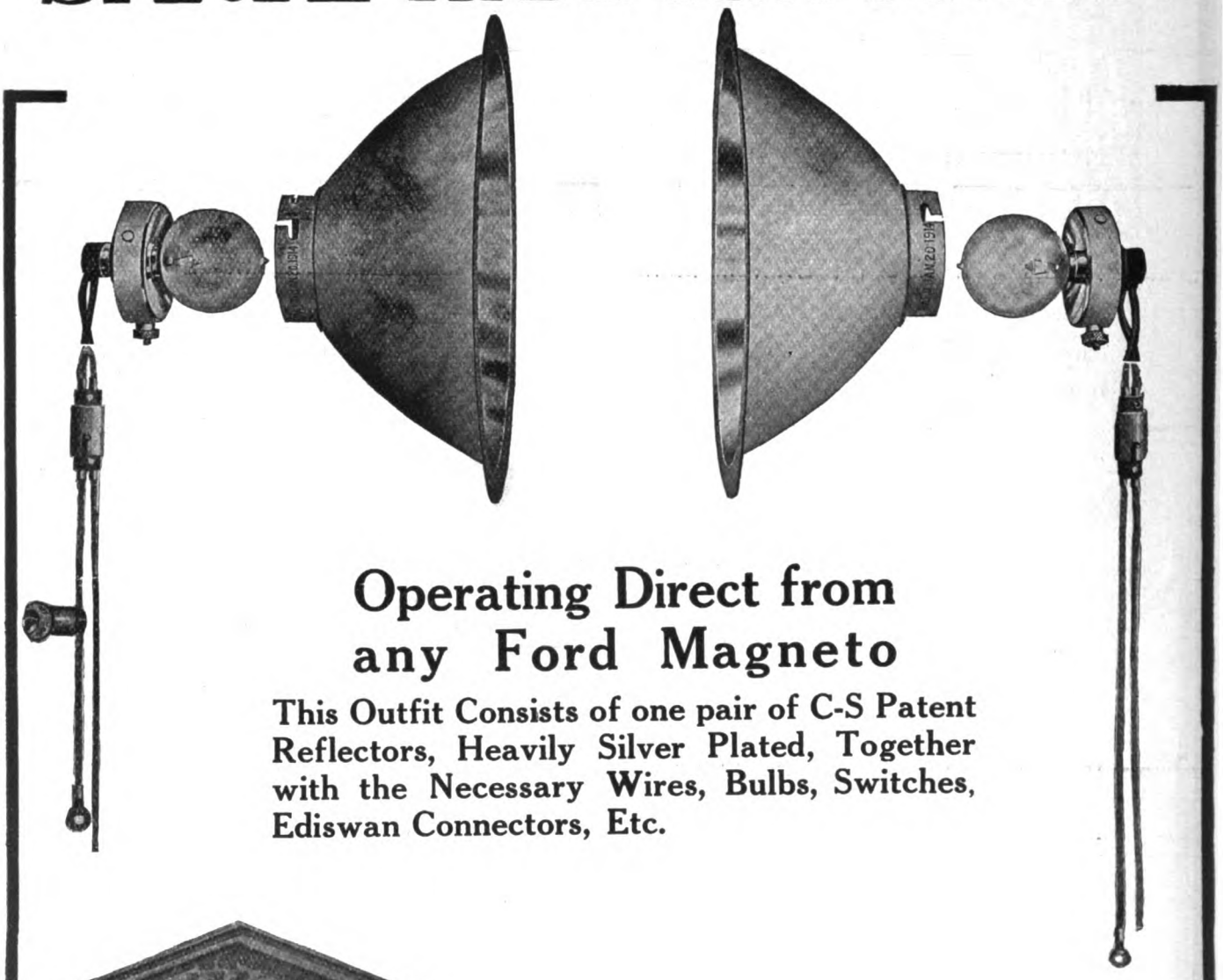
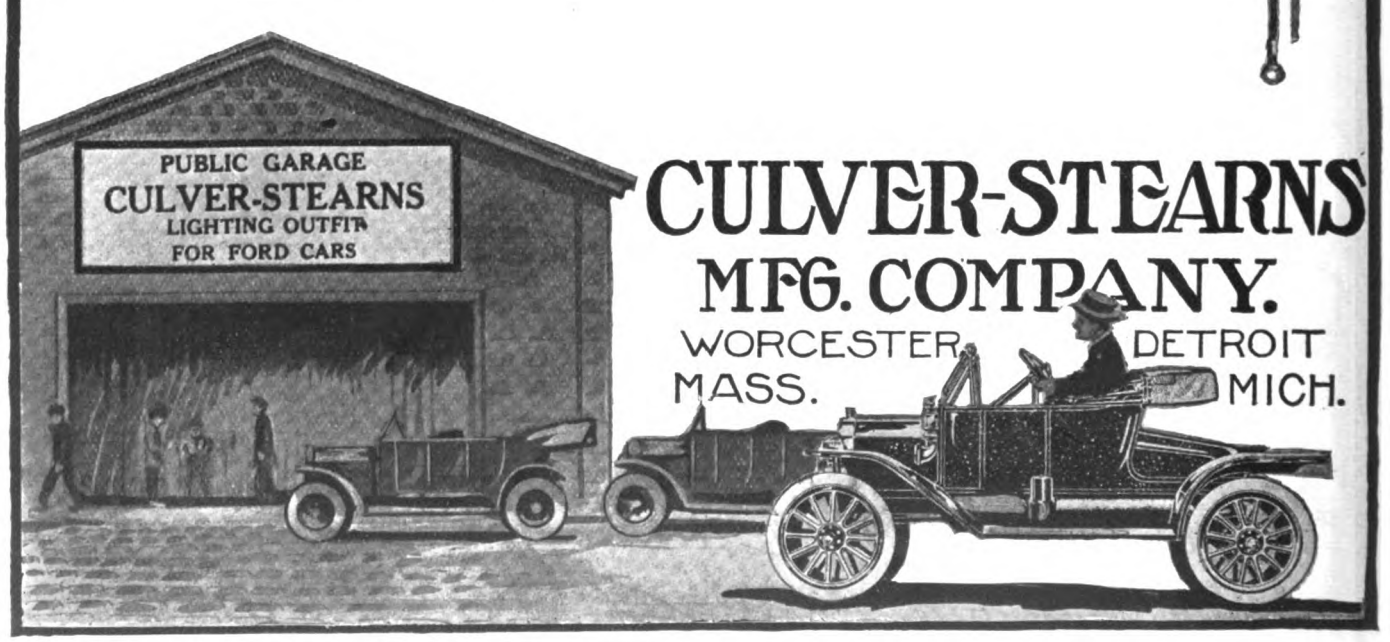
LIGHTING C-S MFG. CO. OUTFIT

SPECIAL TRADE PROPOSITION



Operating Direct from any Ford Magneto

This Outfit Consists of one pair of C-S Patent Reflectors, Heavily Silver Plated, Together with the Necessary Wires, Bulbs, Switches, Ediswan Connectors, Etc.



CULVER-STEARNS MFG. COMPANY.

WORCESTER, MASS. DETROIT MICH.

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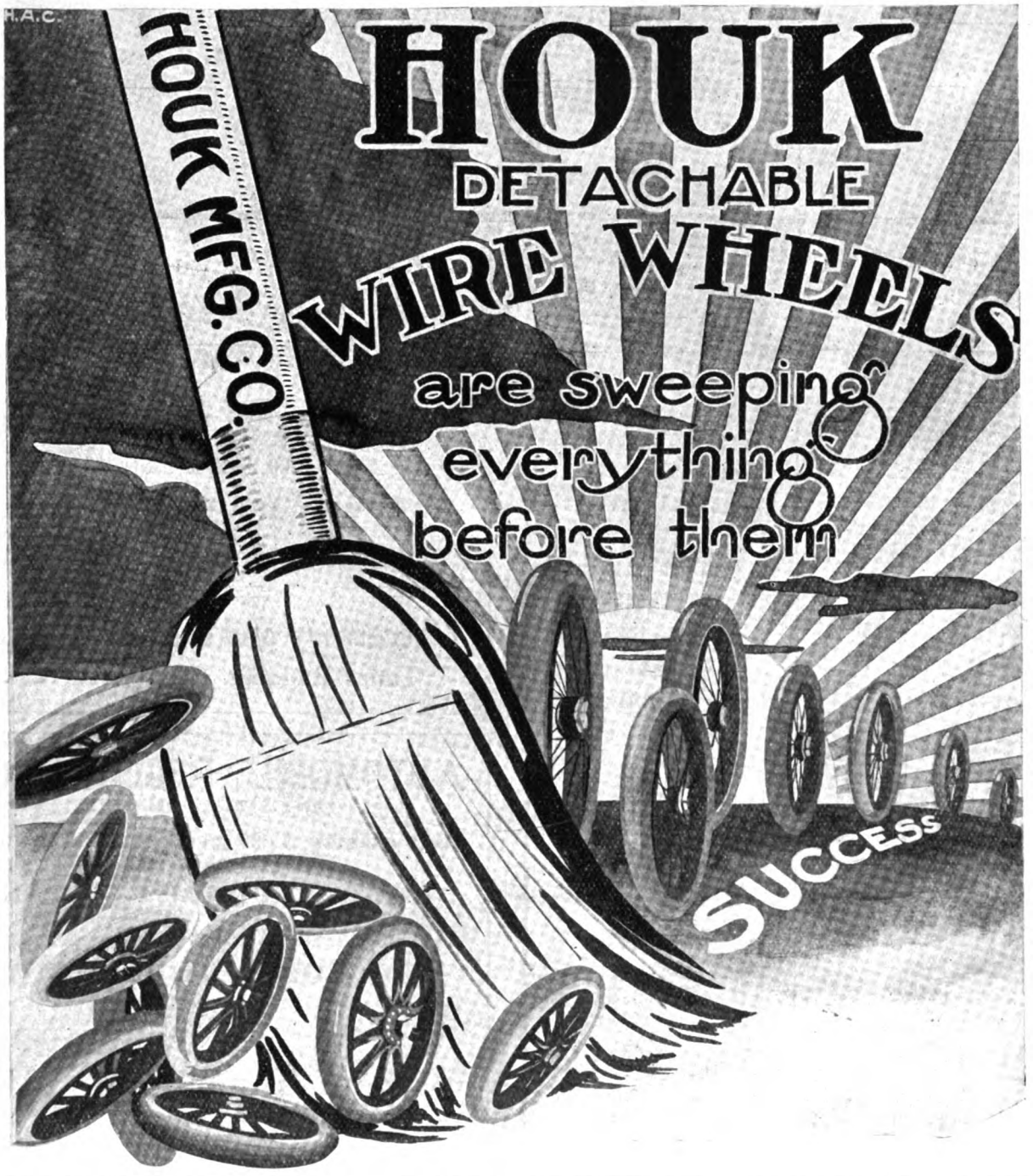

EXCLUSIVE AGENCIES OPEN IN MANY LOCALITIES

Agencies will only be made with representative dealers, who will have highly developed cooperation from us in the sale of the wheels they contract for.

Every car owner is a prospect. HOUK WIRE WHEELS are made to fit ALL CARS. A set can be installed in an hour. Every new car purchaser is a READY MADE CUSTOMER.

Write TODAY for details of our DEALER'S PROPOSITION.

Manufactured by the Houk Manufacturing Co. for

GEORGE W. HOUK COMPANY, 1699 ELMWOOD AVENUE **Buffalo, N. Y.**

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LITTLE GIANT

MAGNETIC

Trouble Lamp

(Combination)

Price $3.00

PATENT APPLIED FOR

Lights when you want it.
Sticks where you place it.
Dropped a Tool?
Picks it up when you want it to.
Lost a Nut?
Finds it when you fail to see it.
Is a combination in all that name implies.
Indispensable to Motorists.
Should be in every garage and with every car.

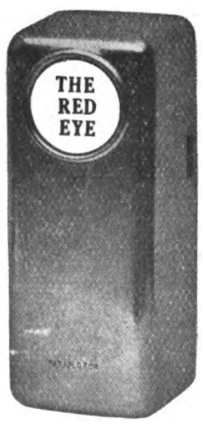
Price $3.00

RED EYE WARNS YOU

Right On The Dash

The Boston

Tail Light Detector



Patent Applied For

Tells you when your rear light fails to work—Saves you court fines and court records.
Easy to attach to all makes of cars —no electrician needed.

Guaranteed for life of car.

Price $5.00

Send for Dealers' Proposition

The Harding Specialty Company

755 Boylston Street, Boston, Mass.

Tear Out---Don't Forget

Send Money and Order Today

Every man in the industry that has to do with pleasure or commercial cars should have this library of Automobile Mechanical Information. A full training school course.

10 Great Books—800 Pages of Text—1500 Illustrations

All Indexed—Your Price $3.75 Delivered

Engine, 35c; Carburetor, 35c; Electric Lighting, 50c; Battery, 35c; Motor Car Tires, 25c; Chassis, 25c; Magneto, 35c; Car Operation, 50c; Overhauling, 50c; The Motorcycle, 35c.

Accessory and Garage Journal

Times Building, Pawtucket, R. I.

AUTOMOBILE REGISTRATIONS

ANY STATE COMPLETE

Ford owners $2.50 per thousand names---1914 Registration

OWNERS AUTO LIST COMPANY

CAPITOL - - - - - ALBANY, N. Y.

A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $3 per M by states.
Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.
Garages—13,515—$25 or $3 per M by states.
Repairs—8,466—$15 or $3 per M by states.
Supplies—6,964—$12 or $3 per M by states.
Auto Mfrs., U. S. and Canada—626—$3.
544 Auto Dealers, second-hand—$4.00.
14,000 Auto Truck Owners—$3.50 per M.
AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $3 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.

WRITE US YOUR NEEDS.

All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.

TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1183. Chicago, Ill.

FORD DELIVERY BODIES in stock. Send for circular. "LEW" FALES, Providence, R. I.

THE MOTOR TRUCK

PUBLISHED ONCE A MONTH

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THOUSANDS OF FORDS BEING SHIPPED DAILY

LIVE WIRE DEALERS: Every Ford Owner a Prospect For a

BOSTON STARTER

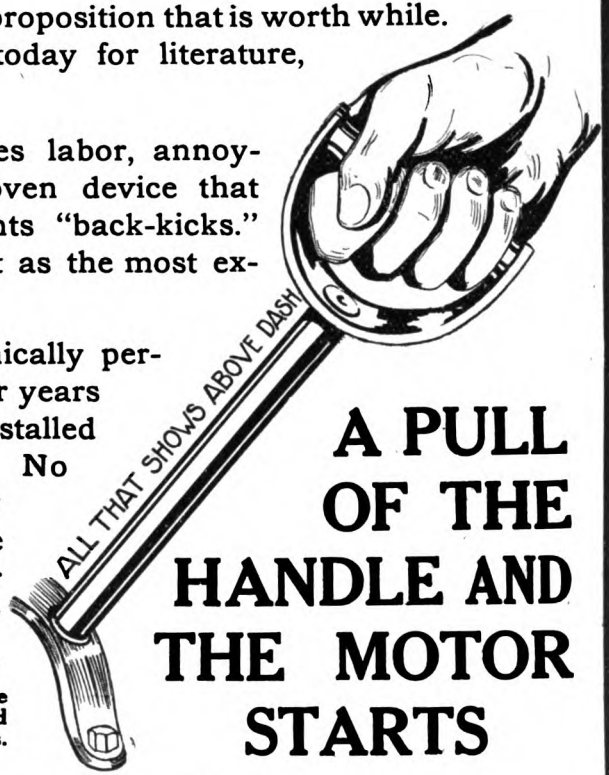
$25.00 F.O.B. Boston **Made Especially for FORD Machines. Will Start the Engine From the Seat.**

DEALERS AND AGENTS—We have a proposition that is worth while. Get busy with the Ford owners. Write today for literature, terms and discounts.

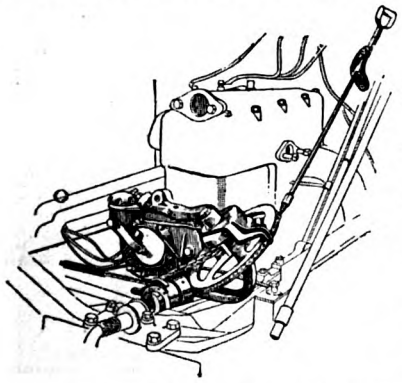
THE BOSTON STARTER eliminates labor, annoyance and insures against injury. A proven device that automatically retards the spark and prevents "back-kicks." Places the car in the same class for comfort as the most expensively equipped vehicle.

THE BOSTON STARTER is mechanically perfect, compact, ruggedly constructed, built for years of endurance completely concealed, easily installed or removed, and adds but little weight. No changes necessary to install it, and any mechanic or experienced motorist can do the work. No springs, batteries, motors or other possibilities for complication. Always ready and always serviceable. Thousands in use.

OWNERS—**If your dealer cannot supply you, write us. A postal will bring you information, and for a check for $25.00 we will ship a starter, f. o. b. Boston, Mass.**



A PULL OF THE HANDLE AND THE MOTOR STARTS



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Sole Distributors for Export.
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New York, N. Y.

AUTOMATIC APPLIANCE CO.

172 COLUMBUS AVE., BOSTON, MASS.

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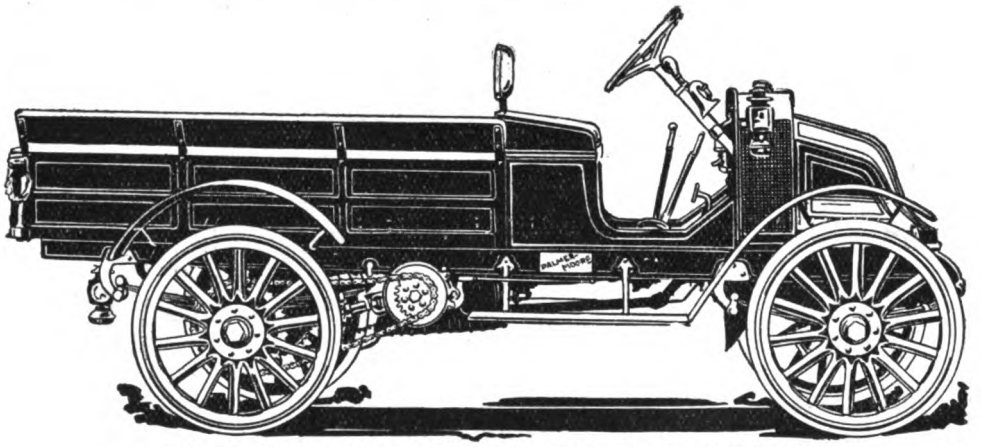
PALMER SERVICE PM DEPENDABILITY MOORE TRUCKS

Efficiency and Economy—the Test of Truck Fitness

20 PALMER-MOORE TRUCKS

Ordered by the Clearing House Parcel Delivery Company of Boston, Mass.



Palmer-Moore Open Express Body. Price $1425.00

The Clearing House Parcel Delivery Company of Boston has just ordered twenty Palmer-Moore trucks. This is one of the largest single orders received by any truck manufacturer this year. It came as the result of a competitive examination of a number of the leading makes. Exhaustive demonstrations were held for over four weeks and every possible test made to demonstrate the availibility of the different trucks for the special services wanted. Particular attention was paid to engine control, flexibility of motor, tire economy, ease of handling in congested districts, and the ability to meet promptly the varied demands of parcel delivery service in Boston and over one hundred outlying towns.

The spring buying season is on in full swing. We want to hear from live dealers in unoccupied territory. Remember, wherever there is a truck prospect there is a possible Palmer-Moore sale. Write us today.

1600 lbs. capacity. All styles of bodies.

PALMER-MOORE COMPANY

104 N. Geddes St. SYRACUSE, N. Y.

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ANNOUNCEMENT

$20.00 COMPLETE SET

READY TO ATTACH

MADE TO FIT

FORD

CARS

MADE TO FIT

FORD

CARS

Wanted—One Thousand Wide Awake Dealers

The Mott "Quality" Trade Mark is back of this wheel. You know what that means. Our capacity is sufficient to supply the demand. The price is based on 200,000 complete sets in 1914 and 1915. Our agency proposition is the best in all motordom. Your profits are limited only to the number of Ford owners in your territory. The name guarantees recognition—the price eliminates competition.

DEALERS—If you cannot procure these from your jobber we will sell you direct.

THE MOTT WHEEL WORKS, Utica, New York, U. S. A.

(When Writing, Please Mention The Accessory and Garage Journal.)

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The Multibestos Cabinet
A Dealer Help

Why bother with loose rolls of brake lining kicking around the shop? With the MULTIBESTOS Cabinet you can save both time and money.

The Cabinet is ornamental as well as useful, and it will add much to the appearance of your store.

Every live dealer should have one of these Cabinets—not only because of its own worth, but also because with MULTIBESTOS in stock he attracts the trade of the worth-while-buyer—the man who is just a bit "fussy" about what goes into the equipment of his car. For the car owner who has once tried MULTIBESTOS and seen for himself how it compares with other brake linings will always come back again and buy, not "just brake lining," but MULTIBESTOS—with a capital M.

Won't you let us tell you more about this Cabinet and the other special helps that we offer free to dealers handling **MULTIBESTOS?**

This shows how MULTI-BESTOS may be handled neatly and quickly.

"Safe in the grip of Multibestos."

THE GRIP
MULTIBESTOS
BRAKE THAT GRIPS LINING

Standard Woven Fabric Co.
FRAMINGHAM, MASS.

BOSTON, 903 Boylston St.
NEW YORK, 276 Canal St.
CHICAGO, 1430 Michigan Boulevard.
PHILADELPHIA, 1427 Vine St.
SAN FRANCISCO, corner First and Howard Streets.

(When Writing, Please Mention The Accessory and Garage Journal.)

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

THE NEW YORK PUBLIC LIBRARY 646765 ASTOR, LENOX AND TILDEN FOUNDATIONS R 1915

VOL. IV. PAWTUCKET, R. I., MAY, 1914. No. 1

FORD COMPANY "LAYING OFF" EMPLOYEES.

Bulletin Posted in Factory Advises Men Who Had Their Salary Doubled to Secure Work Elsewhere---Industrial News of the Manufacturer and the Trade.

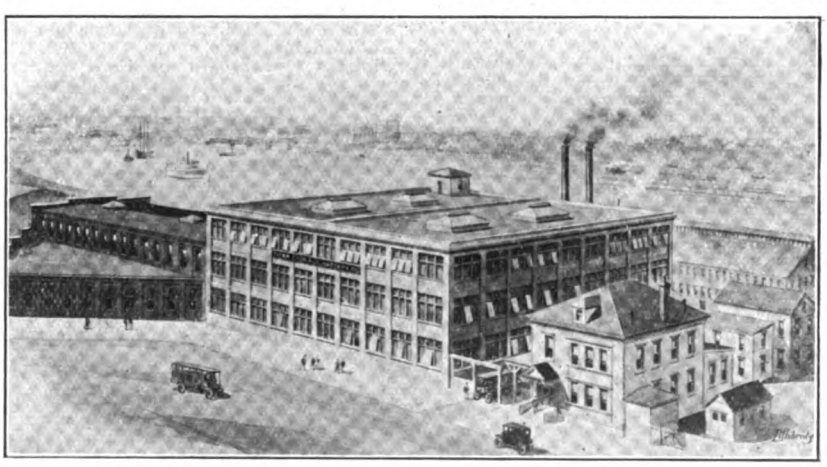
THE Ford Motor Company, Detroit, has posted the following bulletin throughout the factory:

In the regular course of business we have reached the quiet season. In line with our policy to be just and fair to the individual employee, we have planned as follows: Employees will be given a leave of absence, without pay, or, if you please, laid off for a period of 30 days. If, during the leave of absence or "laid off" period, the employee can find other employment, the company recommends that he do so. If at the end of 30 days our men have found no other employment and desire to return to work, they may apply and the company will endeavor to find employment for them.

It is explained by James Couzens, vice president of the company, that men will be laid off in rotation if necessary, single men first and married men only after being held as long as possible. It will be remembered that the Ford company recently established a profit sharing plan, under which the wages of employees were doubled, and a number of new employees were added. Concerning this phase of the situation, Mr. Couzens is quoted as follows:

When we established the profit sharing plan we knew that we could not employ all the men all the year round, but we thought we were giving them sufficiently high pay, so that they could afford to lay off a month in the summer time. I cannot say at present what is the total number of 1000 a week for the unusual about this men we shall lay off. It may average next six weeks. There is nothing lay off, as it comes every year.

It may be added that the Ford Motor Company has just declared an extra cash dividend of 100 per cent., or $2,000,000. This took place on the 11th anniversary of the organization of the company, and it is stated that Henry Ford, with 56.5 per cent. of the 20,000 shares of common stock, received $1,170,000, and James Couzens with 10.9 per cent. got $218,000. Other large shareholders and the amounts they are said to have received are: John F. Dodge, Horace E. Dodge, Horace H. Rackham and John W. Anderson, $100,000 each; David Gray estate, $210,000; R. V. Couzens, $2000. A similar cash dividend was declared last year.



General View of the New Plant of the Titan Storage Company, Recently Opened at Chapel Street and Lister Avenue, Newark, N. J.

NEW NAME AND NEW PLANT.

Announcement is made by the Baltimore Electric Storage Battery Company, Baltimore, Md., that the name of the concern has been changed to the Titan Storage Battery Company. It also has secured new quarters at Chapel street and Lister avenue, Newark, N. J., where the offices of the company have been established for some time, and manufacturing equipment is now being installed. Shipments of Titan vehicle batteries (Plante type) and and lighting, ignition and starting batteries from the new location already have begun.

The officers of the Titan Storage Battery Company are: President, Henry M. Keith; vice president, Daniel C. Spruance; treasurer, Edward S. Hyde; secretary, Henry H. Hanson; board of directors, the officers and Minor C. Keith and John G. Gray; general manager, Dr. W. E. Winship; sales manager, A. H. Mustard; superintendent, Eugene Handler.

It is stated that no change in policy is contemplated as the result of the change in name. The control still remains in the hands of Minor C. Keith, vice president of the United Fruit Company and president of International Railways of Central America. An accompanying illustration shows a portion of the new plant, which affords ample room for a large business.

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NEW HOLTZER-CABOT FACTORY.

Ground has been broken for the erection of a new factory of the Holtzer-Cabot Electric Company, Brookline, Mass., and Chicago, Ill., on Armory street, Roxbury, Mass. It will be six stories high, with an ell of the same height, and will be of modern construction and equipment throughout. It is expected that it will be ready for occupancy early in 1915.

The Holtzer-Cabot company began business in Brookline, Mass., in 1875, specializing in electrical equipment. At that time the electrical industry was in its infancy, but the growth of the business was rapid, and when the automobile began to make itself felt in industrial fields this concern became one of the pioneers in motor car equipment. Its line includes carburetors, ignition devices, lighting systems, horns, etc. The new factory is being erected because the growth of the business during the past year has made it advisable to concentrate the various departments under one roof.

THE W. J. CONNELL COMPANY.

W. J. Connell is president of the W. J. Connell Company, 171 Massachusetts avenue, Boston. He has been engaged in the automobile business as manufacturers' representative for the past eight years, being the first, and for some time the only, man to engage in that line of business in New England. The original accounts were those of the Edmunds & Jones Manufacturing Company, the Dow Manufacturing Company and the Teel Manufacturing Company.

W. J. Connell, Boston's Pioneer Manufacturers' Representative.

The business has increased steadily, the total for the first year being about $12,000, while last year it was practically $1,000,000. The original headquarters were at 36 Columbus avenue, where the concern was located for five years. It then removed to 555 Boylston street, where it remained for 2.5 years. Recently it moved into the new building at 167-171 Massachusetts avenue, a structure erected for its particular purpose.

The companies represented at present are: Wheeler & Schebler, Indianapolis, maker of Schebler carburetors; Edmunds & Jones Manufacturing Company, Detroit, maker of lamps; Elite Manufacturing Company, Ashland, O., jacks; Gabriel Horn Manufacturing Company, Cleveland, O., Gabriel horns and rebound snubbers; Sparks-Withington Company, Jackson, Mich., fans, motor driven pumps and Sparton horns.

Mr. Connell says he has sold every manufacturer in the New England states some goods at some time. The company has on its list of customers the most representative jobbers in the New England territory.

CAMERON COMPANY'S FAILURE.

The Cameron Manufacturing Company, New Haven, Conn., has filed a schedule in bankruptcy, showing liabilities of $121,998.38, including secured claims amounting to $91,858.50, and unsecured claims totalling $28,275.59, and assets of $48,631.47, represented in real estate, amounts due on open accounts and $8.30 cash in the bank. The real estate is subject to a mortgage to the Parmalee company and to Pierpont B. Foster, and the machinery, fixtures and tools to a $40,000 mortgage. Included in the assets, also, are claims against a number of men who subscribed for stock and who have not paid up.

The concern formerly was located in Beverly, Mass., as the Cameron Car Company. E. S. Cameron, head of the company, was one of the pioneers of the industry, having built his first car in Brockton, Mass., in 1901. For some time past Mr. Cameron and others connected with the Cameron Manufacturing Company have been interested in the formation of the Euclid Motor Car Company, with headquarters in New York. This concern is to manufacture a cyclecar of the light car type.

It is stated that a cyclecar company has made a proposition to the court, involving the use of the factory, this concern to pay all the cost of production and turn the net profit over to the Cameron estate. The court continued the matter for two weeks, in order to give the stockholders time to think over the proposition.

THREE NEW TRUCK COMPANIES.

The Reedsburg Motor Truck Company, Reedsburg, Wis., has been incorporated with capital of $100,000 for the purpose of manufacturing a line of motor trucks formerly produced by the Piggins Manufacturing Company, Racine, Wis. Among the incorporators are E. E. Montgomery, Edward Thom, J. Scanans and E. M. McNab. The last named formerly was designer for the Piggins company.

The Britton-Stevens Corporation, which was organized recently in Cambridge, Mass., is building the Bay State truck in that city. The designer is said to be W. C. Guilder, formerly identified with the maker of the Mack truck in Allentown, Penn. He has been made vice president and general manager of the company.

W. H. Steele, Worcester, Mass., has begun the manufacture of the Steele truck. It is understood that among its distinctive features are a new speed controlling device invented by the maker and the use of larger wheels than standard. Mr. Steele formerly made commercial vehicles, utilizing some of the parts of the Morgan truck, which was produced in Worcester, and the assets of which he purchased in 1912.

KNOX MOTORS COMPANY.

The property of the Knox Automobile Company, Springfield, Mass., was purchased at bankruptcy sale, April 29, by Edward O. Sutton, whose bid was $631,090. Subsequently the Knox Motors Company was organized with capital of $2,500,000, one-half preferred and one-half common, to take over this property. The officers of the new concern are: President, Harry G. Fisk; treasurer, E. O. Sutton; clerk, C. H. Beckwith.

It is announced that the new company will continue the manufacture of Knox pleasure cars, trucks and fire apparatus, and Knox-Martin tractors for general haulage and fire department service. To make room for the new product all the present limited stock of pleasure cars and trucks is being sold as rapidly as possible.

EMPLOYEES BUYING STOCK.

It is stated in financial circles that the United States Rubber Company, of which the United States Tire Company, New York City, is a constituent, is making it possible for its employees to purchase common stock on a partial payment plan at $60 a share. This price is understood to compare with $65 in 1913 and $45 in 1912.

Last year a total of 5.5 per cent. was paid in cash dividends, and four per cent. in 1912. A 20 per cent. extra stock dividend also was paid in 1912. For 1914 it is understood that the subscribing employees will receive the regular six per cent. dividend, and, in addition, an extra cash, dividend of three per cent. a share. At the above price, $60 a share, this disbursement yields the employees 15 per cent. on their money.

LITIGATION IS WITHDRAWN.

Announcement is made of an agreement between the Lovell-McConnell Manufacturing Company, Newark, N. J., maker of Klaxon horns, and the G. Piel Company, Long Island City, N. Y., maker of Long horns, whereby each concern will continue the production of its present types of hand operated signals under their several patents. In addition, the latter concern is to develop and place in the market a line of motor driven electric horns of similar construction to its hand operated product. The litigation in which these companies have been involved for some time has been discontinued. The H. W. Johns-Manville Company will continue to market all the horns manufactured by the G. Piel Company.

BUY COLUMBUS BUGGY PLANT.

According to a dispatch from Columbus, O., the plant and business of the New Columbus Buggy Company, organized recently by the creditors of the Columbus Buggy Company, which went into the hands of a receiver early in 1913, have been purchased by Charles A. Finnegan and Eugene D. Hofeller of Buffalo, N. Y. Mr. Finnegan recently purchased the assets of the E. R. Thomas Motor Car Company in Buffalo, and it is added that these undoubtedly will be removed to Columbus.

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ANOTHER ORDER OF SALE.

At the contemplated sale of the property of the Walpole Tire & Rubber Company, Walpole, Mass., scheduled for May 11, only one bid, of $800,000, was filed, and the sale was declared off by Judge Dodge of the United States district court. This bid was made by C. G. Metzler, representing the stockholders' reorganization committee, and was far below the upset price of $1,500,000 fixed by the court. The receivers have been instructed to draft another order of sale. It is understood that the stockholders' committee has submitted a new reorganization plan in anticipation of the next sale date.

TO MAKE KNUTSON STARTER.

The Automatic Devices Company, Galesburg, Ill., owner of the patents for the Knutson automatic engine starter for automobiles, has contracted with the Frost Manufacturing Company of that city for the production of 6000 of these to be made in various sizes. The device is the invention of A. W. Knutson, who is better known in connection with his invention of the trolley retriever used by electric street cars, and it is stated that it involves some of the principles of the latter. The officers of the company are: President, F. N. Clark; vice president, R. C. Wharff; secretary, E. P. Roberts; treasurer, E. M. Wharff; directors, the above and C. F. Hurburgh, H. A. Niven and A. W. Knutson.

AMERICAN-LA FRANCE FIRE ENGINE.

The following quotation from the Wall Street Journal regarding the American-La France Fire Engine Company, Elmira, N. Y., will prove of interest to the automobile industry generally:

"American-La France Fire Engine Company is now having the best business in its history, which is rather an anomalous condition with industrial plants just now. The company is working day and night at its factory and has been compelled to enlarge two of its departments. It has more than $1,000,000 of business on its books and orders for the current year have exceeded those received in the same time last year. The cause for this condition is found in the ready sale with which municipal bonds are meeting. Substantially all of the business of the company is done with municipalities and none of these is finding any difficulty in financing requirements. As a result many orders are being placed for fire fighting equipment, and collections with the company are excellent, it having a large cash balance in bank".

NEW SIX-CYLINDER CAR.

The Gary Automobile Manufacturing Company, Gary, Ind., has been incorporated for about $250,000, for the production of a six-cylinder car. Among the incorporators are Dr. G. Pass, who is president; C. J. Flannigan and D. C. Throckmorton. E. T. Birdsall, chairman of the Detroit section, Society of Automobile Engineers, is said to have been retained as consulting engineer and purchasing agent. A factory has been established and plans have been laid for the production of about 100 cars the first year.

REORGANIZE AMPLEX COMPANY.

The Amplex Manufacturing Company, Mishawaka, Ind., has been incorporated for $200,000 by Harold M. Pulsifer, E. J. Gulick and R. W. Randall, to take over the assets of the Amplex Motor Car Company, which were sold to these parties recently. The Amplex Motor Car Company formerly was the Simplex Motor Car Company, and built the Amplex car for some years. At the time of the sale it was announced that the purchasers intended to produce a medium priced car.

ADDITION TO PLANT.

The Four Wheel Drive Auto Company, Clintonville, Wis., has begun work on the erection of another addition to its plant, to be known as unit No. 6. It will be 40 by 80 feet and will be used as a paint shop. This will give the concern a complete plant in every detail. It will have approximately 46,000 square feet of ground covered with solid brick buildings.

AGAIN ANTICIPATES OBLIGATIONS.

According to the Wall Street Journal, the General Motors Company, Detroit, has purchased, for the sinking fund, $2,000,000 of its six per cent. first lien, five-year gold notes, in anticipation of its obligation to pay, Oct. 1, $2,000,000 cash to the trustees for sinking fund purposes. This makes a total of $7,099,000 in notes that nave been purchased, leaving outstanding $7,901,000, which will mature Oct. 1, 1915.

TO REBUILD OLD CASINGS.

The Motor Tire Reconstruction Company has been incorporated under New Jersey laws, with capital of $250,000. It is stated that the business of this concern will be that of rebuilding worn-out casings, in contradistinction to the usual practise of retreading them. The process is said to be the invention of I. S. McGhiehan, who is interested in the manufacture of Mogul tires, and to be practically the same as that used by that concern. It is planned to establish agencies in practically every city and town of consequence in the country, and to supply full equipment and a license to use the process within a particular district.

NEW MODEL ENGINE PLANT.

Contracts have been awarded and ground has been broken for the new plant of the Pittsburg Model Engine Company, Pittsburg, Penn., a reorganization of the Model Engine Company, Peru, Ind. There will be three buildings, the main structure being 247 by 235 feet, the power plant 67 by 67, and the office building 50 by 80. The company will continue to operate its Peru plant until further notice, and will specialize in the Pittsburg plant on the production of the new Carter piston sleeve valve engine, which it owns and controls.

SELLS ITS SPRING BUSINESS.

The Lewis Spring & Axle Company, Jackson, Mich., has disposed of that portion of its business devoted to the manufacture of springs to a company styled the Alloy Steel Spring Company, of which the following are officers: President, Fred Keiser, vice president of the Lewis company; vice president, Casper Haehnie; secretary and treasurer, A. L. Wuster. Under the terms of the sale the Lewis interests acquire the E. C. Clark Motor Company of Jackson, of which Mr. Lewis is treasurer. Except that springs will hereafter be made by the Alloy Steel Spring Company, which has purchased a plant for that purpose from the Lewis company, the latter concern will continue its business as in the past.

INCREASES IN CAPITAL STOCK.

Leslie Motor Car Company, St. Joseph, Mo.; from $2000 to $5000.

Cleveland Automobile Company, Cleveland; from $10,000 to $30,000.

Sharrer Patent Top Company, New York City; from $25,000 to $100,000.

Vulcan Manufacturing Company, Painesville, O.; from $200,000 to $300,000.

Motor Supply & Tire Company, Cleveland, O.; from $1000 to $50,000.

John W. Brown Manufacturing Company, Columbus, O.; from $370,000 to $400,000.

C. T. Ham Manufacturing Company, Rochester, N. Y.; from $100,000 to $200,000.

Cuyahoga Spring Company, Cleveland, O.; from $20,000 to $30,000.

Commercial Auto Company, Lexington, Ky.; from $12,000 to $25,000.

Auto Parts Company, Chicago, Ill.; from $200,000 to $1,000,000.

Sandow Truck Company, Chicago, Ill.; from $5000 to $200,000.

Atkins Carburetor Company, Chicago, Ill.; from $2500 to $32,500.

Walker Starter Company, Laporte, Ind.; from $30,000 to $50,000.

DIVIDENDS DECLARED.

B. F. Goodrich Company, Akron, O.; quarterly, preferred, 1¾ per cent.; payable July 1 to stockholders of record June 19.

Swinehart Tire & Rubber Company, Akron, O.; quarterly, 1½ per cent.; payable May 10.

Stewart-Warner Speedometer Corporation, Chicago; quarterly, preferred, 1¾ per cent., payable May 1. Quarterly, common, 1½ per cent., payable May 1.

Vacuum Oil Company, Rochester, N. Y.; semi-annual, $3; payable May 5.

International Harvester Corporation, Chicago; quarterly, preferred, 1¾ per cent.; payable June 1.

Studebaker Corporation, Detroit; quarterly, preferred, 1¾ per cent.; payable June 1 to stockholders of record May 20.

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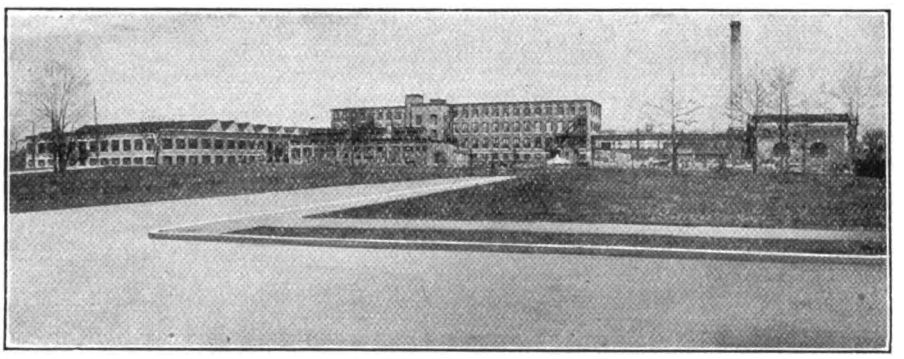
GENERAL NEWS OF THE MANUFACTURERS.

The Weed Chain Tire Grip Company, New York City, has removed to its new and large modern factory at Bridgeport, Conn., where all of its activities will be concentrated in the future. It is stated that the company produces over 60 miles of chain a day.



View Showing the Front of the New Plant of the Weed Chain Tire Grip Company at Bridgeport, Conn.

The Kelly-Springfield Motor Truck Company, Springfield, O., recently closed a contract for 104 five-ton trucks and one two-ton truck for the Pacific Motor Coach Company, Los Angeles, Cal., which it claims constitutes the largest sale of motor driven vehicles direct to the consumer ever consummated. The order is said to represent $500,000.

The Maxwell Motor Company, Detroit, is now prepared to furnish repair parts for the two-cylinder cars formerly made by the Maxwell-Briscoe Company, from its parts plant at Newcastle, Ind.

The Emil Grossman Manufacturing Company, Inc., Brooklyn, N. Y., has been licensed under the Hammond patent, No. 1,086,820, dated Feb. 10, 1914, to manufacture the Holdfast battery connector. The company is the first and thus far the only manufacturer to be licensed under this patent.

The Keller Pneumatic Tool Company, Fond du Lac, Wis., which was organized recently, has commenced the manufacture of a line of compressed air tools of all kinds and will make a specialty of garage and repair shop devices.

The General Motors Truck Company, Pontiac, Mich., has just completed additions to its equipment, having installed a 100,000-gallon reservoir as an added protection against fire. A number of cement floors also have been put in the factory.

The Milwaukee Cyclecar Company, Milwaukee, Wis., manufacturer of the Billiken cyclecars, has elected the following officers: President, Stanley H. Eigel; vice president, Samuel P. Carroll; secretary and treasurer, Fred W. Bollow. Mr. Carroll is also chief engineer.

The Hudson Motor Car Company, Detroit, announces the shipment of the new five-passenger light six model to its dealers.

The Armstrong-Johnson Company, Columbus, O., which was incorporated recently with a capital stock of $10,000, is a partial reorganization of the Barndt-Johnson Company of South Columbus, which went into the hands of a receiver about a year ago. The company will make automobile tops, bodies and other supplies.

The Joseph Dixon Crucible Company, Jersey City, N. J., held its annual meeting of stockholders recently. The retiring board of directors, consisting of George T. Smith, William Murray, George E. Long, Edward L. Young, William G. Bumsted, J. H. Schermerhorn and Harry Dailey, were unanimously re-elected.

The United States Light & Heating Company, New York City, will move its general office to the company's large plant at Niagara Falls, N. Y. This transfer will result in bringing together the administrative, sales, engineering and production departments, and is expected to insure the most effective conduct of all in the interests alike of patrons and stockholders.

The Semple Rubber Company, Trenton, N. J., is a new manufacturing company to make inner tubes. C. H. Semple, at one time president of the G. & J. Tire Company, Indianapolis, and also president of the Empire Tire Company, Trenton, is president. F. A. Drake is treasurer and R. H. LaPorte secretary.

The Packard Motor Car Company of Paris, France, has established a branch office and service station, also a rental depot, in London, England, at 7 Lower Belgrave street, near Buckingham Palace road. It will carry a complete supply of parts.

The Moline Automobile Company, East Moline, Ill., has made extensive improvements to its already large plant. In order to keep abreast of the orders for the Moline-Knight car, the entire factory is running 12 hours a day, and the automatic machinery night and day.

The Perkins-Campbell Company, Cincinnati, O., announces that its new Ford specialties and general catalogues are now ready. The former covers the company's line of leather Ford goods and seat covers, and the latter lists all leather specialties for automobile work.

The Reo Motor Car Company, Lansing, Mich., held a special stockholders' meeting May 19 for the purpose of declaring a stock dividend of 100 per cent., payable in July.

The Apperson Bros. Automobile Company, Kokomo, Ind., has established a direct factory branch at Pittsburg, Penn., at 297 Center avenue, with Nelson B. McClain in charge as manager.

The Bosch Magneto Company, New York City, states that the 12-cylinder Sunbeam car which covered the half-mile at the Brooklands track, England, on March 18 last, in 0:15.03, averaging 119.6 miles an hour, and which covered the mile in 29.82 seconds, averaging 120.78 mph, was equipped with a Bosch magneto.

The Hillard Clutch & Machinery Company, Elmira, N. Y., manufacturer of multiple disc clutches for automobiles, has taken over the business of the Elmira Pattern Works.

The Woods Motor Vehicle Company, Chicago, Ill., announces that it has opened a large and elaborate salesroom at Michigan avenue and Peck court, one block south of the Blackstone hotel. The factory showrooms of the company are located at 25th street, Calumet and Cottage Grove avenues.

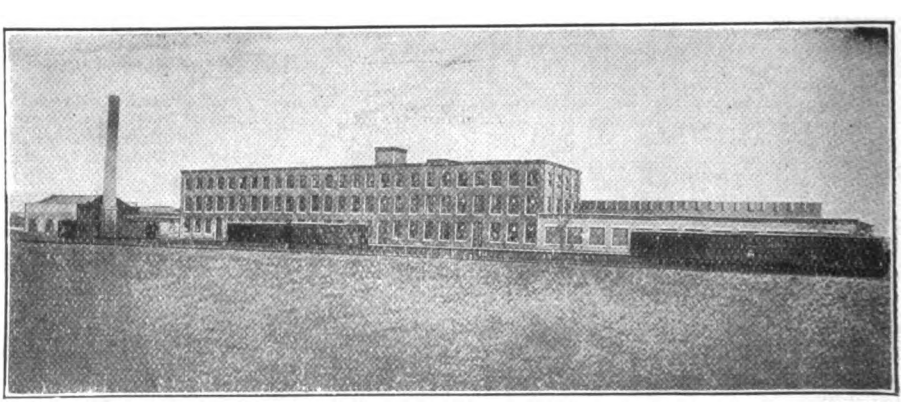
The Reo Motor Car Company, Lansing, Mich., reports the production of 65 cars daily. Last year at this time 40 cars was the limit of production, but additions to the plant and increased factory facilities have resulted as above.

The Apple Auto Top Company, Miamisburg, O., contemplates the erection of a large factory on Smith street. The structure will be two stories in height and 250 feet in length. The company manufactures automobile tops and casings.

The Herreshoff Light Car Company, Troy, N. Y., has been incorporated and will manufacture a small four-cylinder, water-cooled car, which it expects to be in a position to deliver in quantity by July 1.

Dodge Bros., Detroit, manufacturer of pleasure cars and accessories, has awarded contracts for the construction of a four-story reinforced concrete factory building to be used mainly as a woodworking shop. It is stated that the new car to be produced by this company will sell for less than $600.

Gray & Davis, Inc., Boston, Mass., has reduced its factory time schedule from 52 hours a week to 50. In addition to increasing the time the men have to themselves, the new schedule also provides for added remuneration for overtime work and therefore does not in any way involve a reduction in wages.



Rear View of the Weed Chain Tire Grip Company's New Factory, Showing the Railroad Siding and Shipping Facilities.

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Wilson & Short, Detroit, is to purchase the plant of the Standish Manufacturing Company at Ingersoll, Ont. The company will install machinery and equipment and will manufacture automobile specialties.

The Haynes Automobile Company, Kokomo, Ind., has established a factory branch at 1708 Grand avenue, Kansas City, Mo., which will care for the business of the company in the states of Missouri, Oklahoma, Kansas, Nebraska and Arkansas. J. C. Barcus will be in charge as manager.

The Killen-Strait Manufacturing Company, Appleton, Wis., is to manufacture tractors and commercial cars. The concern has been reorganized, formerly being known as the Killen-Walsh Manufacturing Company, and will greatly enlarge its business and manufacturing facilities. Work has started on additions to its plant. The development and experimental work is said to have been brought to a successful issue.

The L. P. C. Motor Company, Racine, Wis., has leased additional room in the former Racine-Sattley Carriage Works, Racine Junction, a large part of which is already used by the company.

The P. B. M. Manufacturing Company, Los Angeles, Cal., is erecting a new and up-to-date plant for the manufacture of cyclecars and small automobiles. The factory will be electrically operated.

The Wheeler & Schebler Company, Indianapolis, manufacturer of the Schebler carburetors, has joined the group of accessory manufacturers to award additional prizes to the successful drivers at the 500-mile race, May 30. This company will distribute $1600 among the first four drivers if their cars are equipped with Schebler carburetors. The first prize will be $1000; second, $300; third, $200, and fourth, $100.

The Whitney Manufacturing Company, Hartford, Conn., has just completed an addition of 27,000 square feet to its plant, which is being equipped with modern machinery.

The Abbott Motor Company, Detroit, is now making parts for the Michigan car, formerly made by the defunct Michigan Buggy Company, Kalamazoo, Mich. A special department has been set aside for this purpose in the new building.

The Harrison Manufacturing Company, Lockport, N. Y., has leased a factory building at Detroit and will produce the Harrison radiators in that city. Gould Allen, who is manager of the Detroit office of the company and representative for the Covert Motor Vehicle Company, which is financed by the same capital, will be manager of the new factory.

The A. R. King Manufacturing Company, Kingston, N. Y., has established offices at 50 Church street, New York City, with William C. Hunter in charge as sales manager. King trucks are produced by the concern.

The Santo Rubber Company, Pittsburg, Penn., has purchased six acres of land at Niagara Falls, N. Y., and awarded a contract to erect a large plant, costing $60,000. The company will manufacture automobile tires and other rubber goods.

The Standard Motor Truck Company, Detroit, maker of three and five-ton trucks, is now located in its new factory on Bellevue avenue. Albert Fisher, president and treasurer of the company, who owns controlling interest, has purchased adjoining property and will build when additional business warrants it.

The Universal Machinery Company, Milwaukee, Wis., manufacturer of the Mack motor for cyclecars, is now shipping from 25 to 30 motors a day and will almost double this quantity when the additions to the large plant are completed.

The Hayes Ionia Body Company, Ionia, Mich., has started the erection of a large addition to its plant to cost $20,000. This step was taken in order to produce 150 bodies a day.

The Motz Tire & Rubber Company, Akron, O., recently established three new distributing stations in the Central West. The Electric Garage, Fort Wayne, Ind., and the South Bend Rubber Company, South Bend, Ind., were added to the company's representation in Indiana. Gietl Bros. is now distributor of Motz tires in the territory adjacent to Springfield, Ill.

The Volute Spring Shock Absorber Company, Mount Vernon, N. Y., is the name of a new concern organized to manufacture a new type of spring absorbing device for motor cars. Among those who are interested in the project are Edward M. Benford, Mark D. Stiles and John G. Rock.

The Dort-Wiley One Lady Top Company, Detroit, held its annual meeting recently and the following officers were elected: President and treasurer, H. W. Wiley; vice president and general manager, Emmis J. Beattie; secretary, Walter Stowers; superintendent of construction, Walter Dort.

The J. F. Cram Automobile Company, Geneva, N. Y., will manufacture motor fire apparatus.

The Splitdorf Electrical Company, Newark, N. J., has opened new branches and service stations recently as follows: Cincinnati, 811 Race street; Dallas, Tex., 402 South Ervay street; Dayton, O., and Toronto, Ont., 469 Yonge street. H. J. Hinley, manager of the long established Detroit, also supervises the branches in Cincinnati and Dayton. E. A. Kelly, Chicago sales manager, has placed E. C. McKinney in charge of the Dallas office, while he is preparing to open a branch in Minneapolis, Minn. O. J. Rohde, who looks after the company's interests in New York, Newark, Philadelphia and Atlanta, also supervises the Toronto branch. In addition, C. O. Dail, for several years associated with the sale of Swinehart tires, has been placed in charge of sales for the western territory with headquarters in Chicago. He takes the place made vacant by Fred Connell, who is now manager of the Apple Electric Company, Dayton, O., recently acquired by the Splitdorf concern.

The Motor Materials Company, New York City, has put on the market a new starting device for Ford cars.

The Packard Motor Car Company of Paris, Paris, France, the foreign branch of the Packard Motor Car Company, Detroit, has established a branch office, service station and rental depot in London, England, at 7 Lower Belgrafe street, close to Buckingham Palace road. It will carry a complete supply of parts and provide the same technical attention that characterizes this company's other branch houses.

The Miller Rubber Company, Akron, O., has opened a new branch at 429 North Meridian street, in that city, in charge of Messrs. Broering and Ruske, both of whom have had long experience in this field. An accompanying illustration presents the interior of the salesroom. A service station will be maintained as well.

The Emil Grossman Manufacturing Company, Inc., Brooklyn, N. Y., has at the request of the management of the Indianapolis motor speedway, repeated the offer of cash prizes to entrants in the 500-mile race, May 30, as follows: First prize, $500; second prize, $250; third prize, $100. These prizes will be paid providing the drivers finishing in the order named use Red Head spark plugs exclusively in the race.

The Ford Motor Company, Detroit, has secured permission to erect a plant at Pittsburg flush with the street line on Baum boulevard and along Morewood avenue. The building will be 11 stories high and will cost about $1,000,000. It will be used for an assembly plant. Work has already commenced.

Charles W. Nash, President, General Motors Company.

Charles W. Nash, president of the General Motors Company, Detroit, Mich., has assumed the position of vice president and general manager of the Oakland Motor Car Company, Pontiac, Mich., made vacant by the recent resignation of George E. Daniels, who held these offices for four years. The Oakland concern is a constituent of the General Motors Company.

The Clark Engine & Boiler Company, Kalamazoo, Mich., is building a 10-12 horsepower, four-cylinder, water-cooled motor for cyclecars.

The General Motors Truck Company, Pontiac, Mich., has just completed some additions to its equipment. The company has installed a 100,000-gallon reservoir as an added protection against fire. A number of new cement floors have also been put in the factory. The factory force has been largely increased within the past 60 days.

The Bosch Magneto Company, New York City, has recently added to its already long list the following supply stations: Motor Supply & Tire Company, Akron, O.; Albany Garage Company, Albany, N. Y.; Augusta Garage, Augusta, Me.; Bangor Motor Company, Bangor, Me.; Bath Auto & Gas Engine Company, Bath, Me.; Motor Supply & Tire Company, Cleveland, O.; Troy Automobile Exchange, Cohoes, N. Y.; Motor Supply & Tire Company, Columbus, O.; Warren Garage, Elkhart, Ind.; Pearce Street Garage, Gloucester, Mass.; Blair Motor Company, Logan, Utah; Court Motor Car Company, Marietta, O.; George W. Roberts Electric Works, Marysville, Cal.; Minot Auto Company, Minot, N. D.; J. P. Gayle Supply Company, Newport News, Va.; Port Washington Garage, Port Washington, N. Y.; Provo Machine & Foundry Company, Provo, Utah; St. Albans Foundry Garage, St. Albans, Vt.; Jenson Bros. Auto Company, Santa Cruz, Cal.; Gavin-Williams Company, San Diego, Cal.; Troy Automobile Exchange, Troy, N. Y.; Utica Cycle Company, Utica, N. Y.; Morgan & Williams Company, Warren, O.; Brass City Auto Company, Waterbury, Conn.

The Liggett Spring & Axle Company, Cleveland, O., has moved its plant to Monongahela, Penn., where the executive offices are now located. J. H. Newhart, who is the treasurer, will also assume the duties of general manager.

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. MAY, 1914. NO. 1.

AUTOMOBILE JOURNAL PUBLISHING CO.
Times Building Pawtucket, R. I.
William H. Black, Treasurer. D. O. Black, Jr. Secretary.
Publisher of
THE AUTOMOBILE JOURNAL THE MOTOR TRUCK

Offices in New York, Chicago, Detroit and Boston

SUBSCRIPTIONS.

The United States and Mexico, the year, $2 in advance; Canada and Foreign Countries in Postal Union, the year, $3 in advance. Twenty cents the copy.

CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

APPLYING BUSINESS METHODS.

There is no real reason why the selling of automobiles should be conducted on a different business basis than that of selling any other piece of merchandise. The man who desires a watch selects one that best meets his needs, pays the price which is asked and takes possession of his property. Accompanying the watch is a certain guarantee as to workmanship and material, but this is taken for granted and no attempt is made to influence the salesman to undertake additional obligations.

If automobiles are to be sold in the same manner, the dealer must adopt the same business methods. The owner and prospective owner have every opportunity to inform themselves as to the respective merits of machines selling at various prices. They know what to expect of a given product. They also know that the manufacturer guarantees his product within certain limits. Any attempt to get something additional for the money is a relic of the past—a result of conditions for which dealers and purchasers alike are responsible.

Whether or not the sale of automobiles is to be placed on the proper business basis rests with the dealer. Those who have been in business for some time are aware that it is not the number of cars sold, but the net profit on each sale which marks the dividing point between success and failure.

TRADE MARKS AND TOURING.

Motorists who tour are educated to appreciate the value of standard products. Trade marked goods have a distinct advantage with men who are constantly going from place to place. They are touring for pleasure and not for the purpose of experimenting with untried supplies.

It pays the garage, repair shop or supply station to cultivate this tourist trade. A touring motorist well treated is an invaluable advertising agent. The 1914 season is about ready to open. Now is the time to make the right connections.

SELECTING A SYSTEM.

When business is being conducted at a loss, there is a reason somewhere. The man who wants to succeed is intent upon finding that reason and applying the remedy. This will never be done, in the case of the garage or repair shop which is losing money, without adopting some systematic method of keeping track of the various transactions—one that will afford some definite information as to the sources of income and the disbursement of expenses.

From time to time The Accessory and Garage Journal has presented various systems applicable to the repair shop or garage. No attempt has been made to suggest that these were equally valuable for every need. A careful study of these systems, which, in each instance, have been found intensely practical in actual use, should enable the thoughtful business man to secure exactly what will meet his particular requirements.

BE A SALESMAN.

Nothing was ever gained by knocking the other fellow. Many times the knock becomes a boost. And at the very best, it has a tendency to discredit the whole industry. That kind of salesmanship has little place in the automobile business.

Most prospective purchasers have talked with their friends, who have given the benefit of their experience with certain makes of machines. It is a pretty safe guess that the opinion of the friend will carry a little more weight than that of the salesman who is directly interested in the particular car he is trying to sell. Think this over. Be a salesman.

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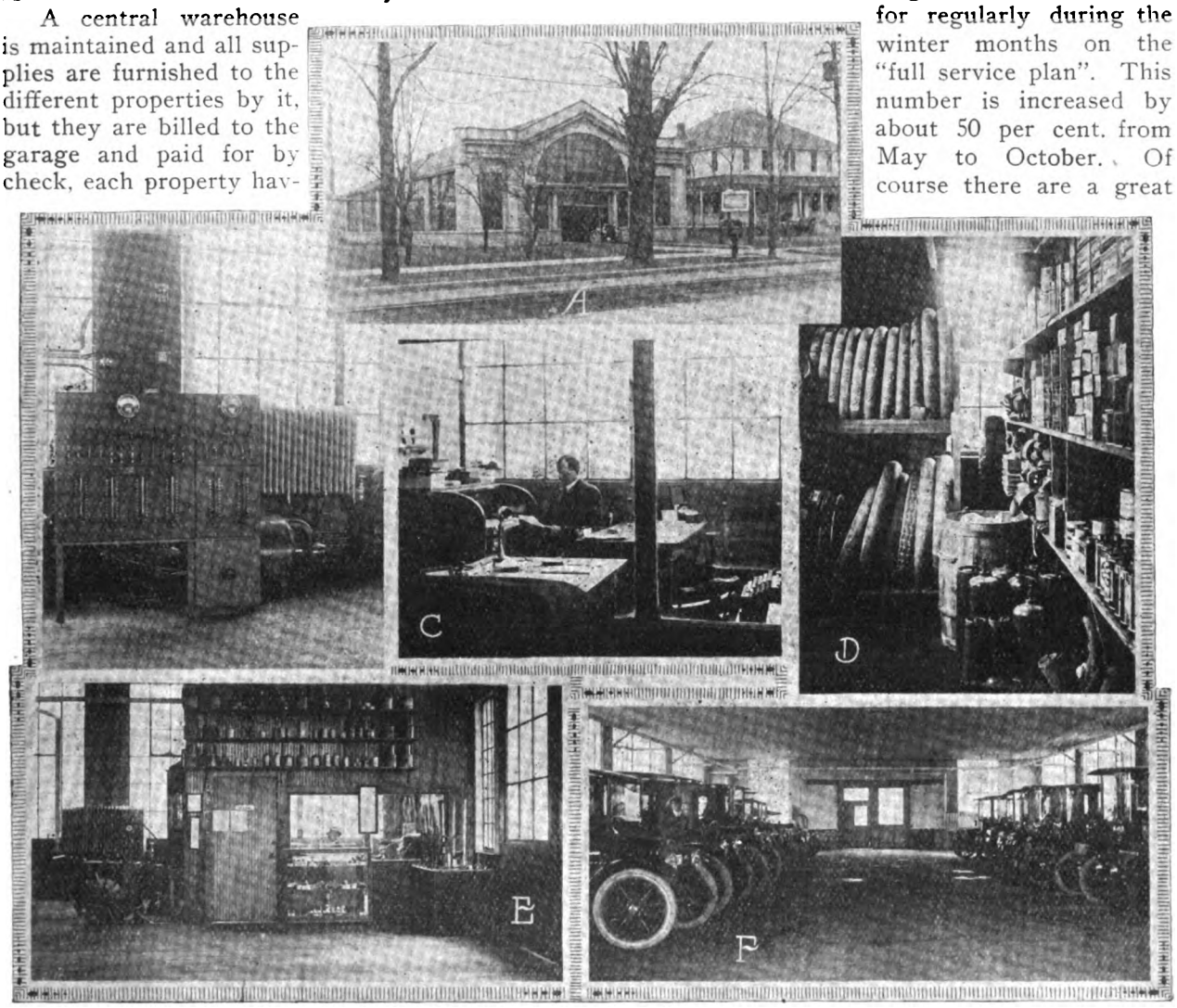
PRACTICAL GARAGE ACCOUNTING SYSTEM.

Detailed Description and Application of Books and Forms Utilized by Grosse Pointe Garage, One of Several Properties Operated by Bean & Seigert.

OPERATING several garage properties, Bean & Siegert, Detroit, and Grosse Pointe, Mich., has devised a garage accounting system which it believes is thoroughly applicable to any garage business. It may be stated that each property operated by this concern has its own manager and individual set of books, and that, insofar as its daily routine is concerned, the method of procedure is the same in every respect as would be true if it were the only one conducted.

A central warehouse is maintained and all supplies are furnished to the different properties by it, but they are billed to the garage and paid for by check, each property having its own bank account and clearing through the warehouse monthly, so that the result is the same as would be true were the goods purchased from the usual sources. For this reason, no forms or methods used by the warehouse will be considered herein.



Views of the Grosse Pointe Garage: A, Exterior as Seen from the Street; B, Portion of the Electric Charging Equipment; C, Interior of Office; D, Stockroom and Tire Rack; E, at the Right of the Entrance Looking Toward the Office; F, Looking Down the Garage Floor.

Buildings and Service.

Accompanying illustrations present exterior and interior views of the Grosse Pointe garage, which is the property under consideration. A blue print plan of the buildings also is reproduced, this showing that the garage proper is 50 by 100 feet, while the repair shop is a separate structure in the rear, 50 by 25 feet. Both are of cement block construction, with cement floors, heated with steam and lighted by 60-watt Mazda lamps.

The usual kinds of service are supplied, but about 11 electrics and 14 gasoline cars are cared for regularly during the winter months on the "full service plan". This number is increased by about 50 per cent. from May to October. Of course there are a great many transients cared for, and the garage has on some nights housed as many as 45 machines.

Working Force.

The working force is made up as follows: Days—The manager, bookkeeper (a young woman who also cares for the telephone calls and does such stenographic work as is necessary), an electrician and a gasoline car man. Nights—An electrician, a gas car man and a washer. The

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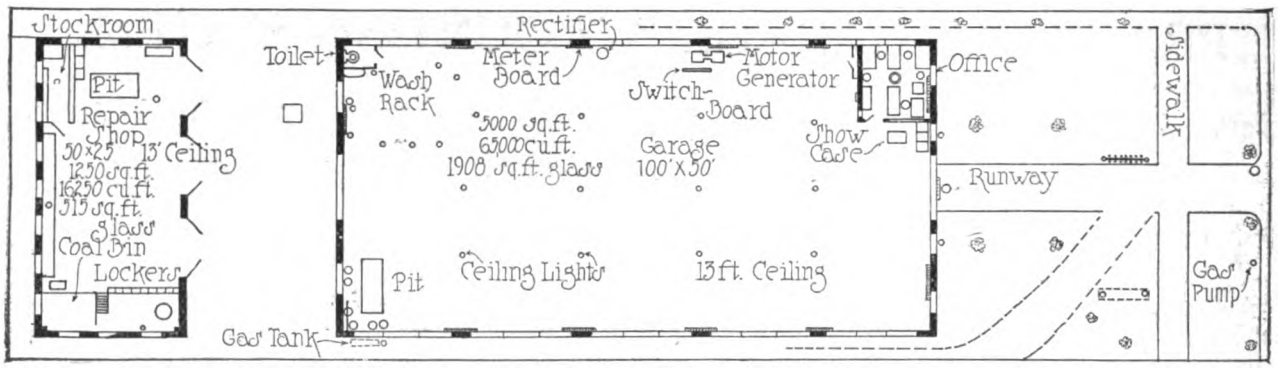


Reproduction of Blue Print Showing Relative Location of Garage and Repair Shop and Dimensions of Grosse Pointe Garage Property.

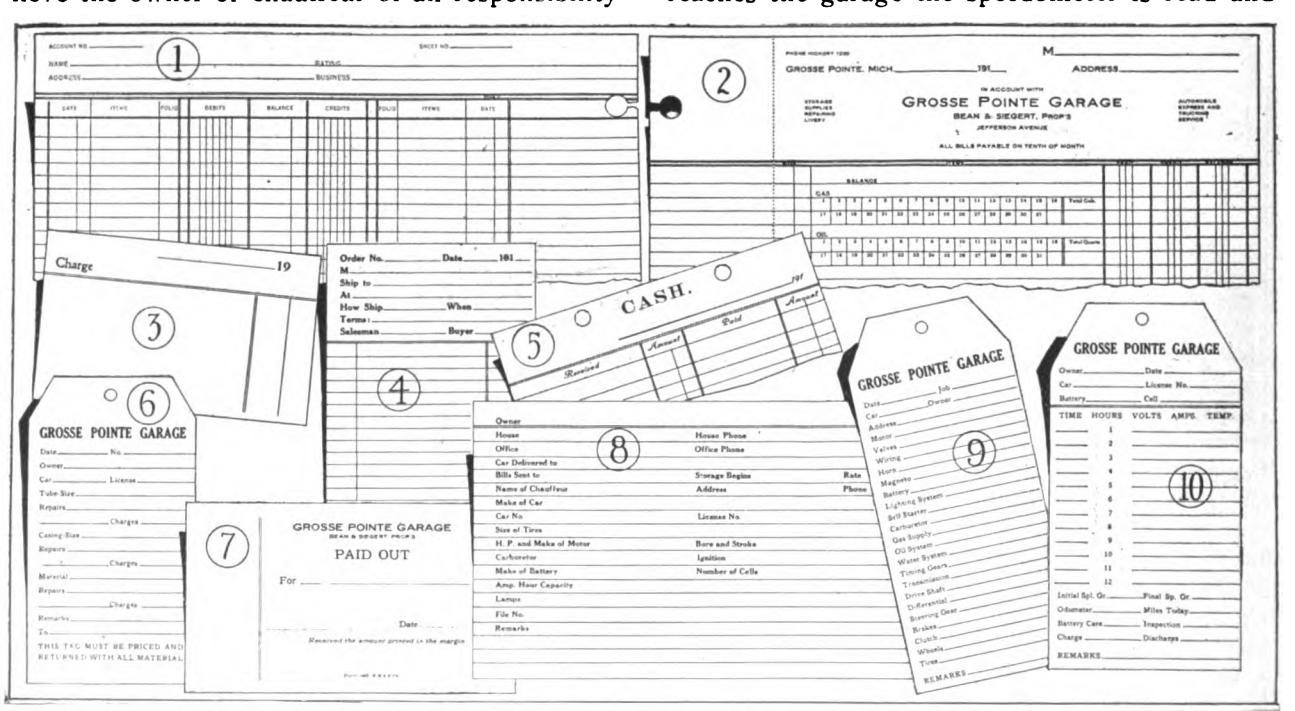
forces change at 7 in the morning and 7 in the evening, between Oct. 15 and May 15, and at 6 the balance of the year. The company is considering the advisability of putting on one other man, to come on at midnight to polish brass and nickel, assist in cleaning the cars until morning and then sweep floors, wash windows, etc., until noon. The day men have every third Sunday off and the night men have one night off until midnight every two weeks, being relieved by day men.

With one or two exceptions all cars are cared for on the full service plan. This consists of calling at the owner's house at night for the car, bringing it to the garage, washing and polishing it, cleaning the upholstery, seeing that the tires are in good condition, filling the tanks with gasoline and oil (if an electric, fully charging it), and delivering the car to the owner in the morning. This service also includes a careful inspection and oiling of every part of the machine once each week. The electrics get full battery care at this time. The idea is to give the owner as much service as is possible for his money, and to relieve the owner or chauffeur of all responsibility as to the maintenance and condition of the machine.

In and Out Book.

An "In and Out" book is kept written up several days in advance, with the names of all regular boarders, their cars and license numbers. Transients are listed as they are called. Someone is in the office to answer the telephone at all times, day or night.

When a car is called to come in the message is recorded at once. A man is then sent with the garage key for the car as soon as possible. His time of leaving for and returning with the car are both recorded. He is allowed 20 to 25 minutes for a half-mile call. He examines the machine carefully before leaving the house, to see that windows, fenders, tires, lights, etc., are in good condition. If anything is found out of order he reports it to the owner at once, and a note is made in the "remarks" column of the In and Out book. Before entering the car the floor rugs are taken up and folded. Car chasers are not allowed to drive faster than 15 miles an hour under any circumstances. As soon as the machine reaches the garage the speedometer is read and



Forms 1 and 2 Face Each Other in a Loose Leaf Ledger, White Paper, 11x10⅜ Inches; 3, Charge Slip, White, 5x3⅛; 4, Chauffeur's Order Blank, White, Duplicate Yellow, 3¾x5¾; 5, Cash Sheet, White, 6x8½; 6, Small Parts Repair Tag, Manila, 3⅛x6¼; 7, Paid Out Slip, Blue, 6x3½; 8, Record Card for Cars, White Board, 8x5; 9, Repair Tag, Manila, 4¼x7; 10, Charging Record, Manila, 4¼x7.

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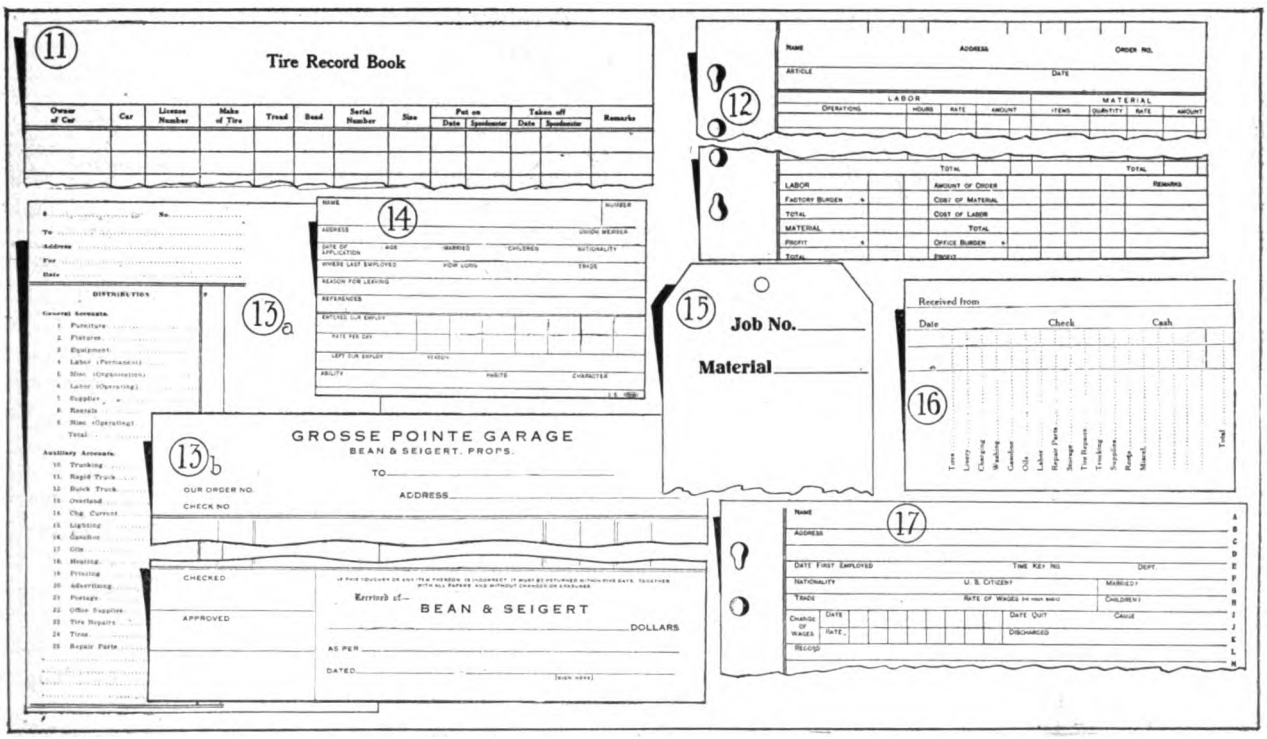
recorded in the proper column in the In and Out book, and the day's trip is calculated. If an electric the mileage is also recorded on the charging card. Tanks are then filled with gasoline and lubricating oil, and the radiator receives attention—in winter alcohol is added when necessary. The men on the floor carry charge pads, form 3, and make careful records of all gasoline, oil, etc., used. These are placed on a spindle on the bookkeeper's table. The charge slips for transient washing, storage, charging electrics, etc., are made by the bookkeeper from the In and Out book. Charge slips for the repair jobs are made from the repair tickets, to be described later. All posting in the ledger is done direct from the charge slips.

Provisions for Inspection.

Every gasoline car has a regular night upon which it is inspected, and this is done before it is ing the garage. Upon arriving at the house he again examines the car, locks it, puts down floor rugs, closes all doors and windows and returns the key to the proper hook on the office key rack. On wet or stormy days side curtains and tire chains are put on without being ordered.

When gasoline cars are inspected, all grease cups are filled, the entire machine is oiled and all moving parts are examined for wear. Wheels are pulled and greased, crankcases drained, steering gear, transmission and differential are cleaned and refilled every 3000 miles. A report, form 23, is filled out at each inspection, a copy of which is sent to the owner when requested.

All tire changes, adjustment and necessary repairs are made at once without securing the authority of the owner. When a car comes in needing repairs which will hold it the next day, it is not left on the floor, but is driven directly



Form 11, Tire Record Book, White, 9⅝x3¾ Inches; 12, Time and Material Card, Yellow, 7¾x5; 13, a Reverse and b Obverse of Voucher, White, 8⅝x7; 14, Employee's Record, White, 5x3; 15, Material Tag, Manila, 4¼x7; 16, Receipts Distribution Slip, White, 3¼x5; 17, Employee's Record, Yellow, 7¾x5.

cleaned. On other nights, immediately after the tires have been inflated, the floor, robes and rugs are cleaned and folded, and the inside of the machine is thoroughly cleaned, compressed air being used on the upholstery. It is then ready for the wash rack, after leaving which it is thoroughly inspected and if not absolutely clean it is sent back. It is then parked in its proper place, and the trimmings are polished and the windows cleaned. Electrics go to the wash rack before being charged.

When cars have been ordered the day before, or have a standing order for delivery at a certain time, they are handled through the In and Out book in the same manner as a car coming in. Except in emergency cases, all calls for delivery must be in at least 30 minutes before the machine is wanted. The man making the delivery examines the lights, tires, etc., before leaving to the repair shop. A record of all tires put on is kept in a book ruled as shown by form 11.

Battery Care and Charging.

A regular half-day each week is assigned to every electric for inspection and battery care. For this report form 18 is used. Battery care is deemed absolutely essential, in order that the car may be kept in perfect condition, and for this reason, when an electric is called during its regular inspection period, the work is done the next time it is in, and a charge of $2 is made. The batteries are flushed the night before the regular inspection day.

The charging is done by means of a Cutler-Hammer, 125-volt, 50-ampere rheostat, with centralized control at the switchboards. The boards will handle six cars at a time. Alternating current is used to drive a 25 horsepower 60-cycle motor. The direct current is obtained through a

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17.5 kilowatt generator. A 60-cycle, 125-volt mercury arc rectifier is used for boosting and on unusually busy nights.

The charging records are kept on the cards shown by form 10. These are filled out with the date, owner's name, car name, number, etc., as soon as the machine is marked in on the In and Out book, and placed on the night electrician's table. At the end of each month a summary of the work on each electric is compiled as shown by form 22.

Repair Jobs and Records.

When any car, regular or transient, comes in for repairs, it is entered in the In and Out book and sent to the repair shop with forms 9 and 15 attached. Form 9 shows what repairs are to be made, and form 15 the labor and material charged against the job. When the job is completed, charge slips are made from form 15 by the bookkeeper.

All tubes, casings, storage batteries and small parts in for repairs are tagged with form 6. A record of these tags is kept in a bound book, and is checked off as the work is completed. Charge slips are made from the tags when turned into the office.

All posting is done direct from the charge slips into a loose leaf ledger, which is duplicating, as shown by form 2. A new sheet is used each month. The bill is made by totalling the white sheet, which is torn off and sent to the customer. The yellow sheet, copy, is held in the ledger until paid, when it is transferred to a filing ledger. One sheet of form 1 is assigned to each customer and faces form 2. It is used to show a total of monthly debits and credits, and being in tumbler form is good for about a year.

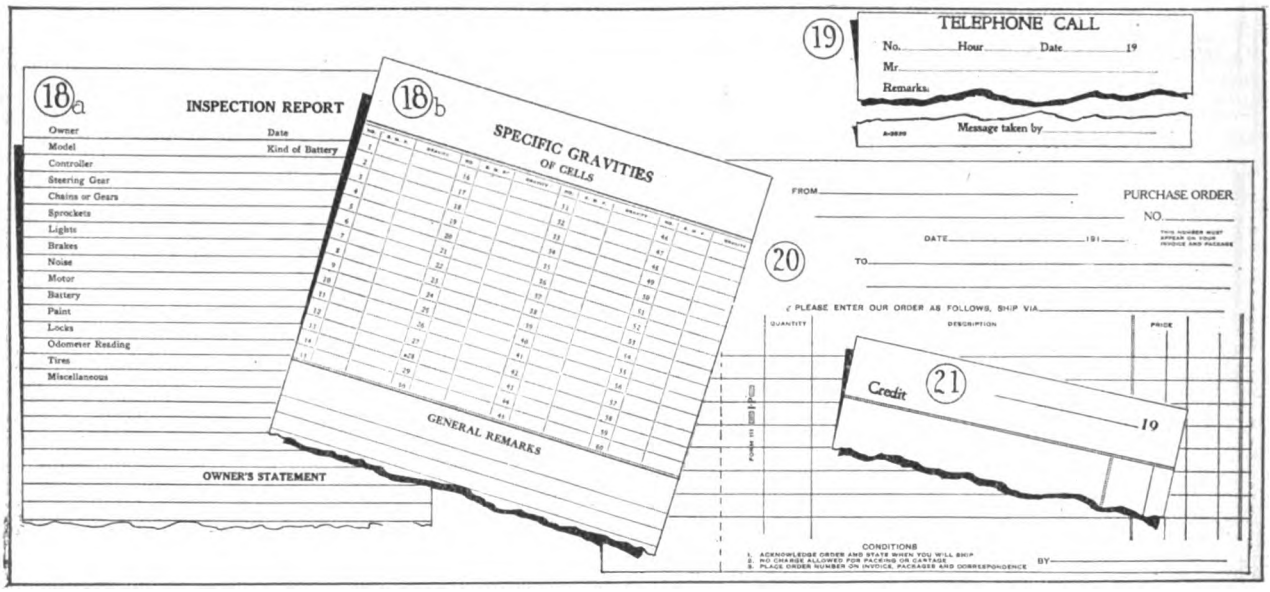
Cash Receipts and Distribution.

When cash or checks are received in payment for ledger accounts, a credit slip, form 21, is filled out and placed on the spindle for posting. The amount received is also shown on the cash sheet, form 5, as well as all monies received for the sale of sundries, gasoline, etc. All bills and salaries are paid by check and voucher, form 13, where possible. All checks are signed and countersigned. Attached to the voucher, when filed, are all invoices and other papers pertaining directly to the bill. All bank deposits are shown on the cash sheet. When a bill is paid from the cash drawer it is noted on the cash sheet, and form 7 is filled out and placed on the spindle.

Vouchers are posted in the distribution ledger, which is ruled to correspond with the back of the voucher. At the end of each month the disbursements, as shown on the cash sheet, less the bank deposits, are vouchered to the manager, as an expense account, and indorsed back to the drawer. In this way an accurate distribution of all disbursements is shown.

All monies received are distributed on form 16, and posted in a ledger to correspond. At the end of each month a summary is gotten out, showing the totals of the disbursements and receipts distribution.

When a chauffeur orders repairs or supplies on charge account, form 4 is used, the purchaser taking the white sheet and signing the yellow duplicate. The order number is then shown on the charge slip and on the bill.



Form 18, a Obverse and b Reverse of Electric Car Inspection Blank, White, 6x9 Inches; 19, Telephone Call Slip, White, 5x3⅛; 20, Purchase Order Blank, White, Duplicate Yellow, 9½x6; 21, Credit Slip, White, 5x3⅛.

Charge, credit and cash paid out slips are filed in three by five-inch vertical files, separated into the principal accounts by the usual guides arranged alphabetically. These files are cleared of the dead wood about once in 90 days, this being bundled, carefully marked and filed in the storeroom. Charging cards, repair tags, etc., are kept in five by eight-inch vertical files. Vouchers are filed in vertical document files and are kept alive for one year.

Form 8 is a record card for cars of regular boarders, cars that come in weekly for inspection and those that are in regularly for repair work. These cards are kept in a five by eight-inch vertical filing cabinet, and are found to be of a great deal of value, especially in cases of outside trouble work. Any customer in trouble on the road calls the garage immediately, stating the

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AUTOMOBILES TAKEN OUT

DATE	A M	P M	Message Received	Wish Wanted	Car Sent	Man Returned	Taken By	Car For	KEY Out	KEY In	OWNER	Make of Car	License Number	WHERE TAKEN TO	REMARKS
Feb 27	✓		8 30	10 00	7 55	10 20	Quick	✓		✓	F S Stearns	Packard	2444	Garage	
	✓		8 50	at once	8 55	with car	Chauf		✓		Jos H Boulton	Packard	6634	On Floor	
	✓				8 30		Chauf		✓		F.C. Burden	Walker	389	On Floor	Jan 12 10 for tire change Left R. out 12 35
	✓										F.C. Burden	Detroit	390		
	✓				8 50	with car	Chauf		✓		C. H. Doyle	Olds	100	On Floor	
	✓		Boulton order	8 30	8 20	8 30	Quick		✓		C. H. Doyle	Detroit	101	House	
	✓				9 00	with car	Chauf		✓		F.C. Valentine	Pack	37532	House	
	✓														

AUTOMOBILES RETURNED

	A M	P M	Message Received	Wish Wanted	Car Sent	Car Returned	Returned By	Car For	KEY Out	KEY In	WHERE TAKEN FROM	Odometer Out	Odometer In	Difference	REMARKS
Feb 27		✓	7 30	anytime	7 55	8 20	Dale	54	✓		Country club	1273	1296	23	Right Head Light burned out. Installed 2-16-60 Volt 24 C.P. Lamp
												9821	Not Returned		To Factory for new Clutch
		✓	—	—	—	6 25	chauf			✓	On Floor	29421	29472	51	
		✓	—	—	1 30	3 10	Neff	104		✓	Paint Shop	4371	4411	40	
		✓	—	—	—	11 30	chauf			✓	On Floor	7153	7251	68	
		✓	5 20	anytime	6 00	6 10	Neff			✓	House	5321	5342	21	
		✓	—	—	-	2 10	chauf			✓	On Floor	41281	41307	26	

Two Pages of In and Out Book, 18½x16½ Inches Each, Which Face Each Other and Care for Movement of Cars.

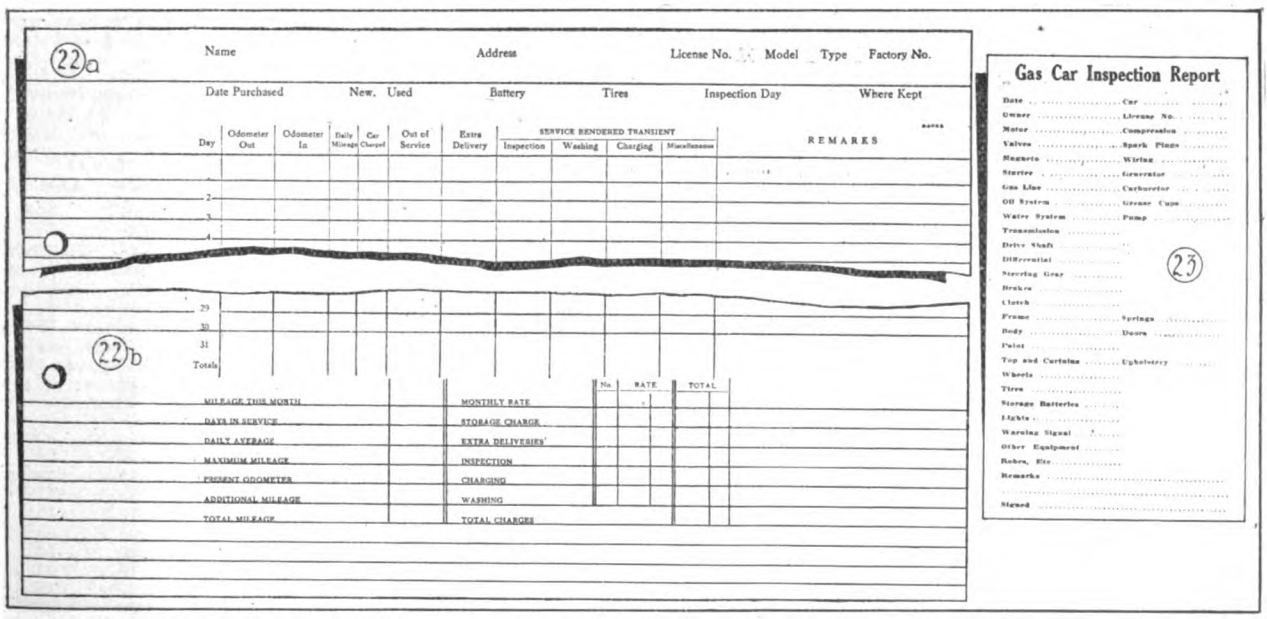
nature of the trouble, and small roadsters are maintained, equipped with tools, air bottles, etc., to handle this work. If the call comes from a point far away, to be reached quickly, the order is transferred to the nearest garage with instructions to handle the work and charge back to this station. A working arrangement is in effect with a large number of the better garages, covering this service, although they may not be controlled by this company. Form 8 also is of great assistance in ordering broken parts by telephone or letter from the factories and service stations, and often saves hours of delay to the owner.

Method of Making Collections.

All accounts receivable are due on the 10th of the month following that in which service or material is delivered. When not received on the 12th, a letter is sent calling attention to the fact and requesting a remittance. If still delinquent on the 20th the party is called on the telephone. Bills unpaid on the 25th, for which no arrangements have been made to be carried, are drawn on by three days' sight draft. If the draft is dishonored the account is sent to an attorney for collection and further credit is refused.

A careful record of the costs of washing and polishing, storage, charging electrics, heating, lighting and other items of expense is kept. Study of the forms and records shown will give the data for calculating the greater portion of these. In addition, record is made of the time lights are turned on and off, the time the generators are started and stopped, etc. The electric meters are read and recorded at noon each day, and a record is made in the In and Out book of the number of cars washed and polished. Time clock records are kept of all repair work, washing, livery, etc., in order to figure costs. A three by five-inch card file, alphabetically arranged, shows the cost or selling price, discounts and net cost of all material purchased.

The accompanying forms are explained in more detail by the captions. Those not already described herein explain themselves, in the main.



Form 22, a and b, Two Sections of Monthly Summary of Work on Electric Cars, White, 12x12½ Inches; 23, Gasoline Car Inspection Report, White, 8½x11.

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QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week, and in comparison with the conditions existing at the same time last year.

	April 13		April 20		April 27		May 4		May 11		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb, com	200	..	200	..	200	..	200	..	200	..	155	..
Ajax-Grieb, pfd	99	102	99	102	99	102	98	102	98	102	95	100
Aluminum Cast., pfd	98	100	98	102	98	100	98	100	98	100	98	101
Borne-Scrymser	290	300	285	300	280	290	280	290	280	290	..	..
Case, J. I., pfd	83½	86¼	80⅛	82½	80	82½	82	82½	83	86¼	..	..
Chalmers Motor, com	82½	86½	82½	87	82½	87	..	82½	..	82½	..	..
Chalmers Motor, pfd	82½	88	..	91	92	94	92	94	92	94	..	..
Electric Stor. Bat	51	52	50	50¼	52¾	53	52¾	53	51½	52	..	..
Firestone Tire, com	280	287	284	290	283	288	283	288	283	288	265	290
Firestone Tire, pfd	107½	109	107½	109	108	109½	108	109½	108	109½	105	106½
Garford Co., pfd	80	90	80	90	75	85	75	85	75	85	99	100½
General Motors, com	81½	82	78½	79	79⅝	80	79	80½	82¼	82¾	23	26
General Motors, pfd	92¾	93½	91¼	91½	92	92½	90	92½	92	93½	70	75
Goodrich, B. F., com	27⅞	28	27	27¾	26¾	27	26½	26¾	26¼	27	32	34
Goodrich, B. F., pfd	88½	89½	88¼	89	89⅞	90¼	90	90½	89⅞	90	91	93
Goodyear Tire, com	165	170	168	172	168	172	168	172	168	172	325	331
Goodyear Tire, pfd	96	99	96	99	96	99	94	95½	94	95½	99½	100⅝
Gray & Davis, pfd	90	97	90	97	90	97	90	97	90	97	..	..
International Motor, com	..	5	..	5	..	5	..	5	..	5	5	5½
International Motor, pfd	..	15	..	15	..	15	..	15	..	15	12	16
Kelly-Springfield Tire, com	57	59	55	58	53	56	52	54	52	54	..	..
Kelly-Springfield Tire, pfd	135	140	135	145	135	140	135	140	135	140	..	..
Lozier Motor, com	28	33	28	31	..	30	..	30	..	30	..	20
Lozier Motor, pfd	..	65	..	65	..	65	..	55	..	45	..	..
Maxwell Motor, com	7½	8½	8¾	9	9⅛	9¼	9¼	9¾	9¼	9½	3	5¼
Maxwell Motor, 1st. pfd	34	35	35	35½	40	40½	41	41¼	41	42	40	50
Maxwell Motor, 2nd. pfd	12	13	13	13½	15¼	15½	15	15½	15½	15¾	12	16
Miller Rubber	135	140	135	140	135	140	131	140	131	140	140	150
New Departure, com	123	125	123	124	122	124	122	124	122	124	..	..
New Departure, pfd	105	106	105	106	105½	107	105½	107	105½	107	..	..
Packard Motor Car, com	103	..	103	..	103	..	103	..	103	..	98	102
Packard Motor Car, pfd	94	98	94	98	94	98	94	98	94	98	..	..
Peerless Motor Car, com	15	..	15	..	18	25	18	25	18	25	35	45
Peerless Motor Car, pfd	..	75	..	75	..	75	..	70	..	70	95	100
Pope Mfg. Co., com	2	5	2	5	2	5	1	3	1	3	16	19
Pope Mfg. Co., pfd	12	15	12	15	12	15	7	12	7	12	50	53
Portage Rub., com	..	25	..	25	..	30	..	30	..	30	35	41
Portage Rub., pfd	..	75	..	75	..	85	..	85	..	85	85	90
Reo Motor Car	19½	20¾	19½	21	20¾	21½	20¾	21½	28	..	20	22
Reo Motor Truck	7	8¼	7	8¼	8¾	9¼	8¾	9¼	8¾	9¼	11⅝	12⅛
Rubber Goods, pfd	100	110	100	110	100	110	100	110	100	110	100	105
Russell Motor, com	60	61	60	61	..	..	..	..	..	..	..	..
Russell Motor, pfd	100	102	100	102	..	..	..	..	..	..	..	..
Splitdorf Electrical	40	50	40	50	40	50	40	50	40	50	..	..
Stewart-Warner, com	60	61	60	61	60	61	50	53	50	53	..	..
Stewart-Warner, pfd	100	102	100½	102	100	102	97	100	97	100	..	..
Studebaker, com	33	33½	31	31¾	33⅞	34½	33	33⅝	34¼	35	27½	28
Studebaker, pfd	85	86½	86	89	85	87	87	89	91⅜	91⅞	89	93
Swinehart Tire	60	65	60	65	62	66	62	66	62	66	85	89
Texas Co	147¼	148	140¾	141	143½	145	142	145	141	142½	..	..
U. S. Rubber, com	60	60¼	56¼	57	56¾	57½	58¼	58½	58⅝	59	63¾	64¼
U. S. Rubber, 1st. pfd	108½	109¼	101½	102	101½	102	102½	102⅞	102⅝	102⅞	104¾	105¼
Vacuum Oil	226	229	220	228	225	230	225	230	218	220	..	..
White Co., pfd	107	110	107	110	107	110	107	110	107	110	107	109
Willys-Overland, com	65	67	65	67	64	66	64	66	64	65½	58	61
Willys-Overland, pfd	89	94	89	93	89	94	90	95	90	95	85	92

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for the commodities listed for each week during the past month. All crude oil prices have dropped materially, Kansas being 90 cents, April 13, and Pennsylvania, $2.50. Para rubber has dropped from 74 cents. Southern iron is off 25 cents, while Northern is up 50. Beams and channels are down five cents.

	April 13		April 20		April 27		May 4		May 11	
	High	Low	High	Low	High	Low	High	Low	High	Low
Antimony, lb	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾	.05¾
Iron, Fdy., S., ton	10.75	10.75	10.75	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Iron, Fdy., N., ton	13.00	13.00	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	21.00	21.00	21.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Steel, open hearth, ton	21.00	21.00	21.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Beams and chan., 100 lbs	1.31	1.31	1.31	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Copper, elec., 100 lbs	14.50	14.30	14.25	14.00	14.20	14.12½	14.12½	14.00	14.12½	14.00
Copper, lake, 100 lbs	14.75	14.62½	14.37½	14.12½	14.37½	14.25	14.25	14.12½	14.25	14.12½
Lead, 100 lbs	3.80	3.80	3.80	3.80	3.90	3.90	3.90	3.90	3.90	3.90
Tin, 100 lbs	36.95	36.00	36.00	34.40	34.75	34.00	33.75	33.05	34.50	33.35
Petroleum, Kan. cr., bbl	.90	.80	.85	.85	.80	.80	.80	.75	.75	.75
Petroleum, Penn. cr., bbl	2.50	2.40	2.30	2.20	2.10	2.00	2.00	2.00	1.90	1.90
Linseed oil, raw	.54	.54	.54	.54	.54	.54	.54	.54	.54	.54
Rapeseed oil, refined	.59	.50	.59	.59	.59	.59	.59	.59	.59	.59
Lard oil, prime	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Fish oil, Menhaden, br	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
Sulphuric acid, 60	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Cyanide potash, lb	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
Cottonseed oil, bbl	7.56	7.38	7.40	7.20	7.30	6.35	7.39	7.00	7.10	7.00
Sea Island cotton	.23½	.23½	.23½	.23½	.23½	.23½	.23½	.23½	.23½	.23½
Silk, raw, Japan	4.50	4.45	4.57½	4.55	4.60	4.37½	4.75	4.50	4.75	4.50
Silk, raw, Italy	5.10	4.72½	5.10	5.10	5.10	4.80	5.10	4.80	5.10	4.80
Rubber, fine up-river Para	.75	.74	.75	.74	.74½	.74	.74½	.73	.73	.71
Tire, scrap	.04½	.04½	.04¾	.04¾	.04¾	.04¾	.04¾	.04¾	.04¾	.04¾

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

10,080—Michigan Dealer is in the market to represent a line of pleasure cars selling from $1175 up.

10,083—Iowa Firm is anxious to secure the agency for pleasure cars selling from $395 to $2175.

10,086—Texas House wants the agency for pleasure cars selling from $550 to $1975.

10,089—Pennsylvania Company is anxious to secure a line of pleasure cars selling from $520 to $2275.

10,091—Kentucky Concern is in the market to represent a line of pleasure cars selling from $500 up.

10,094—Alabama Dealer would like to represent a line of cars selling from $500 to $700.

10,097—Arkansas Firm is in the market to represent cars selling from $550 to $900.

10,099—Minnesota House wants to secure the agency for cars selling from $300 to $1600.

10,102—Iowa House is in the market to represent a line of cars selling from $400 to $700.

10,104—Kansas Dealer would consider an agency proposition for machines selling from $600 to $1000.

10,105—Idaho Company wants to secure the agency for pleasure cars selling from $500 to $1500.

10,108—Nebraska Dealer is in the market to represent a line of cars selling from $600 to $1500.

10,110—Pennsylvania Dealer is in the market to represent a line of cars selling from $490 up.

10,116—New York House wants to represent a line of cars selling from $550 to $1800.

10,117—New Jersey Dealer is anxious to secure a line of pleasure cars ranging in price from $300 to $900.

COMMERCIAL CAR AGENCIES.

6100—Pennsylvania House wants to represent a line of gasoline commercial vehicles ranging in price from $1110 to $2150.

6104—Michigan Concern is in the market to represent a gasoline commercial car selling from $750 to $1650.

6107—Iowa Dealer would consider an agency proposition for gasoline commercial cars ranging in price from $450 to $3500.

6110—Texas Dealer wants the agency for gasoline trucks selling from $500 up.

6113—Idaho Company would like to represent a line of gasoline commercial cars selling from $1000 to $1500.

6117—Pennsylvania Firm wants the agency for gasoline commercial cars selling at all prices.

6120—Canadian House wants to hear from a line of gasoline commercial cars selling from $750 to $1000.

CYCLECAR AGENCIES.

1759—Minnesota Firm is seeking information relative to cyclecars selling from $275 to $500.

1762—Kentucky House is interested in cyclecars and would take agency for a line selling from $300 to $500.

1768—Illinois Dealer is in the market to represent a first class line of cyclecars selling up to $500.

1769—Arkansas Concern would represent a standard line of cyclecars ranging in price from $350 to $600.

1773—Kansas Dealer wants to represent a line of cyclecars selling from $300 to $500.

1775—Oklahoma Dealer is in the market to represent a line of cyclecars selling from $375 to $400.

1777—California Concern wants the agency for cyclecars selling from $350 up.

MOTORCYCLE AGENCIES.

100—Arkansas Dealer would represent a line of motorcycles selling from $150 to $250.

105—Alabama House is anxious to secure the agency for motorcycles selling from $100 to $150.

110—Michigan Concern is in the market to represent a good line of motorcycles selling from $225 to $325.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

328—Ohio Concern is interested in the following: Air compressors, air pumps, bodies, charging apparatus, cloth, clutches, cranes, dimmers, doors, drills, dynamometers, fenders, jacks, lamps, motors, plugs, polishes, radiators, reflectors, seats, shock absorbers, starters, tanks, transmissions, vises, whistles and windshields.

338—California Dealer is seeking information regarding autogenous welding equipment, carburetors, dimmers, dynamometers, generators, headlights, horns, hydrometers, lamps, lathes, magnetos, mechanical starters, rheostats and transmissions.

342—Kentucky Dealer wants carbon removers, strainers and whistles.

345—Illinois Firm wants asbestos, batteries, boilers, brushes, bulbs, bumpers, cabinets, cable, cans, chains, charging apparatus, cutters, cylinder machines, fire extinguishers, gaskets, graphite, guns, jacks, lamps, lathes, machinery, maps, meters (measuring instruments), nuts, paints, pins, rectifiers, tools, vulcanizers and waste; the above products to be used for resale and garage purposes.

347—Arkansas Dealer is in the market for air compressors, air pumps, anvils, asbestos, autogenous welding equipment, banding, batteries, belts, bolts, bulbs, bumpers, burners, caps, carbide, carburetors, cases, castings, celluloid, cements, chains, charging apparatus, chemical tanks, clips, cloth, coils, commutators, connectors, curtains, cutters, drills, drums, fire extinguishers, gasoline, gear cutting machines, generators, glass, goggles, graphite, grinders, guards, guns, hammers, headlights, horns, hose, indicators, injectors, lamps, lathes, leather, locks, lubricators, magnetos, mechanical starters, mufflers, nuts, packing, paints, patches, platinum, polishes, pumps, ratchet drills, reamers, reflectors, carbon removers, rubber, screws, soaps, storage systems, strainers, switchboards, switches, tanks, taps, terminals, testers, timers, tire accessories, tires, tools, tubing, upholstery, varnishes, vises, voltmeters, vulcanizers, washers, washstands, whistles, windshields, wire and wrenches.

348—Minnesota Concern wants carbide, guns, mechanical starters, plugs, shock absorbers, speedometers, vulcanizers and whistles, also oils and greases. Products to be used for model T Ford cars.

351—Iowa Firm is in the market for lathes.

353—Minnesota Dealer is interested in the following: Emblems, fire extinguishers, horns, plugs, tire accessories, tires, tools and vulcanizers. The above goods are to be used for retail and a garage.

356—Iowa House is in the market for the following: Air compressors, air pumps, anti-rattlers, arbor presses, batteries, belts, bolts, bulbs, bumpers, burners, cable, cans, caps, carburetors, chains, clips, coils, commutators, connectors, cups, cutters, cylinders, drills, dynamos, emblems, engines, forgings, gaskets, grinders, headlights, horns, hose, hydrometers, ignition, indicators, jacks, magnetos, packing, patches, pistons, platinum, plugs, polishes, primers, pullers, punches, reamers, shims, soaps, speedometers, springs, testers, tire accessories, tires, tools, trunks, valves, voltmeters, vulcanizers, waste, wearing apparel, whistles, windshields and wrenches; the above products to be used in a repair shop and supply stock.

358—Kansas Company wants air compressors, air pumps, autogenous welding equipment, batteries, bulbs, carburetors, chains, charging apparatus, coils, connectors, dimmers, fire extinguishers, gaskets, generators, headlights, horns, ignition equipment, lamps, magnetos, maps, mechanical starters, polishes, ratchet drills, reflectors, searchlights, separators, shock absorbers, soaps, sockets, speedometers, tape, tire accessories, voltmeters and wire. The products to be used in a wholesale and retail supply house.

361—Nebraska Concern is in the market for air compressors, anti-rattlers, arbor presses, batteries, bolts, bulbs, bumpers, burners, cable, carburetors, celluloid, cements, chemical tanks, coils, cranes, fire extinguishers, headlights, horns, indicators, jacks, lamps, magnetos, platinum, plugs, polishes, primers, radiators, reflectors, searchlights, shafting, shims, shock absorbers, soaps, solder, speedometers, springs, strainers, tape, terminals, testers, timers, tire accessories, tubing, valves, voltmeters, vulcanizers, waste, wearing apparel, whistles, windshields and wrenches. The above goods are to be used in a garage.

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363—Pennsylvania Dealer wants a full line of parts suitable for Ford cars.

366—Minnesota Firm wants air pumps, anti-rattlers, batteries, bulbs, bumpers, dimmers, gaskets, graphite, headlights, horns, hose, jacks, molds and cores, mufflers, patches, pumps, rims, rubber, spokes, springs, steering wheels, tape, tire accessories and wheels.

367—California Dealer is interested in the following: Air pumps, anti-rattlers, bulbs, bumpers, carbide, chains, chemical tanks, clamps, coils, fire extinguishers, gaskets, gasoline, goggles, headlights, horns, lubricators, mufflers, patches, polishes, reflectors, carbon removers, shock absorbers, tires, tools, trunks, tubing and vulcanizers.

369—Minnesota Firm wants axles, bodies, carburetors, coils, forgings, magnetos, motors, timers, transmissions and valves. The products are to be used in rebuilding and remodelling old cars.

372—California Dealer wants air compressors, air pumps, anti-rattlers, asbestos, axles, batteries, bearings, bolts, brakes, bulbs, bumpers, burners, cable, carburetors, chains, clamps, cloth, clutches, coils, commutators, cones, cylinders, dimmers, doors, engines, fasteners, fire extinguishers, gaskets, gears, grinders, hoists, ignition equipment, lathes, levers, magnetos, mechanical starters, nuts, packing, pedals, pinions, pins, radiators, reamers, carbon removers, screws, shims, shock absorbers, solder, steel, steering wheels, storage systems, switches, tape, testers, timers, tire accessories, tires, tools, transmissions, tubing, valves, vises, vulcanizers, waste, windshields, wire and wrenches.

375—Massachusetts House wants metal parts, pulleys, stampings, steel and tubing.

377—Virginia Firm wants the following: Coils, discs, headlights, horns, lamps, lubricators, mufflers, paints, stampings, steering wheels, steps, tops and parts, trimmings, tubing, upholstery, varnishes, wheels, windshields and wrenches.

380—Indiana House wants bodies, fenders, mechanical starters, two-cylinder opposed air-cooled motors, V belt pulleys and transmissions; also control levers for gearshift to use on cyclecars. The above goods are to be used for cyclecars.

384—Ohio House wants hub caps and gasoline gauges.

388—Oklahoma Dealer is in the market for batteries, chains, gauges, testers, tire accessories and tires.

391—New York House is interested in air pumps, batteries, bumpers, carbide, chains, chemical tanks, coils, dashes, emblems, gaskets, graphite, headlights, hose, lamps, magnetos, meters (measuring instruments), pistons, racks, searchlights, shock absorbers, timers, tires, tools, trunks, voltmeters, vulcanizers and waste. The above goods are to be sold at wholesale and retail.

392—Iowa Firm is in the market for air compressors, air pumps, arbor presses, batteries, bulbs, cabinets, cable, carburetors, celluloid, chains, coils, commutators, cones, cranes, cups, drills, fire extinguishers, gaskets, graphite, grinders, guns, hoists, horns, hose, ignition, jacks, lathes, magnetos, molds and cores, packing, patches, pedals, pins, plugs, polishes, pullers, pumps, ratchet drills, reamers, rubber, scrapers, searchlights, shafting, shims, shock absorbers, speedometers, springs, steel, switches, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, trunks, tubing, turntables, valves, vises, vulcanizers, washers, waste, wearing apparel, windshields, wire and wrenches.

395—Maine House wants arbor presses, autogenous welding equipment, axles, belts, brakes, brushes, carburetors, clips, cloth, drills, fasteners, fire extinguishers, forgings, frames, gaskets, gears, hammers, headlights, hoists, horns, ignition, jacks, lamps, lathes, leather, locks, lubricators, machinery, magnetos, packing, paints, patches, pins, plugs, presses, reamers, carbon removers, rims, screws, shims, shock absorbers, soaps, spokes, springs, switches, tape, terminals, testers, timers, tire accessories, tires, tops and parts, upholstery, varnishes, waste, windshields and wrenches.

399—Montana Dealer is interested in the following: Air compressors, batteries, bulbs, bumpers, carburetors, clips, doors, dynamos, engines, generators, glass, guns, heaters, hoists, hose, jigs, mechanical starters, odometers, radiators, reamers, screws, separators, solder, starters, tire accessories, wearing apparel, whistles and windshields.

402—New Jersey Concern wants arbor presses, asbestos, autogenous welding equipment, batteries, bearings, belts, bolts, bulbs, burners, cable, carburetors, castings, cements, chains, charging apparatus, coils, connectors, couplings, cutters, cylinder machines, drills, forgings, furnaces, gaskets, gasoline gauges, gears, goggles, grinders, guns, hose, hydrometers, ignition, jacks, lathes, magnetos, maps, nuts, packing, patches, pinions, pins, pistons, platinum, plugs, polishes, presses, pullers, pulleys, pumps, punches, ratchet drills, reamers, rectifiers, rods, screws, shafting, soaps, solder, steel, switches, tanks, tape, testers, timers, tires, tools, tubing, valves, vises, vulcanizers, waste and wrenches.

404—New York Firm wants the following: Air compressors, air pumps, anti-rattlers, anvils, arbor presses, asbestos, autogenous welding equipment, axles, banding, batteries, bearings, belts, bodies, boilers, bolts, brakes, brushes, bulbs, bumpers, burners, cabinets, cable, camshafts, cans, caps, carbide, carburetors, cases, castings, celluloid, cements, chains, charging apparatus, chemical tanks, clamps, clips, cloth, clutches, coils, collars, commutators, cones, connectors, controllers, couplings, cranes, cups, curtains, cutters, cushions, cylinder machines, cylinders, dashes, dimmers, discs, doors, drills, drums, dynamometers, dynamos, elevators, emblems, engines, fans, fasteners, fenders, fire extinguishers, forgings, frames, furnaces, gaskets, gasoline gauges, gear cutting machines, gears, generators, glass, goggles, graphite, grinders, guards, guns, hammers, headlights, heaters, hoists, holders, horns, hose, hubs, hydrometers, ignition, indicators, injectors, jacks, jigs, joints, knuckles, lamps, lathes, leather, levers, locks, lubricators, machinery, magnetos, maps, mechanical starters, metal parts, meters, measuring instruments, molds and cores, motor controllers, motors, mufflers, nuts, odometers, packing, paints, pans, patches, pedals, pinions, pins, pistons, platinum, plugs, polishes, presses, primers, pullers, pulleys, pumps, punches, purifiers, races, racks, radiators, ratchet drills, reamers, rectifiers, reflectors, regulators, carbon removers, rests, rheostats, rims, rods, rubber, scrapers, screws, searchlights, seats, separators, shafting, shapers, shims, shock absorbers, soaps, sockets, solder, speedometers, spokes, springs, stampings, steel, steering wheels, steps, storage systems, strainers, switchboards, switches, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, transmissions, trimmings, trunks, tubing, turntables, upholstery, valves, vaporizers, varnishes, ventilators, vises, voltmeters, vulcanizers, washers, waste, wearing apparel, wheels, whistles, windshields, wire and wrenches.

CRUDE OIL PRICES.

Crude oil prices at the wells have endured a series of reductions during the past month. Kansas and Oklahoma began the downward movement during the middle of April, and most of the others have followed, the exceptions being the California crudes, Caddo, La., 38°, and Spindletop. Pennsylvania crude has dropped from $2.50 to $1.90 and most of the others in proportion. The prices of crude petroleum at the wells during the middle of May were as follows:

Pennsylvania dark	$1.90	Ragland	$ .65
Second sand	1.90	Illinois above 30°	1.15
Tiona	1.90	Illinois below 30°	1.40
Mercer black	1.40	Kan. & Okla.	.75
Cabell	1.47	Corsicana light	.75
New Castle	1.40	Corsicana heavy	.50
Corning	1.05	Electra	.75
Wooster	1.46	Henrietta	.75
North Lima	1.19	Caddo, La., 38°	1.05
South Lima	1.14	Caddo, La., heavy	.50
Indiana	1.14	Spindletop	1.06
Princeton	1.15	Canadian oil	1.69
Somerset 32°	1.05		

California.

Coalinga, light	$ .65	heavy	$ .35
Kern County, light	.65	heavy	.35
Los Angeles, light	1.00	heavy	.70

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	25¼	24¾	15¼
Stove	28	27½	18
Auto, 68-72°	30½	30	20½
Naphtha, 73-76°	34½	34	24½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	20¼	20	19¾
73 a 76°	29½	29½	29
Stove	23	22¾	22½
Auto, 68-72°	25½	25¼	25

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	16¼
Refined, barrels	13	a	13¾
Tank wagon delivery	..	a	9
Fuel, 31°	8¾	a	..
Fuel, 34°	9¾	a	..

Naphtha.

Auto in wood	..	a	20
Auto in garages, steel bbls	..	a	16
V. M. & P. deod., in steel	..	a	14
V. M. & P. deod., in wood	..	a	15

Gasoline

86°	..	a	28
74-76°	..	a	25¼
67-70°	..	a	23¼
Stove	..	a	20

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PERSONAL NEWS OF THE INDUSTRY.

Hoover Holton has been appointed Canadian sales manager of the Empire Automobile Company, Indianapolis. His headquarters will be at London, Ont.

J. V. Harding, special representative of the Motz Tire & Rubber Company, Akron, O., paid a special visit during the month of April to Motz representatives west of the Mississippi.

Hoover Holton, Canadian Sales Manager, Empire Automobile Company.

L. J. Ollier has been appointed sales manager of the Studebaker Corporation, Detroit, and R. T. Hodgkins as assistant sales manager.

T. H. McGlehan, vice president and general manager of the Motz Tire & Rubber Company, Akron, O., spent three days in Chicago during April, inspecting the new quarters of the company's Chicago branch at 115 East 30th street.

H. W. McClellan, who has been Troy district manager for the E. V. Stratton Company, Albany, N. Y., has been promoted to sales manager of the company, with headquarters at Albany, and will have direct charge of the retail sales of the company, including its branches.

Charles S. Monson, who recently opened offices in the Dime Bank building, Detroit, has become factory representative of the Motometer Company, New York City. This company makes the Boyce motometer radiator heat indicator.

Philip Hawley, Boston, formerly manager of the New England branch of the Studebaker Corporation, has been appointed manager of the Boston branch of the King Motor Car Company.

Frank J. Mooney, for several years advertising manager of the Hupp Motor Car Company, Detroit, has been appointed to handle the sales as well as the advertising in the present spring and summer campaign of that company.

W. S. Mead, second vice president of the Chandler Motor Car Company, Cleveland, whose duties, since the organization of that company last year, have taken him to all the large cities of the United States and Canada for the appointment of Chandler dealers, has opened permanent offices with the Bray-Murray Motors Corporation, the concern's New York representative, at 245 West 55th street, where he will supervise the distribution of cars to the eastern dealers.

F. F. Phillips, well known in the solid tire trade, with which he has long been identified, has been appointed New York City manager of the Gibney Tire & Rubber Company, Philadelphia, Penn. The company makes the Gibney wireless solid tires. John L. Gibney, who has been directing the branch, will give his time to the larger trade, travelling among the other branch houses.

J. D. Hopper, formerly with the Hamilton Scale Company, Hamilton, O., has become affiliated with the service department of the Remy Electric Company, Anderson, Ind., J. L. Elwood having resigned to take a position with the Eureka Manufacturing Company of Northeast, Penn., as general superintendent.

Charles W. Churchill has been appointed manager of the Winton Motor Car Company, Cleveland, O. This is a newly created office. Mr. Churchill has been with the Winton company for the past 10 years.

George C. Hubbs has been appointed assistant general sales manager in charge of promotion and advertising for the Dodge Bros. Company, Detroit.

Howard Fenton has become associated with the Nordyke & Marmon Company, Indianapolis, in the capacity of advertising manager. Mr. Fenton was formerly connected with the Remy Electric Company, Anderson, Ind.

J. H. Kreidler, Detroit, has been appointed superintendent of the Standard Motor Truck Company of that city. He was formerly connected with the General Motors Truck Company and the Northway Motor Company.

H. E. Raymond, second vice president and sales manager of the B. F. Goodrich Company, Akron, O., is to make his headquarters in New York City so as to be in touch with B. G. Works, president of the company, who also has an office in the Metropolis. A. H. Marks, vice president and manufacturing manager, will have charge of affairs at Akron.

J. H. Quinlan has assumed charge of the retail sales of Chandler cars in Chicago and vicinity. Mr. Quinlan was formerly vice president of the Centaur Motor Company, Chicago, distributor for Jeffery cars.

Q. G. Noblitt, factory manager of the Marvel Carburetor Company, Flint, Mich., for the last two years, has assumed similar duties with the Haywood Tire & Equipment Company, Indianapolis.

George E. Daniels, vice president and general manager of the Oakland Motor Car Company, Pontiac, Mich., for the past four years, has resigned.

J. H. Manion, Indianapolis, has been appointed sales manager of the Comet Cyclecar Company of that city. He was formerly connected with the R-C-H Corporation and the Brown Commercial Car Company.

I. M. Meers, foreign sales manager of the Empire Motor Car Company, Indianapolis, has become assistant sales manager of the King Motor Car Company, Detroit.

J. W. Johnston, Chicago, Ill., has joined the sales force of the Connecticut Telephone & Electric Company, Meriden, Conn., manufacturer of the well known Connecticut ignition products.

J. H. Newmark, advertising manager of the Oakland Motor Car Company, Pontiac, Mich., has resigned. In severing his affiliation with Oakland company, Mr. Newmark breaks a connection of five and one-half years, which is held to constitute a record for continuous service in the advertising field.

Duncan McRae is now connected with C. E. Taylor as sales manager of the A Street Garage, Inc., Tacoma, Wash.

F. E. Devlin is sales manager of the Colonial Motor Company, Baltimore, Md. He was formerly manager of the branch of the Thomas B. Jeffery Company at Philadelphia.

Harold Smith has resigned as secretary and purchasing agent of the Racine Manufacturing Company, Racine, Wis., and will become vice president of the B. G. & M. Manufacturing Company, Chicago.

Thomas A. Bastable, formerly manager of the service department of the Motz Tire & Rubber Company, Akron, O., has joined the sales force of the company's Chicago branch.

Albert R. Miller has become associated with the Troy Wagon Works, Troy, O., and will have charge of the sales of the Troy reversible tracking motor truck trailers in the United States.

R. S. De Mitkiewicz has been appointed sales manager of the Hurlburt Motor Truck Company, New York City. He was formerly connected with the American Locomotive Company until it discontinued the manufacture of automobiles.

James W. Gilson has again become identified with a project of which his old chief, Capt. William Mitchell Lewis, is president. He is now advertising manager of the L. P. C. Motor Company, Racine, Wis., manufacturer of the Lewis Six.

A. H. Dorsey has become associated with the Anderson Electric Car Company, Detroit. He is manager of sales and succeeds W. J. Gordon.

F. L. Lamson, formerly assistant to the works manager of the B. F. Goodrich Company, Akron, O., is one of the directors of the recently formed Norwalk Tire & Rubber Company, Norwalk, Conn. He is also secretary and treasurer.

A. C. Cook has been assigned the duties of sales manager of the Warner & Swasey Company, with which concern he has been associated for the past two years, and will make his headquarters in Cleveland, O.

William T. Helfer has accepted a position as sales manager of the Jeffery-Dewitt Company, Detroit, well known manufacturer of spark plugs and spark plug porcelains.

William T. Helfer, Sales Manager, Jeffery-Dewitt Company.

Arthur I. Philp, Detroit, is to be the sales manager of the automobile division of Dodge Bros. Company of that city. He will assume his new duties some time this

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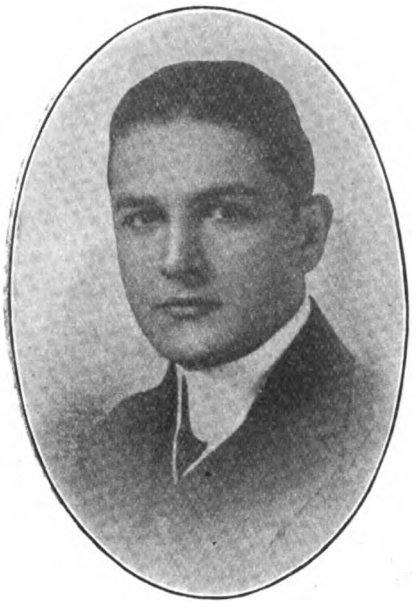
month. He was formerly connected with the Studebaker Corporation and the United States Tire & Rubber Company.

C. B. Harris is to succeed C. H. King as general sales manager of the Keats Automobile Company, Portland, Ore. He is well known to the trade.



Joseph N. Kraus, Advertising Manager, Partin Manufacturing Company.

Joseph N. Kraus, formerly of New York City, has been appointed advertising manager of the Partin Manufacturing Company, Chicago, Ill.

A. S. Noble, who has been vice president of the J-M Shock Absorber Company, Philadelphia, for the past two years, has resigned, owing to ill health. No plans for the future have yet been made.

C. Roy Clough has accepted a position as manager of the Brasher Motor Car Company, Columbus, O. He was formerly connected with the Chalmers company.

A. L. Reuter has become associated with the Badger Tire Repair Company, Milwaukee, Wis., in the capacity of general manager. He was formerly tire expert for the Milwaukee branch of the Thomas B. Jeffery Company.

Joseph Hoeller has resigned as superintendent of the gasoline engine department of the Gilson Manufacturing Company, Port Washington, Wis., to accept a like position with the Brillion Iron Works, Brillion, Wis.

G. H. Duck has resigned as New York City truck sales manager for the Locomobile Company of America. He is to be succeeded by F. H. Colver, who held a similar position at the Philadelphia branch.

O. Hart has purchased an interest in the business of the Sears Automobile Company, Detroit. He was connected with the Thomas B. Jeffery Company, Kenosha, Wis., for six years, lately being in charge of the company's truck department.

Joseph Schwartz has been elected president of the All-South Transcontinental Highway Association. He is Louisiana distributor of the Buick car.

Samuel Rolf has accepted a position as general manager of the sales division of the Signal Motor Truck Company, Detroit. He was formerly district sales manager of the Federal Motor Truck Company.

J. C. Piper has resigned as president of the Piper Machine Company, Indianapolis.

James M. Dickens has resigned from the J. I. Case Threshing Machine Company, Racine, Wis., to become sales manager of the Advance Manufacturing Company of that city.

C. M. Tucker, motor vehicle policeman of Wichita, Kan., holds the honor of being the first police officer in the United States to use a cyclecar in the performance of his duty.

M. L. Williams, who has been president and general manager of the 20th Century Motor & Supply Company, South Bend, Ind., has resigned. He will handle the Cole cars exclusively in South Bend.

C. H. Duncan has become manager of the Cole Motor Company, Erie, Penn.

W. J. Gordon has been appointed general manager of the reorganized Century Electric Car Company, Detroit. Mr. Gordon is well known in Detroit and will make his office at the company's sales and service station, 1000 Woodward avenue.

L. J. Schott has resigned as manager of the service department of the Swinehart Tire & Rubber Company, Akron, O. He is to take up a similar position with the Marathon Tire & Rubber Company of that city.

Ted Drews has been appointed purchasing agent and service manager of the newly organized R-C-H Corporation in Detroit. He was formerly service manager of the Hupp Motor Car Company.

M. E. McKenney has become assistant sales manager of the Federal Motor Truck Company, Detroit, having severed his connection with the Geuder, Paeschke & Frey Company, Milwaukee, Wis. He was the latter concern's advertising manager.

A. G. Rumof has been appointed secretary of the Studebaker Corporation, Detroit. He was formerly in charge of the credit department of the Studebaker Corporation's office in Detroit. As secretary he succeeds Scott Brown, who resigned.

Frederick Robinson has resigned as vice president of the J. I. Case Threshing Machine Company, Racine, Wis. F. Lee Norton, general manager, becomes vice president.

S. W. Rushmore of the Rushmore Dynamo Works, Plainfield, N. J., has just returned from an extensive trip on the Continent, and reports that the Rushmore starting and lighting system has been adopted by five of the leading firms in Italy, six in France, and by several in Austria and England. One of the latest of the French firms to adopt the Rushmore dynamo and starter as standard equipment is the De Dion-Bouton Company.

C. C. Starkweather was elected president of the Detroit Automobile Dealers' Association at the annual meeting held recently. He has been treasurer for two years and a director for a longer period, and has taken an active part in staging the city's motor car shows.

C. A. Jay has accepted a position with the Horton Motor Company, with headquarters at Fargo, S. D.

W. H. Riblet, of the sales force of the Service Motor Truck Company, Wabash, Ind., is in the East placing agencies for the Service line of trucks.

Peter Doyle, who was the travelling representative of the Timken-Detroit Axle Company, died in Chicago recently. He was at one time sales manager of the Long Manufacturing Company of Detroit.

Charles H. Cross has opened offices in the Ford building, Detroit, as branch manager for the Crocker-Wheeler Company, Ampere, N. J., manufacturer and electrical engineer.

Fred E. Tucker has been appointed manager of the New York branch of the Stromberg Motor Devices Company, Chicago. Mr. Tucker was recently a travelling representative of the Maxwell Motor Company, Detroit.

A. D. Trempe has been appointed sales manager of the Mott Wheel Works, Utica, N. Y.

W. Covert Jones has become the Chicago branch sales manager of the American Ever Ready Company, New York City, maker of electrical specialties and spring engine starters.

R. E. Olds, automobile manufacturer, has disposed of his entire stock in the State Journal of Lansing, Mich., the leading daily newspaper in that city.

Charles E. Stahl has been appointed sales manager of the Connecticut Telephone & Electric Company, Meriden, Conn., maker of the well known Connecticut ignition systems.

E. J. Lloyd, formerly of the American Ever Ready Company, Chicago, has accepted a position as advertising manager with the Catalogue Systems Company of that city.

W. C. Knight has been appointed western sales manager of the Boston Auto Garage Company, manufacturer of gasoline and oil gauges. The office of the company is at 1231 Woodward avenue, Detroit. Mr. Knight has been associated with the Stewart-Warner Instrument Company and the Stewart-Warner Corporation.

Harry Gleisman, who is well known in the motorcycle field through his long connection with that branch of the industry in the East, and as organizer and president of the New York City Motorcycle Dealers' Association, has joined the sales force of the Miami Cycle & Manufacturing Company, Middletown, O. He will travel in the eastern states in the interests of the Flying Merkel mount.

Harry Gleisman, Salesman for Miami Cycle and Manufacturing Company.

L. S. Weeks has joined the sales forces of the Pasadena Motor Car Company, Pasadena, Cal. Mr. Weeks is well known in the trade.

Frank Witt is now sales manager of the La Vigne Cyclecar Company, Detroit. He is a well known racing driver and lately was connected with the Studebaker Corporation and the Krit Motor Car Company.

F. C. Braden has accepted a position as special factory representative of the Swinehart Tire & Rubber Company, Akron, O., and will make his headquarters in Cleveland. He was formerly connected with the New York branch of the company as pneumatic tire salesman.

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REPORTED CHANGES IN TRADE ADDRESSES.

General Motor Car Company, St Louis, Mo.; from 3052 Olive street to 3003 Locust street.

G. A. Leverenz & Sons, Milwaukee, Wis.; from 930 Third street to 1004 Fourth street.

Harry McComb, Washingtonville, N. Y.; removed to Newburg, N. Y.

Poison Hilton Automobile Company, Kansas City, Mo.; from 501 East 15th street to 331 S. W. boulevard.

Holyoke Auto Car Company, Holyoke, Mass.; from Dwight street to 12 Crescent street.

W. E. Menard, Holyoke, Mass.; from 492 Dwight street to 10 Division street.

United States Tire Company, Syracuse, N. Y.; from 119 West Taylor street to 212 South Clinton street.

Allen Auto Tire Company, Weehawken, N. J.; removed to New York City.

Moto-Bloc Import Company, New York City; from 2008 Broadway to 176 West 72nd street.

Powers Agency, Cleveland, O.; from Williamson building to 724 Illuminating building.

Mercedes Repair Company, New York City; from 159 East 54th street to 218 East 54th street.

F. N. Clarke & Co., Washington, D. C.; from rear 1307 K street to 444 Kenyon street.

Springfield Portable House Company, New York City; from 50 Church street to 264 West 123rd street.

Mott Bros., Richmond Hill, N. Y.; removed to Jamaica, N. Y.

Reed Electric Works, San Jose, Cal.; removed to San Francisco, Cal.

Colonial Motor Car Company, Springfield, Mo.; from South Jefferson street to 316 McDaniel avenue.

Raymond DePhillips, New York City; removed to 435 Rodney street, Brooklyn, N. Y.

Motor & Gear Import Company, New York City; from 30 Church street to 1790 Broadway.

J. Graham Company, Pittsburg, Penn.; from 5971 Center street to 60 Mellon street.

Hoffecker Speedometer Company, Pittsburg, Penn.; from Sheridan street and Palmer avenue to Highland building.

L. A. Randolph Company, Greenville, N. C.; removed to House, N. C.

Marion Motor Car Company, Brooklyn, N. Y.; from 1281 Bedford avenue to 275 Hancock street.

Sand C. Merger, New York City; from 2 Hudson street to 320 St. Nicholas avenue.

H. W. Johns-Manville Company, Toledo, O.; from 1014 Canal street to 2131 Water street.

Grasser Motor Company, Toledo, O.; from 100-104 Ottawa street to 1420 Madison avenue.

Lincoln Garage, Brooklyn, N. Y.; from 126 Sterling place to 145 Prospect Park, West.

Livingston Motor Car Company, Bayonne, N. J.; removed to 95 Montgomery street, Jersey City, N. J.

C. N. Caldwell, Bowling Green, O.; from 120 Locust street to 801 North Main street.

Mitchell Auto Company, Providence, R. I.; from 78 Mathewson street to 134 Broad street.

Whiting Motor Car Company, Philadelphia, Penn.; from 600 North Broad street to 3 North 21st street.

Parrish Garage, Philadelphia, Penn.; from 823 North 13th street to 1702 North 23rd street.

R. Z. Snell, South Bend, Ind.; removed to San Francisco, Cal. (General delivery.)

Punctureless Tire Company, Kansas City, Mo.; from 2003 Grand avenue to 1511 McGee street.

Michelin Tire Company, San Francisco, Cal.; from 318 Van Ness avenue to 1644 Pine street.

F. F. Munstead & Co., Colorado Springs, Col.; removed to 855 Olive street, Los Angeles, Cal.

E. S. Dimmock, Tacoma, Wash.; from box 989 to Tacoma building.

Goodyear Tire & Rubber Company, Spokane, Wash.; from 1107 First avenue to box 2234.

Rose City Electric Garage, Portland, Ore.; from 54 East Second street to 882 East Davis street.

Joseph A. Gowanlock, Portland, Ore.; from 495 Northrup street to 106 Fourth street.

Motor Sales Company, Minneapolis, Minn.; from 720 Phoenix building to 714 Monroe street, N. E.

A. T. Wislon Auto Company, Denver, Col.; from 1540 Broadway to 801 Broadway.

James O. Breckener, Denver, Col.; from 16 South Broadway to 1680 South Broadway.

L. C. & C. H. Meeker, Schenectady, N. Y.; from 18 Lafayette street to 330 Brandywine avenue.

Callahan Atkinson & Co., Baltimore, Md.; from 1020 Morton street to 212 North Paca street.

Morgan & Wright, Minneapolis, Minn.; from 911 First avenue to 1522 Hennepin avenue.

R. W. Snipes, Americus, Ga.; removed to Macon, Ga.

W. F. Fergus, Pine Bluff, Ark.; removed to Orlando, Fla.

Edwards Cycle Company, Minneapolis, Minn.; from 119 Sixth street to 12 Ninth street, South.

Arizona Motor Company, Phoenix, Ariz.; from First and Van Buren streets to box 757.

Hansen & Son, San Antonio, Tex.; add 309 St. Mary street.

Leonard Kranz, Danville, Ky.; removed to Louisville, Ky.

A. T. Nobles, New Orleans, La.; from 1618 Baronne street to 1115 South Saludo street.

J. N. Kroha, Milwaukee, Wis.; from 1016 10th street to 621 49th street.

I. S. Hartridge, Milwaukee, Wis.; from 263 29th street to 745 Maryland avenue.

Firestone Tire & Rubber Company, St. Louis, Mo.; from 23rd and Olive streets to 3201 Locust street.

Diamond Rubber Company, St. Louis, Mo.; from 3965 Olive street to 3001 Locust street.

Hall Bros., Kansas City, Mo.; from 1110 East 15th street to 1821 McGee street.

W. S. Hathaway Auto Company, Kansas City, Mo.; from 3501 Main street to 1612 Grand avenue.

Herbert S. Hawley, Spokane, Wash.; removed to Priest River, Idaho.

Firestone Tire & Rubber Company, Chicago, Ill.; from 1442 Michigan avenue to 1920 Michigan avenue.

John E. Donovan, Chicago, Ill. from 157 North Michigan avenue to 1801 South Michigan avenue.

Empire Tire Company, Chicago, Ill.; from 1305 Michigan avenue to 1627 Michigan avenue.

F. A. Williams, Spokane, Wash.; from 910 Second avenue to 1801 Third avenue.

Ford Motor Company, Chicago, Ill.; from 1444 Michigan avenue to 39th street and Wabash avenue.

Factory of the Falcon Cyclecar Company, Recently Occupied in Staunton, Va.

Tietgen Bros., Spokane, Wash.; removed to Greenacres, Wash.

Motor Car Sales Agency, Seattle, Wash.; from 1159 Broadway to 1000 East Pike street.

Stearns Motor Car Company, Seattle, Wash.; from Broadway and Madison street to 15-21 Eighth avenue.

George E. Keller, Los Angeles, Cal.; from 1219 West Jefferson street to 1224 West 31st street.

Pacific Garage Company, San Diego, Cal.; from 1323 First street to 516 Timker street.

Auto Specialties Company, San Diego, Cal.; from 1003 G street to 1903 D street.

Motor Equipment Company, Seattle, Wash.; from 4105 Broadway to 907 Second avenue.

J. G. Kamps, Los Angeles, Cal.; removed to Long Beach, Cal.

The Plat-Tina Company, Los Angeles, Cal.; from 1129 Mohawk street to 963 North Wilton place.

Hamilton & Bertram Motor Supply Company, San Diego, Cal.; removed to Salt Lake City, Utah.

Auto Phone Company, Minneapolis, Minn.; from 1100 Hennepin avenue to 901 First avenue, North.

Western Automobile Supply Company, Chicago, Ill.; removed to 511 Pala building, Minneapolis, Minn.

Zilio Sales Company, Chicago, Ill.; from 1528 Ninty building to 508 Scholler building.

R. C. Merrimar, San Diego, Cal.; removed to Dorchester apartments, Pasadena, Cal.

F. A. Mitchell & Co., Seattle, Wash.; from 1409 Broadway to 1521 Eighth avenue.

American Rubber Products Company, Chicago, Ill.; from 24 South Clinton street to 5625 South Boulevard.

Reliable Radiator Company, New York City, from 1818 Webster street to 188th and Washington avenue.

G. A. Reigle, Washington, D. C., from 1132 10th avenue, N. W., to 1928 Second avenue, N. W.

S. & S. Shock Absorber Company, Washington, D. C.; add 830 14th avenue, northwest.

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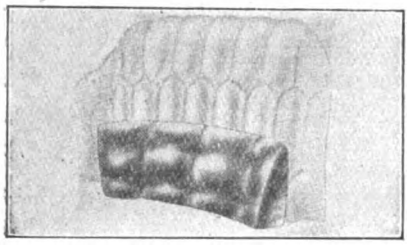
ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing, Please Mention The Accessory and Garage Journal.)

EASYBAK CUSHION.

Supports the Back, Contributing to Comfort When Driving.

The Holden Manufacturing Company, St. Paul, Minn., is marketing the Easybak cushion, which is con-



structed to support the back, thereby eliminating the strain upon the muscles when operating the clutch and brake pedals. The device is also of value to other occupants of the car. The Easybak fills the vacant space and, supporting as it does the entire back, permits one to sit with the muscles relaxed. It is made of a strong water proof fabric in a dark gray or subdued brown to match the slip covers, and in imitation or genuine leather. It is stated that the design will fit all makes of cars. The leather sells for $3.50, other cushions for $2.

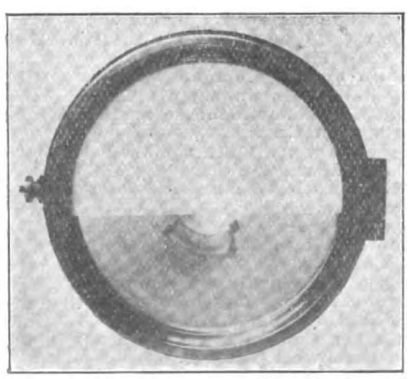
MULCHAHEY DIMMER.

Eliminates Blinding Effect of Headlights by Novel Means.

One of the latest devices for eliminating the glare of the headlights is the invention of Howard F. Mulchahey, 8 Mt. Vernon street, Providence, R. I., and it is stated that it is adaptable to both electric and acetylene lamps. The dimmer or headlight ray controller, as it is termed by the maker, is obtained by treating the glass of the headlight by a special process.

The glass is treated to a point a little below its centre and while the frosting effect eliminates the glare, it does not reduce the efficiency of the light, as the lower half is left untreated. Consequently the projecting rays are obtained, but the upward members are so softened that occupants of approaching vehicles, and pedestrians are not blinded.

The maker states that he has given his dimmer severe road tests and that one can look into the lamp without any blinding effect, as the bright rays do not reach above the waist of an average sized person. It is also claimed that a better driving light is obtained, as the upward rays are softened, and this should prove of value when operating in foggy

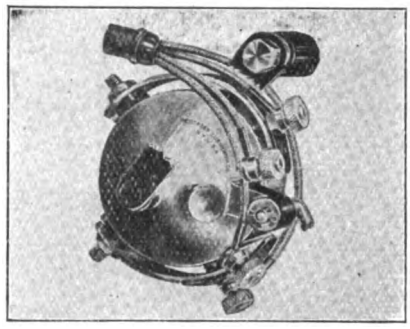


weather. One of the qualities of the process is that it is inexpensive, and that the regular glass can be treated or replaced by one of the Mulchahey design. Another feature is that after once fitting no attention is required, and the design is practical for city as well as country driving.

PEDERSEN TERMINALS.

Attachment for Ford Timer Having Accessible Features.

The Pedersen Lubricator Company, 640 First avenue, New York City, maker of lubricating devices, has brought out a new specialty for the model T Ford motor. It is a simple and inexpensive attachment for the commutator, consisting of two sheet metal stampings, which are utilized as false terminals. They are attached to the regular Ford timer



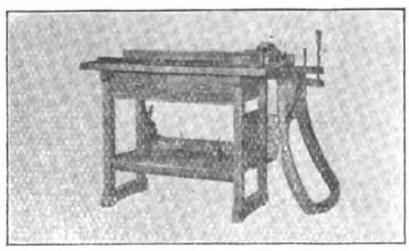
terminals, but are insulated from the two upper ones by fibre strips.

The function of the arrangement is to keep the two lower terminals and their primary wires away from the deteriorating effects of oil, etc., and the design makes it possible to reach the terminals easily when desired.

GRAND RAPIDS WORK BENCH.

Built for the Owner and Private Garage and Has a Vise.

The Grand Rapids Hand Screw Company, Grand Rapids, Mich., has brought out a work bench especially



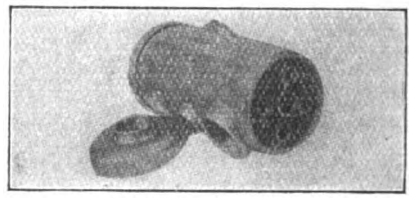
adapted to the private garage and for the owner who does his own repairing. It is well constructed of wood and has drawers partitioned off for the storing of nuts, bolts, screws and small material. The top is of hard wood and is protected by galvanized iron. A continuous screw iron vise is part of the equipment.

The bench is 48 inches long, 24 wide and 36 high. At one end is attached a wire basket to hold waste, rags, sponges, etc. There is also an extension for tire repairing, and the bottom of the bench is fitted with a back rail for storing oil cans, etc. The Grand Rapids bench sells for $15.

FARNSWORTH GENERATOR.

Makes Possible Use of Heavy Fuels and Distillates.

The Farnsworth gas generator, marketed by the Distillate Motor



Equipment Company, San Francisco, Cal., makes possible, it is claimed, the operation of a motor car with kerosene, distillate and other low grade fuels. The exhaust gas is utilized for raising the temperature of the fuel, and the generator shown in the accompanying illustration is attached to the carburetor in such manner that the exhaust taken from the exhaust manifold is passed around the chamber of the device. The generator itself is cylindrical in form.

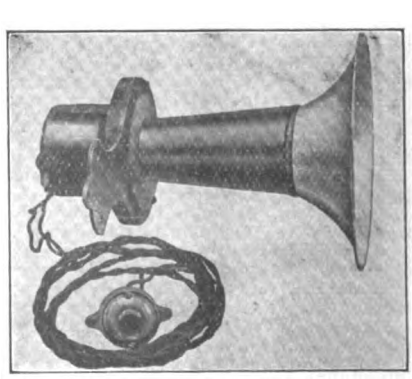
It is stated that tests made with the device resulted in a great saving of gasoline, and that considerably more energy was developed by the motor. Similarly, it is claimed that the mileage a gallon was increased, it being 12.6 miles without the generator and 15.3 with the apparatus installed on a standard make of pleasure car.

APOLLO ELECTRIC HORN.

A Moderately Priced Signal Manufactured in Two Sizes.

The Automobile Supply Manufacturing Company, Brooklyn, N. Y., is marketing a new design of electric horn termed the Apollo. It is a moderately priced signal, but the maker states that the same material and workmanship are incorporated as in the other products of the company. The tone is claimed to be far reaching, but free from harshness. The warning note is held to be specially adapted for city work.

The operating mechanism is stated to be so constructed that it will require no attention, and the horn is accompanied by a three years' guarantee. It comes in two sizes, the model S having a five-inch bell and overall length of nine inches. Model L is 10 inches long and has a 7.25-inch bell. It comes complete with push button, cord, etc., and is held to be economical in current consumption. The model S retails for $5 and the model L for $6.



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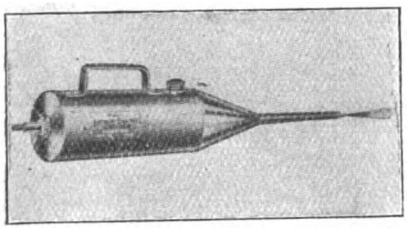
ROMORT ENGINE CLEANER.

Utilizes Kerosene in Form of Spray for Cleaning Motor, Etc.

The Romort Valve Company, 701 East Pike street, Seattle, Wash., is manufacturing the Romort engine



cleaner, which is designed especially for removing oil, grease and dirt from the motor and components of the chassis. The Romort is filled with two quarts of kerosene or gasoline, and air is supplied by a pump, compressor or tire power pump, a standard connection being provided. Turning a knurled rod opens a valve, permitting the fluid to be forced out in a very strong spray, which may be regulated as desired by the operator. The cleaner is equipped with a long spout, making it an easy task to reach parts not accessible by the usual cleaning methods. Being forced at a high pressure the spray removes deposits that would ordinarily require considerable labor to displace by the brush or rag treatment. It retails for $3.

PERKINS CAMPBELL LINE.

Includes a Number of Specialties for the Ford Car.

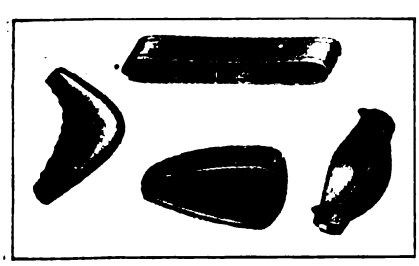
The Perkins Campbell Company, 626 Broadway, Cincinnati, O., is manufacturing a number of specialties for Ford cars, these including the Latigo fan belt, steering gear boots, top rest, rebound straps, front license holder, spark plug case, hood strap, license and tire straps, starting crank holder, etc.

The Latigo fan belt shown herewith, is constructed of genuine Latigo leather, which contains no mineral or material employed in tanning. It is claimed to be the strongest leather known, and that it is impervious to the action of heat, oils or water. Special emphasis is laid upon its non-stretching qualities. It is also held to be unusually flexible.

The boots marketed by the company for the steering linkage of the Ford machine come three to a set. They are constructed of the best grade water proof leather, and are of the lace type. By packing these boots with grease the parts are assured of proper lubrication, and the covers also exclude road dust, which is an abrasive. The entire set is inexpensive.

The Perkins Campbell Company is specializing on water proof seat covers and manufactures these for both the Ford touring and roadster models. The material employed is the best grade water proof cloth, which is cut over special patterns to insure an accurate fit. The maker states that the covers will not stretch or shrink. They are fitted by screw glove fasteners, and can be attached easily by the owner.

The company will forward its illustrated circulars upon request.

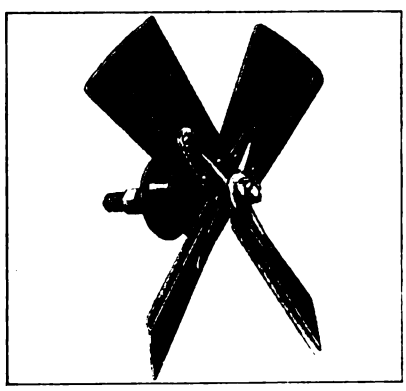


OAKES CYCLECAR FAN.

New Model Is Light in Weight and Blades Have a Peculiar Flare.

The Oakes Company, Indianapolis, Ind., manufacturer of automobile parts and a specialist in radiator fans, has brought out a new design especially adapted for service on cyclecars. As shown by the accompanying illustration, the blades are set at an angle or pitch that has been found to be the most effective under actual tests.

One of the features of the new fan is the use of a peculiar flare on the side of the blades, which is held to be a practise in vogue abroad. The new model, although of light weight, has been constructed with the same



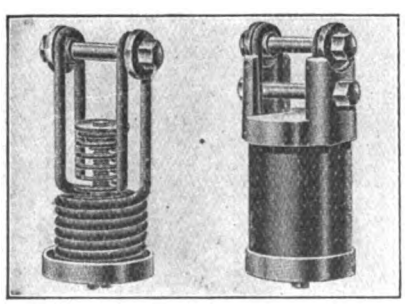
high grade material and workmanship for which the products of the company are noted.

JOHNSON SHOCK ABSORBER.

Principle Involves Use of Two Concentric Coiled Springs.

The Johnson shock absorber is manufactured by the Triple Action Spring Company, 55 East 28th street, Chicago, and is made in four different sizes, the smallest being suitable for Ford machines and the largest for five-ton commercial vehicles.

The principle involves the use of two concentric coiled springs, one



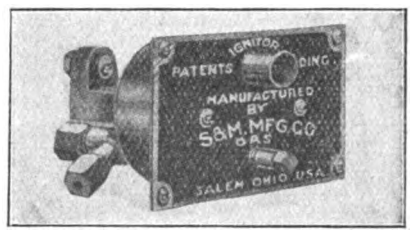
being utilized to compensate for the lighter shocks and the other to care for the heavier ones. The main spring is ample in diameter, and being of heavy stock has ample capacity for absorbing considerable shocks. The maker calls attention to his design, stating that it has an advantage over other types in this respect.

The main spring is a double coil, with the upper ends bent into the form of loops, providing a simple construction and one making for easy attachment of the shock absorber to the upper spring shackle bolt of the machine. A central adjusting bolt provides for adjustment of 1000 pounds.

S. & M. GAS LIGHTER.

Controls and Lights Acetylene Headlights from the Seat.

The S. & M. gas lighter appliance is marketed by the S. & M. Manufacturing Company, Salem, O., and is an



electrical device which enables the operator of a car to control his gas lights from the seat. The gas is turned on at the dash, a diaphragm regulator preventing it from being turned on too high by controlling the pressure from the tank. This insures the proper sized flame at all times.

Ignition of the gas is effected by an electrical circuit which starts at the rear spark plug and runs to one terminal of the controlling valve switch. From the other terminal a wire is led to the right hand burner, which is wired across to the other headlight and grounded. Special burners are necessary with the system and are included with each equipment. The outfit is moderately priced. It retails for $8.

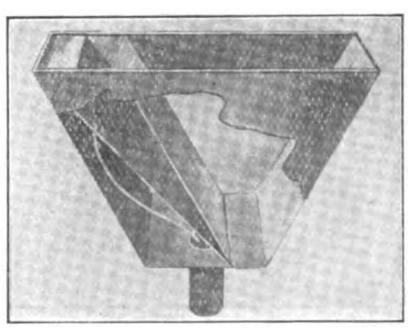
NO-SHAMMY FUNNEL.

Permits Fuel to Flow as Freely as with an Ordinary Funnel.

The No-Shammy funnel is manufactured by the No-Shammy Products Company, Cleveland, O., and is marketed by Chas. E. Miller, 97-103 Reade street, New York City. One of the qualities of the design is that the gasoline will flow as readily as through an ordinary funnel not equipped with a screen or filtering means. With the No-Shammy the fuel passes through quickly, while all water and foreign elements are trapped.

The principle of operation is the difference between the specific gravity of gasoline and water. When the fuel is poured into the funnel, any water and heavy sediment in it immediately settles to the bottom of the funnel, while the gasoline floats off through a gauze member. The particles of dirt held in suspension are prevented by the gauze from passing over.

It is pointed out that water can rise to the top of the funnel, as the film of gasoline over the gauze prevents it passing through. This is secured by scientific determination of the angles of the walls, position and mesh of the gauze, etc. The No-Shammy funnel is not only inexpensive, but is sturdily constructed and guaranteed. It is made in three sizes, for garage, owner and for motorcycle. The size which is designed for owners retails for $2.



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STANDARD SIGNAL LAMP.

Warns Following Vehicle by Use of Colored Compartments.

The Standard Signal Lamp Company, Sanford building, Bridgeport, Conn., is manufacturing the Standard

signal lamp, which is designed to notify cars approaching and travelling in the same direction the driver's intentions. It is a neat, semi-cylindrical housing of three compartments, each fitted with a tungsten bulb, controlled separately or in combination. The "Left" compartment is red; the "Stop" black and "Right" green. The different colors enable the driver of the following vehicle to distinguish the compartment more easily. The device also includes an electric tail light and a bracket for the number plate, which is lighted from the tail lamp. The lamp complete sells for $5.

KNOPF RECORDER.

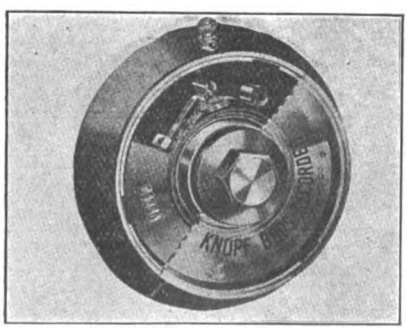
Registers Mileage Distance, Stops, Etc., on Removable Tape.

The Knopf Bros. Manufacturing Company, Inc., 2071 Seventh avenue, New York City, has brought out a new type of mileage recording instrument, the operating mechanism of which is contained within a case which is attached to the wheel by several screws entering the spokes or hub flanges. The screw heads, however, are inside the case, which is provided with a lock.

The mechanism is suspended inside by ball bearings with a weight to maintain it in its proper position. The odometer is operated by a cam located inside the case, which strikes a roller once during each revolution of the road wheel, actuating an arm which moves a ratchet wheel one notch. The odometer registers to 10,000 miles and repeats, but it cannot be set back without completely disassembling.

A cylinder in the upper end of the odometer rotates once for each mile travelled by the car, causing an arm to oscillate with a slow, continuous motion, once for each mile. The arm carries at its upper end a stylus, which produces a record on a tape as it is drawn out from a little round box at the top of the instrument.

At the right of the weight is a clock which will run for 36 hours on one winding. It is geared to a large drum surrounding the central wall of the instrument, upon which the tape is wound at such speed that the stylus comes opposite the hour marks



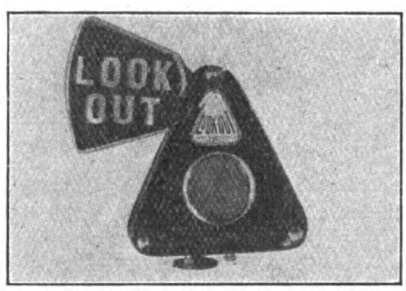
at the proper time. The tape is sensitized so that the pressure of the metallic stylus traces a line upon it, and it is graduated into three-minute periods, two inches being allowed for each hour. The recorder registers starting, stopping and operation of the vehicle, as well as the rate of speed, and they are outlined on tape.

BAER ALARM SIGNAL.

Shows Plate Bearing Words "Look Out" and Is Operated by Button.

The Baer alarm signal is marketed by the Baer Manufacturing Company, Philadelphia, and is an ingenious warning device which differs from those of conventional design. It is operated by the current of a storage battery or similar source of supply, and when the circuit is closed a plate bearing the words "Look Out", rises from its normal position in a case. The movement of the signal is accompanied by a loud "click".

With the Baer design provision is

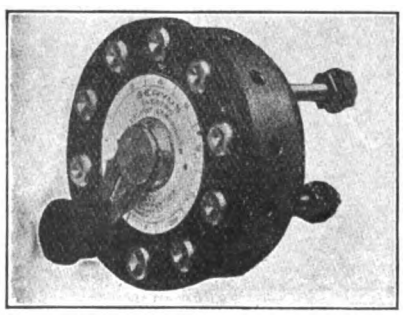


made to indicate the proper working of the signal, a miniature telltale located next to the press button showing when the device operates properly. The button fitting is constructed for convenient attachment on the steering wheel. The device comes complete for attachment.

SERVUS HEADLIGHT DIMMER.

Controls Lights from Dim to Bright and Extinguishes Them.

The Servus Equipment Company, Newark, N. J., is marketing the Servus headlight controller for cars equipped with electric lighting. It is designed to enable the driver to dim, extinguish or brighten the

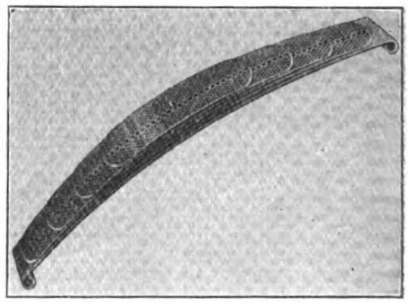


lights without leaving the seat. The device comprises a coil of special resistance wire divided into 10 sections with contact points so arranged as to allow all, any part, or none of it to be brought into circuit. When the lever is placed on the "low" point the lights will burn dimly. Moving the lever to other points increases the strength of the current and proportionately. There is also an "off" position. The device is installed in place of the usual switch and the regular wires are utilized. The Servus dimmer retails for $5.

DANN SPRING INSERT.

Forms Oil Cushion as Well as Provides Constant Lubrication.

The Dann Oil Cushion Spring Company, 2246 Indiana avenue, Chicago, is marketing the Dann oil cushion



spring insert, which insures constant lubrication of the leaves. As will be noted by the accompanying illustration, the insert is provided with a large number of apertures, which are filled with a lubricant. Being inserted between the conventional leaves the latter are always lubricated, and one of the qualities of the design emphasized is that the insert will provide lubrication for a considerable period.

It is pointed out by the maker that an ordinary spring having a number of leaves of graduated lengths contains an enormous area of surfaces, which means considerable friction is present if the surfaces are not constantly lubricated. The Dann insert provides this desired lubrication, eliminating squeaks as well as minor vibrations. It is easily installed and is made in different sizes. Price lists will be mailed upon request.

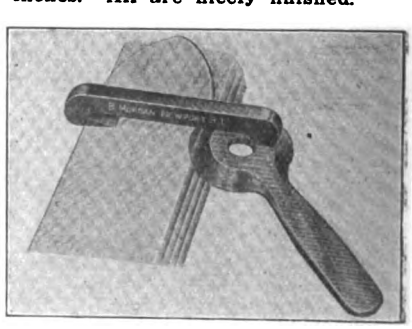
MORGAN SPRING OPENER.

Practical and Inexpensive Tool for Separating Leaves of Spring.

The Morgan Manufacturing Company, Newport, R. I., maker of tools, accessories, etc., for the motor car and repair shop, is marketing the Morgan rolling spring leaf opener, a simple and practical design in that it requires no adjustment. It is constructed especially for separating the leaves of a spring, permitting of cleaning and lubricating the bearing surfaces without jacking up the car.

As will be noted by the accompanying illustration, the device comes in two parts, one of which is provided with a chisel point. This is inserted between the leaves of the spring near the end and the edge of the rolling tool on the other side. Previous to this work the small bolts are removed from the spring clip. By rolling toward the centre of the spring or towards the axle, the leaves will be separated easily and readily.

One of the qualities of the device is that it is manufactured in various sizes, these ranging from that adapted to a cyclecar to that for a locomotive. The 75-cent size fits springs up to and including two inches. All are nicely finished.



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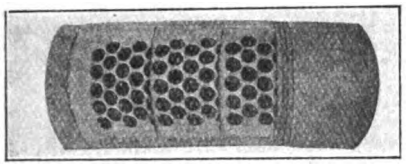
LEE PUNCTURE PROOF TIRE.

Construction Includes Hardened Steel Discs Which Overlap.

The Lee Tire & Rubber Company, Conshohocken, Penn., is manufacturing the Lee puncture proof tire, so



called because it is stated to be impervious to nails, etc., which ordinarily penetrate the tread and fabric of conventional types of shoes. An accompanying illustration shows the construction of the Lee puncture proof tire and it will be noted that a large number of metal discs are imbedded under the tread within the tire.

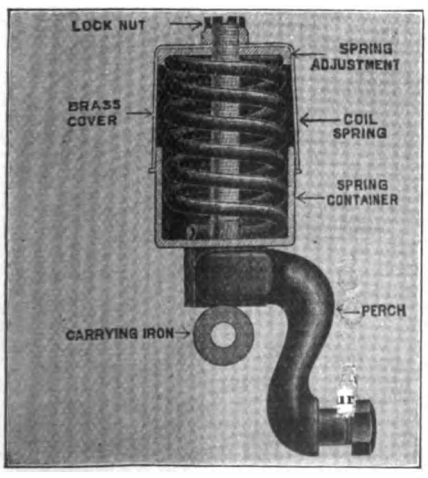
The discs are of hardened laminated steel, and while they overlap, they do not touch. It is stated that they reinforce the tire body, and at the same time protect it and the inner tube from articles that would puncture, also from the effects of water or moisture. It is added that the resiliency of the shoe is not affected and that it will not heat. A cash refund is included in the selling agreement. The Goodby-Rankin Company, Providence, R. I., is Rhode Island distributor.

ELK SHOCK ABSORBER.

Specially Designed for Ford Cars and Is Adjustable.

The Ely shock absorbers for Ford cars are marketed by the Donnelly Motor Equipment Company, 1785 Broadway, New York City, and come in sets of two and four, being adapted to both the front and rear springs. One of their qualities is that they eliminate the disagreeable vibration when traversing pavements, as well as take care of heavier shocks when operating on rough highways, etc. Another feature of the Ely is that provision is made for adjusting the tension of the coil spring to conform to the varying weight of the equipment, passengers, etc.

As will be noted by an accompanying illustration, the design is of simple construction and is one that should make for efficiency and durability. It comprises a coil spring of a high grade, tempered steel; a carrying iron and a perch. The spring is contained within a brass cover, which is made oil tight in case the use of lubricant is desired. The principle of the Ely absorber is a spiral auxiliary spring providing a pivot point suspension.

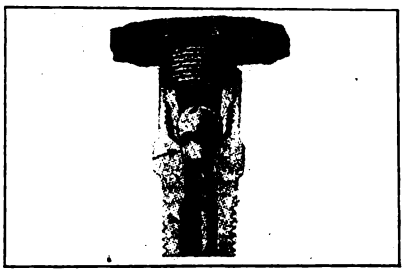


The absorbers are easily fitted, the maker stating that any owner can attach them in a few minutes. They are made for both the front and rear springs, and are guaranteed against imperfection of workmanship and material for one year. They come finished in specially prepared black rubber and the selling proposition is an interesting one, both to the trade and purchaser. Being constructed to eliminate minute vibration, as well as shocks, they save tires and the car mechanism from undesirable stresses. Sets of two retail for $7. Complete sets sell for $12.50.

MORGAN PRIMING CUP.

May Be Utilized When Motor Is Hot and Has Novel Valve.

The Morgan Manufacturing Company, Newport, R. I., is marketing a practical form of priming cup which



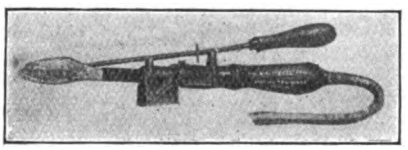
presents several interesting features, among which is that it may be operated when the motor is hot without burning the hands. As will be noted by the accompanying illustration, the head or operating member is composed of a non-conducting heat material.

The base is made of steel, threaded at its lower end as usual to fit the cylinder, while the upper is tapped out to receive the cup portion. The base is provided with a bevel shaped seat into which fits a ball shaped valve which is free to revolve. By inserting the cup portion into the base the ball shaped gas tight valve finds its own centre. The ball valve is fitted with a slot so that it can be ground with a screw driver when necessary. Priming opening is large.

READYHOT TORCH.

Utilizes Gas or Acetylene and Is Adapted for Brazing.

The Nemo Chemical & Specialty Manufacturing Company, 510 Rector building, Chicago, is marketing a



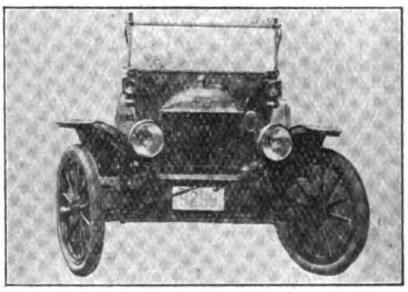
very practical and useful article both for the public and private garage. It is termed the Readyhot brazing and soldering torch, and one of the qualities of the design is that it can be employed for brazing and soldering.

The supply of fuel for obtaining the desired temperature may be secured from the regular gas supply or from a Prest-O-Lite tank, suitable connections being provided. The Readyhot torch is always ready for service, and it is stated that there is no delay in obtaining the necessary heat, and that a steady temperature is maintained. It can, however, be adjusted for any desired heat. The alternating inspirator is so graduated that practically any metal can be heated to a melting point in a short time. Owing to the unique construction the torch can be utilized in soldering equipments. It sells for $5.

CLEAR AHEAD LAMP BRACKET.

Turns Headlights in Same Direction as Steering Wheel.

The disadvantages of the fixed type of headlights are well known to experienced drivers. Even when oper-



ating on a straight road the rays of light are not sufficiently deflected to enable a driver to note the condition of the thoroughfare when turning out for an approaching vehicle. And in rounding curves, especially on unknown roads, the light does not illuminate the inside of the curve so as to reveal any possible obstructions that may exist.

The Auto Protector Company, 58 Tyler street, Springfield, Mass., has brought out the Clear Ahead lamp bracket, which is held to solve these problems, and one of the qualities of the design is that it can be attached without alterations. That shown in an accompanying illustration is the bracket made for the model T Ford machine, and it will be noted that the lamps are turned at the same angle as the road wheels.

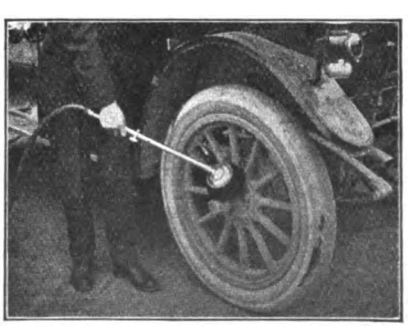
In addition to the Ford design the company manufactures an equipment for larger machines, a standard size. Both types are moderately priced.

HICKS FOUNTAIN BRUSH.

Has Long Handle and Adjustable Nozzle and Keeps Hands Dry.

The Howard W. Hicks Brush Company, 826 18th street, Denver, Col., is manufacturing the Hicks perfect fountain brush. It will appeal to owners who wash their cars, as by it the work may be performed without soiling the clothes or placing the hands in the water. The last named advantage makes for comfort when the machine is washed in cold weather and when the garage is not equipped with means for heating the water.

The brush parts are made of aluminum and the 18-inch handle is of nickelled steel, equipped with a rubber grip. The handle is provided with a standard connection permitting of screwing on the ordinary garden hose. The brush is also detachable. One of the qualities of the brush emphasized is that a rotatable water chamber prevents wear on one side. The handle is equipped with a cut-out, permitting control of flow of water as desired, making for economy. The Hicks fountain brush sells for $5.



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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Dauch Manufacturing Company, Sandusky, O.; $800,000; to manufacture motor vehicles; J. J. Dauch, Daniel E. Storms, R. D. Mitchell, J. A. Giedeman, Charles Dick.

Nicholas Griffin Company, Chicago, Ill.; $50,000; to manufacture automobiles and supplies.

Pull-More Motor Truck Company, Detroit, Mich.; $250,000; Frank C. Kruger, Henry M. Market, Ralph S. Moore, Marvin A. Smith.

Armstrong-Johnson Manufacturing Company, Columbus, O.; $10,000; to manufacture automobiles; Minter Armstrong, J. H. Johnston, J. D. Loomis, James R. Johnston, J. G. Obermeyre.

Szekoly Cyclecar Company, Richmond, Va.; $50,000; James Pennington, Richard Burroughs.

Cricket Cyclecar Company, Detroit, Mich.; $40,000; G. F. Burton, V. F. Dewey, K. B. White, W. L. Davis, Macy Lyon, O. C. Hutchinson.

Milwaukee Cyclecar Company, Milwaukee, Wis.; $25,000; to manufacture cyclecars; Charles J. Eigel, Stanley Eigel, Samuel P. Carroll.

Motor Finance Company, Ltd., Montreal, Can.; $50,000; to manufacture motor vehicles, engines, etc.; Adolphe Kornbloom, Edwin N. Todd, Edwin A. Mumford and others.

Kennedy & Ahrens Company, New York City; $14,000; to manufacture trucks and automobiles; J. P. Kennedy and others.

Entz Motor Car Corporation, Baltimore, Md.; $3,000,000; to manufacture cars using the Entz electric transmission.

Flexible Side Car Company, Marion, O.; $25,000; to manufacture cyclecars, motorcycles, etc.

Model Motor Company, Los Angeles, Cal.; $1,000,000; to manufacture automobiles.

Johnson Motor Company, Fort Erie, Ont.; $1,000,000; to manufacture automobiles.

Silent Motor Car & Engineering Company, Los Angeles, Cal.; J. H. Grube, E. T. Houston, S. T. Allen, F. M. Casey.

Cleveland Cyclecar Company, Cleveland, O.; $200,000; C. Savage, W. H. Noyes, R. Clarke, F. H. Schmidt, W. E. Burns.

AUTOMOBILE DEALERS.

Granville Automobile Company, Creedmore, N. C.; $25,000; to deal in automobiles; S. C. Lyon, I. E. Harris, Dr. R. G. Rogers, J. N. Norwood, W. B. Lasley, W. D. Daniel.

The Six Cities Motors Company, Cleveland, O.; $10,000. $10,000.

Columbus Auto Company, Columbus, Miss.; $10,000; Samuel Kaye, H. J. Applewhite and others.

Thompson Motor Company, New London, Conn.; $2500; Leon C. Buzzell and others.

Auto Sales Company, Wheeling, W. Va.; $25,000; to deal in automobiles; W. C. Evans, J. M. Denham, C. McConaghey, Walter McMullin, H. J. Kiel.

Progressive Motor Company, Alexandria, Va.; $10,000; to deal in automobiles; Paul H. Macneil, R. L. Macneil.

Moon Auto Company, Lexington, Ky.; $3000; to deal in automobiles; B. B. Reed, E. H. Reed, P. McCann.

Ultimate Car Company, Chicago, Ill.; $5000; to deal in motor cars and supplies; Maurice Alachuler, N. A. Stern, Charles S. Pickett.

British Automobile Company, Brooklyn, N. Y.; $1000; to deal in automobiles and supplies; Roscoe Humphrey, Louisa E. Feather, Tom Feather.

Star Automobile Exchange Company, New York City; $5000; S. Schulmand, Henry Selnik, Max Weiner.

Middlesex Auto Company, New Brunswick, N. J.; $30,000; to conduct an automobile business; George H. Raddin and others.

West Side Motor Car & Supply Company, Fulton, N. Y.; $2000; to operate a general automobile business; Robert E. Harrison, Ellen V. McGinnis, John J. McGinnis.

Long Ford Auto Company, Biddeford, Me.; $10,000; William L. White, Rena G. White, Clark H. Morrell, Charles L. Nutter.

Joseph Huber, Queens, N. Y.; $10,000; to deal in automobiles; Thomas F. Doyle, Phillipine Huber, Joseph Huber, Jr.

Ropp Motor Company, Chicago, Ill.; $2500; to deal in automobiles; Edward Ropp, Gertrude Ropp, George Quinn.

Bay Field Cyclecar Company, Chicago, Ill.; $5000; to deal in cyclecars; George Elvers, A. G. Henning, E. H. Benzing.

Motor Service Corporation, Indianapolis, Ind.; $10,000; to deal in automobiles and accessories; W. L. Bedford, R. E. Weaver, K. R. Templeton.

Kimbalton Automobile Company, Des Moines, Ia.; $3000; to deal in automobiles.

Providence Auto Exchange, Providence, R. I.; $100,000.

Hall Bros. & Reeves Motor Company, Kansas City, Mo.; $5000; to deal in automobiles; C. W. Hall, A. H. Hall, C. H. Thompson.

Goodell & Co., New York City; $10,000; to deal in automobiles; R. D. Goodell, F. P. Hudson, W. E. Osterhout.

Reo Motor Car Company, New York City; $3000; to deal in automobiles; J. H. Shaw, R. H. Montgomery, W. M. Lybrand.

Beacon Motor Supply Company, Springfield, Mass.; $10,000; to deal in automobiles; J. B. Bedford, L. G. Carlton, C. F. Munn.

Conklin-Spindler Auto Company, Chicago, Ill.; $2000; to deal in automobiles, etc.; Alva L. Spindler, Maurice Kohn, Charles E. Conklin.

Clark Auto Company, Minneapolis, Minn.; $25,000; to operate a garage and deal in automobiles; Frank C. Clark, Clem Bofferding, John A. Cronholm.

Union Sales Association, Terre Haute, Ind.; $5000; to deal in machinery, automobiles, etc.; J. R. Finkelstein, G. C. Buntin, H. D. Hughes.

Wisconsin Cyclecar Company, Milwaukee, Wis.; $25,000; to deal in cyclecars; W. B. Christie, W. H. Schwab, W. Fernekes.

Motor Cleaning Company, Rochester, N. Y.; $50,000; to conduct an automobile business; H. D. Carlton, G. D. Forsythe, M. F. Clark.

Northwest Motor Company, Seattle, Wash.; $25,000; G. H. Tilton.

Erie-Penn Auto Company, Pittsburg, Penn.; $25,000; John Z. Miller, S. Farmer, R. J. Farmer.

Dobbins Automobile Exchange, Newark, N. J.; $50,000; to deal in automobiles.

Hainlen Company, Harrisburg, Penn.; $5000; to deal in automobiles.

Grant Motor Livery Company, Chicago, Ill.; $2500; to conduct a general automobile business.

East Ohio Auto Sales Company, Youngstown, O.; $10,000; to conduct an automobile business.

Imperial Auto Company, Bowling Green, Ky.; $8000; J. B. Lucas, J. W. Massey, J. M. Lovell, G. D. Vance.

F. W. Walsh Auto Service Company, Newark, N. J.; $25,000; to conduct a general automobile business; Frederick H. Walsh, H. D. Brangwin, Samuel P. Watson.

H. E. Throne Automobile Company, Toledo, O.; $30,000; to deal in motor cars; H. E. Throne, F. C. Schaal, G. C. Bradley, C. J. Clapp, W. H. Schroeder.

Bryan Automobile Company, Bryan, O.; $15,000; C. W. Gleason, E. D. Spangler, J. M. Roe, W. T. Gardner, H. W. Gardner.

Car-Nation Auto Sales Company, Youngstown, O.; $10,000; to deal in Car-Nation cars; M. H. Squires, B. O. Schulman, A. Kessler, I. Wikoff, L. J. Schulman.

PARTS AND FITTINGS.

Brann Wrought Iron Castings Company, New York, N. Y.; $250,000; to manufacture castings for automobiles and trucks; M. O. Garner, F. Wesley Parker, T. B. Freese.

Motor Air Pumping Company, Wilmington, Del.; to manufacture motor air pumps, etc.; W. M. Pyle, G. C. Steigler, L. W. E. McCarthy.

United States Radiator Corporation of Massachusetts, Boston, Mass.; $10,000; William H. Thayer, Henry T. Cole, William E. Mosher.

Cleveland Auto Radiator Company, Cleveland, O.; $20,000; J. S. Dickie, Frank C. Carpenter, William Schoellkopf, Frank H. Smith, F. E. Dallenbaugh.

Fisk Battery Box Company, Cleveland, O.; $10,000; L. A. M. Pejau, J. L. Fairbanks, William K. Patterson, H. M. French, A. W. Thomas.

Accessory Forgings Company, Detroit, Mich.; $10,000; Frank J. Sherman, F. A. Sherman, Fred A. Behr, Raymond E. Lake.

Racine Rubber Tire Company, New York City; $3000; to deal in tires; E. Storms, Jr., E. W. Drucker, Barclay Ball.

Motor Radiator Corporation, Buffalo, N. Y.; $50,000; Charles W. Dipport, Edward W. Werick, William M. Causley.

Frank P. Gallagher Company, New York City; $25,000; to deal in motor vehicle tires; Moses Sneft, Harry Brower, Frank P. Gallagher.

Harris Tire Company, Savannah, Ga.; $40,000; to manufacture automobile tires; Capt. S. N. Harris, H. M. Garmany, C. S. Richardson, L. R. Rith, M. B. Brabham, J. F. Mosher, E. De Loach, J. L. Sellers.

Norwalk Tire & Rubber Company, Norwalk, Conn.; $1,500,000; Earle Banks, John Pierce, Sayer Youngs.

Delaware Tire & Supply Company, Wilmington, Del.; $25,000; N. B. Mancill, J. H. Bishop, P. L. Garrett.

Kramer Governor Company, Milwaukee, Wis.; $25,000; Chester A. Dodge, Hiram S. Powers, Oliver H. Lamont.

Fisk & Dunham Rubber Company, Trenton, N. J.; $50,000; to manufacture rubber goods; C. F. Fisk, R. C. Dunham, A. A. Taylor.

Engel Crude Oil Engine Company, New York City; $15,000; Henry Engel, Winfred L. Smith, John M. Mumford.

The Motor Tire Reconstruction Company, Jersey City, N. J.; $250,000; to manufacture rubber tires, etc.; C. N. King, G. H. Russell, W. L. Steck.

National Tire Company, Trenton, N. J.; to manufac-

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ture automobile tires; Arthur R. Calvin, Albert Numbers, E. L. Iring.

Continental Starter Company, Detroit, Mich.; $20,000; to manufacture compressed air starters; Henry J. Guthard, Nelson A. Bloom, Herbert Thomas.

Globe Rubber Tire Company, Jersey City, N. J.; $25,000; to manufacture automobile tires; Harry J. Joyce, Joseph P. Hall.

Lincoln Tire & Rubber Company, New York City; $5000; to deal in automobile tires, etc.; Olaf K. Pacht, David Gross, Jacob Cohen.

Modern Wheel Company, New Orleans, La.; $35,000; to manufacture wheels for automobiles; T. Semmes, S. P. Walmsley, Arsene Perilliat, Clarence O. Sherill, George Blardone.

The Noble Air Pump Company, Cleveland, O.; $25,000; to manufacture air pumps of all kinds; Elmer E. Derr, George I. Langman, Thomas S. Dunlap, J. C. Noble, C. H. Truscott.

GARAGES AND REPAIR SHOPS.

Hope Garage Company, New York City; $10,000; to conduct a garage; E. Darcey, W. Bull, C. W. Lewis.

Ray Auto Renting Company, New York City; $5000; to conduct a garage and livery business; H. J. Benjamin, Alice Meyers, William Meyers.

T. Foster Garage & Sales Company, Dayton, O.; $5000.

Stutzman-Goldbach Garage, Lancaster, N. Y.; $10,000; to operate a garage; J. P. Goldbach, E. Stutzman, R. Stutzman.

Catherine Seeger, Inc., New York City; $10,000; to operate a garage and conduct a warehouse.

Wilcox-Chandler Company, New York City; $5000; to conduct an automobile repair shop; Forest G. Wilcox, Raymond C. Chandler, Louis J. Pflugner.

Rockland Auto Garage, Nyack, N. Y.; $25,000; to conduct a general garage business; A. W. Field, O. F. Theis, H. A. Gross.

Oquaga Garage Company, Deposit, N. Y.; $5000; to operate a garage; H. A. McMurray, F. M. Kerr, L. J. Kerr.

Mount Kisco Modern Garage, Mount Kisco, N. Y.; $5000; to operate a garage; Myron L. Glou, Sam Olim, Celia Olim.

Borderland Garage, La Cruces, N. M.; $10,000; to conduct a garage and repair shop; Floyd Turner, M. O. Llewellyn, J. H. Cleveland.

Danville Auto Supply Company, Danville Ill.; $2000; to operate a garage and repair shop; F. A. Baumgart, E. W. Seanwright, Ira Molt, Pierce Burroughs.

Grand X Garage, Chicago, Ill.; $2000; Frank L. Johnson, John Farr, Elof W. Johnson.

Lower Falls Garage Company, Wellesley, Mass.; $5000; to operate a garage and repair shop; Norman J. MacGaffin, George R. Williams.

Chilson Garage Company, Buffalo, N. Y.; $3000; to operate a garage; Floyd S. Howe, Carrie Nagu, William Schutrum.

Yale Motor Car Company, Minneapolis, Minn.; $20,000; to deal in motor cars and conduct a general garage and repair business; N. F. Oslin, R. L. Oslin, Hawkin Oslin.

City Garage of Hartford, Hartford, Conn.; $10,000; to conduct a garage; R. Elmer Curtiss, John W. Morrison, George W. Dean.

Bord's Garage, New York City; $10,000; to conduct a garage; John H. Bord.

Motor Car Service Station, Rochester, N. Y.; $1000; to deal in motor car accessories, etc.; William D. Elliott, Joseph K. Elliott, William R. Gilman.

Eastern Garage Keeper's Protective Association, New York City; $5000; Chester S. Walz, Thomas C. Walz, John A. Samborn.

ACCESSORIES AND SUPPLIES.

Tire Supply Association, Minneapolis, Minn.; $50,000; to deal in tires and automobile accessories; M. J. Rosenstein, L. S. Rosenstein, A. V. Juster, Lewis Rosenthal.

Cleveland Coil & Manufacturing Company, Cleveland, O.; $10,000; to manufacture dynamo and motor coils; H. L. Carleton, Owen N. Wilcox, Charles A. Norris, George W. Bach, George A. Shivley.

Israel & Stanke Auto Renting Company, New York City; $3000; Norman Israel, Blanche Israel, Robert A. Stanke.

Alderman Manufacturing Company, Rochester, N. Y.; $5000; to manufacture and deal in accessories; A. W. Alderman, W. E. Hazard, C. L. Pierce.

Brown Middlewest Tube Company, Cleveland, O.; $10,000; to deal in automobile supplies, etc.; Melvin O. Smith, G. W. Jacobs, Frank S. Martin, Max P. Goodman, Reguhild Fraser.

Empire Gasoline Company, Glen Falls, N. Y.; $5000; Dan H. Cowles, F. M. Starbuck, Donald McK. Hepburn.

Hayward Wrench Company, Springfield, Mo.; $100,000; to manufacture automobile wrenches; Robert H. Hayward, Homar Hayward, Lewis T. Duncan.

Wishoma Oil Company, Appleton, Wis.; $6000; to refine petroleum and petroleum products; H. K. Pratt, Julius Bonini and others.

Puncture Seal Manufacturing Company, Dayton, O.; $25,000; to manufacture automobile accessories; Fred R. Miller, Annie V. Miller, Walter McKnight, Amos M. Strang, C. Hange.

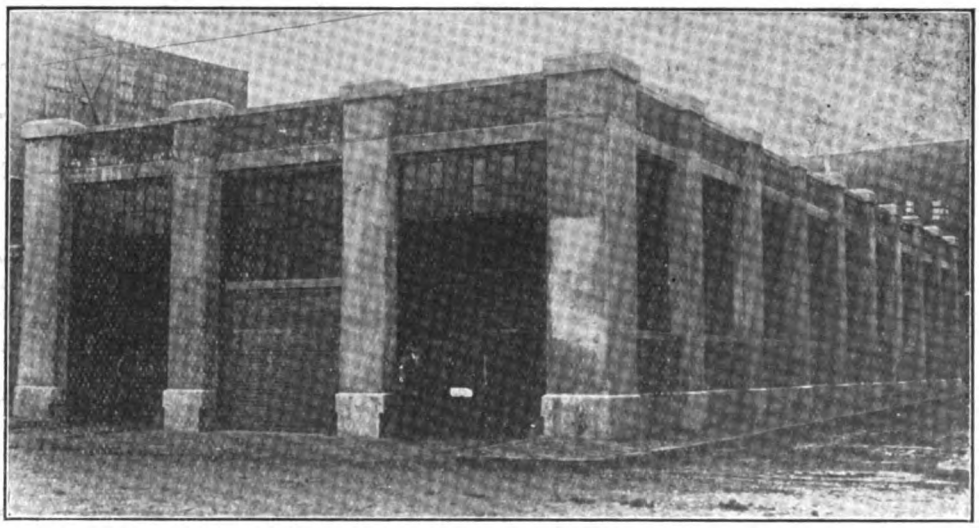
Morris Auto Safety Signal Company, New York City; $70,000; to deal in motor car supplies; Michael Morris, Samuel L. Keller, A. Trillard.

Little Falls Gasoline & Supply Company, Little Falls, N. Y.; $3000; to deal in gasoline and lubricating oils; Robert C. Holt, Sheldon F. Jones, Peter B. McCaghney.

Carolina Zee Zee Sales Company, Winston-Salem, N. C.; $25,000; to deal in automobile supplies; T. A. Apple, R. O. Apple, W. E. Franklin, G. Harrington Kenouse.

Co-Operative Automobile Supply Company, Dayton, O.; to deal in automobile supplies.

Gould Storage Battery Company, Cleveland, O.; $10,000; to deal in storage batteries; R. P. Anthony, C. Koenig, John A. Nieding, L. R. M. Pejean, Quay H. Finley.



The Fireproof Concrete Garage Building Recently Completed for H. P. Hood & Sons, Boston, and Planned for Expansion by Constructing Additional Stories.

Charles W. Church Service Company, Brooklyn, N. Y.; $6500; to deal in automobile accessories; A. A. Volk, C. W. Church, G. V. Mulligan.

Hub Auto Supply Company, Indianapolis, Ind.; $10,000; to deal in automobile supplies.

Genesee Valley Equipment Company, Rochester, N. Y.; $5000; to deal in automobile equipment; Ulysses J. Winkert, Robert T. Gallagher, Charles E. Boyd.

Thomas Carbon Remover Company, Cortland, N. Y.; $10,000; to manufacture carbon removers; G. Letts, W. W. Letts, L. B. Thomas.

Vrabeck Auto Supply Company, New York City; $5000; Eli S. Wolbarst, Charles Podensick, Violet N. Turner.

Perry Bros. Corp., Lansing, Mich.; $15,000; to manufacture electric batteries.

MISCELLANEOUS.

City Taxicab Company, Cumberland, Md.; $5000; to conduct a general taxicab business; John Cavanaugh, Terence J. Boyle, Reuel G. Burk.

Merchants Auto Delivery Company, Galesburg, Ill.; $15,000; to conduct a motor delivery. W. A. Spies, Frank L. Mead, J. H. Smith, Olaf C. Hanson.

Shelburne Taxicab Company, New York City; $5000; Tobias Schwartz, Lawrence Schwartz, John Lundin.

Maryland Electric Valve & Manufacturing Company, Dover, Del.; $10,000.

Auto Delivery & Trucking Company, Tacoma, Wash.; $25,000; E. C. Coney, V. J. Holt.

Seaside Taxi Company, Lynn, Mass.; $1000; to deal in automobiles.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Cullman—Maxwell, A. H. Fienhardt.
Eufaula—Maxwell, H. C. Helleman.
Huntsville—Moon, O. M. Graham.
Mobile—Chandler, Ashland M. C. Co.

ARIZONA.

Douglas—Hupmobile, W. W. Holmes.
Phoenix—Saxon, Creed L. Fauber.

ARKANSAS.

Conway—Maxwell, Hendrickson & Martin.
Jonesboro—Maxwell, S. M. Jackson.
Marianna—Maxwell, C. T. Chandler.
Little Rock—Chandler, Tedford Auto. Co.
Moon, E. W. Petit Auto Co.
Pilot, Joseph Brown.

CALIFORNIA.

Glendale—Hupmobile, R. H. Clark.
Lincoln—Maxwell, Lincoln Garage Co.
Los Angeles—Chandler, Chandler Motor Co.
Pilot, Wilshire Auto. Co.
San Francisco—Pilot, Mission Garage.
San Pedro—Hupmobile, L. Straight.
Santa Monica—R. W. Kircher.

COLORADO.

Colorado Springs—‡Imp, W. R. Sanner.
Denver—Pilot, Elmore Auto Co.
Grand Junction—‡Imp, E. A. Ryan.
Las Animas—‡Imp, H. R. Jackson.
Loveland—‡Imp, F. J. Aiken.
Montrose—Pilot, John Hodges.
Sterling—Maxwell, Ideal Auto. & Mch. Co.
Trinidad—Pilot, C. E. Carter.

CONNECTICUT.

Greenwich, Cole, Bullard Garage.
Hartford—Davis, Asylum Hill Garage.
New Haven—Chandler, Knowles & Rudolph.
Stamford—Maxwell, Bell Bros.
Torrington—Pilot, Jas. E. Mallett.

DELAWARE.

Wilmington—Maxwell, Ed. Krause.

DISTRICT OF COLUMBIA.

Washington — Briscoe, Proebey-Haynes Motor Co.
Car-Nation, International Motor Co.
Cole, Cole Motor Sales Co.
*Reo, H. V. Lansdale.
*Stewart, International Motor Co.
‡Dudly, Original Cyclecar Co.

FLORIDA.

Jacksonville—*Koehler, Mangles-Kirby Co.
Orlando—Hupmobile, F. G. Rush.
Pensacola—Cole, N. Goldring.

GEORGIA.

Athens—Maxwell, C. B. Griffith.
Atlanta—Maxwell, C. B. Griffith.
Carlton—Maxwell, F. D. Smith.
Cornelia—Maxwell, Lee B. Hill.
Eastman—Maxwell, Burch Bros.
Helena—Maxwell, H. F. Thaxton.
Macon—Chandler, Steinhauer & Wright.
Monroe—Maxwell, Breedlove Hdw. Co.
Mt. Vernon—Maxwell, MacRae & Hicks.
Waverley Hall—Maxwell, Moultrie & Stanford.

IDAHO.

Blackfoot—Maxwell, J. H. Ashton.
Idaho Falls—Maxwell, Dowd-Bucklin Auto. & Sup. Co.
Lewiston—Hudson, J. T. Atkinson.

ILLINOIS.

Alton—Hudson, H. M. Schweppe.
Metz, O. Rosseau.
Austin—Moon, G. W. Beach Auto Co.
Buckley—Hupmobile, O. P. Brooks.
Cairo—Hudson, A. D. Treer.
Cantril—Maxwell, J. B. Harbidge.
Centralia—Hudson, C. P. Glore.
Collinsville—Velie, W. E. Jokerest.
Danville—Herff-Brooks, O. W. Couden.
E. Paso—Hupmobile. C. O, Massey.
E. St. Louis—Haynes, Seifort Auto. Co.
Elliott—Herff-Brooks, Nels Sunnes.
Granite City—National, F. E. Tully.
Hillsboro—Hudson, MacDavid Auto. Co.
Jacksonville—Haynes, Andre & Andre.
Hupmobile, William Neuman.
Kankakee—Haynes, Lonegran Bros.
Cole, W. H. Ohde.
Kewanee—Cole, Kewanee Garage.
Lanark—KisselKar, W. H. Puterbaugh.
Monticello—Stearns-Knight, D. M. Moore.
Morrison—KisselKar, O. Woods.
Mulkeytown—Hupmobile, E. K. Elkins.
Murphysboro—Pilot, Geo. E. Crane.
Naperville—Moon, Naperville Garage.
Owaneco—Hupmobile, Tex Bros.
Sycamore—Haynes, J. H. Montgomery.
Taylorville—Pathfinder, J. Anderson.
Vandalia—Stearns-Knight, F. C. Eckard.
Venice—National, E. M. Schildman.

INDIANA.

Angola—Herff-Brooks, Barton Golden.
Borden—Maxwell, Borden Motor Co.
Crawfordsville—Maxwell, C. G. Guilliams.
Darlington—King, Jas. Peterson.
Frankfort—Haynes, N. B. Fisher.
Greensburg—Herff-Brooks, H. P. Overlesse.
Hollensburg—Pilot, Geo. Wolf.
Huntington—Pilot, D. E. Lauferty.
Kokomo—Chandler, Smith Auto. Sales Co.
Pilot, Edward Neary.
Monon—Pilot, H. B. Tull.
North Vernon—Pilot, Litchfield Bros.
Richmond—Pilot, McConaha Co.
South Bend—Hupmobile, R. J. Martin.
Moon, L. M. McGann.

IOWA.

Allerton—Oakland, Allerton Tel. Co.
Ames—Maxwell, M. A. Miller.
Atlantic—Maxwell, Garside Weitzel.
Audubon—Jeffery, A. E. Bearson.
Aurelia—Herff-Brooks, J. Harigan.
Avoca—Studebaker, Derby Auto. Co.
Baxter—Oakland, Noah & McCullough.
Belle Plain—Herff-Brooks, V. E. Boody.
Blockton—Oakland, H. E. Thomas.
Bode—Oakland, M. A. Anderson & Co.
Boone—Maxwell, Jones Auto Co.
Bradgate—Oakland, P. H. Bradgate.
Cambria—Maxwell, W. H. Davis.
Carroll—Jeffery, Swaney Auto Co.
Chelsea—Herff-Brooks, J. Urhyhill Co.
Cresco—Maxwell, Ohmacht Auto Co.
Des Moines—Hupmobile, E. A. Paul.
Dexter—Maxwell, Geo. W. Martson.
Dubuque—Maxwell, Kassler Auto Co.
Earlville—Herff-Brooks, A. Moran.
Ellston—Maxwell, E. B. Fouser.
Estherville—Cole, Estherville Garage & Mch. Works.
Fort Dodge—Haynes, Haynes Auto. Sales Co.
Garner—Herff-Brooks, F. S. Livermore.
Gilmore City—Herff-Brooks, D. Milholland.
Hastings—Haynes, C. Sandiland.
Jamaica—Maxwell, Geo. W. Heater.
Keokuk—KisselKar, W. W. Perdew.
Knoxville—Oakland, Goff & Roberts.
Lafayette—Haynes, Patterson Garage Co.
Lansing—Maxwell, Gilbertson & Lenz.
Lime Springs—Hupmobile, John L. Williams.
Malvern—Studebaker, Salyers & Kayton.
Manchester—Maxwell, A. M. Cloud.
Mason City—Maxwell, Barney & Harding.
Milford—Cole, Munson Bros.
Mondamin—Hupmobile, Geo. W. Coffman.
Maxwell, Geo. W. Coffman.
Nevada—Cole, J. F. MacDonald.
Maxwell, B. F. Bell & Co.
Newell—Herff-Brooks, H. Zinn.
New Market—Maxwell, W. J. Parsons.
Osage—Maxwell, York Covey.
Plainfield—Chandler, E. & C. Auto. Co.
Raymond—Pilot, P. J. O'Connor.
Redfield—Hupmobile, A. E. Smith.
Red Oak—Hupmobile, C. R. Rumsey.
Sibley—Oakland, Pulscher, Bilders & Co.
Stanton—Maxwell, Stanton Imp. & Auto Co.
Stuart—Oakland, Dan Pote.
Thurman—Studebaker, Thurman M. C. Co.
Van Meter—Maxwell, A. J. Stump.
Villisca—Hudson, Rice & Williams.
Washington—Pilot, J. E. Griffith.
Waverley—Herff-Brooks, Hornsbehn Creamery Sup. Co.
Zearing—Maxwell, Eagle Auto Co.

KANSAS.

Arkansas City—Haynes, Collison Bros.
Buffalo—Empire, C. E. Miller.
Pathfinder, C. E. Miller.
Burton—Oakland, Beckman & Mead.
Caney—Empire, H. E. Truskett.
Pathfinder, H. E. Truskett.
Elsmore—Maxwell, Krokstrom Bros.
Emporia—Maxwell, J. C. Burkett.
†Baker, Newton Bros.
Gardiner—King, J. M. Anderson.
Garnett—†Baker, Garnett Garage.
Hiawatha—†Baker, M. & K. Auto Co.
Holton—†Baker, Holton Auto Co.
Independence—†Baker, J. F. Daniels.
Iola—†Baker, J. B. Kirk.
Leavenworth—Haynes, R. Keller.
Lucas—Maxwell, G. G. Hadlock.
Marshall—Haynes, McAnnus & Son.
Olathe—King, N. F. Dunn.
Ottawa—‡Imp, Albert Jewett.
Riley—Empire, Wm. S. Sylvester.
Topeka—Empire, Seery & Morton.
Hudson, H. H. Clark.
Hupmobile, W. T. Danvers Auto. Co.
Pathfinder, Seery & Morton.
Wichita—Lozier, Moriarity Motor Co.
Winfield—Haynes, Collison Bros.

KENTUCKY.

Cynthiana—Oakland, J. F. Davies.
Dawson Springs—Oakland, J. E. Hayes.
Franklin—Paige, Franklin Hdwe. Co.
Fulton—Oakland, Johnson & Holloway.
La Grange—Paige, J. L. Kaplinger.
Lebanon—*Koehler, Lewis & Drye Co.
Lebanon Jct.—Paige, Ray & Hooker.
Lexington—Lozier, Harrison Scott.
Louisville—‡LaVigne, Hite D. Bowman.

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Paris—Haynes, Craig-Davis Motor Co.
Skylight—Oakland, W. M. Clare.
Willow Shade—Maxwell, O. P. Harvey.

LOUISIANA.

Houma—Hupmobile, Dr. J. W. Warren.
Morgan City—Hupmobile, Morgan City Auto Co.

MAINE.

Augusta—Maxwell, R. C. Buckley.
Lewiston—KisselKar, Hall & Knight.
Locke Mills—KisselKar, E. L. Tibbets Co.
Portland—Maxwell, Paterson Garage.
Springvale—KisselKar, E. E. Wentworth.

MARYLAND.

Baltimore—Empire, Empire Sales & Rep. Co.
*Flint, Howell M. T. Co.
*Koehler, A. K. Baring.
*Republic, Allan W. Fulton Co.
Middletown—Maxwell, Model Garage.

MASSACHUSETTS.

Boston—Simplex, George Canterbury. Westcott, Westcott M. C. Co.
*Mais, U. S. Mill Sup. Co.
Brockton—Westcott, W. H. Marble.
Dorchester—Oakland, Proctor Bros.
Fitchburg—‡Imp, N. E. Goodwin.
Lowell—‡Imp, Herbert N. Randall.
Lynn—Maxwell, J. R. Honors.
Milford—*Koehler, J. F. Barrett.
Needham—‡Imp, C. F. Roberts.
So. Attleboro—*Service, Jencks-Adams Co.
Swampscott—Herff-Brooks, Harry M. Doane.
Worcester—Herff-Brooks, P. Wellin.

MICHIGAN.

Battle Creek—Maxwell, American Motor Co.
Ishpeming—Pilot, Philo P. Chase.
Luther—Maxwell, D. E. Swaysgood.
Marion—Maxwell, Joseph Lowry.
Pontiac—Maxwell, G. G. Burt.
Three Rivers—Moon, J. W. Godschalk.

MINNESOTA.

Appleton—KisselKar, Appleton Auto. Co.
Beardsley—Maxwell, R. Herbers.
Bemidge—KisselKar, Northern Auto. Co.
Brainerd—KisselKar, Hoffman & Bane.
Maxwell, Rosko Bros.
Breckenridge—KisselKar, Interstate Garage Co.
Canby—Hupmobile, Jas. Moravetz.
Dalton—Maxwell, Dalton Trade Co.
Dassel—Maxwell, Dassel Motor Co.
Detroit—KisselKar, Frazee Bros.
Fergus Falls—Maxwell, Fergus Auto. Co.
Freeborn—R-C-H, Fred Feene.
Hibbing—Hupmobile, C. Wenberg.
Iona—Maxwell, Iona Auto Co.
Jackson—Maxwell, Jackson Auto. Imp. Co.
Lake City—Chevrolet, J. Schmauss.
Madelia—Moon, J. J. Bell.
Minneapolis—Haynes, Haynes M. C. Co.
Maxwell, B. & B. Auto Co.
Montevideo—Maxwell, C. J. Anderson.
Rochester—Hupmobile, R. E. Barber.
Sauk Centre—Hupmobile, Smith Bros.
Utica—Chandler, R. D. Louden.
Warren—Franklin, R. M. Gilbert.

MISSISSIPPI.

Columbus—Maxwell, Ezell & Waters Bros.
Laurel—Maxwell, E. Landrum.

MISSOURI.

Appleton City—Maxwell, Browning Bros.
Belleflower—Wahl, E. S. Mentze.
Boonville—Hudson, Henry Efinger.
Brookfield—Oakland, Dickinson Motor Co.
Cape Girardeau—Hudson, F. A. Graves.
Columbia—Metz, J. N. Taylor.
Craig—Empire, L. J. Strickler. Pathfinder, L. J. Strickler.
Ebersonville—King, S. E. Cook.
Farmington—Oakland, W. L. Morris.
Fenton—Moon, J. F. Reidder.
Hannibal—National, J. T. Meyer.
Herculaneum—Hudson, J. D. De Buchanne.
Lamar—Maxwell, Pacific Garage Co.
Martinsburg—Maxwell, H. F. Hofterman & Co.
Mattese—Pathfinder, A. Kasselbaum.
Mindenmine—Maxwell, Briggs Hdwe. & Imp. Co.
Moberley—Auburn, O. Ratzer. King, C. L. Leitch.
Monett—Cole, C. W. Lehnhard.
Morely—Hupmobile, Reis Mason.
Nevada—Maxwell, B. F. Fowler.
New Haven—Hupmobile, Smith & Helm.
Norringer—Maxwell, Krinder & Hughes.
Oregon—Maxwell, Krinder & Hughes.
Paris—Maxwell, C. F. Pelsue & Son.
St. Charles—*Chase, Ring & Barklage.
St. Joseph—Maxwell, J. H. Van Brunt.
St. Louis—Howard, Newell M. C. Co. Lexington, Newell M. C. Co.
Skidmore—Oakland, C. E. Graves.
Washington—Auburn, L. H. Schroeder.
Wright City—Wahl, E. S. Mentze.

MONTANA.

Absarokee—Maxwell, Stillwater Trading Co.
Glasgow—Maxwell, Sidney J. Rundle.
Helena—Haynes, Ed. C. Follensby.
Hilger—Maxwell, W. A. Dodder.
Laurel—Hupmobile, Stripp & De Garma.
Livingston—Hupmobile, G. Quivey.
Miles City—KisselKar, Myers & Lindsberg.
Missoula—Haynes, J. W. Kirshman.
Plentywood—Maxwell, Steele & Lewis.
Valier—Chandler, W. L. Campbell.

NEBRASKA.

Arlington—Auburn, Fred Menking.
Beaver Crossing—Oakland, V. D. Johnston.
Benkelman—Oakland, E. A. Mathews.
Callaway—Maxwell, D. F. Sherrick.
Craig—Auburn, Dave Thurber.
Concord—Maxwell, A. G. Carlson.
Genoa—Oakland, Munson & Son.
Grand Island—Oakland, Mat Jarvis Auto. Co.
Lexington—Hupmobile, E. H. Jacobson.
Lincoln—Crescent, Lincoln Auto. Co. Lewis, Lincoln Auto. Co.
Long Pine—Hupmobile, E. C. Engle. Oakland, E. C. Engle.
Lynch—Hupmobile, Ire & Fielder.
Lyons—Oakland, Samuel Shaw & Sons.
Millard—Studebaker, Peters Bros.
Nehawaka—Hudson, V. P. Sheldon.
Neligh—Oakland, Clyde Foreman.
Nemaha—Oakland, W. W. Seid & Son.
Norfolk—Oakland, C. C. Stahl.
Omaha—Haynes, Haynes Auto. Sales Co.
Platte Center—Maxwell, Platte Center Auto. Co.
Plattsmouth—Hudson, P. T. Becker.
Schuyler—Chalmers, A. J. Grier. Saxon, A. J. Grier.
Scottsbluff—Chalmers, Sams & McCoffery.
Syracuse—Hupmobile, Stedman Bros. Maxwell, James Eaton.
Western—Maxwell, Holcombe Auto. Co.
Winnebago—Hupmobile, John Ashford.

NEW HAMPSHIRE.

Manchester—*Koehler, Hanover St. Garage.

NEW JERSEY.

Flemington—Maxwell, J. G. Lawshe.
Hackensack—‡Imp, T. Blackmore.
Red Bank—Hupmobile, F. R. Boice & Co.
Summit—Maxwell, E. F. Anderson.
Waldwick—Hupmobile, F. E. Weygant.
Whitehouse—Burdette Bros.

NEW MEXICO.

Albuquerque — Oakland, Interstate Auto. Co.
Carlsbad—Hupmobile, C. W. Tucker.
Deming—Oakland, N. M. Implement Co.
Santa Fe—Pilot, Nathan Salmon.
Silver City—Monarch, Will Rowles.
Socorro—Maxwell, T. F. Gibbons.

NEW YORK.

Albany—Cole, Adirondack M. C. Co.
Auburn—Moon, Moon Garage.
Binghamton—Pilot, F. M. Crossitt.
Brooklyn—Pilot, J. S. Frazee.
Buffalo—Imperial, Lutz Auto. Co.
Chateaugay — Oakland, Humphrey-Hyland Co.
Dansville—R-C-H, Willard Norris.
Fairport—Maxwell, Geo. W. Brown & Sons.
Fulton—R-C-H, Geo. M. Ives.
Gloversville—Haynes, Chas. E. Lair.
Nashua—Chandler, Chandler M. C. Co.
Newark—Chandler, Farnsworth & Welcher.
Newburg—Chandler, Broadway Garage.
New York—‡Imp, F. F. Sanford Auto. Co.
Oswego—Maxwell, Steam Carriage Boiler Co.
Pilot, E. E. Favreau.
Patchogue—KisselKar, Bellman Auto. Co.
Peekskill—Chandler, Lawson Garage. Cole, Eagle Garage.
Poughkeepsie—Maxwell, Cole Motor Co.
Rochester—Herff-Brooks, McKenney & Gilpin.
Pilot, Almy Auto. Co.
Saratoga—Chandler, Central Auto. Sales Co.
Schenectady—R-C-H, W. D. Havens.
Syracuse—Maxwell, Onondago Motor Co.
Tarrytown—Cole, Eagle Garage.
Utica—R-C-H, L. D. Lundy.
Watertown—Chandler, Edwards Auto. Co.
R-C-H, A. E. Lawyer.
White Plains—Pilot, Frank H. Briggs.
Whitesboro—Pilot, J. P. Ownes & Son.
Yonkers—Cole, H. D. Van Derlyn. Haynes, H. D. Van Derlyn. Hupmobile, H. D. Van Derlyn. Studebaker, H. D. Van Derlyn.

NORTH CAROLINA.

Ahoskie—Hupmobile, E. O. Hines.
Chadbourn—Maxwell, Chadbourn Auto. Co.
Durham—Maxwell, Durham Motor Sales Co.
Franklinton—Maxwell, Franklinton Garage Co.
Hickory—Hupmobile, Hickory Garage Co.
High Point—Haynes, People's M. C. Co.
Littleton—Hupmobile, W. G. Coopersmith.
Mebane—Maxwell, Mebane Motor Co.
Monroe—Hupmobile, Henderson Garage & Mch. Co.
Mooresville—Maxwell, McNeely & Smith.
Rich Square—Hupmobile, Homoman Bros.
Shelby—Hupmobile, Chas. L. Eskridge.
Stantonsburg—Maxwell, Bagley Motor Co.
Thomasville—Hupmobile, C. F. Finch.
Wilmington—Hupmobile, S. G. MacMillan.
Woodard—Hupmobile, J. D. Phelps.

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NORTH DAKOTA.

Alfred—Maxwell, Klundt Co.
Carrington—Maxwell, Foste County Imp. Co.
Cooperstown—Maxwell, Hammer Condy Co.
Edgeley—Maxwell, Pepper & Canow.
Hankinson—Maxwell, Fred Warner.
Jamestown—Maxwell, J. E. Anderson Auto. Co.
R-C-H, Wallace Donnelly.
Lignite—Maxwell, Jacobson & Banister.
Pekin—Maxwell, Culbro & Loe.

OHIO.

Akron—Pilot, Gangle & France.
Arcanum—Chalmers, Arcanum Garage.
Hupmobile, Arcanum Garage.
Archbold—Reo, J. H. Nofzinger.
Ashtabula—Oakland, Geo. H. Bassett.
Athens—Hupmobile, J. E. Goldsberry.
Canal Fulton—Maxwell, Keller M. C. Co.
Canton—Haynes, Knoedler M. C. Co.
Carrolton—Chevrolet, Carrolton M. C. Co.
Ford, R. E. Miller M. C. Co.
Hupmobile, Carrolton M. C. Co.
Jackson, Harry L. Knight.
Circleville—Pilot, Jos. Metzger.
Cleveland—Havers, Crotty Co.
Regal, Crotty Co.
Columbus—Grant, D. W. Short.
Herff-Brooks, Columbus Auto. Sales Co.
Pilot, Frank E. Jolly.
Studebaker, Tope & Beamer.
Dayton—Pilot, G. S. Staub.
Findlay—Saxon, Rummell's Garage & Auto. Sup. Sta.
Fremont—Studebaker, East Side Imp. Co.
Hamilton—Westcott, Carr & Baxter.
Huron—Chalmers, G. E. Rhinemiller.
Ford, G. E. Rhinemiller.
Hupmobile, G. E. Rhinemiller.
Ironton—Hupmobile, A. M. Washburn.
Kent—Chandler, Getz Bros.
Leipsic—Herff-Brooks, H. H. Townsend.
Lima—Moon, H. L. Sherrick & Co.
Saxon, Mack Garage.
Lisbon—Maxwell, L. B. Pike & Son.
Marietta—Detroiter, F. G. Henry.
Mark Center—Maxwell, D. E. Swaysgood.
Newark—Abbott-Detroit, W. B. Wingertar.
Ford, Hess Auto. Co.
Maxwell, S. E. Forsythe.
Overland, F. W. Simpson.
Regal, Fred Reigger.
White, Emmet Baugher.
‡Imp, Fred Reigger.
Sterling—Oakland, Ray Baker.
Sutherland—Hupmobile, Earl Hondo.
Toledo—R-C-H, E. W. K'Burg.
Washington C. H.—Westcott, Moore & Jamison.
Wauseon—Overland, Conway & Brown.
Wilmington—Oakland, Dorsey Wolgamuth.
Winchester—Ford, W. H. Orbaugh.
Xenia—Buick, Xenia Taxicab Co.
Youngstown—Paige, Standard Auto. Sales Co.

OKLAHOMA.

Ardmore—Oakland, Wirt Franklin.
Cjelsea—‡Imp, Davis & Saunders Cyclecar Co.
Guthrie—Oakland, Gustave A. Erixon.
Keifer—Maxwell, J. H. Anderson.
Oklahoma City—‡Imp, O. K. Cyclecar Co.
Tulsa—King, Williams & Stacys.
Wagoner—‡Imp, Robert F. Blair.
Walter—‡Imp, V. R. Butler.

OREGON.

Tillamock—Maxwell, Jas. F. Hiner.

PENNSYLVANIA.

Allentown—Moon, W. F. Rabenold & Co.
Pullman, H. W. Kline.
Altoona—Chandler, H. H. Edgely.
Avondale—Maxwell, M. F. Morris.
Bradford—Chandler, Standard Garage Co.
Chester—Maxwell, J. R. Helms.
Coatesville—Maxwell, E. S. Thorne.
Dubois—‡Comet, W. J. Marlin.
Erie—Pullman, Erie Penn Auto. Co.
Franklin—Crescent, Grove City Garage.
Green Castle—Chandler, Liniger Garage Co.
Greensburg — Chandler, Westmoreland M. C. Co.
Hamburg—Moon, Central Garage.
Harrisburg—Cole, Hastings Garage.
Crescent, Examiner Motor Co.
*Koehler, Paul D. Messner.
Hawley—Maxwell, Gottlieb Marter & Sons.
Haselton—Pullman, Albert H. Eidman.
Indiana—Cadillac, Clymer Motor Co.
Chandler, Clymer Motor Co.
Franklin, Clymer Motor Co.
Herff-Brooks, Clymer Motor Co.
Studebaker, Clymer Motor Co.
Lansdale—Maxwell, Jas. Speirs.
Lehighton—Cole, Serfus M. C. Co.
Newcastle—Hudson, Baer & Ludwig.
Hupmobile, Baer & Ludwig.
Mitchell, Baer & Ludwig.
Pullman, Turner Bros.
New Holland—Pullman, Geo. W. Kinzer.
Oil City—Franklin, Phinney & Sloan.
Philadelphia—Car-Nation, Eldredge Co.
Chandler, Whiting Motor Co.
Crescent, Ohio Motor Sales Co.
Grant, H. H. Brush.
KisselKar, Gibbons-Wetherell Service Co.
†Argo, Ralph Bobb.
†Broc, Ralph Bobb.
‡Scripps-Booth, S. W. Walter.
‡Trumbull, Trumbull Motor Co.
Pittsburg—KisselKar, Hiland Auto. Co.
Plymouth—Chandler, Chandler Motor Co.
Reading—Maxwell, Wm. D. Degler & Co.
South Bethlehem—Franklin, L. P. Sterner & Sons.
Tower City—Maxwell, J. B. Watkins.
Uniontown—Chandler, Standard Auto. Garage.
Washington—Chandler, C. N. McAlister.

RHODE ISLAND.

Providence—Chandler, Elmwood M. C. Co.
Stutz, Pugh Bros.

SOUTH CAROLINA.

Camden—Hupmobile, W. R. Eve, Jr.
Columbia—Chandler, Robert Y. Kibler.
Florence—Hupmobile, C. Ray Smith.
Orangeburg—Maxwell, Edisto Auto. & Mch. Co.

SOUTH DAKOTA.

Akron—Henderson, Ernest Ostrum.
Clark—Hupmobile, Floyd Mahan.
Esmond—Maxwell, C. A. Wickle.
Geddes—Hupmobile, W. H. Fowler.
Hecla—Hupmobile, A. G. Street.
Howard—Maxwell, S. T. Radcliffe.
Huron—KisselKar, E. I. Bowe.
Leola—Maxwell, John Dexter.
Parker—Hupmobile, H. M. Danforth.
Plankington—Hupmobile, Frank Bohe.
Platte—Hupmobile, R. M. Girton.
Reliance—Car-Nation, A. R. McMullen.
Tripp—Oakland, Gied, Case & Nagel.
Tyndall—Hupmobile, O'Brien & Gretshman.
Waterloo—Maxwell, Hanten Mch. Co.

TENESSEE.

Chattanooga—Maxwell, Chattanooga M. C. Co.
Jasper—Hupmobile, A. R. Pryor.
Memphis—Chalmers, Parker Harris Auto. Co.
Moon, MacDonald Auto. Co.
Mosheim—Maxwell, W. H. Heaves.
Nashville—Chandler, Holland-Wood Motor Co.
Moon, John H. Lawrence & Sons.
Waverley—Oakland, Middle Tennessee Auto. Co.

TEXAS.

Alpine—Chandler, Cas Edwards.
Amarillo—Cole, C. G. Maddox.
Oakland, E. A. Caldwell.
Austin—Moon, Abadie's Garage.
Beaumont—Cadillac, J. F. Blackburn.
Chandler, A. E. Brulin.
Belleville—Maxwell, J. D. Palm.
Cameron—Hupmobile, J. H. Grandy.
Canyon—Moon, Grundy & Guthrie.
Carthage—Maxwell, O. E. Jones.
Coleman—Maxwell, G. P. Roquemore.
Dallas—Moon, Davis-Turney Auto Co.
Haynes, Sacksteder & Potter.
Del Rio—Maxwell, Dietert & Dobkins.
Denison—Chevrolet, Pearce Auto Co.
Dublin—Hupmobile, N. J. Keith.
Eagle Pass—Chandler, Joseph DeBona.
Electra—Maxwell, L. L. Donnell.
El Paso—National, Elliott-Garret Co.
Oakland, Elliott-Garret Co.
Packard, Elliott-Garret Co.
Pullman, American Garage Co.
Studebaker, Elliott-Garret Co.
Fort Worth—Chandler, Chandler M. C. Co. of Texas.
Oakland, Detroit Elec. & M. C. Co.
Hillsboro—Hupmobile, T. L. Newton.
Houston—Chandler, James C. Clinton.
Marion, Spring-Roberts Auto. Co.
Kemp—Maxwell, W. S. Parker.
Kountze—Maxwell, T. W. & Louis Hausmann.
Lacoste—Maxwell, George Christillis & Sons.
Paige, George Christillis & Sons.
LaGrange—Maxwell, T. W. & Louis Hausmann.
Studebaker, Meyer-Dean Auto. Co.
Laredo—Maxwell, E. Denike.
Lufkin—Maxwell, Sam. H. Kerr.
Marshall—Chandler, Henderson's Garage.
McGregor—Oakland, O. D. Slaughter.
Meridian—Maxwell, Odle & Adams.
Mexia—Oakland, V. Wolverton & Co.
Palestine—Maxwell, J. D. Woods.
Oakland, John Ormond.
Port Arthur—*Koehler, Crowell & Gifford.
Quanah—Maxwell, Citizen's Garage.
*Chase, Citizen's Garage.
San Antonio—Chandler, Lozier Co. of San Antonio.
Saxon, Alamo Auto. Sales Co.
Westcott, C. H. Dean.
Schulenberg—Crescent, C. A. Voght.
Sherman—Maxwell, Wm. A. Bailey.
Sinton—Maxwell, McWhorter Bros.
Stephenville—Maxwell, Perry Hdw. Co.
Streeter—Maxwell, F. B. McCollum.
Taylor—Partin-Palmer, Hoch Hdw. Co.
Trinity—Maxwell, B. Schultz.
Uvalde—Maxwell, E. B. Zachry Co.
Venus—Hupmobile, Robert S. Morris.
Weimar—Maxwell, C. H. Potthast.
Wexahachie—Maxwell, T. C. Grimland.
Wichita Falls—Maxwell, Imperial Motor Sales Co.

UTAH.

Clearfield—Maxwell, Clearfield Mercantile Co.
Logan—Maxwell, Utah-Idaho Auto. Co.
Mount Pleasant—Maxwell, E. Johnston.
Ogden—Maxwell, Becraft Auto. Co.
Park City—Maxwell, B. F. Hartwell.
Price—Maxwell, Price Auto. & Stage Co.
Provo—Chandler, Bert Walton.
Saline—Maxwell, W. H. Brown.
Salt Lake City—Haynes, A. F. Savage.
Maxwell, Siegel Auto. Co.
Overland, Breening Auto. Co.
Reo, Grady Roueche Auto. Co.

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VERMONT.

Montpelier—KisselKar, Lane Mfg. Co.

VIRGINIA.

Front Royal—Maxwell, R. F. Emmert.
Harrisburg—Haynes, Hanimen & Yancey.
Norfolk—Chandler, H. H. Johnson.
KisselKar, Kirkman M. C. Co.
Norton—Maxwell, Chas. Johnson & Co.
Petersburg—Haynes, Central Motor Co.
Richmond—Chandler, B. A. Blenner.
Staunton—Chandler, Jacob Baugher.

WASHINGTON.

Aberdeen—Grant, Harry Kidd.
*B. A. Gramms, Harry Kidd.
Cashmere—*Willys Utility, Oscar Redfield.
Davenport—Henderson, C. L. Powers.
Ellensburg—*B. A. Gramms, E. L. Ferrier.
Enumclaw—Maxwell, Enumclaw Rochdale Co.
Everett—Maxwell, Hilzinger Motor Co.
Goldendale—Maxwell, Goldendale Mch. Shop & Auto. Co.
Oakesdale—Henderson, A. R. Gray.
Maxwell, Oakesdale Land Co.
Olympia—Maxwell, E. C. Tew.
Pomeroy—Overland, E. Richardson.
Port Townsend — Maxwell, A. N. French.
Port Washington—Buick, Erler & Agen.
Rockford—Henderson, Dr. Speck.
Seattle—Case, J. Jaeger & Son.
Chandler, F. B. Keip.
Chevrolet, Pope-Hartford Motor Co.
McIntyre, McIntyre Sales Co.
Saxon, Olympic Motor Car Co.
Stanley, Stanley Motor Car Co.
Velie, Roesch Bros.
†Rauch & Lang, Independent Electric Co.
‡Dayton, Aldrich Cyclecar Co.
‡Imp, McIntyre Sales Co.
‡Rocket, S. V. B. Miller.
‡Scripps-Booth, S. V. B. Miller.
Spokane—Chevrolet, R. S. Young.
Franklin, Franklin-Nichols Co.
Hudson, H. O. Oliver.
Maxwell, C. H. Hornberg Auto Co.
Oakland, Inland Motor Car Co.
Overland, H. L. Olive Co.
‡Imp, Imp Cyclecar & Sup. Co.
‡Scripps-Booth, Mitchell, Sherman & Kerr.
Tacoma—Buick, Progressive Motor Co.
Cole, Green Motor Car Co.
Metz, Cliffe Heath Mch. Co.
Overland, Chas. E. Taylor.
Saxon, "A" Street Garage.
*Kelly, Boulevard Garage.
*Republic, Progressive Motor Co.
‡Imp, Jesse Jones.
Uniontown—Overland, Inland Imp. Co.
*Willys Utility, Inland Imp. Co.
Walla Walla—Overland, John D. Moore.
*Willys Utility, John D. Moore.
Waterville—Maxwell, George W. Hollingshead.
Wenatchee—Maxwell, Warren's Garage.
Woodland—Maxwell, T. E. Oliver.

WEST VIRGINIA.

Elkins—Chandler, W. Va. Chandler Co.
Fayetteville—Chandler, J. C. Hamilton.
Huntington—Crescent, Harry P. McColm.
Keyser—Maxwell, Thomas H. Davis.
Morgantown—Cole, Colonial M. C. Co.
Jeffery, City Auto Co.
Mount Hope—Haynes, Tully Haynes Auto. Co.
Pennsboro—Maxwell, Cunningham & Wilson.
Piedmont—Cole, Wm. T. Sizler.
Princeton—Maxwell, J. M. Hines.
Ravenswood—Maxwell, E. E. McKinley.
Sherrard—Crescent, D. M. Garvin.
Wheeling—Chalmers, Woodsdale M. C. Co.
Crescent, L. M. Danner.
Jeffery, H. M. Bratton.
Saxon, Huntington M. C. Co.
‡Imp, A. C. Hervey.

WISCONSIN.

Antigo—Detroiter, Antigo Mch. & Elec. Co.
Athens—Maxwell, Athens Auto. Co.
Berlin—Haynes, E. C. Deibler.
Bonduel—Buick, Adolph Ulmer.
Burlington—Detroiter, Edward Zwiebel Bros. Co.
Mitchell, Ed. Zwiebel Bros. Co.
Chippewa Falls—KisselKar, C. H. Danner.
Coloma—Buick, Vilas Follett.
Crandon—Buick, Fred J. Rogers.
Franklin, Page Mercantile Co.
De Pere—Ford, Tooney Barlament Co.
East Troy—Buick, Dickerman Hdw. Co.
Fairchild—Mason, Butterfield M. C. Co.
Maxwell, Butterfield M. C. Co.
Fall Creek—Maxwell, Stubbe & Stelter.
Fort Atkinson—Buick, Wm. Wille Co.
Frederick—Maxwell, Cyril C. Sandberg.
Grantsburg—Maxwell, S. E. Jensen.
Green Bay—KisselKar, West Side Garage.
Moon, Meyer Auto. Co.
Kenosha—Buick, Thompson M. C. Co.
Maxwell, George R. Pirsch.
La Crosse—Cole, Elsen & Phillips.
Livingston—Maxwell, Gunlach & Carter.
Milwaukee—Briscoe, J. W. Menhall Auto. Co.
Chandler, R. D. Rockstead.
Haynes, Brunkhorst's Garage.
Mineral Point—Maxwell, Star Auto. Co.
Monroe—Haynes, Baer & Jaberg.
New London—Buick, A. G. Jennings.
Oshkosh—Cadillac, S. B. Friday.
Cole, Cole Motor Co.
Jeffery, Mikesell & Doman.
Plymouth—Jeffery, Diecher & Arndt Co.
Maxwell, Deicher & Arndt Co.
Portage—Franklin, Franklin M. C. Co.
Port Washington—Maxwell, W. F. Wilke.
Potsi—Maxwell, G. Vogelsburg.
Prairie du Chien—Ford, Keller & Harris Auto. Co.
Maxwell, Keller & Harris Auto. Co.
Racine—Buick, J. C. Johnson.
Randolph—Buick, Jones & Richards.
Rice Lake—Maxwell, Crisler & Co.
Richland Center—Detroiter, Pier Auto. Co.
Ford, Pier Auto. Co.
Mitchell, Pier Auto. Co.
River Falls—Maxwell, I. O. Isaacson.
Shawano—Buick, Shawano Auto. Co.
KisselKar, Schweers Hardware Co.
Sussex—Buick, Fred Stier.
Viroqua—Buick, Tuhus & Clark.
Walworth—Buick, Charles McCabe.
Watertown—Buick, Copeland Roach Motor Co.
Waupun—Buick, Lansaal Bros.
Haynes, Meiklejohn & Butt Auto. Co.
Westfield—Buick, Schauer Bros.
Woodville—Maxwell, J. B. Jacobson.
Wrightstown—Maxwell, Jos. Kauthramer.

NEW CONCERNS AND BUSINESS CHANGES.

AGENCIES AND DEALERS.

The Northwestern Tire Company, St. Paul, Minn., has opened an agency at 185 West Sixth street. The company handles the Lee tire. Arthur Randall of Chicago is in charge of this branch.

Frederick F. Alexander, Peekskill, N. Y., has entered the trade, having leased the premises at South and Washington streets, where he will conduct a tire and supply house.

The Broadway Tire & Supply Company, Milwaukee, Wis., is a new concern that will handle tires and supplies at 545 Broadway.

Southworth & Keisyer, Washington, D. C., has been appointed exclusive agent for the Willard Storage Battery Company, Cleveland, O.

The Virginia Automobile Supply Company, Richmond, Va., has opened an automobile store at 613 West Broad street.

Myhre & Johnson, Stewartville, Minn., is a new firm that has started in the automobile business. The Hodgson garage has been leased and all kinds of repairs will receive attention.

The Hower Repair Company, Johnstown, Penn., now carries a full line of standard tires and tubes. The company is located at 619 Railroad street.

Harry Herrick, Champaign, Ill., will open a new wholesale and retail automobile accessory and supply house at 1165 West Park avenue.

E. R. Stafford, Globe, Ariz., has become district agent for the Master carburetor.

The Costello & Lang Company, San Francisco, Cal., a new firm recently established, will carry a full line of Hardman tires. The members, John B. Costello and A. J. Lang, were formerly connected with the Republic Rubber Company.

The Roman Automobile Company, Philadelphia, will open a fourth showroom in that city on account of increasing business.

George L. Taft, Jr., San Antonio, Tex., has established the Central Supply Station at Travis street. Leo G. Weber is interested with him. The company will handle a full line of automobile accessories and supplies.

The Ten Broeck Tyre & Rubber Company, Fort Wayne, Ind., has opened a branch on West Main street, Louisville, Ky. J. M. Storch is manager. A vulcanizing plant also will be installed.

John A. Mais and Harry Bannister, Indianapolis, have formed a partnership under the firm name of John A. Mais & Co. The company handles the Imp and Mercury cyclecars, and is located at 518 North Capitol avenue. A repair shop will also be conducted.

Staebler & Sons, Inc., Ann Arbor, Mich., is the new firm name of the business conducted by Staebler & Sons, dealer in automobiles and accessories.

The Independent Auto Supply Company, Dallas, Tex., will open a branch in Corpus Christi. A store 22 by 48 feet has been leased in the Muse & Mearn building on Schatzel street and the company will occupy it.

Elson & Minnick, Cedar Rapids, Ia., has entered the trade with an agency for Overland cars. A garage and salesroom are being remodelled at 510 South Third street.

Erler & Aggen, Port Washington, Wis., is the name of a new company that will operate a garage and repair shop here. The company handles the Buick cars.

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The Elliott-Garrett Company, El Paso, Tex., will engage in the automobile business and will handle the Studebaker, Packard, National and Oakland cars. The company will also carry a full line of accessories and supplies, with particular attention to tires.

The Keck-Null Rubber Company, 124 East Pittsburg street, Greensburg, Penn., has opened for business with a full line of automobile accessories and supplies. Millard F. Null, Jr., and Mr. Keck are the interested parties and are well known to the trade. Mr. Null has been connected with the sales and service departments of the Goodyear Tire & Rubber Company, while his partner, Mr. Keck, has been associated with the Pennsylvania Rubber Company.

The Benoist Motor & Supply Company, Lawrence, Kan., will open an automobile and supply house at 824 Vermont street. Charles E. Benoist will conduct the business.

The Minneapolis Electric Service Company, Minneapolis, Minn., has opened at Tenth street, South, representing the LBA storage battery and the Gray & Davis systems. A service station will also be maintained.

Herbert Fuller, Waltham, Mass., has established an automobile business on Hammond street.

Arnold & Oden, Waco, Tex., has opened salesrooms at 611 Franklin street, where the company handles the Metz, Stanley steam, Haynes, Cartercar, Marion and King cars, also the Wichita and Commerce trucks.

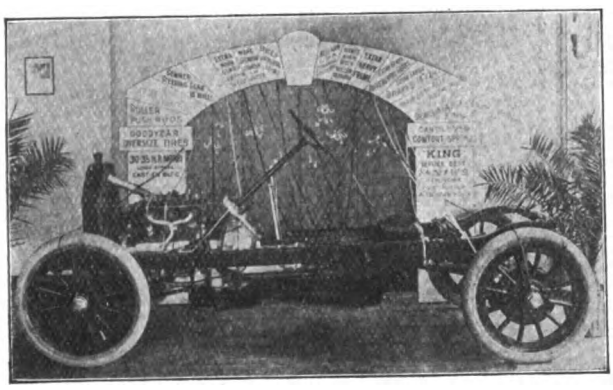
The Cartercar Texas Company, Houston, Tex., has opened a branch at 1206 Preston street.

The Coral Automobile Company is the name of a new firm located in Coral, Mich.

The Stancliffe Sales Company, Lincoln, Neb., has established a branch at 1710-12 Magic street, Kansas City, Mo., to distribute the Pioneer cyclecars and Partin-Palmer automobiles.

The Lininger Implement Company, Omaha, Neb., represents in that section the ball bearings made by the New Departure Manufacturing Company, Bristol, Conn.

Owen & Schoeneck, Chicago, is the name of a new firm



Attractive Window Display Now Being Used by King Sales Agencies in New York City and Boston.

located at 2728 Michigan avenue. The company represents the Lexington and Howard cars.

The Wilson & Willard Manufacturing Company, Los Angeles, Cal., manufacturer of oil well machinery, Santa Fe avenue, has taken the agency for Houk wire wheels for the state.

The Hardman Tire & Rubber Company, Philadelphia, has opened a branch store under the management of James S. Parsols, at 1506 Pacific avenue, Atlantic City, N. J.

John O. Garden, Lankin, N. D., has entered the automobile business and has leased the Kirkhorn building. He handles the Ford and Studebaker cars and will also operate a repair department. A full line of supplies will be carried.

Baxter Bros., Lima, O., has opened a new automobile business on West High street.

J. C. O'Gorman, Portland, Ore., has been appointed exclusive agent for Savage tires in that state. He is also interested in the O'Gorman Rim Company.

The Osakis Livery, West Union, Minn., has opened a department for automobiles and has taken the agency for the Detroiter and Grant cars.

William J. Serlin, Detroit, has opened an automobile accessory store at Washington boulevard and Grand River avenue. He will specialize in tires.

The Stanley Motor Car Company, Seattle, Wash., has opened salesrooms and offices at 311 East Pike street.

The U. S. Mill Supply Company, Providence, R. I., is to open a branch store at Boston in charge of Walter Mitchell, who was formerly connected with the Mack Motor Truck Company.

Jack V. Elliott, Hamilton, Ont., a prominent dealer in that territory, has added the Haynes car to his selling line.

The Pollock Car Company, Washington, D. C., has taken the agency for Firestone tires. The company also represents the Oldsmobile and Oakland cars in this territory.

GARAGES AND REPAIR SHOPS.

William Moore, Oneonta, N. Y., formerly of Colburn & Moore, has opened a garage on Windsor avenue. Repair work will also be carried on. Hudson cars are handled.

The Lake Front Garage, Lake Ronkonkoma, N. Y., is the name of a new garage and repair shop opened by Frank Rummell.

W. Hale, Neenah, Wis., has opened a new garage and service station at 100 Church street.

G. T. Pushman, Chicago, Ill., has erected a modern garage at 20 South Wabash avenue at a cost of $10,000.

Henry Clair, Plum City, Wis., has purchased the Robertson property and has opened an up-to-date repair shop. A full line of automobile supplies is also carried.

William Rosenstock, New York City, has opened a first class repair shop at 1920 Broadway. He makes a specialty of overhauling, rebuilding and painting automobiles, and also repairs tops and slip covers.

Cashman & Nash, Everett, Wash., has opened an automobile repair shop at 2804 Wetmore avenue.

Earl E. Morrison, Plymouth, N. H., has opened an up-to-date garage.

A. Wyant, Alma, Mich., has opened a new garage which is modern throughout. Associated with him is J. A. Wheeler, formerly of Detroit.

Morris Mandelbaum, Trenton, N. J., a bicycle dealer, has opened a garage in the rear of his store, 328 South Broad street.

R. R. Wellington, Minneapolis, Minn., has opened the Combination repair shop at 423 East Lake street.

The Strickland Garage & Machine Company, Strickland, Fla., has opened a garage in the Riverside section of that city.

The Barton Motor Car Company, Cedar Rapids, Ia., has opened a new electric garage at 616 Second avenue. It is modern throughout.

Greenfield Allison, Lodi, Cal., formerly with Whyer's garage, has opened a garage and will conduct an up-to-date general automobile business.

The Hudson Machine Repair Shop, West Hoboken, N. J., has opened at 601 Summit avenue. The company operates a modern garage and repair shop.

J. E. Nicholson and H. A. Miller have opened a garage and repair shop on Fair Oaks avenue, South Pasadena, Cal.

Bourne & Stone, Manchester, N. H., has established a first class garage on Hanover street. The company will handle the Oldsmobile and other standard makes of cars.

Emmett McEleney, with his brother Leo, has erected a new garage on East Main street, Clinton, Ia., where they will conduct a general garage and repair shop business.

The State Street Garage, Hastings, Mich., is the name of a new garage opened by Bud Floyd, who is well known in that territory.

Harry Eberman, Morgantown, Ky., has opened a garage and repair shop which is modern throughout. All kinds of repairing will be his specialty.

The Star Motor Car Company, Reading, Penn., will open a new garage business at 32 North Sixth street. The company will handle standard makes of cars.

Jesse Vlim has opened an up-to-date garage and repair shop in Goliad, Tex.

R. C. Taggart, South Orange, N. J., has opened a garage and machine shop on South Orange avenue. It is modern throughout.

The Kaufman-Baer Company, Pittsburg, Penn., held a motor truck parade through the streets and suburbs of that city recently. The company has erected a garage on Baum boulevard, near Craig street, that is equipped to store and take care of 100 trucks. It is of fireproof construction and modern throughout.

Arthur H. Greene, Lowell, Mass., formerly of the Sawyer Carriage Company, has opened a repair shop and service station at 148 Warren street.

The Globe Auto Repair Company, Scranton, Penn., has established a large automobile business and repair shop at 408 Lindell street.

Baxter & Duckworth, Springfield, Mass., has opened a new and up-to-date garage at Oak and State streets. The company handles the Paige and Cole cars. The building is one of the largest in the city, of white brick construction, and has two entrances, one on Oak street, and the other on State street.

Earl Winters, Hutchinson, Kan., formerly with the Franklin Auto Company, has opened a garage at 106 Sherman street.

Frank S. Swansen, Claremont, S. D., has opened a garage and repair shop in the Otto building. It is equipped with modern machinery throughout.

M. A. Beach, Penn Yan, N. Y., agent for the Ford cars, has established a new garage on Jacob street. It is up-to-date in every respect.

The Motor Service Company, Moville, Ia., has opened an up-to-date garage. The company carries a full line of accessories and supplies.

The Central Garage, Norfolk, Va., will operate a first class garage and automobile business. The concern handles the Grant cars.

Alba Copsey, Eureka, Cal., has opened a garage on Second street. He is an expert repairman and will handle repairs of all kinds.

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NEW LOCATIONS AND REMOVALS.

The Forshaw Ford Automobile Company, Ltd., Vancouver, B. C., distributor for Cole and Studebaker cars, has moved into its new $50,000 home at 418 Georgia street.

The M. & M. Company, Cleveland, is now located at the old address, 450-480 Prospect avenue. The company's store was destroyed by fire some time ago.

The Stewart Auto Fulmer Company, Chicago, is now located at 638 Wabash avenue. The company handles the Wahl cars.

The Everitt Auto Sales Company, Columbus, O., has moved to 222 North Fourth street, where it will be able to show its cars to better advantage. The building has been remodelled.

W. E. Evans & Co., Columbus, O., is to move into its new and modern electric garage at 220 East Gay street.

The Cranston Garage, Baker, Ore., has moved to larger quarters on Main street. A most attractive salesroom has been fitted up, in which the Ford, Studebaker and Mitchell cars will be seen to better advantage. The building has a frontage of 90 feet.

The Imperial Motor Car Company, Boston, has moved to its new salesrooms on Commonwealth avenue after having been located on Columbus avenue for a long period.

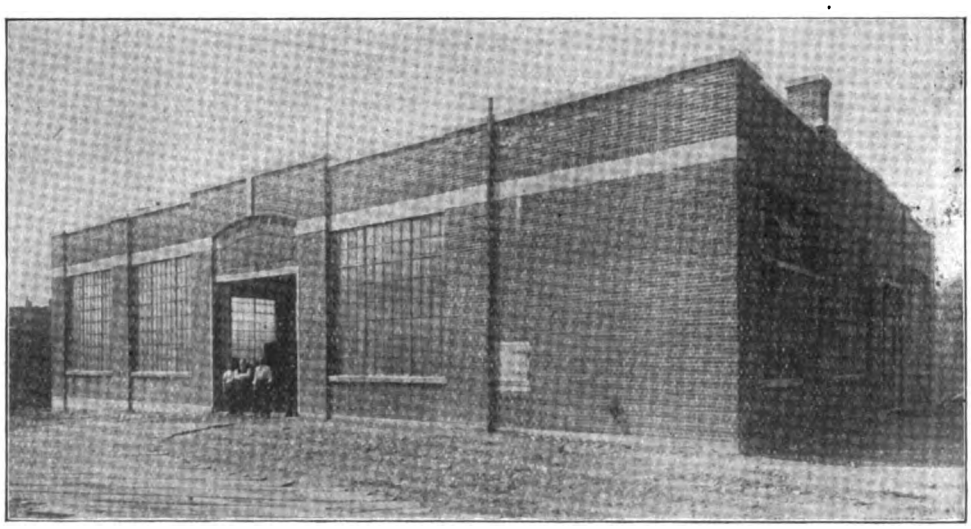
The Mohawk Rubber Company, Akron, O., has moved its New York branch, known as the Mohawk Rubber Company of New York, Inc., to its new and commodious quarters at 123 West 68th street.

The Motz Tire & Rubber Company's branch at Chicago has moved from its former location, 2023 Michigan avenue, to its new quarters at 115 East 30th street. The parent house is located in Akron, O.

The Ford Service Station, Culbertson, Mont., established recently, is located in the Stafford building. A garage has been remodelled and the company is now occupying it.

The Dial & Bryan Auto Company, San Angelo, Tex., agent for the Hupp and Oakland cars, will locate at 103 North Chadbourne street.

The Boss Rubber Company, Denver, Col., distributor of Motz high efficiency cushion tires, has opened branches in Colorado Springs and Pueblo to serve the many Motz users in those cities.



Garage Recently Completed for the Paine Furniture Company, Boston, Mass., for Housing Motor Trucks Used in Its Delivery Service.

The D. F. Sullivan Automobile Company, Manchester, N. H., has opened a fine service station at 112 West Central street. The company is agent for Ford cars.

Smith & Masters, Tucson, Ariz., has removed into a new garage at 72 North Sixth street.

The Chalmers-Syracuse Company, Syracuse, N. Y., is now located at 545 Clinton street.

The Auto Tire Company, San Diego, Cal., is now located in its new building, corner of Fifth and A streets.

The Western Motor Appliance Company, Charles City, Ia., has located at 201 Main street.

The D. C. Gilliland Auto Supply House, St. Louis, Mo., has moved to 3445 South Grand street. The company carries a full line of automobile accessories.

The Lynch Auto & Machine Company, Houston, Tex., has moved to 409 Capitol avenue. The company was formerly known as the Recco Lynch Auto & Machine Company.

The Proeby Motor Company, Washington, D. C., has moved to 1223 New York avenue.

The Grady-Rourache Motor Car Company, Salt Lake City, Utah, agent for the Reo cars and Chase trucks, is now located at 344 South State street.

The Mitchell Auto Company, Little Rock, Ark., agent for the Mitchell cars, has moved to 300 Louisiana street. The old address of the company was 119 North Louisiana street.

The Plaza Motor Company, New York City, has leased quarters in the building at the corner of Broadway and 64th street.

The Winton Motor Company, Chicago, Ill., will move to its new building on East 35th street.

The Detroit Electric & Motor Car Company, Dallas, Tex., local distributor for Detroit electrics, is now located at its new showroom and garage at 415-417 North Harwood street. A. A. Marrs is president and general manager.

The Bertram Motor Supply Company, Salt Lake City, Utah, has moved to more commodious quarters at 342 South State street.

Osborne & Holden, Cleveland, agent for the Chase trucks, will move to new quarters at 216 East Ninth street.

C. S. Luker & Co., Monmouth Junction, N. J., has erected a new garage and repair shop and will move to the new building in the near future.

The Howard Auto Company, Oakland, Cal., has moved into new quarters on Piedmont avenue. The company handles the Buick cars.

The Empire Tire Company, Houston, Tex., has located at 1207 Main street, to establish a sales depot for tires and accessories. The company also handles the Mercury cyclecars.

The Meredith Motor & Bicycle Company, Salt Lake City, Utah, is now located in its new quarters at 58 East South Fourth street.

Whalen & Hansen, Cresco, Ia., has moved its electric service station to 118 First avenue, East, where it has installed new machinery. The company is now prepared to take care of repairs of all kinds. A full line of supplies is also carried.

The Northwestern Automobile Training School, St. Paul, Minn., has moved to 344 North Exchange street.

The Metuchen Automobile and Garage Company, Metuchen, N. J., has moved into new and larger quarters on Middlesex avenue.

The Grant Bros. Auto Company, Detroit, will move into larger quarters at 234 Jefferson avenue.

The Selby Company, Washington, D. C., is now located at 1805 14th street. The company is agent for the Paige cars.

The Craig Center Auto Company, Pittsburg, Penn., has moved into a new building on Grand boulevard.

The Detroiter Philadelphia Company, Philadelphia, has moved from Market street to larger quarters at 506 North Broad street.

The Myers Motor Car Company, San Francisco, Cal., agent for the Apperson cars, will move to larger quarters on Van Ness street.

The Sofield Auto Company, Asbury Park, N. J., has moved from its old quarters on Bangs avenue to its new and up-to-date garage on Main street, Avon.

Raymond Spellmum, Viroqua, Wis., is prepared to handle any kind of automobile repairing. He is now located in the Larson building.

Joseph Strauss & Son, Buffalo, N. Y., is to occupy the new building at 215 Genesee street, which has five floors and a basement. The company deals in supplies for pleasure cars, and in its new location will be better able to handle the steadily growing business.

The Woods Motor Vehicle Company, Chicago, has taken a lease of the corner store in the Colonnade building on Michigan avenue and Peck court. The company will use it for a sales and display room.

The Iver Johnson Sporting Goods Company, Fitchburg, Mass., has purchased the garage at 27 Lunenburg street and will move to that location in the near future. The company handles the Ford cars.

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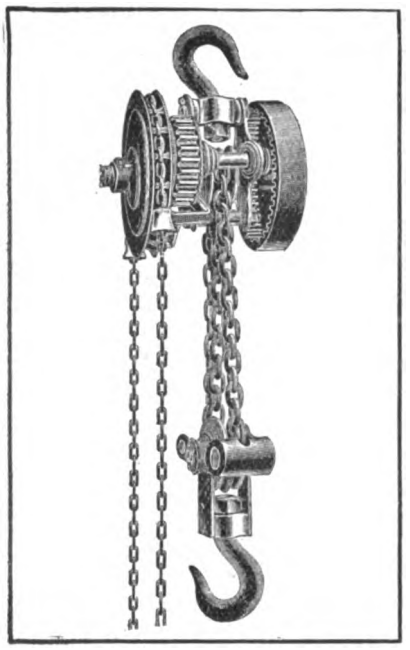
MACHINERY, TOOLS AND EQUIPMENT.

THE need of some form of chain hoist in the garage and repair shop is more marked than formerly when the practise was to cast the motor cylinders singly and in pairs. The en bloc casting is difficult for one or two men to handle, especially if the engine is a six-cylinder unit.



Simplex Two-Speed Chain Hoist.

J. G. Speidel, Reading, Penn., is manufacturing the Simplex chain hoist, one of the qualities of which is that it is a two-speed device, a construction saving time where the load to be lifted is of varying weight. As will be noted by an accompanying illustration, an endless chain runs over a chain wheel, which, in connection with a pinion and a brake wheel with ratchet teeth in the outer rim, forms the automatic brake, which prevents the load from descending. These three parts, when assembled, make practically a unit construction, and turn loosely on the reduction extension of the main shaft.

The pinion attached to the hand chain wheel drives a spur gear, which is keyed to a second shaft, at the end of which is another pinion. The last named member engages with an internal spur gear, which is keyed to the opposite end of the main shaft, to which is attached the lift chain wheel. Motion is transmitted from the hand chain to the lift chain, and by pulling on the hand chain, in either direction, the load is lifted or lowered. When hoisting a load the brake wheel, with its ratchet teeth on the outer rim, rotates freely with the hand chain wheel and pinion, and without resistance, as the ratchet pawl runs freely over the teeth. When the pull on the chain wheel ceases, the pawl engages with the teeth of the ratchet on the brake wheel, preventing it from running backward, and so keeping the load suspended.

In lowering the load the hand chain is pulled in an opposite direction, and but little effort is required to overcome the friction of the automatic brake, thus permitting the load to descend and holding the same suspended again, as soon as the workman stops pulling on the hand chain. The load can be lowered at a good rate of speed by a continuous pull upon the hand chain.

By means of an ingenious arrangement of the lower block, the lift chain is locked to the chain wheel of the lower block, providing the two speeds referred to, making for economy of time in handling light loads. Closed rings attached to a swinging frame provide guides for the hand chain, enabling the operator to stand away from under a load, pulling the chain at an angle, without producing any appreciable amount of friction or wear on the chain or guide. The construction eliminates the possibility of the chain wedging between the wheels and guides. Price lists will be supplied upon request.

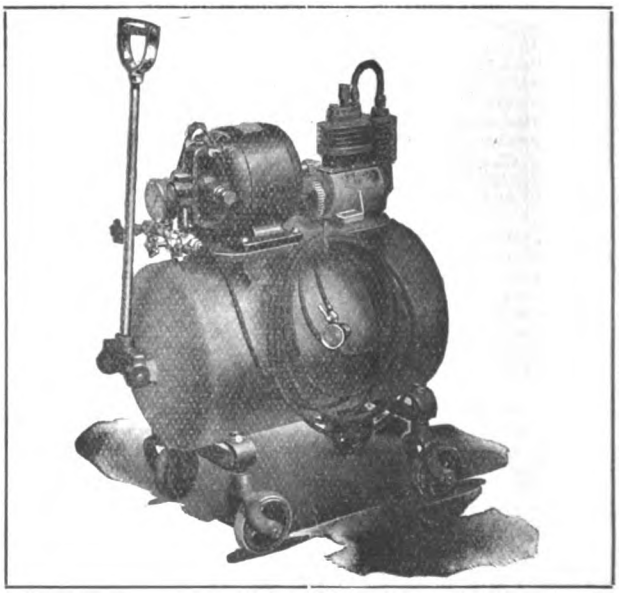
GEMMER-DETROIT PUMP.

Electrically Driven Garage Equipment Designed to Withstand Heavy Service.

The Gemmer-Detroit Starter Company, Detroit, which concern has announced a pneumatic starting system for motor cars, is manufacturing electrically operated pumps for the garage, and one of the types is shown in an accompanying illustration. This is a portable design.

Efficiency is one of the qualities of the outfit emphasized. The pump is a four-cylinder, air-cooled unit, the cylinders having a bore of 1.5 inches and stroke of 1.75. The tank has sufficient capacity to inflate 15 34 by four-inch tires with one filling. It is stated that the pump will renew the air supply quickly, and that 175 pounds pressure can be pumped up in 20 minutes.

One of the features of the equipment is the elimination of the usual platform. The running gear is of heavy metal strips welded directly to the tank, and the rubber tired wheels are swiv-



Gemmer-Detroit Garage Pump.

elled to these strips. The company also manufactures a type designed for the private car owner and the service of small garages.

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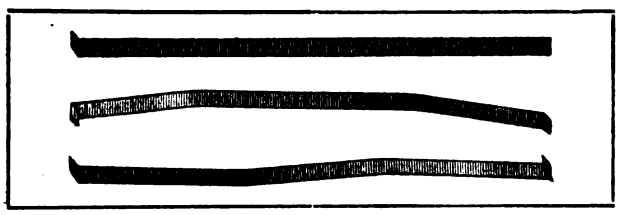
MORGAN SCRAPERS.

A Flexible Tool with Ends Bent to Make Easy Removal of Carbon from Cylinders.

The Morgan Manufacturing Company, Newport, R. I., is marketing the Morgan carbon scrapers which come in sets of three. The tools



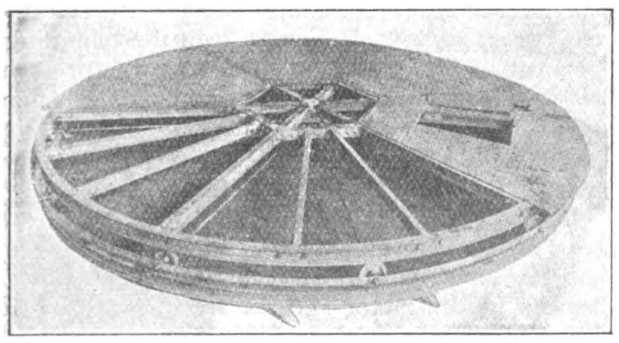
Morgan Flexible Carbon Scrapers.

are constructed of a high grade of steel, are flexible, and two have their ends bent to right angles and sharpened for removing deposits from the top of the cylinders or pistons. The third tool is straight, but both ends are sharpened for scraping around valves and their seats, etc. The set retails for 50 cents.

AMERICAN TURNTABLE.

Consists of Steel Frame and Plates and May Be Utilized as a Wash Rack.

The Minneapolis, Minn., branch of the American Bridge Company, is producing the turntable shown herewith, which is constructed in two sizes, 14 and 15 feet respectively. The table consists of a steel frame constructed of three-inch I beam section, carrying .25-inch steel plates. The table rolls on 12 cast iron wheels, these being carried on a spider having spacing bars. The top plates of the table are perforated, permitting of



American All-Steel Turntable.

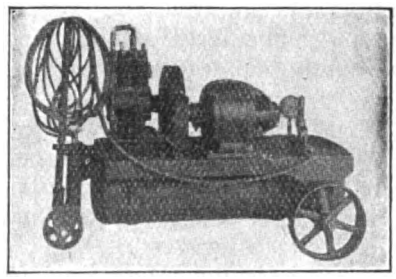
its use as a washstand if desired. One plate is made removable so that inspection and lubrication are made easily.

MASTER GARAGE PUMP.

Hartford Machine Screw Company Marketing Moderately Priced Electric Unit.

The Hartford Machine Screw Company, Hartford, Conn., is producing a line of electrically operated garage pumps, one of which, the model G, is illustrated herewith. It is provided with a storage tank mounted beneath the platform and the container has a capacity of 2300 cubic inches. It is stated that it may be pumped up to a pressure of 200 pounds a square inch in less than 10 minutes.

The motor is a standard type and the company supplies either an alternating or direct design for 110 volts, the direct listing at $5 extra. The regular equipment includes a connection plug for the light socket, 20 feet of heavy lamp cord and 20 feet of high grade air hose with tire pressure gauge attached. The overall dimensions are: Length, 40 inches; width, 24; height above floor, 33, and weight from 375 to 450 pounds, depending on the type of motor utilized. The platform is sturdily constructed, equipped with wheels, and a convenient handle is provided. The equipment can be moved easily about the garage or rolled out on the road when tires are to be inflated. It is stated that when thus used the tank will inflate four 37 by five-inch tires to 90 pounds pressure without starting the motor.



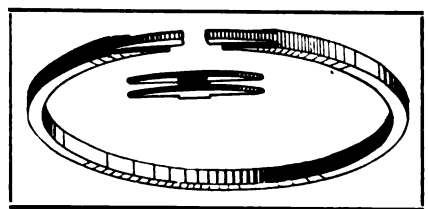
Master Electric Garage Pump Outfit.

The company manufactures a similar but smaller type, known as model N. It is portable, but no tank is provided, the pump connecting directly to the tires. It is stated that the pump will inflate a 37 by five-inch tire to 90 pounds pressure in 2.75 minutes. The regular equipment includes 10 feet of air hose with pressure gauge attached and 20 feet of flexible lamp cord with plug connector. The overall dimensions are: Length, 28 inches; width, 16; height from floor, 18. The weight is about 100 pounds with alternating or direct current motor, both being 110-volt. The model N is also supplied mounted on a base for stationary work. Data on garage pumps will be supplied by the company upon request.

BURD PISTON RINGS.

Utilizes a Bronze Coupler to Obtain a Gas Tight Construction.

R. L. Burd, 818 South Main street, Rockford, Ill., is manufacturing the Burd high compression ring shown in an accompany illustration, and the ring is shown relaxed and coupler detached, ready to be sprung over the piston. After the ring is sprung over the piston, the bronze coupler is inserted, and it is stated that the two lock together as the cylin-



Burd Compression Piston Ring.

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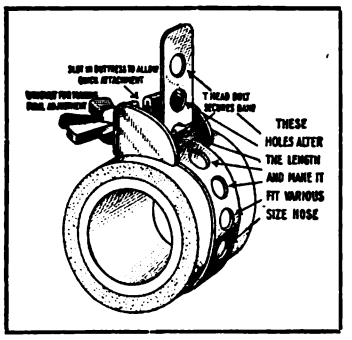
der is slipped over the construction.

It is claimed that the design provides an equal pressure on the cylinder walls, and that the coupler seals the opening effectually, preventing the passage of oil or the mixture. The maker states that the rings have been subjected to severe tests in service and that they will considerably improve the compression of any motors, particularly old engines. The Burd rings come in standard sizes up to six inches.

MORGAN HOSE CLAMP.

Is Quickly Attached and Fits Intermediate Sizes Within Its Capacity.

The Morgan Manufacturing Company, Newport, R. I., is marketing a clamp or coupling for hose which presents several practical features, the most noticeable of which is that it will fit any intermediate sizes of pipe within its capacity. As will be noted by the accompanying illustration, it includes a flat band and buttress, and a slot in the latter permits of quick attachment. The band is secured by a T head bolt carrying a wing nut, and one of the qualities of the design is that no tools are necessary to adjust the clamp. As will be noted by the drawing, the band is provided with several holes for the purpose of fitting different sized hose. The type 10 is constructed of stamped brass with nut of similar material and the steel screw has a fine thread. The clamps come in different sizes and are inexpensive.



Morgan Hose Clamp.

MONARCH WELDING OUTFITS.

Three Different Combinations, Including Decarbonizing Equipments, Marketed.

The profits and advantages obtained through installing decarbonizing and welding outfits are very attractive even to the small repair shop, and among the high grade equipments marketed are those produced by the Monarch Manufacturing Company, Dayton, O. This concern has long made a specialty of welding apparatus, and is offering to the trade three combination outfits, which are shown in an accompanying illustration.

The No. 1 is a decarbonizing outfit and consists of one oxygen reducer, hose, etc., and is constructed especially for removing carbon from motor cylinders as shown. This method appeals to owners because of its thoroughness, time and labor saving qualities.

The No. 2 outfit is a combination equipment comprising a welding and decarbonizing apparatus having an oxygen reducer, welding torch and an acetylene reducer. The No. 3 includes the above named features, also a cutting outfit, and comprises two oxygen reducers, one welding torch, one cutting torch and an acetylene reducer.

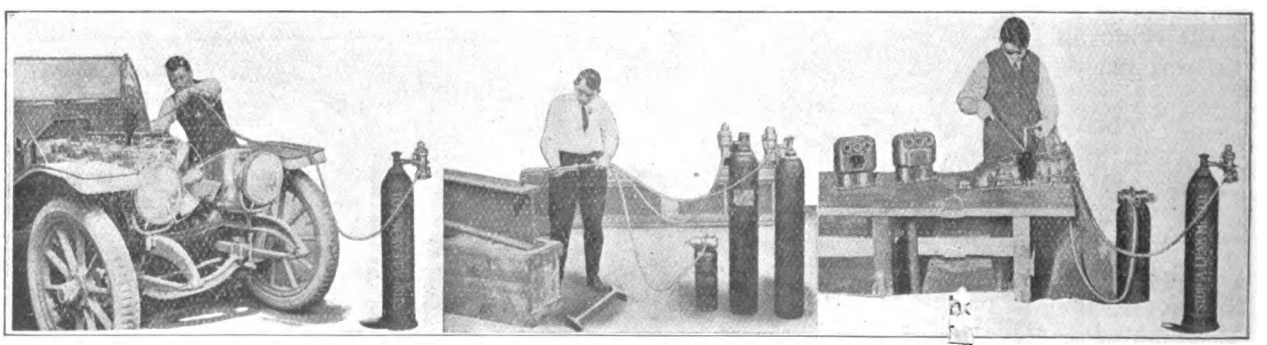
Special attention is directed to the Monarch reducing valve, which is stated to be correct in principle and simple in adjustment. It was designed especially for decarbonizing, welding and cutting purposes and for reducing gases of high to a safe working pressure. It is constructed to eliminate every possibility of a flashback, and comes complete with all necessary hose and fittings. The Monarch Manufacturing Company is making a special offer to the trade, particulars of which will be mailed upon request.

BLAC-NAMEL.

An air drying enamel prepared for refinishing headlights, side and tail lamps, radiator caps, etc., in black, has been brought out by the Atlas Auto Supply Company, 3241 West Lake street, Chicago. Blac-Namel, as it is termed, dries quickly, and has the appearance of baked on enamel, being smooth and glossy. It is stated that one coat is sufficient to keep the trimmings of a car in first class condition for an entire season. It comes prepared for use and is inexpensive.

BROKEN TAP EXTRACTOR.

The Frevert Machinery Company, 38 Vesey street, New York City, is manufacturing a broken tap extractor and six are included in the set. The sizes are .3125, .375, .875, .5, .5625 and .625 inch. Prices will be supplied upon request.



Illustrating a Few of the Uses to Which the Monarch Welding Equipment May Be Put.

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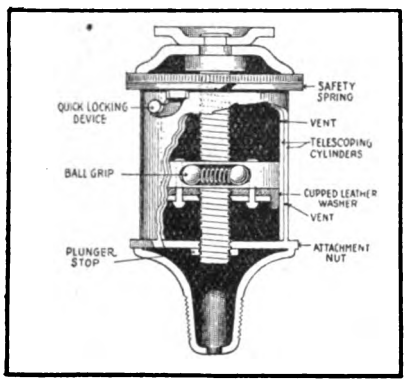
CLIMAX GREASE CUP.

Is of the Compression Type, Has Air Vent and a Quick Locking Device.

William J. Bailey, 407 Mulberry street, Newark, N. J., is marketing the Climax grease cup, a cut-away section being shown herewith to depict the construction. It is of the compression type, and it is stated that the top cannot drop off, even if the cup should be inverted. A slight pressure downward and to the left releases the inner cylinder, enabling easy filling, or the outer cylinder may be supplied if desired.



The Climax Grease Cup.

The cylinders are of drawn brass tubing and a close telescoping fit, preventing leakage and the entrance of road dust. The cylinder caps are of heavy brass, hard soldered to the cylinder, and the air vents in both cylinders are so located that renewing the supply of lubricant is very easy. When withdrawing the inner cylinder these air vents prevent suction, as well as the grease coming away with the part. A double ball grip is employed to prevent the plunger turning and wear. The Climax grease cup is produced in standard and special sizes.

UNI-COIL IGNITION SYSTEM.

New York Coil Company Brings Out New Design for Model T Ford Motors.

The New York Coil Company, 338 Pearl street, New York City, manufacturer of master vibrators and other well known accessories for the model T Ford car, has just placed on the market the Uni-Coil ignition system, which is especially designed to operate on the Ford flywheel alternating current magneto.

Uni-Coil Ford Ignition System.

The system consists of an elevated gear bracket attachment, which is clamped to the end plate of the motor after first removing the regular timer. Bevel gears transmit motion to a vertical shaft running through the bracket upon which is mounted a combined timer and high-tension distributor, or synchronizer, as it is termed. The new system eliminates all of the old wiring with the exception of a single lead, connection being made to only one unit of the coil box. A cable runs from the distributing part of the apparatus and is connected to the high-tension terminal of the same unit. The timing or circuit operating mechanism within the distributor is almost identical with that employed in regular magnetos.

The maker claims that the system times the spark perfectly and is the first to operate satisfactorily on the flywheel magneto. There is but one adjustment and troubles heretofore experienced with the Ford timer are eliminated. The system is easily cared for. Claims are further made to the effect that the system contains all the desirable features of the high-tension magneto. The list price of the attachment complete, including bracket, wires, etc., is $15. It is sold with a positive guarantee of satisfaction. Instructive literature fully explaining the device in detail will be sent upon request.

GROETKEN PUMP.

Is of the Self-Measuring Type and Is Adaptable for a Number of Purposes.

The J. J. Groetken Pump Company, Aurora, Ill., is manufacturing a pump for the convenient and economical handling of gasoline, kerosene, oils and other liquids. It is of the self-measuring type and can be made to serve a number of purposes. One of its qualities is that it can be employed with barrels as well as with underground systems. The construction is simple and accuracy in measuring is emphasized in the design.

Groetken Pump.

The pump proper consists of two seamless brass cylinders, to which are attached an iron cap and base. The cap is made in two sections, with the lower member chambered to permit the use of a fibre gasket, into which the ends of the cylinders are seated, making a tight construction. The base is machined and chambered where joined to the cylinders to provide an absolutely tight joint. The assembly is rigidly retained by four .3125-inch bolts, and the lid of the cap is clamped to the cap with .25-inch cap screws. It is stated that the gland stuffing box utilized in this pump prevents leakage around the crankshaft. The cap of the pump forming the housing for the crankshaft, also acts as an air chamber, facilitating the flow of the liquid.

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RECENT CHANGES IN INSURANCE RATES.

New Fire and Theft Schedules for West and South and Revised Non-Valued Policy Rates in the East—Liability and Property Damage on Commercial Cars.

AT A meeting of the Automobile Underwriters' Conference in New York City, April 10, action was taken, as a result of which cars in the hands of dealers in the states of the West, Southwest and Southeast, may no longer be insured for fire and theft at pleasure car rates, even where the short rate cancellation is provided. The conference also adopted new schedules for the Western and Southeastern departments, the former affecting the states of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Kansas, Nebraska, North Dakota, South Dakota, Wyoming, Colorado and New Mexico, and the latter the states of Virginia North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas and Oklahoma. These went into effect April 20.

WESTERN AUTOMOBILE SCHEDULE.

On gasoline power driven private pleasure motor cars and commercial vehicles, such as trucks, delivery wagons, based on manufacturers' original list prices:

	Class A.	Class B.	Class C.
Limits of amount of insurance include equipment, but not additional bodies. See additional equipment and additional bodies rules below	$3500 and over	$1500 to $3599	$700 to $1499
This and Next Year Models—Insure for not to exceed actual cost or less than 50% of original list price	1½%	1¾%	2%
Last Year Models—Class A, amount of insurance at option of company; Class B, not more than 70% of original list price; Class C, not more than 60% of original list price	1½%	2%	3%
Year Before Last Models—Class A, amount of insurance at option of company; Class B, not more than 50% of original list price; Class C, not more than 40% of original list price	2¼%	3½%	4%
Minimum premium	....	....	$15
Three-Year-Old and Older Models—Class A, amount of insurance at option of company; Class B, not more than 30% of original list price; Class C, not more than 20% of original list price	2¾%	4½%	5%
Minimum premium	....	$15	$10

Note—Exceptional cases may arise where car is well owned and is in very good physical condition where limits on "three-year-old and older models" are not sufficient. In such case refer to company, with full particulars, when slightly increased amounts may be allowed, but in no case to exceed 40 per cent. of original list price.

Reduction—A reduction of 50c from above rates will be allowed for attachment of "non-valued ex-theft and automatic reinstatement" indorsement by use of clause furnished you for that purpose.

Cars Listing Less Than $700.

	Rate	Minimum premium
Fire and theft	3¼%	$12.50
This and next year—		
Fire only	1½%	7.50
Fire and theft	3¼%	12.50
Last year and older—Fire only	3%	10.00

Electric Automobiles.

Rate for full form of fire and theft floater (all models) 1¼%
Rate for restricted form 1%

Dealers' Automobiles.

	Fire & theft floater	Restricted floater
New gasoline automobiles—		
List price $3500 or over	2¼%	2%
List price $1500 to $3499	2½%	2¼%
List price less than $1500	2¾%	2½%
Electric automobiles	2%	1¾%
Steam automobiles	3%	2¾%

No risk accepted where boiler and burner are located in rear of dashboard. Second-hand cars, 1 per cent. additional rate must be charged. Pro rata cancellation allowed with a minimum charge of $1.

SOUTHEASTERN AUTOMOBILE SCHEDULE.

Rates for the full form of policy, gasoline, pleasure and commercial type cars:

	Class A.	Class B.	Class C.
Original list price of automobiles when new, excluding cost of additional equipment and extra bodies	$3500 and over	$1500 to $3499	$1499 and less
This and Next Year Models—Insure for not more than actual cost	2½%	2½%	2½%
Last Year Models—Insure Class A for not more than 80%, Class B for not more than 60% and Class C for not more than 50% of list price	2½%	3%	3%
Year Before Last Models—Insure Class A for not more than 70%, Class B for not more than 50% and Class C for not more than 40% of list price	3%	3¼%	3½%
Three-Year-Old Models—Insure Class A for not more than 60%, Class B for not more than 30% and Class C for not more than 20% of list price	3¼%	4%	5%

Note—Second-hand cars, charge ½ per cent. in addition to above rates.

Electric Cars—Models of all years, 2 per cent.; second-hand cars, charge ½ per cent. in addition to above rate. Maximum insurable amounts at the option of underwriter.

Taxicabs, Livery and Renting Automobiles—All risks of this kind must be submitted to the home office. If approved, will be written at not less than 1 per cent. in addition to schedule rates, subject to the following indorsement:

"In consideration of $..... additional premium, permission is hereby granted for the automobile herein insured to be used for carrying passengers for a compensation, provided it is under the personal supervision and guidance of the assured or a chauffeur in his employ while being so used".

Rates for the Restricted Form of Policy.

(The theft and reinstatement features excluded from the full policy by attaching the indorsement provided for that purpose.)

Electric Automobiles, Taxicabs, Livery and Renting Automobiles, Gasoline Pleasure and Commercial Automobiles—A reduction of ½ per cent. allowed from the rates for the full form of policy.

Minimum Premium.

For the full form of policy $12.50
For the restricted form of policy 10.00

Dealers' Automobiles.

Rates for full form of policy:
New gasoline cars—
Listing for $3500 and over 2¾%
Listing for $1500 to $3499 ..... 3%
Listing for $1499 and less 3¼%
New electric automobiles, all models 2%
New steam automobiles, all models 3½%
(Subject to 1¼% reduction if boiler and burner are located in front of dashboard.)

For second-hand and rented cars charge 1 per cent. in addition to above rates. Pro rata cancellation allowed with a minimum charge of $1 except on cars listing for $1499 and less the minimum charge is 50c. Amounts of insurance at option of underwriter.

Rates for the Restricted Form of Policy—A reduction of ¼ per cent. is allowed from the above dealers' rate for the elimination from the full policy of the theft and reinstatement features. Minimum premiums same as above.

Fire Extinguishing Devices—A reduction of 15 per cent. of the premium is allowed if a device approved by the Underwriters' Laboratories of the National Board of Fire Underwriters is carried on the automobile and an indorsement provided for that purpose is attached to the

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policy. This reduction, however, is not allowed on additional premiums for the theft full coverage, collision sustained and property damage.

European Privilege—At an additional rate of 1½ per

CLASS No. 1

AMOUNT FOR INSURANCE Including Equipment But Not Extra Bodies Subject to "Instructions and Limits"	Original List Price of Automobile, when New (Not Second Hand), Excluding Cost of Additional Equipment and Extra Bodies											
	6500 and Up	5500 to 6499	4500 to 5499	3500 to 4499	3000 to 3499	2500 to 2999	2000 to 2499	1500 to 1999	1300 to 1499	1100 to 1299	900 to 1099	700 to 899
	A	B	C	D	E	F	G	H	J	K	L	M
6500 and up	1⅜											
5500 to 6499	1⅜	1⅜										
4750 to 5499	1⅜	1⅜	1⅜									
4000 to 4749	1⅜	1¾	1⅜	1⅜								
3500 to 3999	2	1⅜	1¾	1⅜	2							
3000 to 3499	2⅛	2	1⅜	1¾	2	2						
2750 to 2999		2⅛	2	1⅜	2	2						
2500 to 2749			2⅛	2	2¼	2	2					
2250 to 2499				2⅛	2⅛	2	2					
2000 to 2249					2⅛	2¼	2	2				
1800 to 1999					2¼	2⅛	2	2				
1600 to 1799						2⅛	2¼	2				
1400 to 1599						2¼	2⅛	2	2⅛			
1200 to 1399							2⅛	2¼	2⅛	2⅛		
1000 to 1199							2¼	2¼	2¼	2⅛	2⅛	
800 to 999								2¼	3⅛	2¼	2⅛	2⅛
700 to 799									3⅛	3⅛	2¼	2⅛
600 to 699										3⅛	3⅛	2¼
500 to 599											3⅛	3⅛

All cars listed at less than $700 take a rate of 2½ %, irrespective of the amount insured, but the minimum premium for full form of policy shall be $12.50, or with theft and valued policy clauses eliminated, the minimum premium shall be $10.00

First Section of Rate Card Applying in New England. Middle Department and Metropolitan District.

cent. policies may be extended to cover a European trip under the form of indorsements provided for that purpose. If the risk of the transatlantic trip, going and returning, be eliminated, this privilege can be granted without extra charge.

SCHEDULE FOR EASTERN STATES.

The schedule for New England, the Middle Department and Metropolitan District was adopted by this conference about a year ago, and is presented in detail in the accompanying charts, in explanation of which it may be stated that all gasoline automobiles are divided for the purpose of rating into two general classes. Class No. 1 includes columns A, B, C and D, cars of last year, this year and next year models; E, F, G and H, cars of this year and next year, and J, K, L, M and cars listed at less than $700, cars of this year and next year, in hands of original owners. Class No. 2 includes all automobiles not coming within the definition of class No. 1. The remainder of the schedule follows:

Instructions and Limits.

Amounts to be insured must not be more than actual value and be limited as follows: Columns A, B, C and D, cars of this year and next year models for not less than 50% of original list price. Columns E, F, G and H, cars of this year and next year models for not less than 50% of original list price; cars of last year models for not more than 80% of original list price; cars of year before last models for not more than 60% of original list price; no policy on cars of models earlier than the above shall be issued for an amount in excess of 40% of original list price. Columns J, K, L and M, cars of this year and next year models for not less than 50% of original list price; cars of last year models for not more than 70% of the original list price; cars of year before last models for not more than 50% of original list price; no policy on cars of models earlier than the above shall be issued for an amount in excess of 40% of original price.

Additional Equipment.

In addition to the amounts fixed by these limits, additional equipment may be insured for not exceeding $300 on cars in columns A to H inclusive, and $200 on any other cars by means of the following form of indorsement:

"In consideration of an additional premium of $....., the sum insured under this policy is increased by $..... to cover the value of additional equipment not furnished with the car by the manufacturer at its list price; all other terms and conditions remaining unchanged".

Additional premium for this additional amount shall be charged for at the same rate as charged in the body of the policy. The rate on the policy to be computed without reference to this rider.

Electric Automobiles.

Rate for all models 1½%. A reduction of ⅛ of 1% for the elimination of theft and valued policy clauses is permitted using the indorsement provided for that purpose. Amount of insurance at discretion of company.

Steam Automobiles.

Cars of this year and next year models, rate not less than 3%. Cars of last year models, rate not less than 3½%. A reduction of ¼ of 1% is permitted if boiler and burner are located in front of dashboard. A reduction of ⅛ of 1% is permitted for the elimination of theft and valued policy clauses using the indorsement provided for that purpose. Amount of insurance at discretion of company.

Livery and Renting Automobiles.

All applications covering cars used for livery and for renting purposes must be submitted to this office. If approved they will be written subject to the following clause, not less than 1% additional being charged:

"In consideration of $..... additional premium permission is hereby granted for the automobile herein insured to be used for carrying passengers for a compensation, provided it is under the personal supervision and guidance of the insured or a chauffeur in his employ while being so used".

Additional Bodies.

In determining the original list price of automobiles having more than one body, the sum of the cost of the chassis and the higher priced body shall be taken as the original list price and the amount of insurance for the purpose of arriving at the rate to be charged shall be the amount insured on the chassis and the higher priced body. No change to be made in the classification of the car during the policy period.

In the case of an automobile equipped with an extra body or bodies, a specific amount must be applied to the chassis and equipment and to each body, the same rate being charged on the extra body or bodies as is charged on the automobile. The following clause to be used:

"In consideration of an additional premium of $....., on and after date this policy shall cover an additional amount of $....., which shall apply only on extra ..... body used in connection with the automobile insured hereunder, and the insurance on the chassis and original body shall be divided as follows: $..... on chassis and equipment; $..... on ..... body".

All other terms and conditions of this policy remaining unchanged.

Dealers' Automobiles.

On new gasoline cars charge 2¼% in columns A to D; 2½% in columns E to H, and 2¾% for all others.

On new electric cars charge 2% for all models.

On new steam cars charge 3¼% for all models, except where boiler and burner are located in front of dashboard, where a rate of 3% shall apply.

On all second-hand cars 1% additional rate must be charged.

Pro rata cancellation allowed with a minimum charge of $1, except that the minimum charge on new cars listed at less than $1500 shall be 50c.

Amounts insured at option of underwriters.

Note—Automobiles in the hands of dealers may be written under the ordinary form of policy at rates provided for private pleasure cars subject to cancellation on a short rate basis only, except pro rata cancellation may be allowed when a new policy is issued on the same car.

A reduction of ⅛ of 1% will be allowed for the elimination of theft and valued policy clauses, but in all cases the minimum charge of $1 and 50c shall apply as above indicated.

Commercial Automobiles.

Shall be written for amounts, and at the scheduled

CLASS No. 2

AMOUNT FOR INSURANCE Including Equipment But Not Extra Bodies Subject to "Instructions and Limits"	Original List Price of Automobile, when New (Not Second Hand), Excluding Cost of Additional Equipment and Extra Bodies											
	6500 and Up	5500 to 6499	4500 to 5499	3500 to 4499	3000 to 3499	2500 to 2999	2000 to 2499	1500 to 1999	1300 to 1499	1100 to 1299	900 to 1099	700 to 899
	A	B	C	D	E	F	G	H	J	K	L	M
6500 and up	2¾											
5500 to 6499	2¾	2¾										
4500 to 5499	2¾	2¾	2⅜									
3500 to 4499	2⅜	2¾	2¾	2¾	2¾							
3250 to 3499	2¾	2⅜	2⅜	2¾	2¾	2¾						
3000 to 3249	2¾	2⅜	2⅜	2¾	2¾	2¾						
2750 to 2999	3	2¾	2⅜	2⅜	2¾	2⅜	2¾					
2500 to 2749	3¼	3	2¾	2¾	2¾	2¾	2¾					
2250 to 2499	3⅜	3¼	3	2⅜	2¾	2¾	2¾	2¾				
2000 to 2249	4	3⅜	3¼	3	3	2⅜	2¾	2¾				
1750 to 1999		4	3⅜	3¼	3¼	2¾	2¾	2¾	3⅛			
1400 to 1749		4⅛	4	3¼	3⅜	3	2⅜	2¾	3⅛	3⅛		
1200 to 1399			4⅛	4	4	3¼	3	2¾	3⅛	3⅛	3⅛	
1000 to 1199				4⅛	4⅛	3⅜	3¼	3	3⅛	3⅛	3⅛	3⅛
800 to 999					4⅛	4	3¼	3¼	3⅛	3⅛	3⅛	3⅛
600 to 799						4¼	4¼	3¾	3⅛	3⅛	3⅛	3⅛
500 to 599							4¼	4¼	4⅛	3⅞	3⅞	3⅞
400 to 499								4¼	4⅛	4⅛	4⅛	4⅛

All cars listed at less than $700 take a rate of 3½ %, irrespective of the amount insured, but the minimum premium for full form of policy shall be $12.50, or with theft and valued policy clauses eliminated, the minimum premium shall be $10.00.

Second Section of Rate Card Which Is in Force in the Eastern States.

rates, as provided for private pleasure automobiles.

Second-Hand Cars.

Cars in hands of other than the original purchaser of the car when new shall in no case be insured for an amount in excess of the cost of the same to the insured.

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REVISED NON-VALUED POLICY RATES.

The revised schedule of rates for non-valued form of policy, excluding theft and reinstatement clauses, applying to New England, the Middle Department and Metropolitan District, in effect April 20, is as follows:

Gasoline Pleasure Cars.

	Per Cent.
Cars of this and next year models—	
Insured for not less than 80% of list price	1½
Cars of last year models—	
Listing $3500 and over	1½
Listing $1500 to $3499, insured for not exceeding 80% of list price	1¾
Listing under $1500, insured for not exceeding 70% of list price	2
Cars of year before last models—	
Listing $3500 and over	2
Listing $1500 to $3499, insured for not exceeding 60% of list price	2¼
Listing under $1500, insured for not exceeding 50% of list price	2½
Cars of models three years old—	
Listing $3500 and over	3
Listing $1500 to $3499, insured for not exceeding 40% of list price	3
Listing under $1500, insured for not exceeding 40% of list price	3½
Four-year-old models and older—	
Minimum rate, insured for not exceeding 40% of list price	4½

Electric Cars.

All models	1¼

Commercial Trucks.

Of not less than one ton capacity—	
This and next year models	1½

Cars rented, leased or used for carrying passengers for compensation—charge 1% in addition to above rates. Minimum premium, $5.

AUTOMOBILE LIABILITY RATES.

Automobile liability rates also have been readjusted, effective on and after May 1. The principal change in the new schedule is in the rates for commercial automobiles, which have been advanced 20 to 40 per cent., with a corresponding increase in the cost for property damage coverage. The following table affords a comparison under the various classifications:

	Liability		Property Damage	
	Old	New	Old	New
Class 1	$175	$250	$70	$100
Class 2	150	200	60	80
Class 3	125	150	50	60
Class 4	90	125	36	50
Class 5	70	100	28	40

The new rates on these cars for liability are for public liability only, there being an additional charge of $3.50 and $5 for the employers' liability, whereas the old rates included both hazards. The classifications are as follows:

Class 1—Baggage transfer, electric light companies, express companies, mail wagons, newspaper delivery, police patrol, street railway companies, telephone and telegraph companies.

Class 2—Boiler dealers or makers, invalid carriages, iron and steel, junk dealers, machinery dealers, railway iron.

Class 3—Bottlers, brewers, department stores, dry goods stores, furniture moving, liquor dealers, news companies, oil distributing companies, parcel delivery, parcel post, safe movers and manufacturers, truck men, warehouse and storage automobiles.

Class 4—Barrel and box manufacturers or dealers, building material merchants, carpenters, cleaners and dyers, coal dealers, contractors, feed and grain dealers, furniture dealers, gas and water mains, ice cream dealers, ice dealers, laundries, lumber dealers, masons' materials, mineral water dealers, piano movers and dealers.

Class 5—Vacuum cleaning automobiles—all commercial automobiles not otherwise classified.

FIRES OF THE MONTH.

R. E. Culver, 2818 Frederick avenue, St. Louis, Mo.; garage, $3000.

J. P. McKeague, High River, Alberta, Can.; garage and contents.

Garage Equipment Manufacturing Company, 742 South Pierce street, Milwaukee, Wis.; factory damaged; $5000.

Little Rock Automobile Company, Third street, Little Rock, Ark.; garage, salesrooms, six cars and contents of buildings; $10,000.

Chicago Auto Supply Company, 1355 South Michigan avenue, Newark, N. J.; automobile store damaged; $1000.

Illinois Automobile Company, Galesburg, Ill.; plant and 20 cars; $25,000.

Yancey W. Ralph, 19th and Norris streets, Philadelphia, Penn.; garage, $1000.

Samuel Litchman, 629 High street, Newark, N. J.; garage and contents; $3500.

William Backman, 289 Northampton street, Boston, Mass.; garage and contents; $3000.

National Garage, 417 North Flores street, San Antonio, Tex.; garage.

McZitte's Garage, Niagara Falls, N. Y.; garage and contents; $10,000.

Burns & Church, Main street, Wheeling, W. Va.; garage.

Stice Bros., Williston, N. D.; garage and contents: $10,000.

D. E. McCann's Sons, 63 Preble street, Portland, Me.; carriage factory, garage, repair shop and contents.

Only Garage, Charleston, S. C.; garage and contents.

Alden Spear's Sons Company, Boston, Mass.; garage and contents; $8000.

Pollard Bros., South Pasadena, Cal.; garage and contents.

Valvoline Oil Company, Ltd., Penelton, Penn.; tank and pump station; $4000.

Middleton Garage, Eagle Grove, Ia.; garage and contents; $5000.

Rolfe Garage, Cuyahoga street, Seneca Falls, N. Y.; garage; $3000.

Auto Sales Company, 105 West Brookline street, Boston, Mass.; garage; $3500.

The E. Washington & Lake Avenue Garage, Pasadena, Cal.; garage and contents; $3000.

Joseph F. Hart, 1607 George street, La Crosse, Wis.; garage and contents; $8000.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

13,017. Cyclecars—A business firm in a European country informs an American consular officer that it desires to get in touch with American manufacturers of cyclecars. Correspondence should be in Portuguese or French.

12,894. Electric Automobiles—A report from an American consular officer states that a resident of his district has asked for the names of American manufacturers of small electric automobiles of 4-8 horsepower. The inquirer can correspond in English, and states that he will pay cash.

12,897. Automobiles—A company is being incorporated for the purpose of connecting two cities in the West Indies by a daily automobile service. An American consul states that the service is to be started within three months with one 12-passenger car. As soon as the service requires it another will be put on. It has not yet been decided what make of cars to purchase, but the management favors American machines and will be glad to hear from American manufacturers and to receive catalogues, etc.

12,920. Electric Vehicles—An American consul has forwarded a copy of a letter from a business firm in Scotland desirous of obtaining an agency for a good commercial electric vehicle of American manufacture for carrying one to three tons, the usual load being 1.5 tons. The firm states that it has large machinery showrooms and does its own mechanical work; also has an extensive experience with electric motors, having been engaged in electric power installations for the last 14 years. The firm would be willing to take the chassis and build the body and paint same over if necessary.

13,022. Motor Car—A resident of a foreign country informs an American consular officer that he wishes to purchase an automobile suitable for travelling in the interior of a country, where roads are rough and sandy. He would like to receive catalogues and price lists of light American cars, or cars with high wooden (buggy) wheels, such as are manufactured in certain towns in Michigan and other central states.

13,029. Automobiles—A report fronf an American consular officer states that there are at present six or seven automobiles in use in a city of his district. They are of European make and have given only fair satisfaction on account of their weight. The roads are rough in certain sections and the life of tires on this type of car is very short. A light American car would undoubtedly give better results, and as the company is already interested in them it is suggested that American manufacturers offer two or three cars, quoting prices, if possible, c. i. f. city of destination, and explaining the advantages possessed by light cars for such localities. Correspondence should be in Portuguese or Spanish.

It is reported that the Asuncion Chamber of Commerce has petitioned the Paraguayan minister of finance asking for the installation of adequate fire fighting apparatus in the custom houses. Two outbreaks of fire occurred in customs depots in a recent week.

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NEW CONNECTICUT AUTOMATIC IGNITER.

THE Connecticut Telephone & Electric Company, Meriden, Conn., well known as maker of electrical equipment, has brought out a new ignition system termed the Connecticut automatic igniter, which presents many interesting, as well as practical, features. As is customary before announcing a new product, the system was subjected to severe road and laboratory tests, all of which demonstrated the efficiency and durability of the apparatus.

The system includes a combined timer and distributor, a step-up coil or transformer, and an automatic switch. The last named is of particular interest in that it automatically cuts off the current in the event the motor is stopped with the circuit closed, preventing exhaustion of the batteries. Tampering with the switch buttons utilized is offset by the automatic feature referred to.

The igniter, which is supplied with either vertical or horizontal terminals, is very compact, and is shown with distributor at Fig. 1. One of the qualities of the design is that it cannot be reassembled other than properly, and the construction is very simple. The drive shaft, which is secured to the motor shaft by the conventional set screw method, has four longitudinal ribs, equidistant, which act as lifters for the breaker lever. The last named is in the form of a semi-circle, and by reference to Fig. 2 it will be seen that the arm is pivotally mounted at one end while the other carries a very large platinum point. The other platinum contact point is a fixed member, and the break is accomplished by a hardened and ground steel roller at the centre of the movable lever. The ribs of the shaft depress the roller and lever, obtaining the interruption of the primary current much in the same manner as in magneto practise. No engine ground is necessary in the primary circuit, as its winding is insulated from the secondary ground in the coil. The advantage is obvious. There is no possibility of the ignition being affected through short circuits in other electrical equipment of the car.

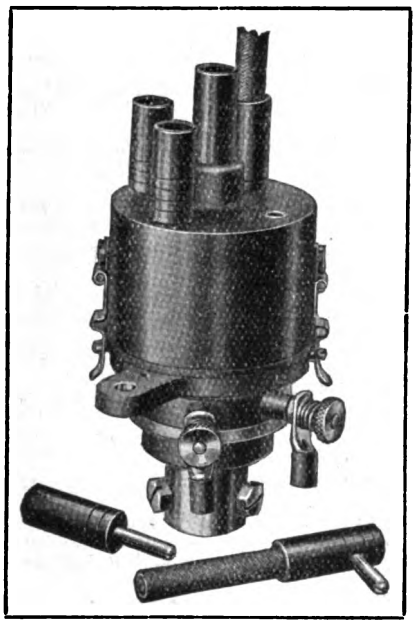

Fig. 1—The Connecticut Igniter Assembled.

A cap or cover is fitted, carrying at its centre a bearing for the extended shaft; a dowel in the timer case, entering a hole in the cover, makes it impossible to replace the cover other than correctly. The operation of the contact points is observable through a mica window. The cover is retained by a split pin above it. A spring washer maintains the proper tension, and an anti-friction washer is utilized between the spring washer and the top of the timer cover.

The distributor consists of a central cylinder of insulating material impervious to heat or moisture, and is carried at the top of the shaft, which is cut away where it enters the rotor and fits into a hole of corresponding shape, thus obtaining a drive. Located in the periphery of the rotor is a radial carbon distributing brush, which is pressed outward by a light spring in a recess in the rotor. Connection or passage of the secondary current is by means of a light, flat steel spring on the top of the rotor. The same insulating material as is used in the rotor is employed for the distributor housing and imbedded in its inner walls are the contacts, the number of which equals the number of cylinders of the motor.

The automatic switch employed is most unique. It is of the flush dash type and its dimensions are standard both as to size and location of screw holes, enabling installation on a dash bored for a standard magneto coil without alterations. The switch carries three buttons, one for the battery and another for the magneto, in case a dual system is utilized, or two sets of batteries. The third button is the releasing member, which automatically throws out any button pushed in, thereby cutting off the current supply. The switch is sturdy and the buttons may be operated by hand or by foot.

The plungers on which the buttons are mounted, operate through holes in a plate inside the cover plate; the perforated plate is pivoted and a spring keeps it normally pressed in one direction. When a switch button is pressed the conically shaped end of its plunger slightly swings the plate, which then snaps into a notch under the cone, holding the button down and keeping the circuit closed. When the releasing button is pressed its cone actuates the plate sufficiently to slip it out of the notch in the switch button that has been in engagement, allowing it to move upward.

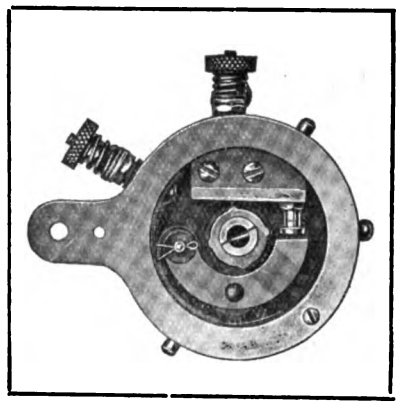

Fig. 2—Dust Cover Removed from Igniter to Show Interrupter Cam and Breaker Lever.

Mounted on the swinging plate is a sliding bar, the end of which reaches the cones of the button plungers. The length of the plate is such that when one button is pressed the cone moves out of the way, that is, towards the cone of the opposite button, and the plunger can be depressed all the way. If, however, both are pressed at the same time, both are blocked by the sliding plate, which is too long to allow both to go down together.

The automatic feature referred to, which throws out the switch disconnecting the battery in the event the operator of the car fails to do so, consists of a vibrator of the electric ball type, the hammer of which strikes the edge of the plate referred to in the description of the switch, pushing it out of the plunger notch. The current operating the vibrator is cut in by a thermostat, a mechanism that has been employed by the company for years, and one which is very practical and efficient. The thermostat, when heated by a continuous and abnormal flow of current, establishes a contact, the vibrator becomes active, operating the switch, cutting off the current supply. Upon the thermostat cooling, which requires but little time, it returns to its normal position. Another purpose of the device is to protect the ignition wiring should an excessive amount of current be introduced in the ignition circuit through trouble in other circuits.

The thermostat may be adjusted, but ordinarily it is so set that sufficient time is provided for the operator to start to crank the engine after the switch connection is established. Another feature of the system is the enclosing of the spark gap which is incorporated in the coil, its function being similar to the safety spark gap employed with magnetos.

The various types manufactured by the company are listed herein. When it is desired to operate a double system, the automatic as one and a magneto as the other, the automatic switch can be arranged to control both. Two high grade annular ball bearings are utilized in the type S igniter employed with the E and G systems, but the type J igniter has self-lubricating bearings. The material employed is formed by mixing graphite and babbitt when the metal is in a molten state. The mixture is subjected to enormous pressure and bushings made of it run without lubrication.

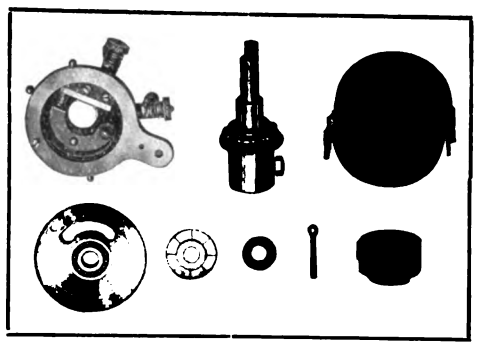

Fig. 3—Showing Igniter Used with E and G Systems Completely Disassembled.

The chief merit of the Connecticut automatic igniter is the elimination of electrical or mechanical lag, important factors in ignition. The break in the primary circuit is in accordance with principles indorsed by sound electrical engineering practise, and laboratory tests have demonstrated that there is no discoverable interval be-

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tween the interruption of the primary current and the occurrence of the spark at the plug, irrespective of the motor speed.

It is stated that the igniter produces its hottest spark on the slowest motor speeds, and that it increases as the speed decreases, although the spark is much more than ordinarily intense at high speeds. This makes possible easy starting and throttling the motor to very low speeds without sacrificing efficiency, as the propagation is very rapid.

The same high grade material and workmanship for which the products of the concern are noted, are incorporated in the coil, which is wound to carry a voltage in excess of its rating. Insulated terminals are supplied and spring binding posts are utilized, preventing connections from becoming loose. All igniters are constructed for attachment to a .5-inch vertical shaft and retained by set screws. It is stated that the system is not only economical of current, but its installation is easily made. The company issues an interesting booklet containing complete details, as well as illustrations of the new system and prices, which will be mailed upon request.

The systems produced are as follows: Type E, including S igniter and E coil; type G, including S igniter, G coil and G switch; type E J, including J igniter and E coil, and type G J, including J igniter, G coil and G switch.

AUTOMOBILE PATENTS GRANTED RECENTLY.

Folding Top Holder, Harry DeWitt Cox, Richmond, Va.; No. 1,092,898. Filed March 26, 1913.

Mechanical Gearshift, Dean C. Lewis, Reading, Penn.; No. 1,092,922. Filed May 16, 1913.

Tire, Charles H. DeVoll, New York City, assignor, by mesne assignments, to American Spring Tire Company, Dover, Del.; No. 1,092,981. Filed July 31, 1911.

Nut Lock, Otto A. Heckel, St. Louis, Mo.; No. 1,093,050. Filed Feb. 10, 1912.

Rotary Engine, Arthur K. Landsmann and Fritz Dippon, St. Louis, Mo.; No. 1,093,056. Filed Dec. 6, 1910.

Warning Device (Horn), Alpheus C. Lippincott, East Orange, N. J.; No. 1,093,058. Filed March 14, 1913.

Motor Starter, Frank Morgan, Melrose, Mass.; No. 1,093,065. Filed March 29, 1913.

Resilient Wheel, Charles W. Rentz, Diller, Neb.; No. 1,093,077. Filed July 26, 1913.

Resilient Wheel, Robert E. L. Crosby, Jonesboro, Ark.; No. 1,093,115. Filed March 1, 1912.

Lamp, Charles E. Godley, Detroit, Mich., assignor to Edmunds & Jones Manufacturing Company, same city; No. 1,093,122. Filed Sept. 24, 1913.

Spring Wheel, George W. Graves, Mosley McCollman and Alexander P. Gibson, Alderson, W. Va.; No. 1,093,124. Filed March 10, 1913.

Steering Mechanism, Charles Lepley Hays, Eldora, Ia.; No. 1,093,130. Filed Feb. 16, 1912.

Electric Heater, George A. Arnold, Middletown, Conn., assignor to Arnold Electric Company; No. 1,093,237. Filed March 19, 1913.

Bearing, Burton L. Lawton, Meriden, Conn.; No. 1,093,194. Filed Oct. 13, 1913.

Wheel, Lycurgus Anderson, Lake Creek, Tex.; No. 1,096,817. Filed Jan. 26, 1914.

Changeable Tread for Automobiles, Eli O. Anderson, Glenwood, Fla.; No. 1,096,818. Filed Aug. 15, 1913.

Internal Combustion Engine, Gustav A. F. Ahlberg, Racine, Wis.; No. 1,096,819. Filed Jan. 9, 1913.

Valve Mechanism for Air Compressors, Hugh V. Conrad, Pittsburg, Penn., assignor to the Westinghouse Air Brake Company, same city; No. 1,096,828. Filed Dec. 19, 1910.

Tire, George Kelly, Hinsdale, Ill.; No. 1,096,842. Filed June 25, 1912.

Universal Joint Coupling, Allen Loomis, Detroit, Mich., assignor to Packard Motor Car Company, same city; No. 1,096,850. Filed June 29, 1911.

Magneto Ignition Apparatus, John Lewis Milton, Chicago, Ill.; No. 1,096,853. Filed July 15, 1908.

Rotary Engine, Charles A. Rhoades, Pampa, Tex.; No. 1,096,862. Filed July 27, 1912.

Valve Mechanism, Guido Fornaca, Turin, Italy; No. 1,096,900. Filed Dec. 17, 1912.

Motor Fuel Supplying Apparatus, Alfred Freschl and John Lyon Freschl, Chicago, Ill.; No. 1,096,901. Filed April 18, 1912.

Lubrication for Engines, Arthur Constantin Krebs, Paris, France, assignor to Societe Anonyme des Anciens Etablissements Panhard & Lavassor, same city; No. 1,096,924. Filed March 17, 1913.

Spring Suspension, Geoffrey Hamilton Norman, Blackheath, England; No. 1,096,938. Filed Jan. 18, 1913.

Running Gear, Winfield Scott Proskey, Reno, Nev.; No. 1,096,947. Filed Oct. 28, 1909.

Internal Combustion Engine, William John Robb and Walter Henry Welch, Bristol, England, assignors to Banner Motors, Ltd., same city; No. 1,096,952. Filed Oct. 7, 1912.

Pneumatic Spring Wheel, Albert O. Schoelch, Shelbyville, Ind.; No. 1,096,959. Filed Jan. 31, 1914.

Explosive Engine, Frederic S. Thornley, Clarion, Ia.; No. 1,096,968. Filed Sept. 11, 1912.

Muffler, Otto C. Unke and William H. Unke, Milwaukee, Wis.; No. 1,096,970. Filed July 30, 1913.

Carburetor, William A. Bentley, Chicago, Ill.; No. 1,096,989. Filed March 10, 1913.

Internal Combustion Engine, Herbert T. Herr, Denver, Col.; No 1,097,021. Filed May 14, 1908.

Internal Combustion Engine, Delbert E. Lane, Chicago, Ill.; No. 1,097,032. Filed May 7, 1913.

Carburetor, Jesse F. Miller, Albany, N. Y.; No. 1,097,039. Filed Sept. 21, 1911.

Motor Tractor, Henry T. Preble, Berkeley, Cal.; No. 1,097,044. Filed Nov. 13, 1912.

Frictional Shock Absorber, Fridolin Schimmel, Faribault, Minn.; No. 1,097,050. Filed Oct. 30, 1911.

Combined Internal Combustion and Hot Air Engine, William J. Wright, Franklin, Penn., assignor to Wright Engine Company, Pittsburg, Penn.; No. 1,097,068. Filed April 3, 1911.

Clutch Lock, Frank H. Coon, Minneapolis, Minn.; No. 1,097,081. Filed Dec. 19, 1913.

Dirigible Lamp, Sidney Mills Freeborn, San Antonio, Tex.; No. 1,097,087. Filed Aug. 12, 1913.

Spring Wheel, Carl Lauritis Henreck Wraae and James Liddell, Cuba, Wis.; No. 1,097,114. Filed Nov. 1, 1912.

Nut Lock, Charles P. Dyer, Somerville, Mass., assignor to Mariner S. Fickett, Chelsea, Mass.; No. 1,097,121. Filed Sept. 26, 1912.

Rotary Aerial Engine, Louis Vallez, Lille, France; No. 1,097,150. Filed Aug. 9, 1912.

Spray Carburetor, Max Bucherer, Cologne, Germany; No. 1,097,165. Filed July 8, 1913.

Internal Combustion Engine, Fred D. Calkins and Alfred C. Johnson, Sunnyvale, Cal.; No. 1,097,166. Filed Jan. 30, 1913.

Top Frame, James W. Schnabel, Johnstown, Penn., assignor of one-half to Charles F. Schnabel, same city; No. 1,097,192. Filed Oct. 18, 1913.

Shock Absorber, David C. Shaw and James F. McGillivray, South Chicago, Ill.; No. 1,097,194. Filed Jan. 31, 1914.

Gearing, Donald M. Ferguson, Detroit, Mich.; No. 1,097,217. Filed Oct. 18, 1913.

Nut Lock, Frank W. Newton, Danville, O., assignor of one-half to Robert G. Baker and one-fourth to William Wagner, same city; No. 1,097,257. Filed Jan. 2, 1913.

Motor Truck, Francis M. Platt, Stuart, Fla.; No. 1,097,261. Filed Aug. 29, 1913.

Shock Absorber, John Baker, Jr., Los Angeles, Cal., assignor of one-half to Walter P. Shaw, same city; No. 1,097,286. Filed June 12, 1913.

Engine, William S. Harley, Milwaukee, Wis.; No. 1,097,315. Filed July 7, 1913.

Shock Absorber, William O. Olson, Chicago, Ill.; No. 1,097,353. Filed April 14, 1913.

Control Mechanism for Electrics, Frederick G. Peck, Buffalo, N. Y., assignor, by mesne assignments, to Buffalo Electric Vehicle Company, same city; No. 1,097,358. Filed Oct. 16, 1909.

Spring Clip, William H. Smith, Los Angeles, Cal.; No. 1,097,370. Filed April 22, 1913.

Spring Clamp, Charles A. Boreham, Coalinga, Cal.; No. 1,097,386. Filed March 10, 1913.

Jet Carburetor, Peter Donndorf, Stuttgart, Germany, assignor to Daimler-Motoren-Gesellschaft, Unterturkheim, Germany; No. 1,097,401. Filed Feb. 11, 1913.

Motor Starter, Eugene Fuller, Providence, R. I.; No. 1,097,419. Filed Sept. 24, 1910.

Wheel, Frederick Joseph Hadfield, Ringsfield, Beccles, England; No. 1,097,427. Filed Jan. 8, 1914.

Separable Rim, Henry Brinner Keiper, Lancaster, Penn.; No. 1,097,444. Filed Aug. 30, 1913.

Brake, Thomas E. Linfoot, Flint, Mich.; No. 1,097,451. Filed Nov. 24, 1913.

Locking Device for Hood, Albert E. Marshall, Asheville, N. C.; No. 1,097,455. Filed June 17, 1913.

Windshield, Raphael Netter, New York City, assignor to Oliver M. Edwards, Syracuse, N. Y.; No. 1,097,459. Filed March 19, 1909.

Explosive Engine, Leland Scott, St. Joseph, Mo., assignor of one-half to Louis Huggins, same city; No. 1,097,475. Filed Oct. 22, 1912.

Bolt and Nut Lock, David D. Tulloch, Newark, N. J.; No. 1,097,484. Filed Oct. 24, 1913.

Automobile Lock, Francis O. Ulrich, Tamaqua, Penn.; No. 1,097,486. Filed Jan. 6, 1914.

Hinged Seat, Jasper Luther Beeson, Milledgeville, Ga.; No. 1,097,512. Filed Aug. 6, 1912.

Transmission Mechanism, Alen J. Carlton, Fellows, Cal.; No. 1,097,532. Filed July 24, 1913.

Swinging Searchlight, Frank Jackson, Denver, Col.; No. 1,097,588. Filed Aug. 13, 1912.

Tire, Christian Specht, Woodhaven, N. Y.; No. 1,097,596. Filed Aug. 3, 1912.

Windshield, Raymond Magnier, New York City, assignor to Oliver M. Edwards, Syracuse, N. Y.; No. 1,097,603. Filed March 26, 1909.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

William S. Gray, Greenwich, Conn.; two-story brick garage; chauffeur's and gardener's cottage, 32x100.

E. L. Tustin, Oberbrook, Penn.; two-story garage.

Speck & Sperry, Heed building, Philadelphia, Penn.; 1.5-story garage, 20x24, to be erected at Oak Lane, Penn.

C. E. Schermerhorn, Philadelphia, Penn.; 1.5-story stucco garage, to be erected at Oak Lane, Penn.

Elfreth & Wood, 1708 Sanson street, Philadelphia, Penn.; garage, to be erected at Wilmington, Del., for Archibald du Pont.

Graham Campion, Heed building, Philadelphia, Penn.; one-story brick garage, 45x60, to be erected at 12th and Norris street, for J. Carmichael.

Horace H. Reeves, Jr., 1420 Chestnut street, Philadelphia, Penn.; one-story garage, 23x33, to be erected at 432 West Walnut lane, Germantown.

Charles L. Dewale, Atlantic Highlands, N. J.; two-story garage and living quarters, 26x45, $4000.

Brayley & Knowles, Somerville, Mass.; one-story garage, 61x29, $4000; at Boston, Mass.

C. N. Cohn, Lefferts avenue, Richmond Hills, L. I., N. Y., one-story garage, 40x93, $8000.

A. M. Lowe, 4261 Walnut street, Kansas City, Mo.; two-story garage and flat building, 37x57, $7000.

Charles Baier, Salma, Kan.; one-story garage, 50x100, $5000.

O'Harrow Automobile Company, Charles City, Ia.; one-story garage, 44x132.

G. W. Brett, 111½ State street, Mason City, Ia.; two-story garage and flat building, 26x38.

P. Connell, 514 St. Peter street, St. Paul, Minn.; one-story commercial garage, 60x140.

Pittman, Myers Company, 111 North Capital avenue, Indianapolis, Ind.; one-story garage and shipping room at Zionsville, Ind.; $10,000.

C. A. Genge, 2130 East Washington street, Indianapolis, Ind.; one-story garage, 40x80, $5000.

J. J. Hinaman, North Main street, Marion, O.; two-story garage and flat building, 66x165, $20,000.

A. Hansold, Ben Avon, Penn.; garage, $15,000.

A. D. Nelson, 928 North Fifth street, Reading, Penn.; one-story garage, 16x24, at Wyonnissing, Penn.

C. H. Guelich, Philipsburg, Penn.; one-story garage, 66x115, $12,000.

J. T. Coakly, Weymouth, Mass.; one-story garage, 20x20, $7000.

J. T. Beckett, 70 Bedford street, Fall River, Mass.; one-story garage, 25x37.

Frank Woodward and B. G. Underwood, Deposit, N. Y.; one-story garage, 40x60.

Kerr & Murray, Deposit, N. Y.; one-story garage, 50x80.

Frank J. Rohr, Jay street, Rochester, N. Y.; garage, 30x75, $7000.

William R. Shafer, 672 Central avenue, Albany, N. Y.; one-story garage, 41x60, $4000.

P. A. Grant, 5859 Greenwood avenue, Chicago, Ill.; one-story garage, 44x24.

G. H. Huntoon, Moline, Ill.; two-story garage, 40x60, $18,000.

Henry C. Biddle, Ambler, Penn.; one-story garage, 60x60, $2000.

Mrs. Hannah Frederick, 25 North Ninth street, Reading, Penn.; one-story garage, 13x13.

W. H. K. Herron, 737 Society for Savings Building, Cleveland, O.; one-story garage and store building, 60x80, $5000.

R. H. Harned, 223 West Second street, Davenport, Ia.; one-story garage, 20x40.

B. Mabon, Northfield, Minn.; 1.5-story garages and stables, 60x80.

George C. Call, 334 Davidson building, Sioux City, Ia.; one-story garage; $12,000 to $15,000.

Joseph Baska, 2440 South Harding avenue, Chicago, Ill.; two-story garage and flat, 23x30.

Heywood Bros., and Wakefield Company, 2653 Harvard street, Chicago, Ill.; one-story garage, 50x50.

E. D. Metcalf, 86 South street, Auburn, N. Y.; garage, $2000.

H. J. Heins Company, Boston, Mass.; garage, stable and factory at Cambridge, Mass.

John J. Carlin, 215 St. Paul street, Baltimore, Md.; three garages, each one-story, $7500.

Julius Henke, 193 East Grand boulevard, Detroit, Mich.; one-story garage, 20x20, $1500.

E. L. Dwyer, 86 Merrick avenue, Detroit, Mich.; one-story garage, 24x26.

Isadore Marx, 258 East Grand boulevard, Detroit, Mich.; one-story garage, 20x32.

Louis Fabry, Green Bay, Wis.; one-story garage, 24x34, $1300.

Patrick McMichal, 1320 Parrish street, Philadelphia, Penn.; one-story garage, 58x75.

M. G. Barney, 59 Park avenue, East Orange, N. J.; one-story garage, 50x100, $2500.

Bert A. Vance, 24 Sycamore street, New Bedford, Mass.; one-story garage, 43x85, $5000.

H. E. Neff, Newark, N. J.; one-story garage, $1200.

Moore Estate, New York City; four-story garage, 175x100, $175,000.

C. J. Peck, 53 West Jackson boulevard, Chicago, Ill.; 1.5-story garage, 100x130.

CONTRACTS AWARDED.

W. M. Crilly Company, 35 South Dearborn street, Chicago, Ill.; one-story garage, $5000, for Coca Cola Company, Chicago.

Harris Construction Company, 15 Bank street, Stamford, Conn.; one-story garage, 50x170, $14,000, for Bell Bros.

Henry Eisenlohr, Newark, N. J.; has awarded the contract for the erection of a one-story garage, $5000.

Herman Low, 235 Breckenridge street, Detroit, Mich.; garage for Frank Grapentine.

J. Wortman, 6143 Bartmer avenue, St. Louis, Mo.; one-story garage for Mrs. Florence Longstreth.

Thomas Hald, 2733 Court street, Sioux City, Ia.; garage for A. Jensen.

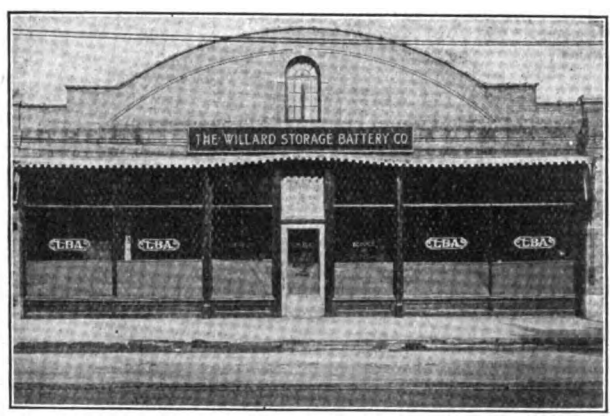
George Spicer, 429 West Ostrand avenue, Syracuse, N. Y.; one-story garage, 20x28, $1000.

Langman Bros., 1404 21st street, Rock Island, Ill.; one-story garage, 40x60, $5000, for J. L. Smith.

W. C. Ball, Brownstown, Ind.; one-story garage, $5000, for Richards, Robertson & Hackendorf.

R. F. & C. D. Stewart, Reeder building, Easton, Penn., garage for Paul M. Thomas.

A. Friederich & Sons, Rochester, N. Y.; two-story garage and flat building, 41x43, $6000, for C. A. Babcock.



Willard Storage Battery Company's Detroit Branch.

Harvey Stiver, Kansas City, Mo.; two-story garage, 100x134; for the Midland Realty Company.

Thomas F. Cullinane, Providence, R. I.; one-story garage, 30x35, for John N. Schott.

M. Sherry, 4 Burnett street, Utica, N. Y.; one-story garage, 26x58, $1000, for Samuel Goldberg.

C. Dunlap, 435 New street, Springfield, Ill.; one-story garage, 63x90, $4000, for J. E. Hemmick.

William H. Eddleman, 453 Green lane, Philadelphia, Penn.; 2.5-story stone garage chauffeur's home, 25x26, for Charles L. Betts.

Mueller Construction Company, 179 Washington street, Chicago, Ill.; one-story garage, $4000, for J. Cohen.

John E. Kearney, Haverford, Penn.; garage, 25x39, for Horace H. Lee.

Bert L. Elmer, Kansas City, Mo.; two-story garage, 23x40, $3500, for G. M. Smith.

E. O. Hamilton, Omaha, Neb.; one-story garage, 40x132, $9000, for Edward A. Philan.

J. C. Laughlin, Hartford, Conn.; two-story garage, 30x26, $9000, for A. Hartman.

Milton C. Davis, Baltimore, Md.; one-story garage, $10,000, for A. D. Foster.

G. R. Fredler, 12 Dean place, Poughkeepsie, N. Y.; one-story garage, 40x15, $14,000, for Charles M. Clay.

Abach's Construction Company, North Indiana avenue, Atlantic City, N. J.; three-story garage, 50x105, $40,000.

Charles Gilpin, Philadelphia, Penn.; two-story garage; at Cynwud, Penn., for the Bromely Service.

Harry Gill, Jr., Philadelphia, Penn.; two-story garage, 50x175, $25,000, for Kahn & Greenberg.

William Gilchrist, 3116 B street, Philadelphia, Penn.; three-story garage, 18x60, $4000.

T. H. Fraser Company, 215 Montague street, Brooklyn, N. Y.; one-story garage, for N. H. Donald, Donald Hills, L. I., N. Y.

W. Houck, 165 North Hare street, Baltimore, Md.; addition to garage, $2000, for J. H. Sneeringer.

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GARAGES AND REPAIR SHOPS.

J. Pugh, East Liverpool, O., is erecting a new garage on Mulberry street.

The Commercial Garage Company, Oakland, Cal., is erecting a new garage to cost $30,000.

The Imperial Garage & Supply Company, Oakland, Cal., is to erect a new and modern garage on Franklin street to cost $25,000.

A. C. Mayer, Rowley, Mass., is erecting a new garage on Haverhill street.

E. G. Bruns, Titonka, Ia., has begun the erection of a public garage and livery.

Harry Haskins, Kingman, Ariz., will erect a new garage and machine shop on South Front street, to cost $15,000.

W. J. Snoddy, Lafayette, Ind., is to erect a first class fireproof two-story garage at the corner of Sixth and South streets. Latest machinery will be installed. It will be occupied by Morgan, Torrenga & Snoddy, agent for Buick and Jeffery cars.

Schenck & Seggeran, Belleville, N. J., is erecting a modern one-story garage on Washington avenue, at a cost of $7500.

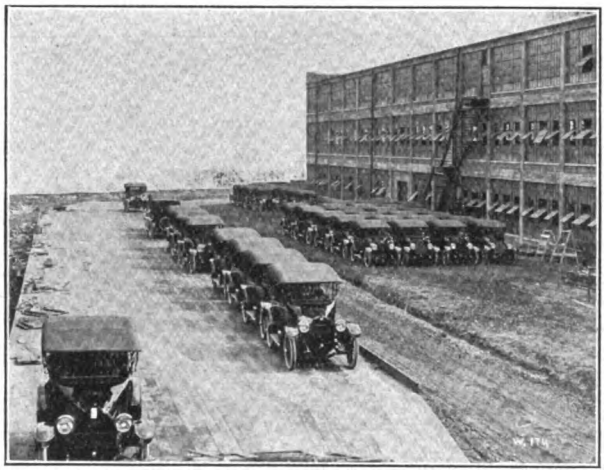
The P. C. Peterson Auto Company, Rock Island, Ill., is erecting an up-to-date garage at 419 West Third street. The company will install the latest machinery.

William Endicott, Roachdale, Ind., who is well known as a racing driver, is building a large garage, in which he will conduct a salesroom and repair shop.

Fred H. Ramhorst, New Brunswick, N. J., is erecting a first class fireproof garage at a cost of $10,000.

Owen & Montgomery, Pocahontas, Ia., has started work on its new garage.

Reuben Daniels and Wilbur C. Crane, Little Falls, N. Y,. are erecting a new first class garage and repair shop. A partnership will be formed and an automobile and



A Portion of One Day's Shipment of Paige Cars from the New Factory in Detroit.

hacking business will be conducted. The building is located on Paterson avenue.

Newman & Krivitsky, Brighton, Mass., has purchased property on Walbridge street and will erect a a new modern, fireproof garage.

The Ohio Sales Company, Columbus, O., will locate a garage on North High street.

C. M. Leith is to erect a new garage at Tucson, Ariz.

G. Scholer, New York City, is to erect an up-to-date garage on St. Nicholas avenue, costing approximately $8000.

J. McClure, Chicago, is erecting a one-story garage at 2029 Fullerton avenue, at a cost of $5000.

P. P. Simons, La Jalla, Cal., is having an up-to-date garage erected on Harshoel street, and will operate a first class garage and automobile repair business.

The Dunn-Albright-Ames Company, Los Angeles, Cal., is erecting a first class garage on Grand avenue.

Gilbert & Schmidt, Wabasha, Minn., has started to erect a modern garage on Second street.

D. L. Hansberger, Lancaster, O., is to erect a garage on the site at Columbus and Chestnut streets, which he leased recently. He handles the Ford cars.

The Star Carpet Cleaning Works, Detroit, is erecting an up-to-date garage. It will be 30 by 100 feet and will be used in connection with the company's new plant at 548 Mount Elliot avenue.

The Grant Estate, New York City, will erect a new four-story garage at 215 West 48th street, at a cost of $15,000.

The Parker Motor Car Company, Seattle, Wash., has started to erect a two-story brick garage which will cover a triangular lot having 151 feet on Pine street, 129 feet on Melrose avenue and 104 feet on Minor avenue. It will cost $25,000.

W. J. McDonald, Boston, Mass., will erect a new and modern garage on Commonwealth avenue. The cost is estimated at $60,000.

The Hudson Garage Company, Stafford Springs, Conn., is planning to erect a new building.

Duncan Dorris, Nashville, Tenn., is to erect a first class garage at 1510 Broadway, costing about $15,000.

H. E. Vail, Gloversville, N. Y., is planning to erect a new modern and fireproof garage equipped with the latest improved machinery and devices.

The Ball Garage is the name of the new garage which is being erected in Fargo, N. D. It will cost $50,000 and will be equipped with the latest machinery.

C. E. Williams, Akron, O., is to build a modern garage on North Broadway. He is agent for the Stanley steam cars.

Visner & Taravanthan, El Paso, Tex., will erect a new and modern brick garage on North Stanton street at a cost of $20,000. It will be equipped with a machine shop, fully up-to-date. The company handles the Velie cars.

Reid & Layne, Los Angeles, Cal., of the Auto Garage on Pier avenue, will erect a new brick garage at Santa Monica, Cal., to cost $22,000.

The Tri-City Auto Supply Company, Rock Island, Ill., has purchased property on 19th street and will erect a modern building on the site.

W. Woltersdorf, Milwaukee, Wis., is to erect a new modern garage to cost $3500 at 488 18th street.

William Dudley Foulke, Richmond, Ind., is to erect a modern garage at 1115 Main street, and work has started on the building.

The A. M. E. Taxicab Company, Flushing, N. Y., will erect a modern garage on Broadway.

Smith & Parks, Modesto, Cal., has purchased land on 10th street and will build a first class fireproof garage.

The Henry County Automobile Company, Paris, Tenn., will occupy the new modern garage which is being erected on West Wood street.

W. Dinsmore, Derby, N. H., will erect a new garage and will represent a standard car.

L. F. Souerwine, Slatington, Penn., is to erect an up-to-date garage on Spring street.

The Einspahr Automobile Company, Odebolt, Ia., is to erect a new modern garage.

F. Mead, Albany, N. Y., will erect a new fireproof garage of brick, which will be three stories in height.

The Irwin Garage is the name of a new company located at Quincy, Ill., which is building an up-to-date garage on Third street.

N. E. Sexton, San Francisco, Cal, is to erect a modern garage.

W. K. Clarkson, Woodlake, Cal., is to erect a new garage which will be modern throughout.

T. H. Field, Rice Lake, Wis., has leased the Rice Lake roller rink for five years and will convert it into a modern garage and repair shop, which will be the largest in that territory. He handles the Ford and Overland cars.

Fred Bigler, Eau Claire, Wis., has purchased land on East Spring street, and will erect a large fireproof garage.

ADDITIONS AND IMPROVEMENTS.

Harry Y. Wittle, Lebanon, Penn., has enlarged his garage to facilitate better handling of his increasing business.

William Fairchild, Walden, N. Y., is having an addition erected to his garage at 23 Orange street, where increasing business demands this room.

The Allyn Garage, Mankato, Minn., is being remodelled by Halstrom & Lavin, who will conduct a garage and repair shop. The latest machinery will be installed.

The Thomaston Garage, Reynolds Bridge, Conn., is having extensive improvements made to its garage. R. W. Tyler is proprietor.

N. B. Slack, West Chester, Penn., has had big improvements made to his building on North Walnut street. He deals in automobiles and accessories.

The Capital Garage, Salt Lake City, Utah, has made extensive improvements to its building.

Younker, Bourke & Nickerson, Conrad, Ia., is making extensive improvements to its building by erecting a 50-foot addition to the garage.

The Green Automobile Company, Danbury, Conn., is having extensive improvements made to its garage.

Hannan & Henry, Plattsburg, N. Y., is to erect a large addition to its garage located on Margaret street. Work has started.

The City Garage, Carrington, N. D., is having extensive improvements made to its garage. A second story is being added and new lathes, and the latest machinery will be installed.

Oscar Ritter, Ardmore, Okla., has leased the old hospital building and will remodel it for use as a garage. He handles the Oakland cars.

W. E. Hull, Poplar Grove, Ill., is remodelling an old shop into a modern garage and repair shop and will open it himself. He has arranged to represent the Overland and Studebaker cars. Mr. Hull was with the W. M. Webster Company for 12 years.

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NEW DEPARTURE BALL BEARINGS

Quality Plus — *American Made for American Trade*

Distribution centers for New Departure ball bearings have been established in all parts of the country where stocks of Single Row and Radax type particularly are carried. These are absolutely interchangeable with other standard makes.

Send your order to the house nearest you and it will have immediate attention. This service will bring an important advantage to you and enable you to so satisfactorily serve your customer that his car need not be out of commission more than a few hours.

The following is a list of New Departure distributors:

ALBANY, Albany Hardware and Iron Co.
ATLANTA, Elyea-Austell Co.
BOSTON, Ahlberg Bearing Co., 93 Massachusetts Ave.
BOSTON (Hyde Park), Pruyn & Bilodeau, 1550 River St.
BUFFALO, Iroquois Rubber Co., 279-283 Washington St.
CINCINNATI, Herman Bumiller Co., 432 Main St.
CHICAGO, Ahlberg Bearing Co., 2636 Michigan Ave.
CHICAGO, Chicago Pulley & Shafting Co., 32-36 S. Clinton St.
CLEVELAND, Cray Brothers, 1111 West 11th St.
DENVER, Denver Auto Goods Co., 1600 Broadway.
DENVER, Fry & McGill, 1532 Broadway.
DENVER, M. L. Foss, 1729 California St.
DES MOINES, Herring Motor Supply Co., 912-14 Locust St.
INDIANAPOLIS, Hearsey-Willis Co.
KANSAS CITY, MO., Motor and Machinists Supply Co., 1519 Grand Ave.
LOS ANGELES, Western Rubber and Supply Co., 1011 S. Olive St.
MINNEAPOLIS, Pence Automobile Co., 800 Hennepin Ave.
NEW YORK CITY, Ahlberg Bearing Co., 1790 Broadway.
NEW YORK CITY, Jos. C. Gorey & Co., 352 W. 50th St.
NEW YORK CITY, The Gwilliam Co., Broadway and 58th St.
NEW YORK CITY, Pruyn & Bilodeau, 1876 B'way, Cor. W. 62nd St.
NORFOLK, Chemi Company, 438 Granby St.
OMAHA, The Lininger Implement Co., 1101 Sixth St.
PASADENA, Western Rubber and Supply Co., 66 S. Fair Oaks Ave.
PHILADELPHIA, The Gwilliam Co., 1314 Arch St.
PITTSBURGH, Machinists Supply Co.
PORTLAND, ME., James Bailey Co., 18 Free St.
PORTLAND, ORE., Ballou & Wright, Broadway and Oak St.
RICHMOND, VA., Chemi Company, 629 E. Main St.
ROCHESTER, Rochester Rubber Co., 24 Exchange St.
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SALT LAKE CITY, Bertram Motor Supply Co., 251 South State St.
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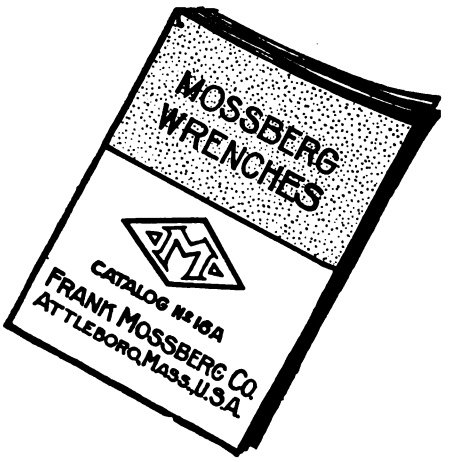
REPRESENT the highest development in wrench construction, backed by more than fifteen years manufacturing experience and a thorough knowledge of the requirements of wrench users.



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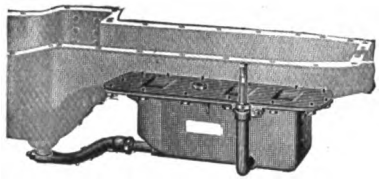

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Also manufacturers of

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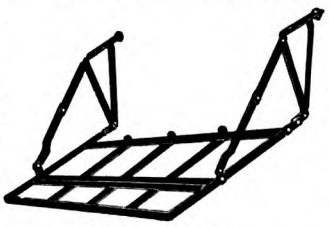
For all makes of Automobiles



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in all	One Qt. "	24 " "	" "	.50
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Satisfaction	1-4 " "	48 " "	" "	.15
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No Coupling, as horn shank clamps over end of exhaust pipe

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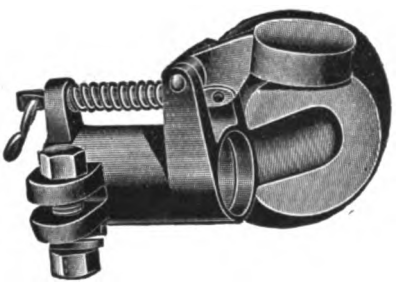

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Complete equipment, $4.00

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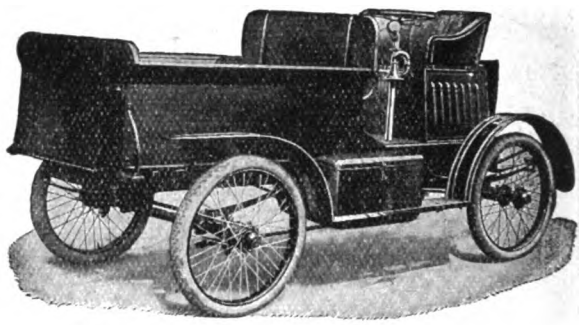

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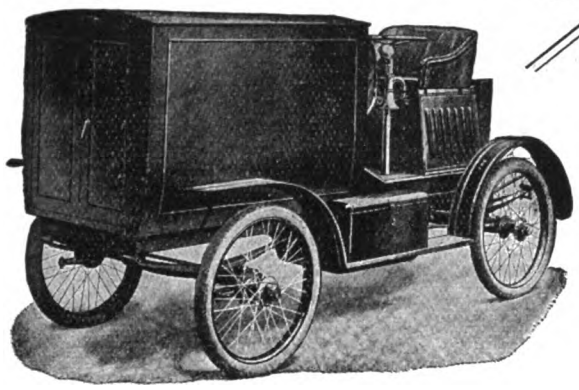

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Ball Carbon Remover

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These special Ford Shock Absorbers insure added comfort, safety, greater tire mileage and greater life of the car.

Remember, these are real Shock Absorbers—the most satisfactory, easiest to install and the least expensive. **$15.00** per set.

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Don't miss this chance to make big money handling the best selling line in the accessory field. Generous profit. No "comebacks," no repairs, no replacements. Stock covers for all the leading makes of cars. Write today for our proposition.

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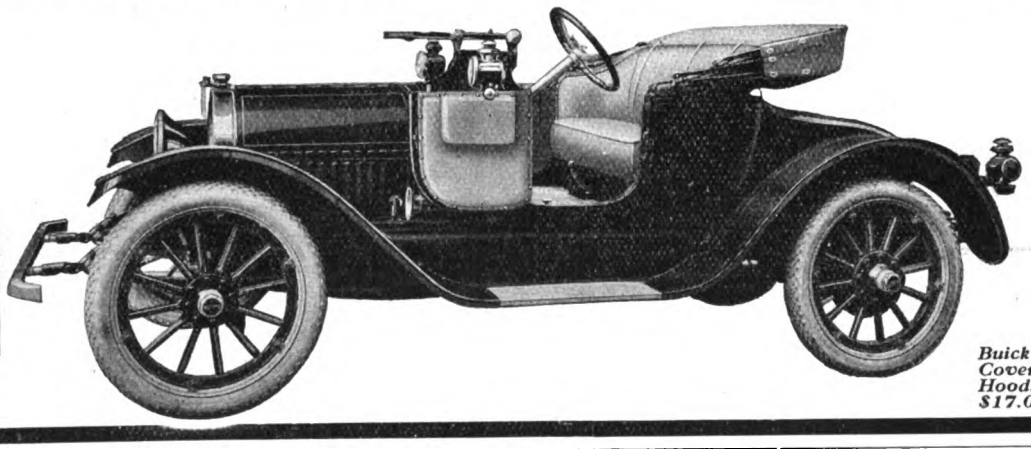

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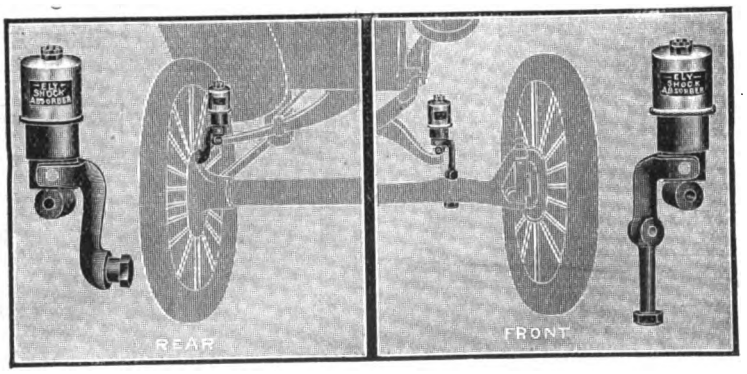

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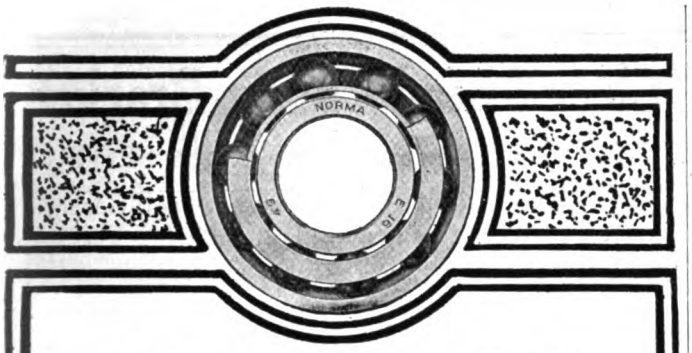

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Efficient, durable and silent-running at even the highest speeds; used in most of the high-grade magnetos, lighting generators and starting motors on the market; the best for every high-speed purpose; the best for your work.

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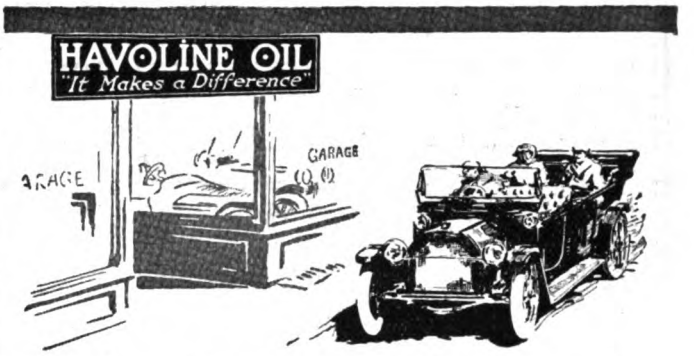

That's the Lubricant

that stops the car in front of your door and starts it running again properly. It's so widely advertised and so meritorious that

Motorists

the world over demand it. It is made only from *one, uniform base crude* oil and manufactured by our "special process," which removes all free carbon and impurities, yet *leaves the molecules whole.* It burns up evenly and cleanly and leaves the least carbon deposit. Here's how you can benefit by this

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NOTE! Our New Price Scale policy enables you to make "customers" where heretofore you had only "sales." Ask us *how!*

INDIAN REFINING CO.

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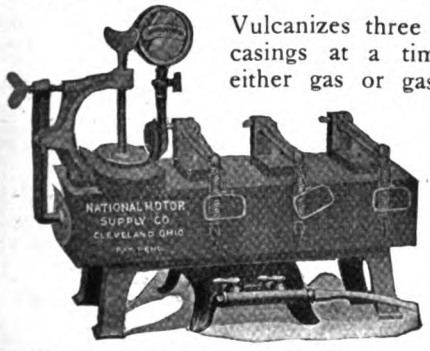

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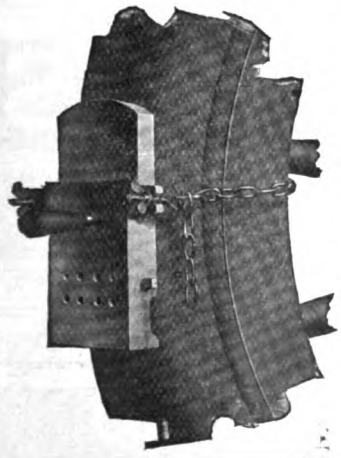

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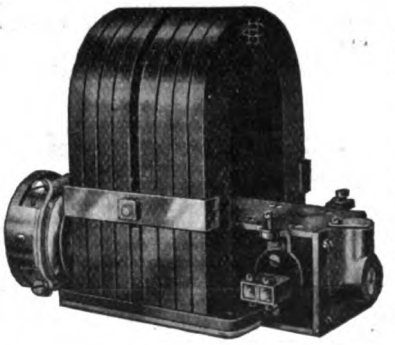
against complicated and overgrown lighting systems



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do the work with far less trouble and expense.

Some Reasons For Their Success

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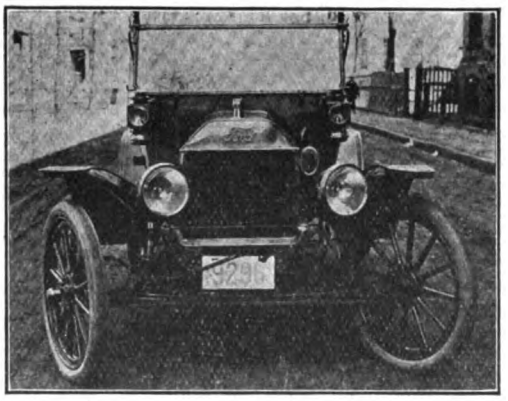

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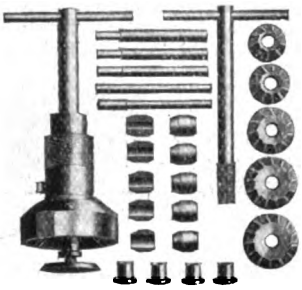

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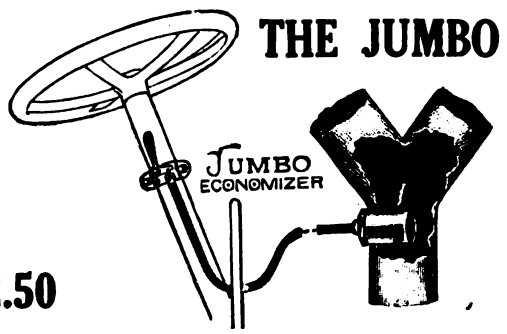

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Varies air supply injected into intake manifold and fully vaporizes the gasoline. Lasts longer than the car. Saves its cost in a few days.

Ford car owners buy at sight. All motorists want it. Can be used on any make of car.

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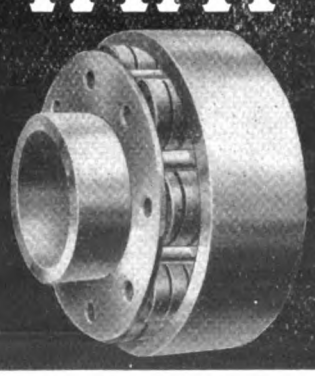

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Patents issued 1,043,224---1,050,942---1,078,347 and others Pending.

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Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Tire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

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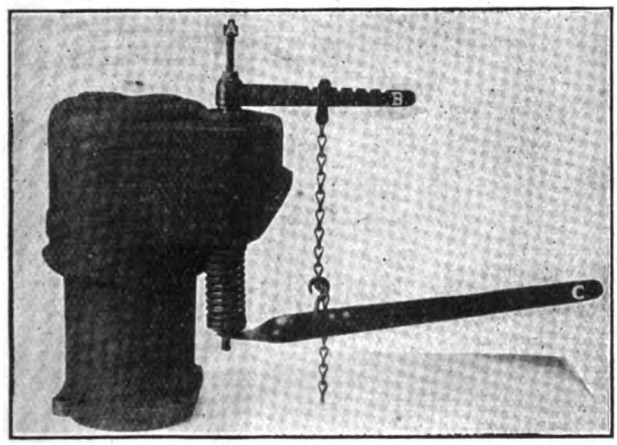

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TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained, will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.
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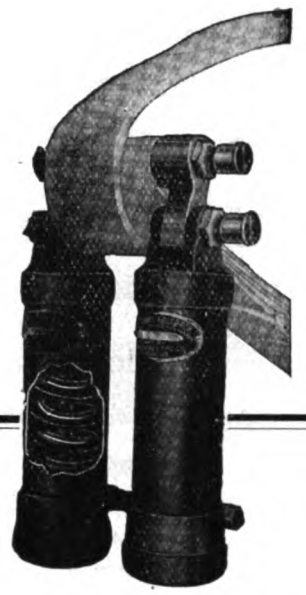

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.

Auto Parts Co., Providence, R. I.

Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.

Denver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Miller, Chas. B., 97-103 Reade St., New York.

Branches: 203-204 Columbus Ave., Boston; Bridge and Dwight Sts., Springfield, Mass.; 274 Trumbull St., Hartford, Conn.; 924 Eighth Ave. and 2782 Broadway, New York; 1421 Bedford Ave., Brooklyn, N. Y.; 818 North Broad St., Philadelphia; 824 Main St., Buffalo, N. Y.; 1829 Euclid Ave., Cleveland; 227 Jefferson St., Detroit; 250 Peachtree St., Atlanta, Ga.; 601-603 Baronne St., New Orleans, La.; 185 Central Ave., Albany, N. Y.; 274 Halsey St., Newark, N. J.

Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.

Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.

Northwestern Chemical Co., Marietta, O.

Weite Auto Supply Co., 81 Exchange place, Providence.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago.; 1786 Broadway, New York City; 806 Woodward Ave., Detroit.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Hyatt Roller Bearing Co., Detroit.

Marburg Bros., Inc., 1790 Broadway, New York. (S. K. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Edison Storage Battery Co., 127 Lakeside Ave., Orange, N. J. (Edison.)

Electric Storage Battery Co., Philadelphia. (Exide.)

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M.)

Weite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BATTERY EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (J-M Non-Burn.)

Russell Mfg. Co., Middletown, Conn. (Russco.)

Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)

Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Seger Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Pindelson & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)

Branches: 1140 Michigan Ave., Chicago; 1211 Woodward Ave., Detroit; 1902 Broadway, New York City.

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

American Voiturette Co., Detroit. (Keeton.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Cole Motor Car Co., Indianapolis, Ind. (Cole.)

Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)

Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)

Knox Motors Co., Springfield, Mass. (Knox.)

Lexington-Howard Co., 131 Main St., Connersville, Ind. (Lexington and Howard.)

Maxwell Motor Co., Inc., Detroit. (Maxwell.)

Mets Co., Waltham, Mass. (Mets.)

Moline Automobile Co., E. Moline, Ill. (Moline.)

National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Premier Motor Mfg. Co., Indianapolis. (Premier.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Stutz Motor Car Co., Indianapolis. (Stutz.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

Willys-Overland Co., Toledo, O. (Overland.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Alma Motor Truck Co., Detroit. (Republic.)
Factory: Alma, Mich.

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Blair Mfg. Co., Newark, O. (Blair.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Dart Manufacturing Co., Waterloo, Ia. (Dart.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Knox Motors Co., Springfield, Mass. (Knox and Martin Tractor.)

MotoKart Co., 1790 Broadway, New York City. (MotoKart.) Factories, Peekskill and Tarrytown, N. Y.

Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Studebaker Corp, Detroit, Mich. (Studebaker.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.

General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.

Knox Motors Co., Springfield, Mass. (Knox and Martin Tractor.)

Willys-Overland Co., Toledo, O. (Overland.)

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BUYERS' GUIDE---Continued

CEMENTS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Bond, F. Shirley, 908 Boylston St., Boston. (Baldwin.)
Miller, Chas. E., 97-103 Reade St., New York. (Brampton.)
Branches: See Accessory Manufacturers and Jobbers.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 80 Flatbush Ave., Brooklyn, N. Y. (Ball Carbon Remover.)
Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.
Northwestern Chemical Co., The, Marietta, O. (Carbonox.)
Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)
Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., Marietta, O. (Fire-Fly.)
Pyrene Co. of New England, 176 Federal St., Boston. (Pyrene.)

FORD AUTOMOBILE SPECIALTIES.

Denver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS AND GASKET CUTTERS.

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHTS, TURNING.

Headlight Support Co., 1217 Dime Bank Bldg., Detroit.

HORNS.

Bonner, D. Henry, Co., Cambridge, Mass. (Tremo.)
Garford Mfg. Co., Elyria, O. (Tuto.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Monoplex.)

IGNITION APPARATUS.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia, Penn.

INSULATION.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

JACKS, ETC.

Shawver Co., Springfield, O.

LAMPS, TAIL. (See Tail Lights.)

LEATHER GOODS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTING SYSTEMS, ELECTRIC.

Garford Mfg. Co., Elyria, O. (Dynalux.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

LOCKING DEVICES.

Headlight Support Co., 1217 Dime Bank Bldg., Detroit. (Gasolock.)

LUBRICANTS.

Alden & Goulding Co., Worcester, Mass. (Alding.)
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Hawe, Geo. A., 148 Front St., New York. (Panhard.)
Branch: 899 Boylston St., Boston.
Indian Refining Co., 17 Battery Place, New York City. (Havoline.)
Miller, Chas. E., 97-103 Reade St., New York. (Pan-American.)
Branches: See Accessory Manufacturers and Jobbers.
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)
Northwestern Chemical Co., Marietta, O. (Gear-Silence.)
Platt & Washburn Refining Co., 1 Broadway, New York City. (Veedol.)
Standard Oil Co., New York. (Polarine.)
Branches: In all cities.
Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)
Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.
Eisemann Magneto Co., 225-227 W. 57th St., New York City. (Eisemann.)
Branches: 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.
Heinze Electric Co., Lowell, Mass. (Heze.)
Holtzer-Cabot Co., Brookline, Mass.
Branches: 101 Park Ave., New York City; 6161-65 So. State St., Chicago; 1005 Union Trust Bldg., Baltimore, Md.
Marburg Bros., 1790 Broadway, New York. (Mea.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LISTS.

Owners' Auto List Co., Albany, N. Y.

MASTER VIBRATORS.

New York Coil Co., 238 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savel.)

METERS, ETC.

Kent Mfg. Works, Atwater, 4937 Stenton Ave., Wayne Junction, Philadelphia. (Kent Pocket.)
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTORING ORGANIZATIONS.

Federation American Motorcyclists, E. M. Estabrook, Bangor, Me.

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)
Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PACKING, FIRE.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

International Metal Polish Co., Quill St. and Belt R. R., Indianapolis, Ind. (Blue Ribbon.)
Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.
Northwestern Chemical Co., Marietta, O.

PRIMERS.

Duelco Vaporizing Primer Co., 14 No. Broadway, Yonkers, N. Y. (Duelco Vaporizing.)

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Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Green & Sweet Co., 737 Boylston St., Boston. (Tri-Phoon Car and Garage.)

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BUYERS' GUIDE---Continued

Shoover Co., Springfield, O.

REAMERS.

Martell Motor Co., 1928 Columbus Ave., Boston. (Martell Aligning.)

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)

Chester Demountable Rim Co., Fall River, Mass. (Chester Demountable.)

United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)

Branches: New York, Chicago, San Francisco.

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)

Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, Birmingham, Ala.; London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

SEAT COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SELF-STARTERS. (See Motor Starters.)

SHIELDS, MOTOR.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Asbestos.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.

J. M. Shock Absorber Co., 210 So. 17th St., Philadelphia. (J. M.)

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Colgate & Co., 199 Fulton St., New York City. (Moto-Gloss and Mechanics' Soap Paste.)

Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUG CASES.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SPARK PLUGS AND IGNITERS.

Alden & Goulding Co., Worcester, Mass. (Alding.)

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: See Magnetos and Magneto Supplies.

Heinze Electric Co., Lowell, Mass. (Heco Priming.)

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

Mosler, A. B. & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)

Silvea Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: See Magnetos and Magneto Supplies.

SPARK PLUG TERMINALS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

SPEEDOMETERS, RECORDERS, ETC.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City. (Electric.)

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TAIL LIGHT DETECTORS.

Herding Specialties Co., Inc., 755 Boylston St., Boston. (Boston.)

TAIL LIGHTS.

Combination Tail Light Co., 954 Tremont St., Boston. (Universal Electric.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Lite.)

Branches: See Cylinder Cleaning Compound.

TANKS, TIRE INFLATING.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Baby Tire Filler, The Emancipator.)

Branches: See Cylinder Cleaning Compound.

TAPE, ASBESTOS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)

Shoover Co., Springfield, O. (Tools.)

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)

Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)

Branches: In all principal cities.

Mohawk Tire & Rubber Co., Akron, O.

United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)

Branches: See Rims—Removable and Detachable.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)

Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)

Polack Tyre & Rubber Co., 246 W. 58th St., New York City. (Polack.)

United States Tire Co., Broadway and 58th St., New York.

Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

TUBING, GAS.

Johns-Manville Co., H. W., Madison Ave. and 41st St., New York City.

VALVE LIFTERS.

Wilcox Mfg. Co., Providence, R. I.

VARNISHES, ETC.

Valentine & Co., 456 Fourth Ave., New York City; 348 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VENTILATORS.

Wattles, C. A., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VIBRATORS. (See Master Vibrators.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

National Motor Car Supply Co., 5604 Euclid Ave., Cleveland. (National Garage Steam and Wizard Automatic.)

Vanderpool Co., Springfield, O.

Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Welder.)

Branches: See Cylinder Cleaning Compound.

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.

Cutter, George A., Taunton, Mass.

Mossberg Co., Frank, Attleboro, Mass.

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VOL. IV. PAWTUCKET, R. I., JUNE, 1914. NO. 2

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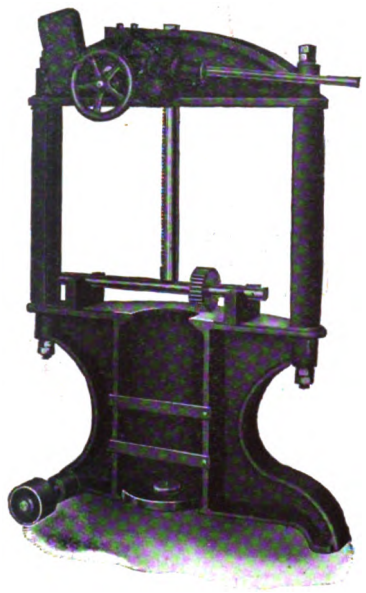


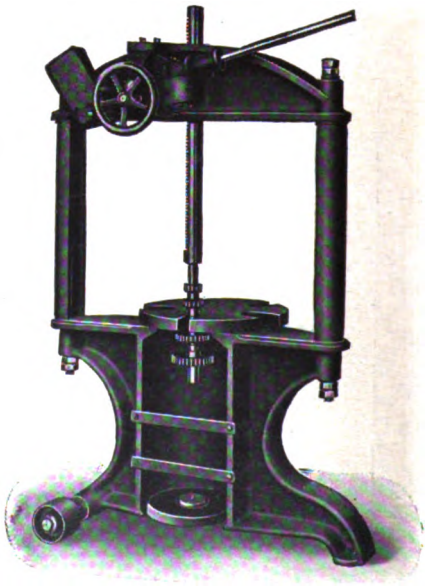
EVER have a good customer watch one of your men drive off a gear with a sledge hammer when your customer and you knew that your neighbor had a

GREENERD ARBOR PRESS

that would press the gear off or on and do a job better and in much quicker time?

You want your *service* the best. GREENERD ARBOR PRESSES help you to give that precious and profitable commodity known as SERVICE.

We want to tell you more about GREENERD ARBOR PRESSES. We build 15 sizes and have ***one size*** just right for your work. We have sold 168 No. 15 presses to Automobile repair men. We want to see 100 more sold before November 1st, 1914. Will you be a leader in your neighborhood, or will you wait until the other fellow boosts his reputation by installing the handiest tool that ever went into an automobile repair shop—a **No. 15 GREENERD ARBOR PRESS?**



EDWIN E. BARTLETT CO.

322 A Street, Boston

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Do Your Own Welding

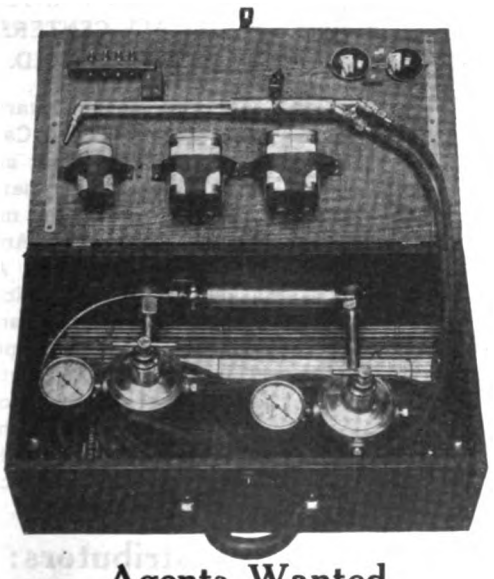
Free Trial Offer

If at the end of two weeks trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.

Waterhouse Outfits Are

Lowest in Operating Cost.
Non-Flashable
Absolutely Safe
Scientifically Designed
Mechanically Right
Built by the Pioneers.

And we allow **you** to prove these claims by shipping on trial.



Agents Wanted

Be sure you buy the RIGHT Apparatus. The Original costs less than the Imitations.

WATERHOUSE WELDING OUTFIT

U. S. Patent Nos. 1,039,036 and 1,075,818

This Outfit at

$42

will pay for itself in profits in 30 days. WE SHIP ON TRIAL.

For cash with order, send us your check or money order for $39.90 and we ship same day the following:

1 B. Welding Torch with 5 tips.
1 Oxygen Reducing Valve with 50 pound line pressure gauge.
1 Acetylene Reducing Valve with 50 pound line pressure gauge.
1 Set of Special Welding Hose (20 feet).
1 Pair Welding Glasses.
1 Carbon Burning Torch.
1 Set Instructions.

If supplies are desired as well, we sell for $4.50 additional and ship complete as shown on the left:

1 Bottle Aluminum Flux.
1 Can Cast Iron Flux.
1 Can of Copper and Brass Flux.
2 pounds Brass Welding Rods.
5 pounds Cast Iron Welding Rods.
2 pounds Aluminum Welding Rods.
2 pounds of Steel Welding Rods.

Waterhouse Welding Company

4 PELHAM STREET, BOSTON, MASS.

Established 1908 **Welding and Cutting Equipments Exclusively**

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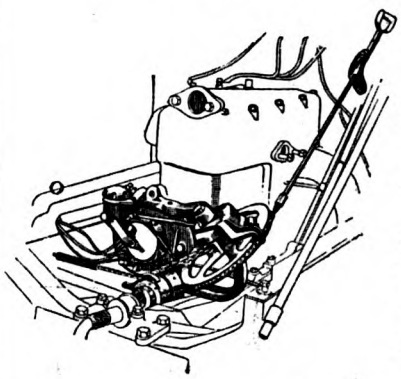
BOSTON STARTER

$25. THE ONE PRACTICAL FORD STARTER FOR EVERY DEALER TO HANDLE.

F. O. B. Boston



The fastest selling Ford Necessity of the year—The Starter that always starts the motor, gives universal satisfaction to the user, and brings business and prosperity to the dealer.

Is there a Boston Starter Dealer in your town? If not, learn the number of Ford Cars owned in your territory. Ask the owners their opinion of a Practical Starter; how it should be attached and the price that they will pay.

Hundreds of live wire dealers have done this. Hundreds of them are now making big money and doing better every day. The field is unlimited. Your opportunity for business is equal to theirs.

OUR SELLING PLAN TO THE TRADE IS THE MOST INTERESTING AND LIBERAL ONE EVER MADE. WRITE FOR IT.

DEALERS DOLLARS

$$$$$$$$

DEALERS WANTED IN ALL CENTERS NOT COVERED.

The Boston Starter could not be built better. It is strongly made and of the best material. Will last for years and any mechanic can install it. Wholly concealed and adds but little weight. A slight pull of the handle and the motor starts. No Springs, Batteries, or Motors to bother. Always Ready—Always Dependable.

DEALERS WANTED IN ALL CENTERS NOT COVERED.

The Boston Starter is built for Ford Cars. Thousands in use and every purchaser satisfied. It starts the motor from the seat. Anyone can operate it. All danger of back kicks are eliminated and every Ford equipped with a Boston Starter is equal to the most costly machine in this respect. It makes the Ford Car the practical family machine.

Distributors:

BALTIMORE, MD.
Robert W. Butler.
4529 Park Heights Ave.
SAN FRANCISCO, CAL.
J. R. Bradford.
79 Ninth St.
LOS ANGELES, CAL.
J. R. Bradford.
1044 South Olive St.
PROVIDENCE, R. I.
William Burton.
103 Bradford Street.
SCHENECTADY, N. Y.
Dorp Auto Company.
307 State St.
DENVER, COL.
Bert E. Clark.
1616 Broadway.
MILWAUKEE, WIS.
I. L. Brown.
221 Seventh St.
SEATTLE, WASH.
L. E. Miller.
723 East Pike St.
BUFFALO, N. Y.
Frank X. Irr.
253 Allen Street.
DETROIT, MICH.
Wilson-Schroeter Agency.
1249 Woodward Ave.
LOUISVILLE, KY.
Boston Starter Company, of Kentucky.
SYRACUSE, N. Y.
F. W. Fischer.
111 East Corning Ave.

Distributors:

AUTOMOBILE SUNDRIES CO.
Sole Distributors for Export.
18 Broadway.
New York, N. Y.
ST. PAUL, MINN.
Boston Starter Company
102 W. Fairfield Ave.
RICHMOND, VA.
Chemi Company.

AUTOMATIC APPLIANCE CO., 172 Columbus Ave., Boston, Mass. 1876 Broadway, New York, N. Y.

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"NORMA"

BALL BEARINGS

HELP TO

WIN THE

INDIANAPOLIS SWEEPSTAKES

The twelve cars that finished in this record-breaking race were equipped with magnetos fitted with standard "NORMA" Ball Bearings. There could be no more convincing proof of the merit of these bearings. The strain was terrific—and one little bearing "gone wrong" might have lost a place for its car. "NORMA" Bearings are the standard in most of the high-grade magnetos, lighting generators, and starting motors made. You cannot ignore the results of such a test as this race afforded, or the judgment of the builders of these splendid machines.

Better Send for the "NORMA" Bulletins

The Norma Company of America

1790 BROADWAY **NEW YORK**

"NORMA" Ball, Roller, Thrust and Combination Bearings

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

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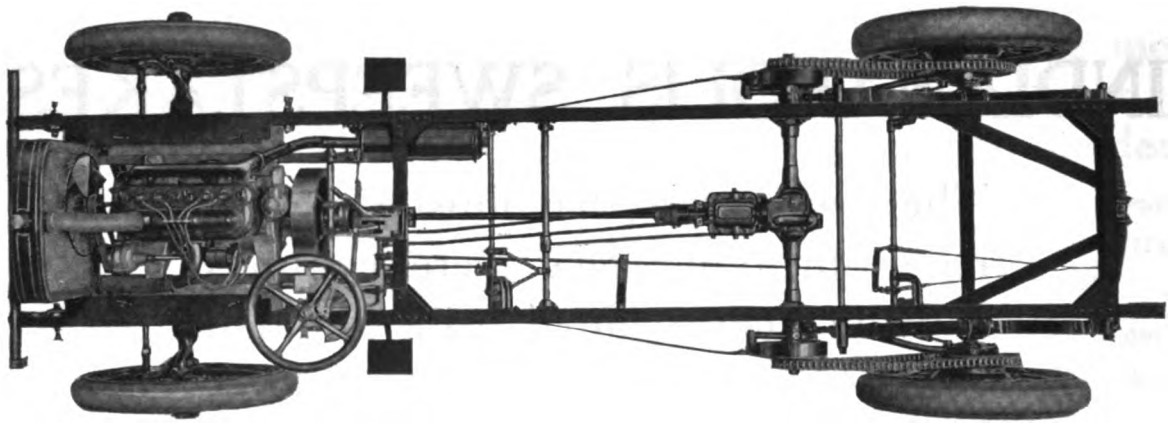
DEALERS

Known quality is an essential for the sale of the motor truck or wagon as for anything offered in the market, and the dealers who concentrate their endeavors in the distribution of a machine that has KNOWN QUALITY profit materially because of the confidence of the people.

KNOWN QUALITY in a commercial motor vehicle means the public understands that the individual dealer has locally to maintain the prestige and reputation of what he sells; that the manufacturer must preserve the confidence of the people, and that the designing, production, sales and service departments have been developed to insure the satisfaction of all users.

The SULLIVAN 3000-pound maximum capacity truck is a standard type, constructed with the best components that the leading specialists of the industry can produce, and concentration on one model means a perfected machine that is specialized in the fullest sense.



Sullivan Chassis, Maximum Capacity 3000 Pounds. $1600

The SULLIVAN Truck was designed to meet the requirements of the greatest number of business houses, to be the most practical unit for the development of general transportation needs, and to meet the demands of the most productive market.

The SULLIVAN Truck is STANDARDIZED in that in addition to the resources of the company and its agencies the purchaser is assured of the service of all of the great concerns that produce the material of which it is constructed. The maker and his agents may be eliminated, but the owner can obtain any component, at any time, and have the co-operation of the largest and best enterprises in the industry. One could say that the industry itself, and not the individual company, is ready to afford service.

The price of the SULLIVAN TRUCK is as low as is consistent with KNOWN QUALITY and KNOWN SERVICE. The type was designed with the experience of more than 30 years with commercial haulage. It is built as carefully as it was designed.

SULLIVAN TRUCK DEALERS have the largest market of the country to work in, they have the machine that will serve the largest number of general purposes, and they sell trucks because of the public confidence in KNOWN QUALITY, which is the indorsement of satisfied customers.

The SULLIVAN 1915 Truck is the best proposition in the market.
We can make a number of desirable agencies.

Write TODAY, specifying the territory you can cover. We can make a proposition that will mean big business for a LIVE WIRE.

SULLIVAN MOTOR CAR COMPANY

Rochester **New York**

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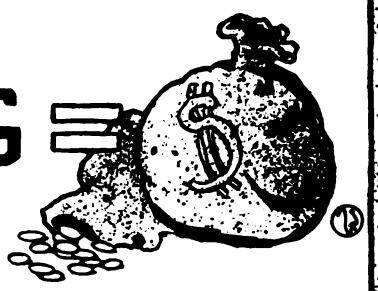
FROM EVERY VIEW POINT

+ADVERTISING =



MONEY-MAKING THE PURPOSE OF EVERY BUSINESS MAN

The MONEY-MAKING Accessory Dealer, Supply Dealer, Garage or Repair Man selects every line, but especially the oils, with absolute knowledge of quality and the confidence of the public in the manufacturer's guarantee.

The MONEY-MAKING Dealer, knowing his trade, concludes:

"I must sell an oil so good that it will be constantly in demand and bring me continuous profits.

"It must be an oil known for quality, must be constantly advertised, and its value must be proven by continuous and consistent use.

"This QUALITY REPUTATION, established by advertising and buyers' satisfaction, is the manufacturer's greatest asset, and is my assurance of selling the best that can be produced.

"I will not experiment with oil of unknown quality, for which I must make a market, lose the time necessary for developing it, and compete with the known and well exploited lines.

"I want oil for which there is an established demand when the motorists know I sell it, that is known to be all that the manufacturer guarantees, and is bought because of its quality.

"MONOGRAM OIL has been known for quality for 10 years and has been established as a standard of lubricants throughout the country.

"MONOGRAM OIL is sold in sealed containers, from one to five gallons capacity, which bear the manufacturer's guarantee, both to me and my customers."

The 1914-15 MONOGRAM OIL SELLING PROPOSITION is the most satisfactory ever offered the trade. We invite correspondence with all who want to sell the best lubricant known to motorists.

A MONOGRAM OIL AGENCY is a certain money producer.

MANUFACTURED BY

NEW YORK LUBRICATING OIL COMPANY

CONSOLIDATED WITH

COLUMBIA LUBRICANTS CO. OF NEW YORK

116 BROAD STREET, NEW YORK CITY, N. Y.

BRANCHES AT

NEWARK BOSTON CHICAGO CLEVELAND PHILADELPHIA
SAN FRANCISCO LOS ANGELES PORTLAND
LONDON, ENGLAND JOHANNESBURG, SOUTH AFRICA

DISTRIBUTING STATIONS IN ALL PRINCIPAL CITIES

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Trade Names And True Trade Mailing List Economy

WE SAVE YOU

Cost of List
Cost of Clerk Hire
Cost of Lost Postage
Cost of Maintenance
Cost of Lost Printed Matter

WE ELIMINATE

Waste
Upkeep
Uncertainty

YOU GAIN

In Ratio to Number of Names Used Hundreds of Dollars Monthly. Highest Efficiency Service at a Tenth of Your Own Service Expense. All Resources of a Highly Specialized Organization Whenever Needed, Reaching Every Active Trade Interest.

YOU CAN REACH

All Garages.
All Repair Shops.
All Ford Dealers.
All Dealers in Vehicles.
All Dealers in Supplies, Fittings and Accessories.
All Jobbers in Supplies, Fittings and Accessories.
All Pleasure and Commercial Vehicle Makers.
All Manufacturers in the Automobile and Allied Industries.

Write for Working Details and Proof

ACCESSORY and GARAGE JOURNAL

Times Building, Pawtucket, R. I.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

AUTOMOBILE REGISTRATIONS

ANY STATE COMPLETE

Ford owners $2.50 per thousand names---1914 Registration

OWNERS AUTO LIST COMPANY
CAPITOL - - - - - ALBANY, N. Y.

A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $3 per M by states.
Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.
Garages—13,515—$25 or $3 per M by states.
Repairs—8,466—$15 or $3 per M by states.
Supplies—6,964—$12 or $3 per M by states.
Auto Mfrs., U. S. and Canada—626—$3.
544 Auto Dealers, second-hand—$4.00.
14,000 Auto Truck Owners—$3.50 per M.
AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $3 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.

WRITE US YOUR NEEDS.

All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.

TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1183. Chicago, Ill.

FORD DELIVERY BODIES in stock. Send for circular. "LEW" FALES, Providence, R. I.

The Accessory and Garage Journal

Reaches and is read by practically all active trade interests every month.

It Has No Owners' Clientele

The trade service and trade circulation is guaranteed in any form or manner requested.

Facts and figures will prove that the Accessory and Garage Journal is the one medium to use for straight trade service.

Patronage is solicited on this basis. You spend the money. Why not analyze trade paper service? We have the information. It can be applied to your business. You can have it at request.

The Accessory and Garage Journal
Times Building Pawtucket, R. I.

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DIXON'S GRAPHITE
Automobile Lubricants WON
The Indianapolis Sweepstakes On Memorial Day

Of the first ten cars to cross the finish line at Indianapolis, all but No. 4 were lubricated with Dixon's Graphite Automobile Lubricants. Of the 30 cars entered, 25 used Dixon's Lubricants. Why not follow the judgment of "The Speed Kings of Motordom"—with your car?

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827

KOEHLER ONE TON TRUCK $750

GREATEST VALUE AT THE PRICE · LOWEST PRICE FOR THE CAPACITY

Here are brief specifications:

MOTOR, 24 h. p., water-cooled, 4-cycle; IGNITION, high tension magneto; TIRES, 36-in. standard removable; TREAD, 58 inches; AXLES, 2-in. square rear, 1⅜ in. front; TRANSMISSION, proved RIGHT by years of use. Gears, genuine chrome-nickel, run in oil bath.

TEN BODY TYPES

KOEHLER ONE TON TRUCK $750

SEND FOR CATALOGUE

The Dominating Truck of the One Ton Field

Mr. Dealer: How about your city or town—is it Koehlerized or is it ready for someone to reap a harvest? If the latter, will it be you or one of your competitors? Whoever handles this truck makes it hard for competitors to sell ANY other truck.

This is a great money maker for dealers because it is the lowest priced ton truck in the market, the greatest value at any price, has the greatest adaptability to all lines of business, is simple in construction and does its work in a highly efficient and economical manner. It makes money for the dealer because he can show any merchant that it will save money for him.

DEALERS Do not let another week go by without sending for our proposition, and the most complete motor truck catalog, throughout, you ever saw. This catalog and our complete selling plan should be in YOUR hands.

H. J. KOEHLER S. G. CO., 1709 Broadway, New York

KOEHLER ONE TON TRUCK $750

HOUK
DETACHABLE
Wire Wheels
Made by the largest wire wheel manufacturer in America

GEO. W. HOUK CO.

1699 Elmwood Ave. BUFFALO, N. Y.

A GARAGE NECESSITY

"Velos" Portable Garage Compressor

A complete portable electric compressor mounted on a 3 wheel metal base, with long hose and wire connections, pressure gauge, and safety valve. Pumps a 3 inch tire tight from the flat in 3 minutes.

SEND FOR CATALOGUE

PHILADELPHIA TIMER AND MACHINE CO.

51st and Lancaster Ave., Philadelphia, Pa.

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a ***smooth running engine*** and a ***saving in gasoline.***

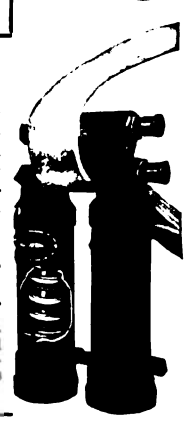
Territorial rights open. Address Dept. A.

BOWLING GREEN SALES CO.

42 BROADWAY, NEW YORK, N. Y.

Sole Distributors for U. S. A. and Canada

Coxajusto
ADJUSTABLE TO ANY LOAD



Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today Address Dept. M. Established 1872

COX BRASS MFG. CO., Albany, N. Y.

1777 Broadway, New York City; 2637 Michigan Ave., Chicago, Ill.; 899 Boylston St., Boston, Mass.; 870 Woodward Ave., Detroit, Mich.; 1216 Van Ness Ave., San Francisco, Cal. Export Representative, Auto Supplies Export Co., 1779 Broadway, New York City.

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Looks Sell the Car!

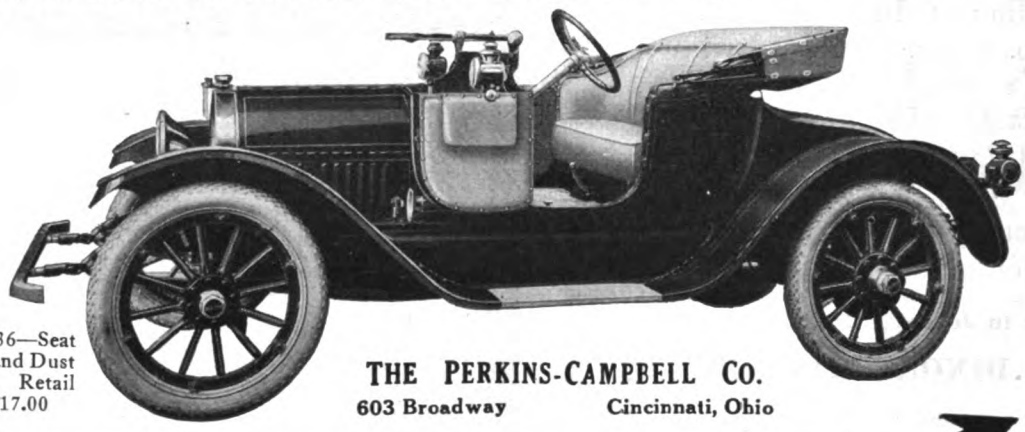
There are few mechanical "lemons" on the market today. Car builders have practically perfected the chassis and are turning to the appearance of the car to make improvements with "stream line," "concealed hinges," "crowned fenders," "two-door touring cars," etc. You can put the finishing touch on the line you sell with

CAMPBELL ESTABLISHED 1879 **Water Proof Seat Covers**

You can emphasize every feature of design with the rich, refined appearance of Campbell Seat Covers. You can "close" customers that your competitor cannot, because his line lacks the distinction seat covers give to a car.

Write us today for our 1915 proposition on the best fitting, best looking seat cover ever made. Don't make the mistake of equipping your line with cheap covers that won't fit to begin with and will fade in a week and destroy the beauty of the car. Get the best to be had —Campbell. The cost is very little more. The results are beyond comparison.

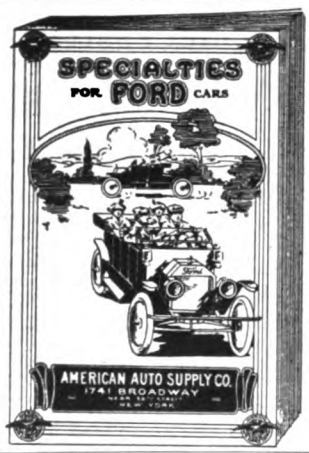
Write for our proposition. Get the Campbell agency and the big profits that go with it.



Buick 36—Seat Covers and Dust Hood. Retail price—$17.00

THE PERKINS-CAMPBELL CO.
603 Broadway Cincinnati, Ohio

—and Campbell Seat Covers will give your line the "looks" that mean "sales."



Just off the Press—

Write today for the **Most Complete Catalog** of Auto Supplies Ever Published.

Contains the **biggest, brightest and best** line of Ford and Overland Specialties ever placed on the market.

FREE ON REQUEST

American Auto Supply Co.

1741 Broadway NEW YORK | **Write to Nearest Branch** | **1408 Michigan Ave. CHICAGO**

HYATT QUIET BEARINGS

For convenience of car owners a stock of the popular sizes of Hyatt Roller Bearings as used in motor cars is maintained in each of the cities indicated.

Address SERVICE DEPARTMENT.

SERVICE STATIONS.
169 Massachusetts Ave., Boston, Mass. (Telephone—Back Bay 1015.)
1120 Michigan Ave., Chicago, Ill. (Telephone—Wabash 3790.)
756 Woodward Ave., Detroit, Mich. (Telephone—Grand 4130.)
Fourth & Middlesex Sts., Harrison, N. J. (Telephone—Harrison 2190.)
1210 Figueroa St., Los Angeles, Cal.

SERVICE AGENTS.
Pence Automobile Company, 800 Hennepin Ave., Minneapolis, Minn.
Broom & Wade, High Wycombe, England.

HYATT ROLLER BEARING CO.
DETROIT MICH. WORKS: NEWARK N.J.

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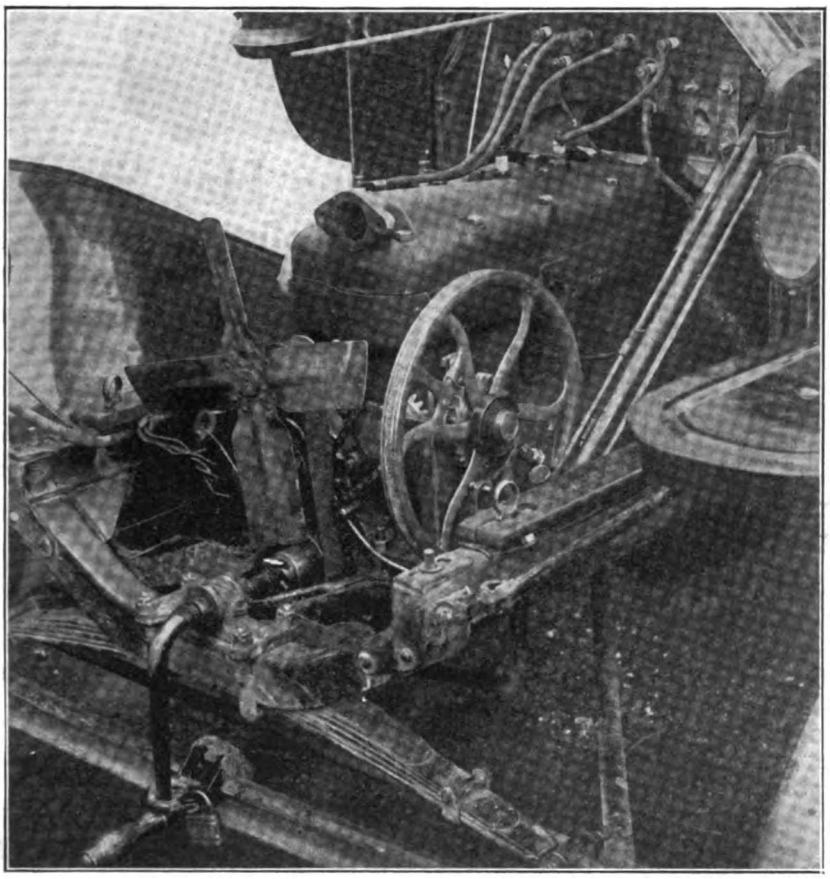
NO MORE BROKEN ARMS
NO MORE CRANKING IN THE MUD



The Universal Ford Starter for Ford cars has eliminated both the danger and the bother in starting the motor. It will turn your motor past firing compression so easy that your twelve year old son or your wife can start the car.

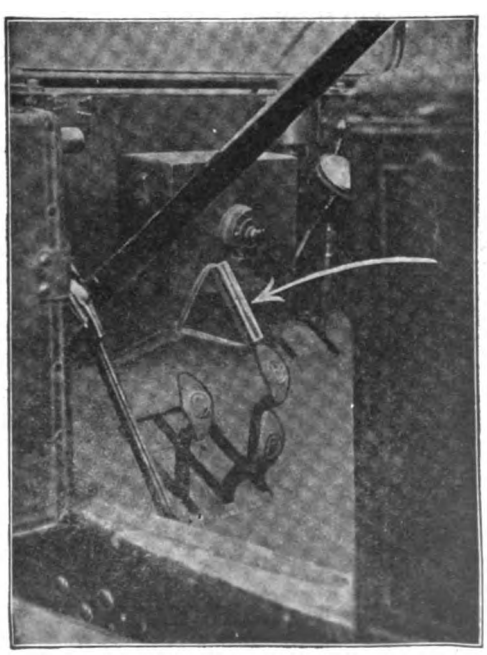
The Universal Starter Will Last as Long as Your Ford Car

It makes the Ford car a perfect convenience—a LADY'S car. It eliminates the hard and disagreeable work and risk of accident in starting your motor.

The Universal Starter is really the most practical Starter manufactured, regardless of price. It is always ready. There are no wires to short circuit, no dynamos to go wrong, and no storage batteries to run down. Get in the seat, adjust the starting mechanism, touch the priming device, pull the starting lever, and the motor starts.

When you trade your old Ford in for a new one you will take off the Universal Starter and put it on the new car. It is simple, easy to install and will outlast the car.

On account of its simplicity it can be manufactured and sold at a price that makes the cost a secondary consideration.



View from Seat

Ask Your Dealer to Demonstrate It to You. If He Does Not Handle It Yet, Write Us Direct.

WE POSITIVELY GUARANTEE

the Universal Starter against mechanical defects and to do all we have claimed in this advertisement, for one year. *Write us today for full particulars.*

UNIVERSAL MANUFACTURING CO., Dept. 3, RACINE, WISCONSIN

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NEW DEPARTURE BALL BEARINGS

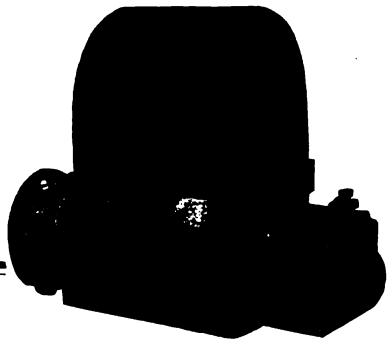
Quality Plus — *American Made for American Trade*

Distribution centers for New Departure ball bearings have been established in all parts of the country where stocks of Single Row and Radax type particularly are carried. These are absolutely interchangeable with other standard makes.

Send your order to the house nearest you and it will have immediate attention. This service will bring an important advantage to you and enable you to so satisfactorily serve your customer that his car need not be out of commission more than a few hours.

The following is a list of New Departure distributors:

ALBANY, Albany Hardware and Iron Co.
ATLANTA, Elyea-Austell Co.
BOSTON, Ahlberg Bearing Co., 93 Massachusetts Ave.
BOSTON (Hyde Park), Pruyn & Bilodeau, 1550 River St.
BUFFALO, Iroquois Rubber Co., 279-283 Washington St.
CINCINNATI, Herman Bumiller Co., 432 Main St.
CHICAGO, Ahlberg Bearing Co., 2636 Michigan Ave.
CHICAGO, Chicago Pulley & Shafting Co., 32-36 S. Clinton St.
CLEVELAND, Cray Brothers, 1111 West 11th St.
DENVER, Denver Auto Goods Co., 1600 Broadway.
DENVER, Fry & McGill, 1532 Broadway.
DENVER, M. L. Foss, 1729 California St.
DES MOINES, Herring Motor Supply Co., 912-14 Locust St.
INDIANAPOLIS, Hearsey-Willis Co.
KANSAS CITY, MO., Motor and Machinists Supply Co., 1519 Grand Ave.
LOS ANGELES, Western Rubber and Supply Co., 1011 S. Olive St.
MINNEAPOLIS, Pence Automobile Co., 800 Hennepin Ave.
NEW YORK CITY, Ahlberg Bearing Co., 1790 Broadway.
NEW YORK CITY, Jos. C. Gorey & Co., 352 W. 50th St.
NEW YORK CITY, The Gwilliam Co., Broadway and 58th St.
NEW YORK CITY, Pruyn & Bilodeau, 1876 B'way, Cor. W. 62nd St.
NORFOLK, Chemi Company, 438 Granby St.
OMAHA, The Lininger Implement Co., 1101 Sixth St.
PASADENA, Western Rubber and Supply Co., 66 S. Fair Oaks Ave.
PHILADELPHIA, The Gwilliam Co., 1314 Arch St.
PITTSBURGH, Machinists Supply Co.
PORTLAND, ME., James Bailey Co., 18 Free St.
PORTLAND, ORE., Ballou & Wright, Broadway and Oak St.
RICHMOND, VA., Chemi Company, 629 E. Main St.
ROCHESTER, Rochester Rubber Co., 24 Exchange St.
SACRAMENTO, Kimball-Upson Co., 609-11 K St., 608-15 Oak Ave.
SAINT LOUIS, Fred Campbell, 1109 Locust St.
SALT LAKE CITY, Bertram Motor Supply Co., 251 South State St.
SAN DIEGO, Western Rubber and Supply Co., 1364 Fifth St.
SAN FRANCISCO, J. W. Leavitt & Co., 301 Golden Gate Ave.
SAN FRANCISCO, Irvin Silverberg & Co., 541 Van Ness Ave.
SEATTLE, Ballou & Wright, 817 E. Pike St.
SPOKANE, Child, Day & Churchill Co., 1215 First Ave.
SYRACUSE, Syracuse Rubber Co., 212 S. Clinton St.
TACOMA, Automobile Supply Co., 755 South C St.
TAMPA, American Supply Co., 610-20 Tampa St.



The Reaction Has Set In

against complicated and overgrown lighting systems

HOLTZER-CABOT MAGNETO GENERATORS

do the work with far less trouble and expense.

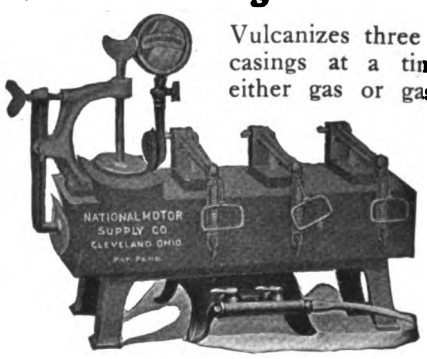
Some Reasons For Their Success

Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Power consumption low.

For FORDS, and other small and medium cars they are unsurpassed. ***Send for Booklet A-1807.***

THE HOLTZER-CABOT ELECTRIC CO.
BROOKLINE, MASS.
CHICAGO 6161-65 SO. STATE ST. NEW YORK 101 PARK AVENUE. BALTIMORE 1003 UNION TRUST BLDG.

National Garage Steam Vulcanizer

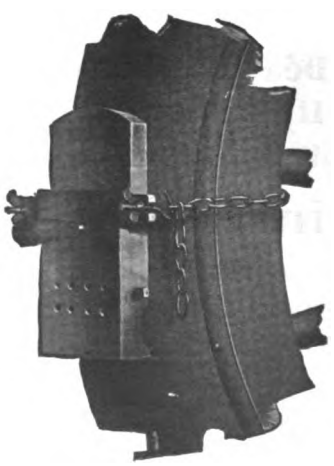


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

MANUFACTURED BY
THE NATIONAL MOTOR SUPPLY CO.
5004 Euclid Ave., Cleveland, O.

(When Writing, Please Mention The Accessory and Garage Journal.)

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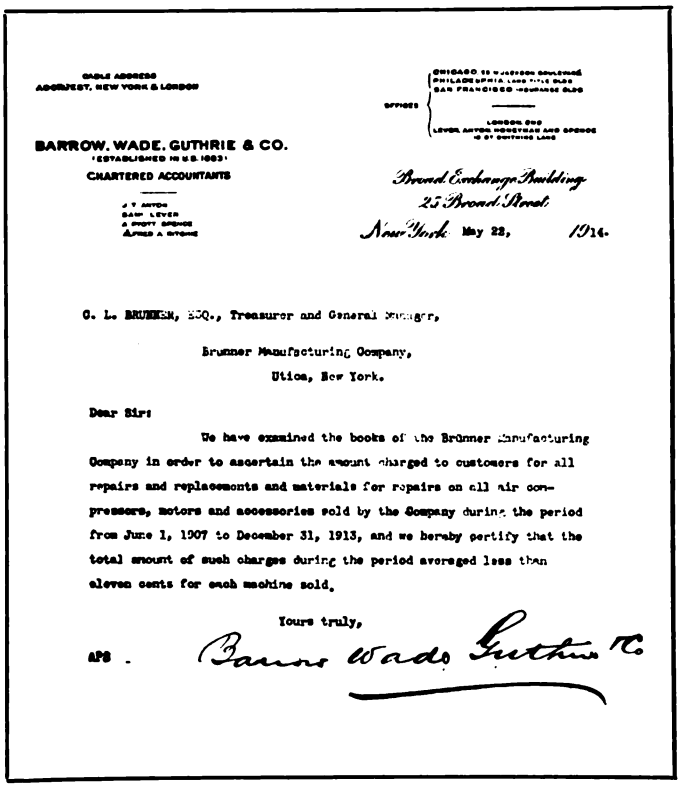


CABLE ADDRESS
ADDRESS, NEW YORK & LONDON

OFFICES: CHICAGO, 25 MADISON BOULEVARD; PHILADELPHIA, LAND TITLE BLDG; SAN FRANCISCO, INSURANCE BLDG; LONDON, ENG, LEVER, ANTON, HONEYMAN AND SPENCE, 10 ST SWITHINS LANE

BARROW, WADE, GUTHRIE & CO.
(ESTABLISHED IN U.S. 1883)
CHARTERED ACCOUNTANTS

J. T. ANTON
SAM LEVER
A. PIOTT SPENCE
ALFRED A. RITCHIE

Broad Exchange Building
25 Broad Street
New York May 22, 1914.

C. L. BRUNNER, ESQ., Treasurer and General Manager,

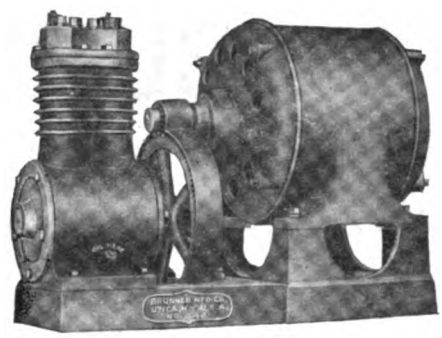
Brunner Manufacturing Company,
Utica, New York.

Dear Sir:

We have examined the books of the Brunner Manufacturing Company in order to ascertain the amount charged to customers for all repairs and replacements and materials for repairs on all air compressors, motors and accessories sold by the Company during the period from June 1, 1907 to December 31, 1913, and we hereby certify that the total amount of such charges during the period averaged less than eleven cents for each machine sold.

Yours truly,

APS. Barrow Wade Guthrie & Co



No. 42. Motor Driven Air Compressor.

Average Repair Expense of less than 11c per Machine in 6 1-2 Years

"Brunner" air compressors are built on the principle of "how good."

Quality is predominant and quality prevails. Here is a record that speaks of the superiority of "Brunner" Air Compressors in time, trouble and money saving ***quality.*** It speaks volumes for the best materials obtainable; the cylinders true as rifle barrels; the proper fitting of all wearing parts; the correct design—all of which are put in the "Brunner."

Don't Take Our Say-So——Ask Your Banker

This record shows that of the many thousands of machines we've sold, the average repair expense on each, for 6 1-2 years, has been less than 11 cents. To be sure it's so, ask any banker as to the reliability of Barrow, Wade, Guthrie & Co., as auditors.

BRUNNER AIR COMPRESSORS

Are built to wear—to give efficient, economical service. That's why there are various sizes, different types—to fit all ordinary and peculiar conditions.

You want an air compressor and you want a good one. Once installed you want to forget your air compressor problem.

That being the case, insist on "Brunner."

No. 52. Portable Outfit.

There's a jobber in your territory who handles the "Brunner." Write us for his address.

BRUNNER MFG. CO.

Main Office and Factory:
UTICA, N. Y.

New York Office:
Hudson Terminal Building
30 Church Street

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BUSINESS BUILDERS

The highest type of business man is he who expects to get a new dollar and a little more for an old one, and to satisfy his customers because of the quality of the goods that he sells. The stock that is alive is that which is worth its face value in the market and which is always salable.

The best stock is that which can be sold the entire year around, which does not stagnate with seasons, and which will command an equal price every day that you do business.

The products of this company are recognized as standards of the market. They have been sold with the knowledge that they were all that they were represented to be, and the purchasers have learned not only that they have the qualities that are desirable, but they have the constant assurance that they are guaranteed —which means that any purchaser can have his money back if he simply says that he is dissatisfied.

This selling policy has established this company and it has made its products known as dependable. The Rub-On specialties have been distributed throughout the country and sold by thousands of dealers, each of whom has the same confidence in the products that have the users. Satisfied customers mean much to them.

The Auto Turn Jack

Every service station, garage owner and repairer has constant and practical use for the Auto Turn Jack. It is a simple and a useful tool every hour of the day and every day of the year. It means the saving of money to all who use it —the saving that can be accomplished by no other means. Floor space, labor and time are all economized, and the owner is the gainer. The Auto Turn Jack is purely a business proposition. It is exactly the same condition that you face when you consider an economy. **You** must realize it or the value is lost.

Special Cabinet Offer to Garages

Nothing is more promotive of business than a display of goods where they can be seen, and it is for the benefit of our customers that we provide a cabinet in which a complete line of the goods can always be shown where they must be observed by those who can use them. This is termed by us a Cabinet of Auto Aids, and it is of a size that can be placed in any convenient place. The cabinets are neatly made, are mission finished, trimmed with brass, have neat glass doors and have locks and keys by which the contents can be secured.

These cabinets are provided with an assortment of circulars for distribution, which specify the qualities of each of the products and the prices for which they are sold. The cabinet is designed to show a complete assortment, and the entire outfit is sold at an introductory price that is especially attractive.

Write us today for our propositions. They are business builders for us both, and there is no doubt that they will appeal strongly to you.

RUB-ON Manufacturing Company, Inc.,
93 Brayton Street, Buffalo, New York

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MOSSBERG WRENCHES

TRADE MARK TRADE MARK

Ford Socket Wrench Set No. 17

Equally Useful in the Tool Box or on the Shop Bench. Handy to Use and Big Time Economizers.

MOSSBERG GUARANTEED TOOLS For FORD Cars

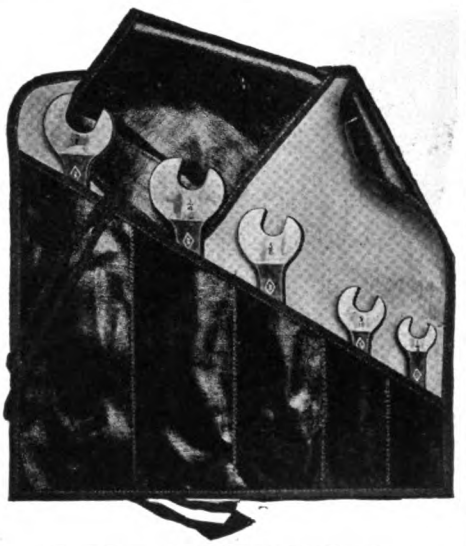
Sold with the Mossberg Sales Policy "Finest Tools at Lowest Price." The Standards for Motor Car Equipment.

MOSSBERG WRENCHES

Meet the requirements of tool efficiency.

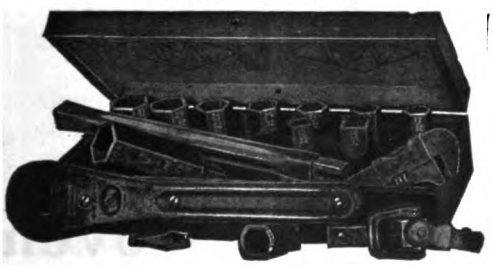
They fit instantly and exactly, saving time and parts, can be operated in smallest space, are made to endure service, and the sockets are made of heaviest pressed steel, thoroughly hardened. They cost no more than the "cheap" wrenches, and are guaranteed to give the best results in the hands of either expert or novice.

They are the highest quality of hand tools.



Ford Open End Wrench Set No. 10
Convenient, Always Ready and a Great Addition to the Tool Box

No. 630 Triple End Cylinder Head and Housing Wrench



Mossberg Socket Wrench Set No. 15 A

The Ideal Wrenches for Garage or Shop Uses. A Full Utility Kit. Positively Will Fit All Adjustments on All Ford Automobiles.

Ford Valve Grinder No. 600

Diamond Plyers

Send for Complete Catalogue, No. 16 A.

Insure Accuracy, Save Labor and Make Satisfactory Jobs.

Ford Valve Grinder, No. 605

FRANK MOSSBERG CO.
ATTLEBORO MASS.

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Insure Your Customers

¶ Insurance to you means security. You insure your business, your home, your health, why not take the same precaution with your customers?

¶ You know that braking efficiency of a car depends on the lining used. Is it not up to you, Mr. Garageman, when re-lining your clients' cars to use the best lining obtainable?

¶ Their safety from accidents due to non-gripping of the brake at critical times, is the protection that you owe them.

¶ This is insuring them, for satisfied customers is your success.

¶ MULTIBESTOS—the brake lining of quality, is close weaved from "long-fibre" asbestos and brass wire; it has stood every test.

"Let Multibestos Insure the Car"

¶ Used, recommended and sold by every dealer, repairman and garageman who puts his clients' safety above the "price tag."

Write for Booklet

"Safe in the Grip of Multibestos"

It will be of interest to every user of brakes

THE GRIP MULTIBESTOS BRAKE THAT GRIPS LINING

Standard Woven Fabric Co.

FRAMINGHAM, MASS.

NEW YORK	276 Canal St.	C. D. Schmidt
BOSTON	903 Boylston St.	F. Shirley Boyd
PHILADELPHIA	1427 Vine St.	N. A. Petry Co., Inc.
CHICAGO	1430 Michigan Boulevard	F. E. Sparks
SAN FRANCISCO	Cor. First & Howard Sts.	Fred Ward & Son, Inc.
DENVER		Auto Equipment Co.

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., JUNE, 1914. No. 2

OFFER FOR POPE COMPANY TURNED DOWN.

A Syndicate of Eastern Bankers Would Pay $1,800,000, $400,000 in Cash, and the Balance in Five-Year Notes.

IN THE Superior Court of Hartford, Conn., Judge William L. Bennett declined to authorize the sale of the Pope Manufacturing Company, now in the hands of a receiver, for the sum of $1,800,000. The plan submitted to the court provided for $400,000 in cash and the balance in five-year notes. Judge Bennett said Connecticut courts had never allowed its receivers to indulge in financial speculation.

Immediately after Judge Bennett's decision the interested parties held a conference looking toward a basis for another offer. George R. Nutter, representing the syndicate which made the offer, told the court it was the desire to pay enough for the Pope properties so that the merchandise creditors would be protected in full and also to pay the expenses of the receivership. He said further that a syndicate composed of Daniel Durnett and James T. Putnam of Boston, and Carl Bonney of Worcester contemplated the reorganization of the company with a capital of $2,800,000.

The inventory of the Pope Manufacturing Company properties in Hartford, filed with the court, is about $2,074,000, and the Westfield bicycle factory is estimated at about $1,300,000 in the earlier inventories. Colonel Pope has allowed about $1,600,000 of claims against the company and disallowed about $700,000.

PLAN CYCLECAR TAXICABS.

Twombley Taxicab Company Organized to Carry Passengers for 25 Cents the First Mile.

The Twombley Taxicab Company has been organized in the State of New York with a capitalization of $500,000 to carry passengers for 25 cents the first mile and five cents a quarter-mile thereafter.

The company is projected by W. Irving Twombley, New York City, who is the builder of the Twombley cyclecar. He is vice president and general manager of the new company. D. Stuart Dodge of Phelps, Dodge & Co., New York, is president.

The first cabs will be completed shortly and it is further stated that one has already been built. The cab will have a 44-inch tread, 92-inch wheelbase, four-cylinder, water-cooled motor, bore of 2.75 inches and stroke of four and improved landaulet body.

TWO RECEIVERS APPOINTED.

Randall-Faichney Company of Boston Is in Temporary Financial Difficulty.

Judge Dodge of the United States district court in Boston has appointed Charles P. Blinn, Jr., vice president of the National Union Bank of that city, and Benton Whidden of Brookline, Mass., receivers for the Randall-Faichney Company of Boston and Watertown, N. Y. The concern is well known in the industry as manufacturer of accessories, and also produces a line of druggists' supplies, etc. The receivers are ordered to furnish a joint bond of $50,000.

The petition for the appointment of receivers was brought by the Cutter Wood Supply Company of New Jersey, one of the creditors. Inasmuch as the schedule shows liabilities of $282,000 and assets of about $400,000, it is not thought that the trouble will prove of more than temporary character.

SURPRISING RESULTS.

Goodyear Company Finds They Follow Series of Meetings Held in Number of Cities.

Surprising results accompany a series of car and tire dealers' meetings which the Goodyear Tire & Rubber Company is conducting in the various principal cities. The Goodyear Company, having proved in the practise of its own sales policies that a remarkably successful tire business can be conducted on a standardized merchandising basis, has been interesting dealers in the development of standards in at least a part of their own business.

The meetings are held in behalf of better merchandising, and have not been merely occasions for the exclusive exploitation of the Goodyear products. The company takes the view that as fast as dealers declare themselves for certain standards, all tire companies must come into line; tire manufacturers, car makers, dealers and the consuming public will alike be benefited and the whole industry encouraged.

SHANKS WITH PREMIER.

Former Winton Man to Direct Sales and Advertising for Indianapolis Concern.

Charles B. Shanks has been appointed director of sales and advertising of the Premier Motor Manufacturing Company, Indianapolis, Ind. The status of Sales Manager Macey and Advertising Manager Bieling is not to be affected in any manner by the change.

Mr. Shanks is one of the pioneers of the industry, having been connected with it, chiefly in the sales and advertising department, since the days of the single-cylinder machines. He was formerly with the Winton Company,

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MOTOR & ACCESSORY MANUFACTURERS.

Board of Directors Conducts the Organization on Business Principles—How Members Are Benefited.

Motorists and others connected with the industry will be interested in the brief explanation of the work and purposes of the Motor & Accessory Manufacturers as presented by James H. Foster, president of the association:

"Since the inception of the Motor & Accessory Manufacturers, 10 years ago, the board of directors had aimed to run the organization on a business basis and along conservative and productive lines. Many people probably do not know that the membership of the association now numbers 262 firms and corporations of the highest standing, and perhaps few people realize that the combined capital of the said interests represented in the membership is somewhat over $440,000,000.

"Its primary objects are to promote in all lawful ways the interests of makers of automobile motors, motor parts, or accessories; to aid in the protection of its members; to secure the advantages to be obtained by mutual co-operation; to facilitate the collection of the claims of its members and the diffusion of information concerning the trade, dealers, credits and other matters of interest to the association and members. Members agree that the credit department alone is a feature that makes membership worth while. The more progressive firms, selling either largely or in a limited way, feel that they cannot afford to be outside the privilege of these reports.

"The Motor & Accessory Manufacturers has been able to save the industry hundreds of thousands of dollars in needless or unwise expenditure. One thing that has been aimed at has been the matter of endeavoring to govern attempts to increase the expense of members exhibiting at shows. The fact that practically every city of any size has its annual automobile show—and quite frequently shows occur simultaneously—makes it impossible for a manufacturer of parts and accessories to exhibit at all of these during a show season. Incidentally the expense involved is too great. This resulted in what is known as the sanction rule. It was generally agreed that two national shows a season involve sufficient expense for the average manufacturer to afford, and accordingly, the two national shows in New York and Chicago, respectively, were chosen to be sanctioned by the Motor & Accessory Manufacturers. Their members were privileged to exhibit at these and not elsewhere. Hence, instead of chaotic competition reigning, the matter of exhibiting the goods of members to the public and to the trade each winter has been systematized so that every member is placed on an even footing with his fellow members".

James H. Foster, President, Motor & Accessory Manufacturers.

KELLY-SPRINGFIELD TIRE COMPANY.

More Than 90 Per Cent. of the Debenture Bonds Deposited Under the Terms of the Agreement.

Over 90 per cent. of the 50-year, four per cent. income debenture bonds of the Kelly-Springfield Tire Company, New York City, have been deposited with the Bankers Trust Company, under terms of deposit agreement of April 15. Directors of the company have adopted resolutions authorizing the Bankers Trust Company as depository under the said deposit agreement to exchange 50-year debenture bonds for six per cent. cumulative preferred stock on a basis of one share of said preferred stock of a par value of $100 for each $100 face value of said debenture bonds.

All conditions precedent to the payment of the 78½ per cent. cumulative dividends upon the present outstanding issue of the six per cent. cumulative preferred stock having been complied with, the directors have ordered that the said 78½ per cent. of cumulative dividends on the preferred stock, payable in seven per cent. cumulative second preferred stock of this company, declared April 9 to stockholders of record May 6, payable at a date to be thereafter fixed, be paid, and designated June 15 as date of payment on these cumulative dividends in second preferred stock to preferred stockholders of record May 6.

No fractional shares of second preferred stock will be issued, but in lieu of said fractional shares, cash will be paid equal to the par value for any fractional certificate of second preferred stock to any stockholder entitled to receive same. All due bills accompanying trades made since May 6 are now redeemable by the delivery of the stock dividend.

VEHICLE TAXATION.

Universal Fee for Road Maintenance Urged to Solve Difficulty of Highway Upkeep.

Howard E. Coffin, vice president of the Hudson Motor Car Company, Detroit, said recently that all vehicles, whether horse or motor driven, will be taxed for road maintenance. Appropriations for road building have been made generally, but little attention has been paid to financing a proper road maintenance year after year. He recognized the neglect of the highways as a serious offset to the large outlays for new roads that are constantly being made throughout the country.

BUYS PALMER & SINGER.

Singer Motor Company, Inc., Purchases Trade Name, Etc., and Will Supply Parts.

The Singer Motor Company, Inc., 630 Jackson avenue, Long Island City, N. Y., purchased at a private sale the trade name, good will, patents, drawings, etc., of the Palmer & Singer Manufacturing Company. The new company will supply repair parts for the car of that name and will also maintain a service station.

Work on the Singer Six is progressing rapidly and the first chassis is now being tested on the road. Deliveries will commence about July 15. The new car will be fully equipped and will sell at a price well below $2500.

A. A. A. GOOD ROADS PATRIOTS.

Will Rally July 6 in the White Mountains—Many Notables to Be Present.

Governor Felker of New Hampshire will head the list of noted speakers who will address the good roads sessions of the midsummer meeting of the American Automobile Association, to convene at Hotel Maplewood, Bethlehem, N. H., on the afternoon of July 6. White mountain visitors generally are invited to attend the highway gathering, which will be in charge of Chairman George C. Diehl of the A. A. A. National Good Roads Board.

State Highway Commissioners S. Percy Hooker of New Hampshire, Lyman H. Nelson of Maine and Charles W. Gates of Vermont will tell of roads development in their respective states. An address which will have some reference to federal aid will be delivered by Paul D. Sargent, the state highway engineer of Maine, who was formerly acting director of the United States office of public roads of the Department of Agriculture. Col. W. D. Sohier, chairman of the Massachusetts Highway Commission, also expects to be present.

MAKERS ELECT OFFICERS.

Col. Charles Clifton Again Heads the National Automobile Chamber of Commerce.

Col. Charles Clifton, treasurer of the Pierce-Arrow Motor Car Company, Buffalo, N. Y., for eight years at the head of the national motor car manufacturers' organization, was re-elected president of the National Automobile Chamber of Commerce at its annual meeting in New York City early in the month. The other officers are: Vice president, Wilfred C. Leland; second vice presidents, Hugh Chalmers, Windsor T. White, H. H. Rice; secretary, R. D. Chapin; treasurer, Col. George Pope; general manager, Alfred Reeves. Board of directors, the officers and S. T. Davis, C. C. Hanch, Alvan Macauley, W. E. Metzger, H. O. Smith, Albert L. Pope, L. H. Kittredge, John N. Willys and E. R. Benson.

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QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week, and in comparison with the conditions existing at the same time last year.

	May 18		May 25		June 1		June 8		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb, com	215	..	220	..	220	..	220	220	150	..
Ajax-Grieb, pfd	99	..	99	..	99	..	99	..	95	100
Aluminum Castings, pfd	98	100	98	100	98	100	98	..	98	100
Borne-Scrymser	290	300	290	300	290	300	290	300	..	..
Case, J. I., pfd	82	95	83	87	84⅞	87½	90	95	..	..
Chalmers Motor, com	94	98	100	..	101	107	93	102	125	135
Chalmers Motor, pfd	90½	92½	92	..	92½	95	94	96	98	102
Electric Storage Battery	52¾	54	52	52¾	52	53	53	53¼	..	..
Firestone Tire, com	302	307	303	307	305	309	305	310	230	240
Firestone Tire, pfd	108	110	107	110	107	110	108	110	105	107
Garford Co., pfd	75	85	75	85	75	85	75	85	..	97½
General Motors, com	84	84¼	97	98	96¼	96⅞	93½	94½	24	26
General Motors, pfd	93	93½	94¾	95¼	94½	95	94	95	70	72
Goodrich, B. F., com	25¾	26⅛	25¾	26¼	24½	25⅛	24⅞	25⅛	25	26
Goodrich, B. F., pfd	89⅞	90	88	89	88	90	89¾	90½	88	89
Goodyear Tire, com	177	182	178	182	172	176	170	175	..	302
Goodyear Tire, pfd	98	100	98½	100	98	99½	97½	99	98	99½
Gray & Davis, pfd	97	102½	95	102½	95	102½	95	102½	..	..
International Motor, com	..	5	..	5	..	5	..	5	4	6
International Motor, pfd	3	10	3	10	3	10	3	10	10	15
Kelly-Springfield Tire, com	52	53	52	53	63	66	63½	64½	..	..
Kelly-Springfield Tire, pfd	135	143	135	145	145	150	140	150	..	..
Lozier Motor, com	..	30	..	26	..	25¼	..	23½	15	20
Lozier Motor, pfd	30	45	30	43	30	43	30	43	..	92
Maxwell Motor, com	14⅛	14¼	15⅛	15⅜	14½	14¾	14⅛	14⅜	2	5
Maxwell Motor, 1st pfd	46½	47½	47	47¾	44½	45½	44	44½	30	35
Maxwell Motor, 2nd pfd	20	20½	20½	21	18½	19¼	18⅛	18½	8	12
Miller Rubber	130	135	128	135	128	135	128	135	135	145
New Departure, com	123	125	122½	124	123	125	123	125	..	..
New Departure, pfd	105½	..	105	107	105	107	105	107	..	..
Packard Motor Car, com	103	..	103	..	103	..	103	..	..	..
Packard Motor Car, pfd	97	..	98½	100½	98½	100½	97	100½	..	..
Peerless Motor Car, com	18	25	18	25	18	25	18	25	40	50
Peerless Motor Car, pfd	..	62½	..	62½	..	62½	..	62½	..	96
Pope Mfg. Co., com	..	1½	..	1½	..	1½	..	1½	10	12
Pope Mfg. Co., pfd	..	8	..	8	..	8	..	8	40	60
Portage Rubber, com	..	40	..	40	..	40	..	40	35	40
Portage Rubber, pfd	..	90	..	90	..	90	..	90	90	95
Reo Motor Car	25½	28½	27	28½	18	19	18	20	20	22½
Reo Motor Truck	8¾	9¼	8¾	9¼	9½	9⅞	9½	10	..	11¾
Rubber Goods, pfd	100	110	100	110	100	110	100	110	..	..
Splitdorf Electrical	40	50	40	50	40	50	40	50	..	..
Stewart-Warner, com	48	50	47	49	47½	48½	47	48½	..	..
Stewart-Warner, pfd	99	100	97	99	97	99	97½	99½	..	..
Studebaker, com	34½	35	34⅝	34⅞	33½	34½	33½	34	20	23
Studebaker, pfd	91	95	88⅞	89½	89	87½	87	89	82	85
Swinehart Tire	65	70	65	75	73	80	70	80	85	90
Texas Co	140½	142	142	143	147½	147⅝	147	147½	..	..
U. S. Rubber, com	59	59¼	58½	58¾	58⅝	59	59⅛	59⅝	53	54
U. S. Rubber, 1st pfd	102¾	103	105⅝	103	102½	103	103	104	100	100½
Vacuum Oil	217	221	218	220	223	225	226	229	..	..
White Co., pfd	107	110	107	110	107	110	107	110	107	110
Willys-Overland, com	73	75	79¾	80	78	79	77½	79	50	55
Willys-Overland, pfd	94	96	94	96	94	96	93	95	76	85

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison. Southern iron and northern iron has dropped 25 cents and 75 cents respectively. Bessemer steel and open hearth has come down 50 cents a ton. Tin has a decrease of $4.50 a 100 pounds for the month. Pennsylvania crude oil dropped 10 cents on the barrel. Cottonseed oil rose 25 cents on the barrel.

	May 18		May 25		June 1		June 8			
	High	Low	High	Low	High	Low	High	Low	May 16	June 15
Antimony, lb	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾
Iron, Fdy., S., ton	10.50	10.50	10.50	10.50	10.50	10.50	10.25	10.25	10.50	10.25
Iron, Fdy., N., ton	13.00	13.00	13.00	13.00	12.75	12.75	12.75	12.75	13.50	12.75
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	20.00	20.00	20.00	20.00	20.00	20.00	19.50	19.50	20.00	19.50
Steel, open hearth, ton	20.00	20.00	20.00	20.00	20.00	20.00	19.50	19.50	20.00	19.50
Beams and chan., 100 lbs	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Copper, elec., 100 lbs	14.12½	14.07½	14.10	14.07½	14.10	13.87½	13.87½	13.87½	14.12½	13.80
Copper, lake, 100 lbs	14.25	14.25	14.25	14.12½	14.12½	14.00	14.00	14.00	14.25	14.00
Lead, 100 lbs	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90
Tin, 100 lbs	33.25	32.90	33.20	31.25	31.25	30.37½	31.15	30.65	34.50	30.00
Petroleum, Kan., cr., bbl	75	75	75	75	75	75	75	75	75	75
Petroleum, Penn., cr., bbl	1.90	1.90	1.90	1.90	1.80	1.80	1.80	1.80	1.90	1.80
Linseed oil, raw	54	54	54	54	54	54	54	54	54	54
Rapeseed oil, refined	59	59	59	59	59	59	59	59	59	59
Lard oil, prime	93	93	93	93	93	93	93	93	93	93
Fish oil, Menhaden, br	40	40	40	40	40	40	40	40	40	40
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	17	17	17	17	17	17	17	17	17	17
Cottonseed oil, bbl	7.10	7.05	7.13	7.05	7.25	7.15	7.37	7.33	7.10	7.35
Sea Island cotton	23½	23½	23½	23½	23½	23½	23½	23½	23½	23½
Silk raw, Japan	4.65	4.45	4.65	4.60	4.65	4.60	4.65	4.60	4.50	5.55
Silk, raw, Italy	5.10	4.80	5.10	5.10	5.10	5.10	5.10	5.10	4.80	5.10
Rubber, fine up-river Para	71	71	71	69	71	70	70	70½	71	70
Tire, scrap	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. JUNE, 1914. NO. 2.

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CONTRIBUTIONS.

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ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

ADDING A TRUCK LINE.

The man who has built up a good little business in pleasure cars in a small town or city, is justified in considering the possibilities of adding a line of commercial vehicles. He will have to realize from the start that it requires a little different method to sell trucks and business wagons, and there is nothing to be gained by taking on too big a load. He has some advantages over the fellow who must begin at the bottom, however.

In the first place he has the equipment, the selling organization and the experience. The things he must learn can be learned much more readily by him than by a novice. He has established a reputation which will be a valuable asset when approaching business men. If he is one of those dealers who has been maintaining a garage in connection with his sales agency, he is in a position to offer that service which guarantees proper treatment of the man to whom he makes a sale.

Of course, it is just as necessary to apply business methods—perhaps a little more so. The manufacturer warrants his product within certain limitations, and the dealer, in any case, must be well established financially if he is willing to assume greater risks than the man who produces the machine he is representing. It is much better to make a little something on the deal than to make a sale and lose all the profit and something besides through assuming obligations that properly belong on the shoulders of the manufacturer. And this applies to the sale of pleasure cars as well.

THE TRADE PAPER.

Is it possible to realize an ideal? Probably not, for an ideal is illusive; the nearer it is approached, the farther away it seems. That is to say, a man is never completely satisfied, or, if he is, there is something radically wrong with him—he is not a true man.

Every business man should have an ideal. He should never be satisfied with the conditions under which he is working or the results obtained. There must be that something illusive, which spurs him to better things.

The trade paper has a splendid mission, in that it strives to present the ideal. No matter what business a man may be engaged in, he cannot afford to be without the inspiration that comes from a careful reading of his trade paper.

There is sufficient material within the covers of every trade paper that comes into the garage to set every man in the place thinking—different ways of doing simple things, possibly a hint as to that which made one business a success and another a failure, a suggestion of value with respect to systematic methods, a new accessory that will just fit into the stock already carried—a hundred things that cannot afford to be overlooked.

RESULT OF BUSINESS METHODS.

After visiting some 75 automobile manufacturing concerns in the Middle West, Alfred Reeves, general manager of the National Automobile Chamber of Commerce, reports that most makers will complete the shipment of their 1914 models by July 1, and that many concerns were out of cars the first of this month. In view of the conditions which have confronted the industry during the past year, this is a particularly pleasing situation in which its manufacturers find themselves.

There can be little doubt that the present situation is the direct result of the application of business principles on the part of the manufacturers. Dealers will do well to study this aspect of the proposition. Many already have done so, to find that it pays to know that when a car is sold there is a little something ahead on the right side of the account, without having to turn over another machine before the profit appears.

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PREVENTING LEAKS IN THE GARAGE.

A Simple, Practical System Utilized at Bullock's Auto Station Which Protects Owners and the Proprietor---Garage Specializes Successfully in Storage and Supplies.

WHILE there has been some little confusion of terms in the minds of the public, it is obvious that there is a wide difference between the garaging of cars, involving storage, washing and polishing, and the complete care and maintenance of machines. A business which presents a number of interesting features is that conducted as Bullock's Auto Station, by Richmond B. Bullock, Providence, R. I., who entered the field some five years ago, and by close study of the needs of his patrons has built up a limited service which has afforded splendid satisfaction.

The plant consists of three buildings, all of fireproof construction. The main garage is of cement concrete, is lighted throughout by electricity and is steam heated. A large portion of the first floor is devoted to live storage, and here the washing and polishing and such minor adjustments as are required receive attention. A small section of this floor, at the right of the entrance, is set apart as a stockroom, where tires and tubes are the principal supplies featured. On the second floor are the offices, and back of these is a rest room for chauffeurs, equipped with every convenience to meet their needs.

Close to the garage proper is a second building, fitted with individual stalls, which are rented for a nominal sum. Each stall is provided with a door, to which the occupant is supplied with a private lock and key. The management assumes no responsibility for machines housed therein, other than to provide adequate protection in case of fire. A master key permits cars to be removed in case of need, although, since the structure is fireproof, the occasion for such action is held to be remote.

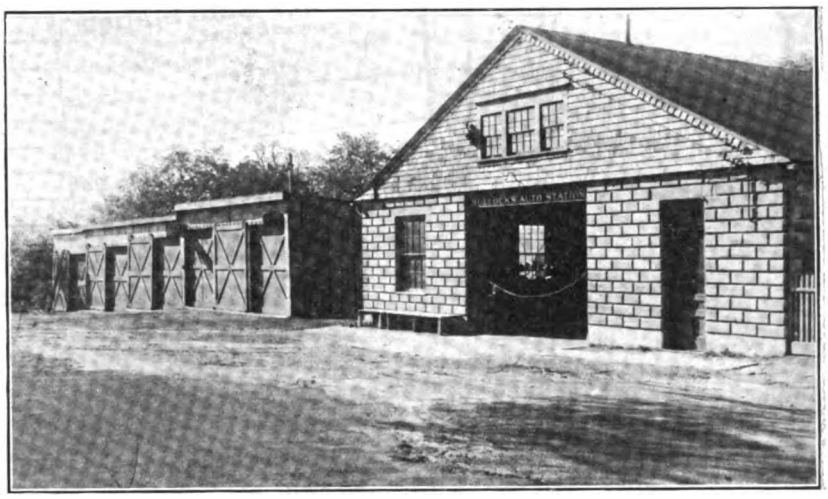
The third building is devoted entirely to dead storage.

Mr. Bullock looks after all matters personally, and no one else is permitted in the office except a young woman, who is employed for a period each month to do stenographic work, send out statements, etc. Since the station is open day and night, it is necessary to have a full working force in attendance. The manager, who has charge of the detail work, is at the garage from 7 in the morning until 7 at night during the winter months, while during the summer his hours run into the night, and he is paid by the hour for all overtime. The man who washes the cars comes on at 7 in the evening and works until 7 in the morning, and the polisher reports at midnight and is dismissed at midday. At all times one man is expected to help the other.

System, coupled with strict attention to minute details and habits of customers, is the keynote to success. That it is by no means necessary to adopt a complicated system is borne out by the experience of Mr. Bullock, who has devised simple ways and means to stop and prevent leaks.

In the first place, cars are not permitted to be taken out by chauffeurs unless authorized to do so by the owners. The proprietor holds a special constable's license, and each chauffeur is made aware of this fact. Whenever it is desired to take out an employer's machine, for which no order has been given, the applicant must assure the management that he has the necessary permission. This feature has been found especially beneficial, as it protects both owner and garage.

A record of all cars entering and leaving the garage is kept on the form shown at Fig. 8. This is printed on white paper, four by 11 inches, and conforms in every respect to the state law. At the end of each day this slip is filed, and, if for any reason it becomes desirable to produce the record, for inspection by state officials or otherwise, it is readily accessible at all times. It will be noted that these supply the necessary check on chauffeurs or others, who might be detected in using the car without being fully authorized to do so by the owner.



Front View of Bullock's Auto Station, Providence, R. I.

At Fig. 1 is shown the daily report sheet, printed on manila card, nine by 11 inches. In the first column is the owner's name or number of the car, with the workman's initials in the upper right hand corner, so that the proprietor knows what man worked on the machine, and the goods used. The next column is for washing, with the amount charged for this service. Polishing, gasoline used, cylinder oil, labor, storage

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and total are the columns that follow, and as the particular car indicated was given full service, each space contains the cost and the total is carried out to the right. If the patron is a transient he pays for it and a rubber stamp entry with the word "Paid" appears alongside of the transaction. He also is given a receipted bill, shown at Fig. 3, this being on white paper, four by 5.5 inches.

At the end of each day these reports are sent to the office with those covering the previous night's business, and all entries are then made in the journal, Fig. 4, which is a small book consisting of loose leaves, measuring eight by five inches. The patron's name and address are entered thereon and the account number. Each page is heavily ruled to meet the requirements of this branch of the system, and the entries are made as shown by the daily report. Should the account run over, another page is inserted, instead of using the back of the original. This portion is reserved for the signature of the proprietor, which is utilized as a quick way to detect dishonesty on the part of others who have no right in the office. It is a simple matter to add the amounts and foot the bill for the month's work, etc., which has been done on an owner's car.

An itemized bill is sent out at the beginning of each month to each customer, and as he pays he is given credit in the journal column marked credit, and the word "Paid" is entered at the extreme right. In this way it is quite a simple matter for the owner of the garage to tell at a glance just who owes an account and who pays regularly. There is nothing complicated about it.

When cash is received, an entry is made in the cash book. This is another book of loose leaves numbered and dated consecutively. At Fig. 2 will be seen the method of handling all moneys that are received and paid out. The page is ruled and measures the same as the journal. The balance is carried to the extreme right. When money is received either in part or full payment, it is entered, with the date, the person's name and the amount in the "Received Payment" column.

When money is paid out, the same course is pursued, with the exception that the number of the check is placed at the right of the name and the amount carried to the "Paid" column. The bottom line is reserved for the total amount of incoming and outgoing cash. The balance is then carried forward onto the next page and it is possible to learn at all times just how much cash should be in hand. It must be understood, however, that the figures given herein in any part of this system, are for purposes of illustration, merely, and in no way apply to this company.

There is also an "Open" book used by the manager in the garage, and as supplies are furnished or work is done on the cars he enters the items against the customer's name. In the back of this book is an alphabetically arranged index with all the names of the customers entered thereon and the amounts owed by them, so that in the absence of the proprietor the manager may refer to this index and tell at once what amount is due the firm. When money is received by him, he gives the patrons a receipt and marks "Paid" in the column reserved for that purpose. This book is a duplicate of the journal used in the office, and accounts are transferred thereto at stated periods. As accounts are paid they are taken out of the journal and filed.

Tires are a very important feature at Bullock's Auto Station. The rule provides that they must be paid for the day the customer wants them, and in the case of regular boarders 10 days is the longest time that is allowed. There is no deviation from the general rule, except as stated.

Tires coming from the factory bear a yellow cardboard tag, 4.5 by 5.5 inches, Fig. 5, and as received are checked in the tire book, Fig. 6. The

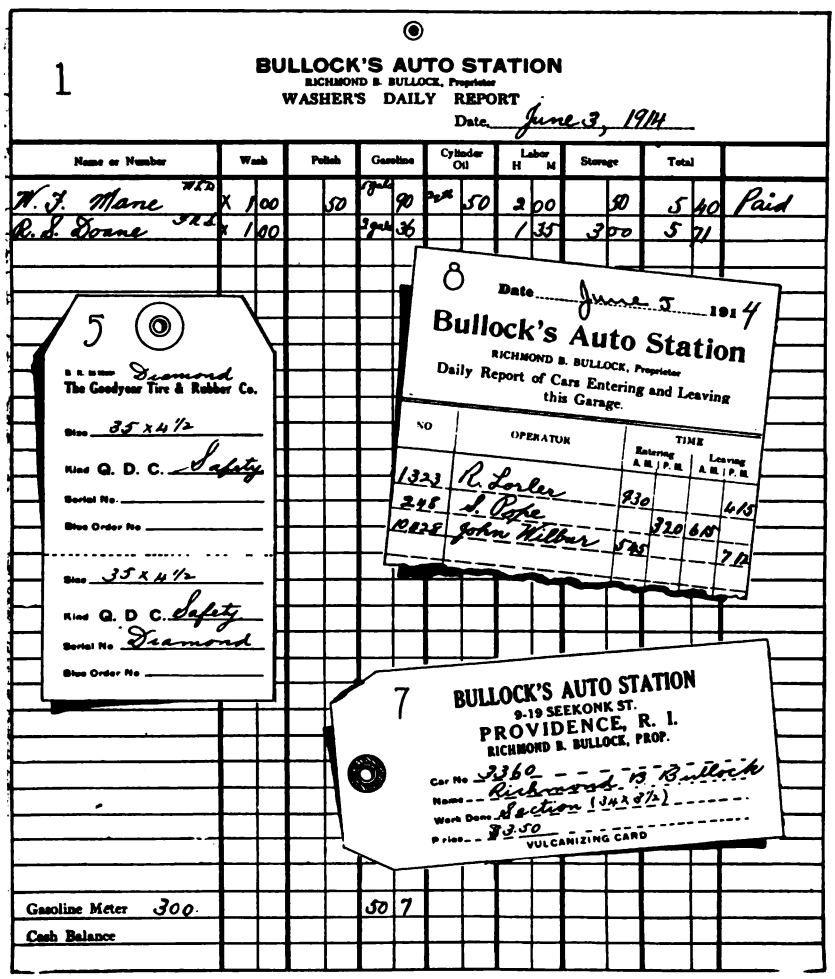

Fig. 1, Washer's Daily Report; Fig. 5, Tag Used on Tires When Received from the Factory; Fig. 7, Memorandum Tag Sent Out on Machines for Repair Work; Fig. 8, Daily Report Slip on Which Is Recorded the Time Machines Leave and Return.

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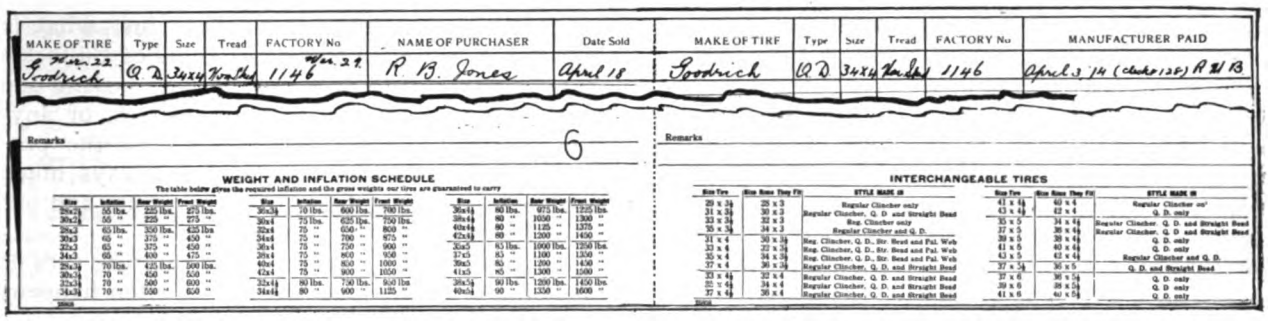


MAKE OF TIRE	Type	Size	Tread	FACTORY No.	NAME OF PURCHASER	Date Sold
Goodrich	Q D	34x4	Non Skid	1146	R B. Jones	April 18

MAKE OF TIRE	Type	Size	Tread	FACTORY No.	MANUFACTURER PAID
Goodrich	Q D	34x4	Non Skid	1146	April 3 '14 (check 126) R 2/13

Remarks 6

Remarks

WEIGHT AND INFLATION SCHEDULE

The table below gives the required inflation and the gross weights our tires are guaranteed to carry

Size	Inflation	Rear Weight	Front Weight	Size	Inflation	Rear Weight	Front Weight	Size	Inflation	Rear Weight	Front Weight
28x3	55 lbs.	225 lbs.	275 lbs.	36x4	70 lbs.	600 lbs.	700 lbs.	36x4½	60 lbs.	975 lbs.	1225 lbs.
30x3½	55 "	225 "	275 "	36x4	75 lbs.	625 lbs.	750 lbs.	36x4½	60 "	1050 "	1300 "
30x3	65 lbs.	350 lbs.	425 lbs.	32x4	75 "	650 "	800 "	40x4½	90 "	1125 "	1375 "
30x3	65 "	375 "	450 "	34x4	75 "	700 "	875 "	42x4½	60 "	1200 "	1450 "
32x3	65 "	375 "	450 "	36x4	75 "	750 "	900 "	32x5	85 lbs.	1000 lbs.	1250 lbs.
34x3	65 "	400 "	475 "	36x4	75 "	800 "	950 "	37x5	85 "	1100 "	1350 "
28x3½	70 lbs.	425 lbs.	500 lbs.	40x4	75 "	850 "	1000 "	38x5	85 "	1200 "	1450 "
30x3½	70 "	450 "	550 "	42x4	75 "	900 "	1050 "	41x5	85 "	1300 "	1500 "
32x3½	70 "	500 "	600 "	32x4½	80 lbs.	750 lbs.	900 lbs	36x5½	90 lbs.	1200 lbs.	1450 lbs.
34x3½	70 "	550 "	650 "	34x4½	80 "	900 "	1125 "	40x5½	90 "	1350 "	1600 "

INTERCHANGEABLE TIRES

Size Tire	Size Rims They Fit	STYLE MADE IN	Size Tire	Size Rims They Fit	STYLE MADE IN
28 x 3½	28 x 3	Regular Clincher only	41 x 4½	40 x 4	Regular Clincher only
31 x 3½	30 x 3	Regular Clincher, Q. D. and Straight Bead	43 x 4½	42 x 4	Q. D. only
33 x 3½	32 x 3	Reg. Clincher only	35 x 5	34 x 4½	Regular Clincher, Q. D. and Straight Bead
35 x 3½	34 x 3	Regular Clincher and Q. D.	37 x 5	36 x 4½	Regular Clincher, Q. D. and Straight Bead
31 x 4	30 x 3½	Reg. Clincher, Q. D., Str. Bead and Fal. Web	39 x 5	38 x 4½	Q. D. only
33 x 4	32 x 3½	Reg. Clincher, Q. D., Str. Bead and Fal. Web	41 x 5	40 x 4½	Q. D. only
35 x 4	34 x 3½	Reg. Clincher, Q. D., Str. Bead and Fal. Web	43 x 5	42 x 4½	Regular Clincher and Q. D.
37 x 4	36 x 3½	Regular Clincher, Q. D. and Straight Bead	37 x 5½	36 x 5	Q. D. and Straight Bead
33 x 4½	32 x 4	Regular Clincher, Q. D. and Straight Bead	37 x 6	36 x 5½	Q. D. only
35 x 4½	34 x 4	Regular Clincher, Q. D. and Straight Bead	39 x 6	38 x 5½	Q. D. only
37 x 4½	36 x 4	Regular Clincher, Q. D. and Straight Bead	41 x 6	40 x 5½	Q. D. only

Fig. 6, Style of Order Book Which Bullock's Auto Station Uses in Ordering Tires.

tag is divided into two parts, the upper half being useless after the lower half has been torn off when the tire is sold. The latter portion is sent to the stockroom and filed, so as to simplify matters when it is time to take stock, these tags notifying the proprietor what tires have been sold and what is needed. It would entail a great deal of work and, consequently, loss of time, to handle a large number of tires, such as is carried by this concern, in order to find out just what stock is on hand.

The tire book, Fig. 6, 8.25 by 10.5 inches, shows the method of ordering tires from the manufacturers, and includes the date when received at the garage, the style, size, etc., to whom sold, when paid for, and the date the manufacturer was paid by the garage, and the serial number of the check is also recorded, so that it would be impossible for any errors to occur in connection with tires.

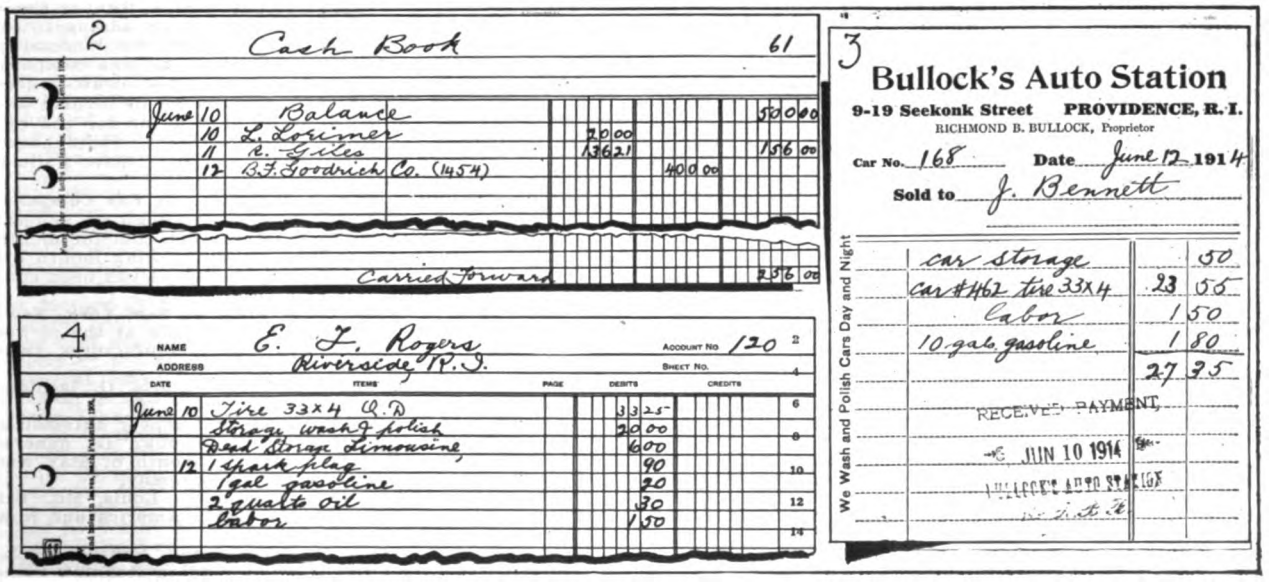
Gasoline is carried in a large underground tank and a meter records the amount taken out each day. Assuming that the tank holds 800 gallons, and the daily report sheet, Fig. 1, shows that 300 gallons had been taken out previously and that 50 gallons were sold that day, there should be a total of 450 gallons still on hand, and the meter reading should correspond, so that the proprietor is able to tell at a glance how much fuel he has. The experienced garage man will detect any slight difference between the reading of the meter and the daily report. An allowance is made for any evaporation which may occur.

Should there be an unreasonable difference between the reading of the meter and the daily report, the employee whose initials are entered in the upper right hand corner of the first column is made to pay one-third of the loss that occurs. The manager of the garage and the proprietor must also do the same. This applies to all goods wherein there is a loss of any proportion. This method insures carefulness on the part of employees and as the proprietor is willing to bear a proportionate share of the loss, it retains the good will of all concerned. However, it is very rarely that mistakes occur.

Should an employee make an error in writing out the transactions on the daily report card, he must not erase it, but mark in the spaces, "Error", and then proceed on the next line. When this report is handed into the office it is seen at once the nature of the error and it is then corrected.

A portable 50-gallon tank is also utilized, this being filled from the main tank and equipped with a meter which is read in the same manner.

Repair work, other than minor adjustments, is not undertaken by Bullock's Auto Station, arrangement for this work having been made with outside repair shops. Before leaving the garage each car is fitted with a manila tag, 2.5 by five inches, bearing the car number, proprietor's name and nature of the work to be done. This rule applies for all repair work, including vulcanizing and battery charging. There is space on the tag



2 Cash Book 61

June	10	Balance				500 00
	10	L. Lorimer	70 00			
	11	R. Giles	13 62 1			156 00
	12	B.F. Goodrich Co. (1454)		400 00		
		Carried Forward				256 00

4 NAME E. F. Rogers ACCOUNT No. 120 2
ADDRESS Riverside, R.I. SHEET No. 4

DATE		ITEMS	PAGE	DEBITS	CREDITS	
June	10	Tire 33x4 Q.D.		33 25		6
		Storage, wash & polish		20 00		8
		Dead Storage Limousine		6 00		
	12	1 spark plug		90		10
		1 gal. gasoline		30		
		2 quarts oil		30		12
		labor		1 50		14

3 **Bullock's Auto Station**
9-19 Seekonk Street PROVIDENCE, R. I.
RICHMOND B. BULLOCK, Proprietor

Car No. 168 Date June 12 1914
Sold to J. Bennett

car storage		50
car #462 tire 33x4	23	00
labor	1	50
10 gals. gasoline	1	80
	27	80

RECEIVED PAYMENT
JUN 10 1914
BULLOCK'S AUTO STATION

We Wash and Polish Cars Day and Night

Fig 2, Cash Book Showing Method of Entering All Money Received and Paid Out, and the Cash Balance at the Extreme Right; Fig. 4, Journal in Which All Items Are Entered; Fig. 3, Receipt Given Customers When a Cash Sale Is Made.

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for the price at which the work is charged to the station and this is kept on file convenient for reference.

Patrons are given every consideration. A telephone pay station is on the main floor of the garage and placards are posted throughout the building calling attention to the different supplies on hand, and this has oftentimes been known to present an article to a customer's mind, with the result that a cash sale has been made.

A very novel idea of Bullock's Auto Station is the big display of tires that greets the visitor upon entering the garage. At different intervals, different makes of tires are displayed to advantage, and on either side of this showing is a list of all the standard makes carried. At night it is illuminated by electric lights, which makes it most effective and attractive.

Oils and greases are also shown, together with large signs indicating the brands carried in stock. However, a customer is not urged to take any particular brand, as the variety is such that at any time he can always get just what is wanted. It is one of the main points of Bullock's Auto Station not to talk a patron into buying one particular kind of tires, oils or greases, or anything else necessary for the car, and the proprietor finds that the customer is always much better pleased by getting what he wants and not what the garage wants to sell.

All persons are warned about entering cars or meddling with the mechanism. It often happens that a person not acquainted with the working of an automobile will touch some part and set going the machine, with the result that a great deal of damage is wrought. The rule not to allow strangers to enter cars is rigidly enforced and is a source of much protection to owners and the garage management.

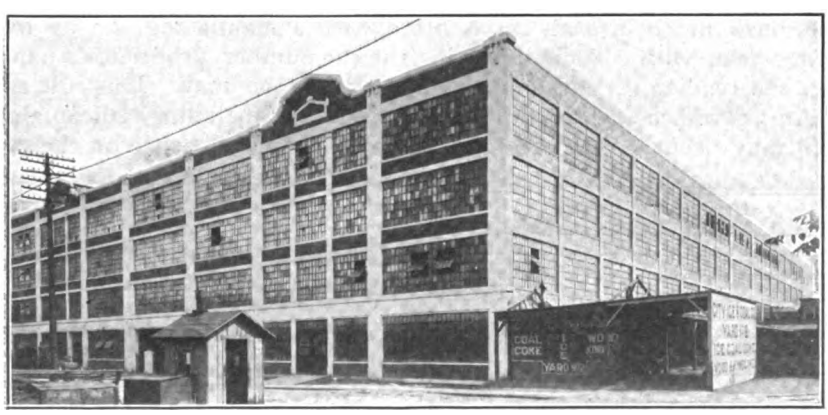
Bullock's Auto Station owes its success to promptness, courtesy and carrying fresh and reliable stock, with lowest prices at all times for services rendered and its plan of doing business on a systematic, cash basis.

GENERAL NEWS OF THE MANUFACTURERS.

The Commerce Motor Car Company, Detroit, had a narrow escape from fire as the result of an explosion, which made a total wreck of the adjoining plant of the Mexican Crude Rubber Company. While the explosion was terrific, demolishing the heavy machinery and killing 10 men, with scores of wounded, the only damage suffered by the Commerce factory was the loss of thousands of small window panes. Several of the men at work assembling the delivery cars were blown over in a shower of glass. George B. Wilcox, the sales manager, reports production is unhampered.

The Jones Electric Starter Company, Chicago, Ill., manufacturer of the Jesco line of electric starting, lighting and ignition apparatus, has established a Detroit office at 1211 Woodward avenue. This branch will be in charge of E. L. Jones, E. E. He is vice president and chief engineer of the company.

The O'Mullins Quick Adjustable Wrench Company, Trenton, N. J., will manufacture a wrench which can be quickly adjusted and which stays adjusted until changed.



General View of the New Building of the Cole Motor Car Company, as Seen from Market and Davidson Streets.

The Lozier Motor Company, Detroit, has started a sales contest among its dealers, sub-dealers and their salesmen, which will close Sept. 15. Each contestant will receive a certain number of credits, determined by the contest committee according to conditions in the contestant's territory, for each sale made during the time of the contest. The first 12 contestants will receive a trip to Detroit as honored guests of the Lozier company, all expenses paid, the time being donated by the employer. In addition the winner will have his expenses paid for a trip of one month to study automobile conditions in London and Paris, and incidentally to enjoy the sights and wonders of those cities.

The American Malleable Company, Owosso, Mich., is to erect a factory at Flint, which will be the centre of its activities in Michigan. The site is in the extreme north end of the city, close to the General Motors buildings.

The Abbott Motor Car Company, Detroit, is finishing one-half of its output in fancy colors, says Edward F. Gerber, president of the company. This new demand is causing automobile factories much extra work, as it means carrying three or four stocks of bodies and in addition to this it takes a considerably longer period of time to finish a body in special color than in standard black.

The Briggs Manufacturing Company, Detroit, maker of automobile bodies, has acquired the large plant formerly occupied by the A. C. Knapp Trimming Company. The building is three stories high and is 200 by 120 feet.

The Stutz Motor Car Company, Indianapolis, has gathered in all of its racing trophies and is exhibiting a costly collection of silverware. The Stutz trophies were won in a sensational campaign covering three years. A remarkable record was established last season when Earl Cooper and Gil Anderson won seven consecutive road race victories and the former gained the title of "official road racing champion for 1913".

The Lozier Motor Company, Detroit, has employed as first aid man, L. B. Williams, who was examining officer at the United States Army recruiting office in Detroit. He will organize a first aid corps of the factory employees, which will be in readiness to respond instantly in case of accidental injury to workmen. He will work under the direction of the welfare committee recently appointed by the Lozier Young Men's Club.

The Firestone Tire & Rubber Company, Akron, O., is again adding to its plant to meet the rapidly increasing demand for its product. The company will install a new 4000-kilowatt generator and steam turbine to furnish additional power needed for for the extensions. The present switchboard will be replaced by a new gallery board 70 feet in length.

The Century Electric Car Company, Detroit, announces through its general manager, W. J. Gordon, that the month of May was the best selling month for electric vehicles since he has been connected with that company.

The Gadabout Motor Corporation of New York, Newark, N. J., has leased the factory building at the corner of Badger avenue. The company manufactures two-passenger cyclecars.

The Allen Motor Car Company, Fostoria, O., is planning to erect a large factory.

The Haynes Automobile Company, pioneer automobile builder of Kokomo, Ind., reports, through its general manager, A. G. Sieberling, that the month of May was a record-breaking month with that company.

The Moon Motor Car Company, St. Louis, Mo., has established agencies in Canada, South America and New Zealand.

The General Motors Truck Company, Pontiac, Mich., has just closed an order with the Indian Refining Company for seven two-ton gasoline trucks. This makes a total of 12 GMC trucks which the Indian Refining Company has purchased within the past month.

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The Dayton Rubber Manufacturing Company, Dayton, O., manufacturer of Dayton airless tires and Dayton pneumatic tires, has moved its New York City office from 1874 Broadway to 1851 Broadway, and now has one of the most attractive and up-to-date tire offices in that city.

The Sears-Cross Company, announces the removal of its service station to 218 West 65th street, New York City. The executive offices are located at the company's factory, 147 41st street, Brooklyn, N. Y.

The Champion Spark Plug Company, Toledo, O., announces that it is now turning out an average of 26,000 spark plugs a day. Four years ago the business was started in a small factory space in that city, the first daily production being about 400 plugs. The Champion plug is used in the factory equipment of Ford, Overland, Maxwell, Studebaker, Metz and many other cars.

The Swinehart Tire & Rubber Company, Akron, O., makes a variety of tires for truck use. A special cellular tire for electric trucks is stated to be extremely economical of current consumption, as the flow or "bunching" of the rubber is absorbed by the cells. Additional claims are that this tire transmits absolute traction; that it will not skid on wet or slippery pavements, and that the additional resiliency prolongs the life of both batteries and mechanism.

The National Rubber Filler Company, Midlothian, Tex., manufactures a rubber tire filler designed to take the place of the inner tube and air, which, the company states, ends all tire trouble. The company claims that it is made on the correct principle and out of the proper material to give service and satisfaction, high grade rubber cut in small pieces and vulcanized together being the medium employed.

The Leather Tire Goods Company, Niagara Falls, Ont., produces a new type of tire chain which differs from ordinary chains in having cross members made of heavy sheet metal pieces. These are formed so as to present the smooth, rounded side of the metal to the tire and the edges towards the road, and it is held that the best possible grip is obtained on the road and that there is a minimum amount of wear on the tire. They are known as the Kant Skid chains.

The Power Efficiency Company, Trenton, N. J., announces that it is entering the manufacturing field. The company will make automobile accessories, and the first of these that will be placed on the market will be a double spark plug. H. T. Caullet is president and E. Furman Hooper is secretary and treasurer. M. T. Minogue is general manager.

The Allen Motor Company, Fostoria, O., recently announced that the company's plant will be enlarged during the coming season.

The Saginaw Motor Car Company, Saginaw, Mich., which was recently organized with a capital stock of $150,000, will manufacture the Saginaw speedster. The new firm is composed of A. R. Thomas and W. L. Walls. The company recently acquired the property of the Brooks Motor Wagon Company, which is well equipped for manufacturing purposes.

The Aetna Motor Truck Company, Detroit, has secured a factory at the corner of Richmond avenue and East Grand boulevard. The company plans to build, during the first year, 200 trucks of two tons capacity. The officers of the newly formed company are: President and general manager, J. George Wagner; vice president, Ernest E. Kinney; secretary, William A. Eldred; treasurer, John J. Wilson; director, George Humbert.

A. O. Dunk, president of the Puritan Machine Company, Detroit, has purchased the assets of the F. A. L. Auto Company, Chicago. This purchase includes all the patterns, tools, service parts and other property formerly owned by the latter concern, and the entire stock has been moved to Detroit. The Puritan Machine Company is now supplying parts to over 56,000 private owners whose cars were made by firms now out of business.

The Goodyear Tire & Rubber Company, Akron, O., has just announced a reduction of approximately five per cent. in the price of its individual block motor truck tires. According to advice received from the factory, this was made possible by the constantly increasing demand for this type of tire by motor truck operators. Raising the production volume lowered the cost to warrant a decrease in selling price.

The Kissel Motor Car Company, Hartford, Wis., has recently completed additions to its large plant, which will increase the floor space by 60,000 square feet. The plant is one of the most complete in the country, including iron, steel and aluminum foundries, heat treating ovens, machine shops, motor testing department, tin shop, wood shops, sand blast, upholstery department, paint shops and final assembly department. The company manufactures its own motors, axles, clutches, crankshafts, bodies and tops, as well as many of the minor parts of the cars and trucks produced by this concern.

The Sprague Umbrella & Manufacturing Company, Norwalk, O., maker of automobile tops and accessories, has made an assignment for the benefit of creditors, with $10,000 assets and liabilities of $60,000. E. G. Martin was appointed assignee.

The Four Wheel Drive Auto Company, Clintonville, Wis., is about to commence the construction of an addition to its large plant. The building will be 40 by 80 feet and will be used exclusively as a paint shop.

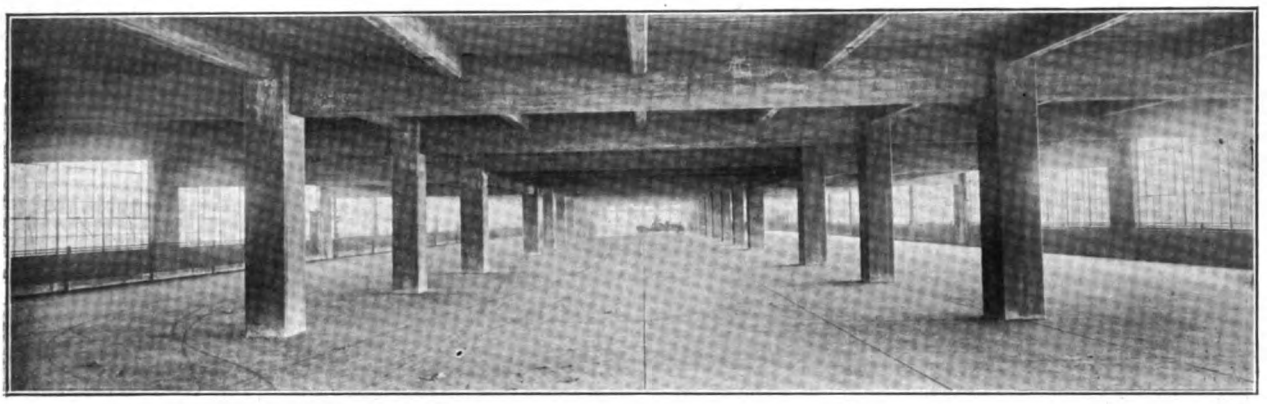
The Ford Company, Ltd., Walkerville, Can., has declared a dividend of 10 per cent. Although the company has paid dividends annually since it was organized in 1904, this is the largest dividend that has been paid. The amount distributed will be about $100,000.

The Carter Carburetor Company, St. Louis, Mo., whose main factory is at 912-14 North Market street, has bought the large modern factory located on Spring avenue, between St. Louis and Dodier avenues. The main building is of brick, three stories, 125 by 50, and another building 40 by 90 feet will be erected at once.

The Allen Motor Company, Fostoria, O., contemplates the erection of a large addition to its plant on the site of the Atlas Manufacturing Company, located across the street from the present plant. Application has been made to the city officials for permission to build a covered passageway across the street and if that is granted the additions will be started at once.

David Hughes, Racine, Wis., has engaged in the manufacture of an appliance by means of which motor car headlights are focussed in the same direction as the front wheels. The device is being given a thorough tryout on all Racine fire department vehicles. Patents have been applied for.

The Willys-Overland Company, Toledo, O., held its annual convention recently and 95 representatives assembled in that city from all over the world. Every state in the Union was represented and also such far away countries as New Zealand, South Africa and China.



Looking Down the Main Floor of the New Cole Building, Before the Machinery Had Been Installed.

INCREASES IN CAPITAL STOCK.

Shaefer Sales Corporation, Detroit, from $15,000 to $30,000.

Crow Motor Car Company, Elkhart, Ind., from $50,000 to $100,000.

Silvex Company, New York City, from $100,000 to $200,000.

Kelly-Springfield Tire Company, New York City, from $5,149,500 to $10,299,000.

Palace Livery Taxicab Company, Peoria, Ill.; from $30,000 to $40,000.

Hampton Kerosene Carburetor Company, New York City; from $250,000 to $500,000.

Reo Motor Car Company, Lansing, Mich.; from $2,000,000 to $3,000,000.

The Victor Motor Car Company, Wilmington, Del.; from $100,000 to $350,000.

Revere Rubber Company, Providence, R. I.; from $4,000,000 to $5,000,000.

Fisher Closed Body Company, Detroit, Mich.; from $125,000 to $500,000.

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REPORTED CHANGES IN TRADE ADDRESSES.

United Motor Company, Los Angeles, Cal.; removed to 675 Golden Gate avenue, San Juan, Cal.

A. C. Dittimore, San Francisco, Cal.; from Golden Gate avenue to 240 McAllister street.

Wagner Kennedy Company, San Francisco, Cal.; from 1401 Folsom street to 5459 Golden Gate avenue.

Phoenix Automobile Company, Phoenix, Ariz.; from 320 East Adams street to box 1171.

Collins Vehicle & Harness Company, Phoenix, Ariz.; from 33 East Adams street to box 367.

Williams Steel Wheel R. & T. Company, New York City; removed to 2059 Elmer avenue, Chicago, Ill.

Independent Auto Repair Company, Omaha, Neb.; from 2416 Farnam street to 801 Douglas street.

Oakland Garage Company, Oakland, Cal.; from 524 20th street to 3117 Chicago avenue.

M. E. Costin, Gothensburg, Neb.; removed to Willow Island, Neb.

Only Car Company, New York City; removed to Port Jefferson, L. I., N. Y.

Charles H. Emig & Co., Buffalo, N. Y.; from 409 High street to 76 East Genesee street.

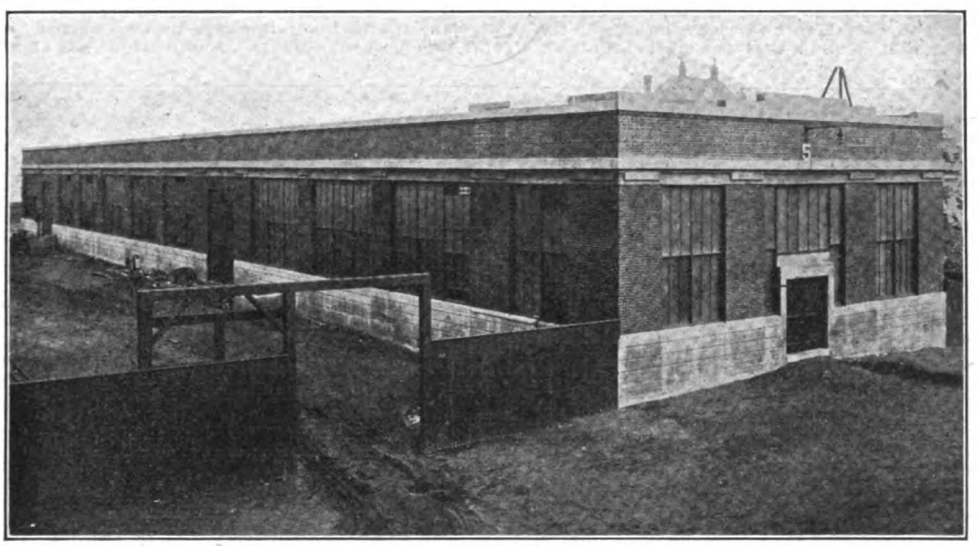
Dewey Sales Company, Kansas City, Mo.; from 815 Commerce building to box 14.

Goggle Mirrorscope Company, Chicago, Ill.; from 1001 North Willow avenue to 1011 North Leamington street.

U. S. Ratchet Wrench Company, Peoria, Ill.; from 215 North Adams street to Masonic Temple building.

Youngstown Electric Garage Company, Youngstown, O.; from 110 West Rayem street to 363 West Chalmers street.

Studebaker Bros. Company of Minnesota, Minneapolis, Minn., from 527 Second avenue to 411 Washington avenue, North.



Building No. 5, Which Has Been Built for the G. V. Mercedes Truck Department of the Company and Which Will Be Enlarged Later.

White Steamer Agency, Kansas City, Mo.; from 1112 East 15th street to 1507 McGee street.

C. A. Thompson, San Jose, Cal.; from 582 South First street to 561 South Michigan avenue.

S. G. Rayl Company, San Francisco, Cal.; from Mills building to Beresford hotel.

Goodyear Tire Company, Seattle, Wash.; from 1532 Broadway to 816 East Pike street.

Canyon Garage, Tacoma, Wash.; removed to 518 North 64th street, Seattle, Wash.

St. Helens Garage, Tacoma, Wash.; from 2422 St. Helens avenue to 743 South C street.

United States Tire Company, Portland, Ore.; from 84 Broadway to 24 Fifth avenue, N.

C. F. Tinnin, San Antonio, Tex.; removed to Dilley, Tex.

Ranger Auto Company, Minneapolis, Minn.; from 308 10th street South to 301 East 48th street.

F. W. Patterson, Ajax Auto Company, Chicago, Ill.; add 832 East 43rd street.

Alexander R. Curtis, Minneapolis, Minn.; add 1110 Third avenue, North.

F. A. Babcock, Minneapolis, Minn.; removed to Seneca Falls, N. Y.

F. H. Boettcher, Minneapolis, Minn.; from 2101 Newton avenue to 1221 West 32nd street.

Newell E. Storms, Minneapolis, Minn.; from 2100 Aldrich avenue, South, to 4557 Xerxes avenue, South.

The Stoddard Dayton Auto Company, Minneapolis, Minn.; from 419 10th street to 714 Phy building.

Wallschlaeger Auto Company, Milwaukee, Wis.; from 303 16th street to 661 16th street.

Studebaker Automobile Company, Milwaukee, Wis.; from Milwaukee and Mason streets to 417 Wells street.

Motor Car Sales Company, Milwaukee, Wis.; from 134 Oneida street to 510 Broadway.

R. A. Schwartzburg, Milwaukee, Wis.; from 800 12th street to 644½ 36th street.

Huron Auto & Supply Company, Huron, S. D.; removed to Pierre, S. D.

Frank Householder, Guthrie, Okla.; removed to Webster, N. Y.

L. P. Broderson, Ottawa, Kan.; removed to Osawatomie, Kan.

G. S. Hamnett, Greeley, Col.; removed to Salt Lake City, Utah, care of Holmes Parker Hardware Company.

Union Automobile Company, Bellingham, Wash.; from 1217 Commercial street to 1107 Elk street.

Lincoln Auto Company, Lincoln, Neb.; from 335 South 11th street to 1138 G street.

Studebaker Corporation, Cleveland, O.; from 700 Canal road to 442 Arcade.

Hendry Auto Machine & Repair Works, San Francisco., Cal.; removed to 3334 Arlington avenue, Los Angeles, Cal.

Reid Auto Company, Louisville, Ky.; removed to 1114 South Olive street, Los Angeles, Cal.

F. E. Lortz Company, Cleveland, O.; removed to 1547 South Michigan avenue, Chicago, Ill.

Excel Instrument Company, Cleveland, O.; removed to Clyde, O.

Teetonizer Laboratory, Newark, N. J.; removed to 504 Bloomfield street, Hoboken, N. J.

Woodward & Son Manufacturing Company, Toledo, O.; removed to 222 Third street, Detroit, Mich.

Sternberg Motor Truck Company, New York City; from 285 East 137th street to 132nd street and 12th avenue.

White, Binford & Robinson Motor Company, Providence, R. I.; removed to 42 College street, Brockton, Mass.

Pope-Hartford Auto Company, Inc., of R. I., Providence, R. I.; from 536 Atwells avenue to 773 Broad street.

C. D. Snow, Providence, R. I.; removed to 64 Lowell avenue, Olneyville, R. I.

Kendall Garage, Providence, R. I.; from 773 Broad street to 159 Reynolds avenue.

Touring N. Y. Automobiles, New York City; from 175 Fifth avenue to 110 West 34th street.

Cowie Auto & Cycle Works, Buffalo, N. Y.; from 576 Broadway to 454 Genesee street.

Gilbert Dove, Buffalo, N. Y.; from 1298 Niagara street to 429 Rhode Island avenue.

West Side Garage, Rochester, N. Y.; from 398 Troup street to 11 Caledonia avenue.

Maxon Vulcanizing Works, Rochester, N. Y.; from 115 Main street, West, to 646 North street.

Joseph Speidel, Jr., Wheeling, W. Va.; removed to Elm Grove, W. Va.

Reading Standard Sales Company, Chicago, Ill.; from 348 West 55th street to 215 Englewood avenue.

United Motor St. Louis Company, St. Louis, Mo.; from 3950 Olive street to 4652 Hudson place.

Louis Schnellman, Luxemburg, Mo.; add 7300 Vermont street.

W. B. Willingham, Jr., Atlanta, Ga.; from 266 Gordon street to 11 Dunn street.

Russell Motor Company, Duluth, Minn.; from 310 East Superior street to 1120 East Second street.

C. W. Eckman, Mankato, Minn.; add 533 South Front street.

Pollock-Taylor, Washington, D. C.; from 16th street and U avenue to 1018 Connecticut avenue.

Louis Muhle Automobile Company, Cincinnati, O.; from 1003 Race street to 1932 Fairfax avenue.

H. F. Langdon, Cincinnati, O.; from 3421 Montgomery road to 3433 Reeding road.

Queen City Electric Company, Cincinnati, O.; from 223 East Fourth street to 347 East Third street.

Fred Van Electric Company, Cleveland, O.; from 2248 Euclid avenue to 2021 East 32nd street.

Standard Motor Truck Company, Cleveland, O.; from 2348 Euclid avenue to 1824 Euclid avenue.

Smith Carriage & Automobile Company, Cleveland, O.; from 5121 Euclid avenue to 1970 East 66th street.

Steam Auto Repair Company, Cleveland, O.; from 2358 East 93rd street to 5704 West Luther street.

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PERSONAL NEWS OF THE INDUSTRY.

Col. George Pope of the Pope Manufacturing Company, Hartford, Conn., was re-elected president of the National Association of Manufacturers, which held its annual meeting recently in New York City. All the other officers were also re-elected as follows: Treasurer, A. B. See; general manager and assistant treasurer, J. Phillip Bird; secretary, George S. Boudinot.

Col. George Pope, Re-Elected President of the National Association of Manufacturers.

William Besserdich, designer of the Four Wheel Drive motor truck and one of the founders of the Four Wheel Drive Auto Company, Clintonville, Wis., has disposed of his interest in that concern.

Warren D. Oakes, president of the Oakes Company, Indianapolis, manufacturer of radiator fans and automobile parts in pressed steel, has sailed for Europe. While abroad Mr. Oakes will call on the principal manufacturers in Great Britain and Continental Europe with a view of opening up business relations for his company.

F. R. Pleasonton, Allentown, Penn., has resigned as manager of the Mack plants of the International Motor Company.

Tom O. Jones has become identified with the Empire Automobile Company, Indianapolis. He will be the advertising and export manager, having succeeded Harlow Hyde, resigned.

O. J. Woodward has been appointed district manager of Dodge Bros., Detroit, well known automobile manufacturer. He was formerly connected with the Diamond Rubber Company and the Woods Electric Company.

E. V. Rippingville has succedeed Virgil Oldberg as service manager of the Hudson Motor Car Company, Detroit. Mr. Rippingville was chief of the inspection department for three years.

D. C. Evans has joined the Detroit branch of the Goodyear Tire & Rubber Company. He is manager of the service department. Mr. Evans was formerly sales manager of the Alma Manufacturing Company, Alma, Mich., and later general manager of the Admiral Motor Truck Company, St. Louis, Mich.

Joseph Price of the John R. Price Electric & Manufacturing Company, Basic City, Va., has been in New York City recently introducing the Price automatic cut-out switch.

W. I. Brown, formerly a member of the Brown-Rowan-Buck Company, Indianapolis, has been appointed manager of the contract and order department of Dodge Bros., Detroit.

John H. Rosen has become affiliated with the Gomery-Schwartz Motor Car Company, Philadelphia, Hudson car agent. He resigned as assistant sales manager of the Automobile Sales Corporation, Philadelphia.

George H. Knapp has been appointed sales manager of the C. P. Weeden Motor Car Company, Trenton, N. J. He will have charge of sales in Mercer county, N. J., and Bucks county, Penn. The company is agent for Studebaker cars.

L. S. Smith, for several years connected with the retail end of the Studebaker business in Indianapolis, has been placed at the head of the Brown-Rowan-Buck Company, and will devote his time working with sub-dealers.

H. W. Fanning is now connected with the Swyers & Lorch Manufacturing Company, Pittsburg, Penn., maker of the Spark-No Auto Lock. He was for several years connected with the sales department of the G. Piel Company, maker of the Long horn.

Robert F. Nadig, formerly in charge of automobile instruction at the Y. M. C. A. school at Columbus, O., has been appointed examiner of chauffeurs for central Ohio by Secretary of State Graves.

A. H. Humphreyville, who has been manager of the Newton-Humphreyville Company, Newark, N. J., has become manager of the Stratton Auto Sales Company, New York City.

Edward L. Franklin, who has been head salesman in the A. Elliott Ranney Company's branch in Brooklyn, N. Y., has been appointed assistant to J. A. Mellen, in charge of the New York used car department of the Locomobile Company of America, Bridgeport, Conn.

C. M. Doty, who has been with the Packard Motor Car Company, New York City, for past 10 years, has resigned to become president of the Doty-Demos Company, 621 West 42nd street.

F. W. A. Vesper, assistant general sales manager of the Buick Motor Company, Flint, Mich., has purchased the company's branch house property and business at St. Louis, Mo. Mr. Vesper was manager of the company's branch at Dallas, Tex., for a number of years. His firm will be known as the Vesper-Buick Company.

A. J. Krebs, Jr., has joined forces with the Haynes Automobile Company, Kokomo, Ind, in the capacity of sales manager. He was formerly associated with the Saunders Motor Car Company.

Harry W. Anderson, for 3.5 years with the American Motors Company, has been added to the sales staff of the Stutz Motor Car Company, Indianapolis. He will assist Sales Manager W. D. Myers of the company in placing agencies in the South.

J. Warren Burke is now with the Locomobile Company's Boston branch. He was formerly connected with the Fiat company in that city.

W. J. Geer has been elected president of the newly organized Galion Dynamic Motor Truck Company, Galion, O. The other officers are: Vice president, F. W. Biehl; secretary, George W. Nichols; treasurer, N. G. Knight; superintendent, H. B. Gregg.

Julian M. Case has been appointed manager of advertising and sales promotion of the Abbott Motor Company, Detroit. He was formerly connected in a similar capacity with the Regal Motor Car Company.

F. K. Parke has been elected president and general manager of the International Cyclecar Company, New York City. He was formerly vice president of the Studebaker Corporation and later president of the Universal Motor Truck Company.

L. E. Olwell has joined the Chalmers Motor Company, Detroit. He was formerly with the J. Walter Thompson Company, and for the past 2.5 years advertising manager of the National Cash Register Company.

L. F. Goodspeed, a widely known mechanical engineer, has joined the force of the Moon Motor Car Company, taking charge in the St. Louis plant as chief engineer, and succeeding George F. Heising, who has been made purchasing agent.

Ralph Ketchum, manager of the New England branch of the Kissel Motor Car Company at Boston, has resigned. G. H. Lawrence, his assistant, has succeeded him.

P. J. Klumb has been elected president of the Wisconsin Oil & Supply Company, recently organized. The company is located at 2609 Elm street, Milwaukee, Wis. C. Weckmueller is vice president and H. H. Gerlach secretary and treasurer.

J. E. Rogers has joined the Russell Motor Car Company, Toronto, Ont., as assistant general manager. Mr. Rogers will also be elected to the directorship made vacant by the death of the late Senator Cox, and will become second vice president of the company.

Alfred J. Pitts, a well known Detroit newspaper man, has become identified with the automobile industry. He is sales manager for the Wagenhals Motor Car Company of that city, maker of Wagenhals delivery wagons.

Alfred J. Pitts, Sales Manager, Wagenhals Motor Car Company.

Ernst Sachs, owner of the Fichtel & Sachs ball bearing works at Schweinfurt, am Main, Bavaria, reached this country recently, on a short business trip. Mr. Sachs stated that he was amazed at the immensity of the American automobile industry, and feels that this country is entitled to equal consideration with Europe in the plans of his company.

Fred Titus has resigned from the sales organization of the Simplex Motor Car Company, New York City. He plans to re-engage in automobile selling in the near future.

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A. L. Bennett, for the past four years eastern district sales manager for the Abbott Motor Company, will supervise the same territory for the Westcott Motor Car Company, Richmond, Ind. Mr. Bennett will make his headquarters with the new Metropolitan distributor for the Westcott cars at 1862 Broadway, New York City.

A. L. Bennett, Eastern District Manager, Westcott Motor Car Company.

R. A. Green is now connected with the American Voiturette Company, New York City. He was formerly with the Oakland Motor Company, Pontiac, Mich., in various capacities.

A. J. Picard has become manager of the Ford system department of Gray & Davis, Inc. He makes his headquarters at the company's plant, Boston, Mass. Mr. Picard is also owner of an automobile accessory store in New York City.

F. G. Pennal was appointed manager of the Comet Motor Company, Montreal, Que., at the annual meeting of the company held recently. Mr. Pennal will replace W. R. Hicks, who will devote his entire time to the sales department.

F. A. Smith, formerly of the Johnson Slocum Company, Caro, Mich., is organizing the Detroit Formed Metal Company.

Harry Kane has become representative of the Simmins Manufacturing Company, Kenosha, Wis. He was formerly connected with the Jeffery Curtain Company.

Henry B. Joy, Detroit, has been appointed a member of the committee on international legislation of the Detroit Board of Commerce.

Edmund J. Copeland, recently general manager of the Corcoran Lamp Company, Cincinnati, O., has returned to Detroit to enter the lamp manufacturing business.

H. E. Rice has returned to his former position as sales and advertising manager of the Atwater Kent Manufacturing Works, Philadelphia. He spent the winter throughout the western section of the country.

Edward T. Birdsall, M. E., of Detroit, has been appointed consulting engineer and purchasing agent of the Gary Automobile Manufacturing Company, Gary, Ind. The company will build a six-cylinder touring car and also a six-cylinder speed car.

C. W. Van Kirk has joined the Revere Rubber Company, Providence, R. I. He was formerly production supervisor for the United States Tire Company.

B. W. Datz, who for the past 10 years has been technical manager of the Packard Motor Car Company of New York City, has resigned.

Norwall A. Hawkins, Detroit, commercial manager of the Ford Motor Company, returned recently from the South, where he has been since December for his health. He is now fully recovered and says business conditions through that part of the country are brisk.

T. H. McGiehan, vice president and general manager of the Motz Tire & Rubber Company, Akron, O., is again at his desk after an illness of three weeks following an operation for appendicitis.

William B. Stout has been appointed chief engineer of the Scripps-Booth Cyclecar Company, Detroit. Mr. Stout has been a leading exponent of the cyclecar movement since its inception.

A. A. Garthwaite, a son-in-law of the late J. Elwood Lee, has been elected to the presidency of the Lee Tire & Rubber Company, Conshohocken, Penn., and will continue the concern under the same policy that marked its rapid growth in the past.

Eugene P. Batzell of the Hudson Motor Car Company, Detroit, died recently and his remains were taken to Buffalo, N. Y., for interment. He was experimental engineer for the company. Mr. Batzell was born in Russia and educated at the Institute of Technology in Kiev. He came to this country in 1908.

James Couzens, treasurer of the Ford Motor Company, Detroit, has returned after a four months' trip to the Pacific Coast.

C. W. Sullivan, Detroit, has joined the sales force of the local branch of the Federal Rubber Manufacturing Company. He was formerly connected with the Studebaker Corporation of that city.

Charles McCullough has accepted a position as manager of the service department of the Grand Central Motor Company, St. Joseph, Mo. He was formerly connected with the Cole Motor Company, Indianapolis.

B. F. Everitt has been elected vice president of the Sievers Erdman Company, Detroit, and has also been put in charge of the painting and trimming department recently installed by the company.

J. J. Herbert has joined the H. A. Jones Real Estate Company, Detroit, and will specialize in automobile factories. He was formerly connected with the branch sales department of the Studebaker Corporation, Detroit.

Edgar Storms, Jr., has become president and general manager of the Racine Rubber Tire Company of New York, Inc., New York City. He recently resigned as manager of the New York branch of the Ajax-Grieb Rubber Company.

Harold C. Brouster has taken charge of the Rauch-Lang St. Louis Company, St. Louis, Mo. He succeeds Adolph Zuest, Jr., who resigned to take a position in another field.

John E. Whitmyer, formerly salesman for the United States Tire Company's branch at Worcester, Mass., was made manager of the company recently.

Louis Ruprecht, district manager of the General Vehicle Company, Inc., Philadelphia, has resigned his position in order to assume new duties June 1, as manager of the Brady-Murray Motors Corporation, distributor of the Chandler. His headquarters will be in New York City, but he will be in charge of branches in Brooklyn, Hartford, Newburg, Newark and Plainfield.

R. F. Taggart, East Palestine, O., has retired from the board of directors of the McGraw Tire & Rubber Company. He has been succeeded by F. B. Squire of Cleveland.

V. S. Montcrief, formerly connected with the Packard Motor Car Company and the Willys-Overland Company, was recently appointed chief engineer of the Partin Manufacturing Company, Detroit.

M. Edward Wilson, Savannah, Ga., prominent as the originator of the great Savannah road races, has decided to make Detroit his home and will open an office in one of the large buildings in that city.

W. A. Friese has taken the representation for Tuthill springs in Michigan, with headquarters in Detroit.

P. J. Dasey, former manager of the Detroit branch of the Hartford Suspension Company, has been appointed sales manager of the George W. Houk Company, Buffalo, N. Y.

C. G. Corkhill, St. Louis, Mo., has been appointed by the Haynes Automobile Company as district sales manager for the state of Nebraska

C. A. Pfeffer, Detroit, was recently made secretary as well as treasurer of the Chalmers Motor Company, succeeding Harry Ford, who is now president and general manager of the Saxon Motor Company.

L. Pulcher, Detroit, has become vice president of the Federal Motor Truck Company. He is also general manager. Garvin Denby has resigned as vice president of the company.

George A. Matthews, president of the Jackson Automobile Company, Jackson, Mich., died recently in his private office. He had long been identified with the business of Jackson, having started the Jackson Automobile Company in 1900, becoming secretary and treasurer. Mr. Matthews is survived by two sons, who are actively engaged with this concern, and they will continue the business.

R. P. Henderson, who has recently had charge of the active management of the Henderson Motor Car Company, Indianapolis, is preparing to join his brother, C. P. Henderson, who is vice president of the Regal Motor Car Company, Detroit.

A. E. Morrison has been appointed Pacific Coast manager of the Nordyke & Marmon Company of Indianapolis, Ind.

Dr. Charles G. Percival, Teaneck, N. J., president of the Cyclecar Club of New Jersey, has been appointed chairman of the national touring committee of the Cyclecar Association of America by President C. P. Root of the association.

A. E. Morrison, Pacific Coast Manager of Nordyke & Marmon.

J. O. Harris, formerly connected with the Hupp Motor Car Company, Detroit, has been appointed manager of the southeastern territory for the Cadillac Motor Car Company, Detroit, and will make his headquarters at the factory.

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NEW CONCERNS AND BUSINESS CHANGES.

GARAGES AND REPAIR SHOPS.

John Osborne, Salt Lake City, of the Osborne Auto Tire & Supply Company, has opened a garage at 34 First street, to be known as the Eagle Gate garage. The Osborne company will remain in business.

The Auto Repair Company, Winston-Salem, N. C., is a new company formed recently, comprised of R. L. Brinkley, G. C. Jarvis and Orville Masten. The firm will conduct a repair business in the Nading building at the corner of Seventh and Trade streets.

The W. & H. Auto Repair Company, Indianapolis, is a new automobile repair and rebuilding plant which was opened recently. The firm is located at 620 East Minnesota street and has an establishment that is modern throughout.

Heinmiller Bros., Hawkeye, Ia., has opened a new garage and repair shop. It is modern throughout.

Reid & Layne, Santa Monica, Cal., has opened its new garage, which has just been completed. The building is of brick and cement construction and cost $25,000.

Roy Lampan, Pownal, Vt., has opened a first class garage at Pownal Center. A repair shop will be operated in connection with the garage.

The S. & S. Garage, Reading, Penn., has been opened by E. W. Schuhmann and Edward Smith at the corner of Spruce and Plum streets. The company is agent for the Falcon cyclecar and will carry oils and supplies.

W. C. Carlon and V. Schulz, Stockton, Cal., automobile ignition specialists, have opened a shop at 222 North Hunter street. The firm makes a specialty of overhauling and repairing magnetos, coils and electric starters.

The Cresson Motor Car Company, Cresson, Penn., has opened a new garage.

The Salineville Auto & Garage Company, Salineville, O., has opened a new garage on the Faloon property. It is modern throughout.

Orville Wright and Luther Engleman, West Catasauqua, Penn., have opened an up-to-date garage. They will handle the Maxwell, Oakland and Chevrolet cars.

The Ontario Motor Car Supply Company, Oswego, N. Y., has opened its new garage at 140 West Second street.

The Enosburg Falls Garage, Enosburg Falls, Vt., has established an automobile repair shop and in addition will carry a full line of accessories and supplies.

Joseph M. Kendall, Greenfield, Mass., has opened a repair shop on Olive street.

R. L. Barber & Bro., has opened a first class garage and repair shop at Cambridge, Mass.

A. Towle, Portland, Me., has opened a new garage on Forest avenue. It is thoroughly equipped and modern throughout.

Lawrence Frost and Smith Frost have opened a new garage at Princeton, Me.

William D. Howatt, Port Chester, N. Y., has opened a new garage at 147 South Main street, to be known as the Central garage. It is modernly equipped.

Lee W. Williams, Wilson, N. C., will open an up-to-date garage.

W. G. Davis, Allenhurst, N., J., has purchased a garage and has started business.

R. L. Chesser, Lockhart, Tex., has opened a modern garage on West Market street.

Henry C. Woodward, Wayland, N. Y., has opened an up-to-date garage and repair shop.

The Wilmington & Philadelphia Traction Company, Wilmington, Del., has opened an electric garage .

The McGill Central Garage, Sea Bright, N. J., is a new garage just opened by George Evans.

Carl Krieter, Stamford, Conn., has opened a new garage on Atlantic street. It is modernly equipped.

Albert Vogan, Pasadena, Cal., has entered the automobile trade at 60-66 Broadway. He will conduct a garage and repair shop which are modern throughout.

The Fall Creek Motor Company, Fall Creek, Wis., has just completed a new two-story garage which the company will occupy shortly. The new building contains showrooms, repair shop and vulcanizing department.

C. J. Schmidt & Company, Reading, Penn., has opened its new garage at 336-38 Madison avenue. The building has accommodation for 50 cars and every owner has a locker.

The Chester Garage, Chester, Va., is a new garage recently opened. M. A. Stein and M. A. Baake are partners in it. The company will make repairs and carry a stock of lubricants and sundries.

Allison Aylesworth and I. B. Gibbel, San Jacinto, Cal., have opened a garage and salesrooms, where they handle the Ford and Cartercars.

L. A. Rockwell, Frankfort, Mich., has established an up-to-date garage on Seventh street. New machinery is fitted throughout.

C. M. August, Cameron, Wis., proprietor of the Northern Motor Sales Company, has opened a garage in the building west of Welch's hotel. He has installed a vulcanizing plant and will carry a line of automobile accessories, supplies and repair parts.

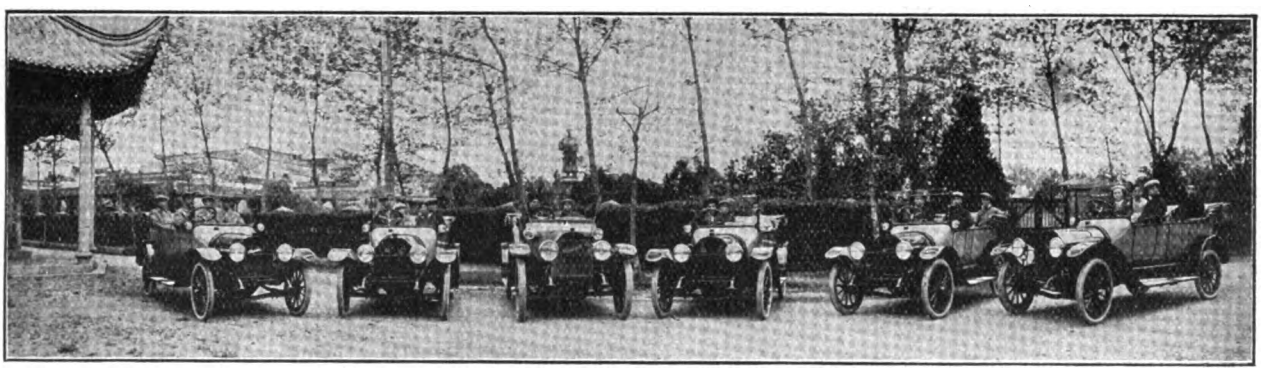
T. H. Robinson, Washburn, Wis., has opened a garage and repair shop in Wiley's livery stable. The premises have been altered for the purpose and the place is now known as the Washburn garage.

The Patterson Garage & Machine Company, Patterson, Cal., has opened a new garage and a first class machine shop will also be maintained.

J. A. Dillon, Jr., & Co., Hudson, Mich., has opened a new and modern garage and salesrooms in which the company will show Ford cars.

The Gem City Tire & Repair Company, Dayton, O., has opened a store and repair shop at Main and First streets.

John J. Sternard, Jersey City, N. J., has opened a garage and repair shop at 504 Palisade avenue. It is modernly equipped.



Mrs. Soong King Dong and Her Family in Six Studebaker Sixes at Fuh Tan University, Shanghai, China—Statue of Li Hung Chang in the Background.

Childs & Bigelow, La Jolla, Cal., has opened the Pennant garage. The company will make a specialty of repair work.

Herbert Kimmen, Appleton, Me., is preparing to open an up-to-date garage and repair shop. New machinery will be installed.

Tinney & Tidwell, Tampa, Fla., has opened an automobile repair shop on upper Franklin street.

A. P. Satran, Fosston, Minn., has opened a garage on Stephens avenue. He is prepared to take care of all kinds of repair work. Modern machinery has been installed.

The Greenleaf Garage has been opened at 128 North Greenleaf avenue, Whittier, Cal. William Long is manager. Repair work will also be done.

T. P. Hennessey, Pittsford, Vt., has opened a new and up-to-date automobile repair shop. It is equipped with modern machinery.

Adam B. Schmehl, Reading, Penn., has opened a garage at 102-104 Court street, with an entrance at 145 Penn street. The building is two-story, brick, with all the modern improvements. It is known as the Bridge garage.

C. Hoskins, Edwardsville, Ill., has opened a welding shop at 207 North Main street. He will overhaul and repair automobiles.

The Joseph W. Woodell Company, Pittsburg, Penn., has opened a new garage at 205 Wood street. The company carries automobile accessories and supplies.

The Hudson Machine Repair Shop, West Hoboken, N. J., has opened a modern garage and repair shop at 601 Summit avenue.

John L. Guerin, North Brook, Mass., has opened an up-to-date garage at Lake Quaboag.

A. N. Barber, Riverside, Cal., has opened a new and up-to-date garage at 446 Eighth street. It is equipped with the latest machinery. Maxwell cars are handled.

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GARAGE TRANSFERS.

Ray Worrall, Lebanon, Penn., has purchased the Commercial garage on Church street.

R. K. Johnson, Benson, Minn., has purchased the garage and equipment of Walter Harding.

Edward McShane, La Porte City, Ia., has sold his interest in the La Porte City garage to his partner, who will conduct the business.

C. G. Dourte, Swea City, Ia., has purchased the Bert Ley garage and will operate it.

R. J. McClure, Whitestone, N. Y., has purchased the interests of Joseph Daly in the Seventh Avenue garage. He will operate it in his own name.

William Ludwig, Bellaire, O., has taken over the Bayha garage on North Belmont street. He has been in the automobile business for some time.

Randolph Seavey, Hampstead, N. H., has purchased the Central Street garage at Derry, N. H., and will operate it.

U. G. Davis, Allenhurst, N. J., has purchased the garage formerly owned by Johnson Brem and has taken possession.

Wright & Wilson, Outlook, Mont., has sold its garage to George Simonet, Crosby, N. D., who is now making extensive improvements on it.

John Hinsler, Canby, Minn., has purchased the garage and repair shop of Anderson & Beshears. He will conduct the business as formerly.

The Cannon & Co. Garage, Belding, Mich., has been sold to Fred and Roy Lypps, who will continue the business. It was formerly owned by Richard Cannon and W. R. Cannon.

Louis H. Eisenlohr, Philadelphia, has purchased the garage at 424 Ludlow street.

The Tourist Garage, Cedar Rapids, Ia., has been taken over by J. H. Newman, who has managed it since the former proprietor, H. W. Jones, left that city last September. He is located on First street.

President J. J. Cole's Guests at the Banquet Given in Indianapolis the Evening Previous to the 500-Mile Race.

E. E. Sly, Norwalk, O., has sold his garage in Woodlawn avenue to William and Daniel Smith of Hartland, O. The new owners took charge at once. Mr. Sly retires from the garage business to devote his entire time to exploiting a valve for automobiles.

The Blevins Auto Sales Company, Columbus, O., has purchased from the Twyman Motor Car Company the Ohio, West Virginia and Indiana agency for the Studebaker line of cars. The Twyman Company will retain its other automobile connections.

S. D. Bromley and William H. Wilson, Indianapolis, have taken over the old Claypool garage, 27 North Capitol avenue. The new company will conduct a repair and storage business and will also deal in used cars.

Charles Buford, Bozeman, Mont., an experienced automobile repair man, has purchased a half interest in the Story Motor Supply Company, and will act as manager of the concern. The company is agent for the KisselKar, Cadillac, Ford and Studebaker lines.

John T. Harper, Great Barrington, Mass., has purchased the Eastland garage and will operate it. He will also conduct a repair shop.

A. W. Zens, Toledo, O., has purchased the garage at 110 22nd street and will do a general garage and repair business.

The Imperial Service Station, Peoria, Ill., has been purchased by F. W. Dooley. The company is located at 818 East Grove street.

The Auto Sales & Service Company, Marinette, Wis., has purchased the garage conducted by the D. F. Poyer Company, Menominee, Mich. The business is located at 516-18 Main street and the new company will conduct an automobile sales and service station.

The Bryden Garage, Columbus, O., has been purchased by L. C. Bargar, who will conduct a general garage and repair shop.

The Main Street Garage, Cut Bank, Mont., has been purchased by C. Lewis and F. Plank. They have taken possession and have also secured the services of B. F. Young to take charge of the repair department.

The Keystone Garage, Gloversville, N. Y., has been purchased by H. S. Bowler. He will continue the business under the name of the Keystone Repair garage and will also conduct a general repair and accessory business.

Bickard Bros., Minneapolis, has sold its garage to W. G. Earl and J. L. Walker. The new company will be known as the Auto Inn and will carry a full line of supplies and tires. It is located at 1401 Fourth avenue, South.

Whitford & Barden, Beloit, Wis., is the name under which the business of the former Reaf & Johnson garage on Fourth street will be conducted. The new owners are Frank Barden and George Whitford.

AGENCIES AND DEALERS.

The W. & H. Auto Repair Company, Indianapolis, has opened and is doing business at 620 East Minnesota street. The company is making a specialty of rebuilding work. A. V. Wagner and P. L. Hoeltke are the proprietors of the company.

H. J. Marke, Cleveland, has opened an automobile supply store at 1662 Ansel road. He is also proprietor of the Marke Auto Supply Company.

The Houk Wire Wheel Company, New York City, of which J. Edward De Mar is the manager, will open a retail store at the corner of 58th street and Broadway.

The Presto Welding & Brazing Company, Pittsburg, Penn., has been formed and is now located at 2567 Grant boulevard. The company manufactures hoods and mudguards.

The Arbogast Tire & Vulcanizing Company, Toledo, O., has entered the trade. The company is located at 124 Erie street and will carry a stock of accessories and supplies.

The United States Tire Company, Indianapolis, has opened at 128 East New York street. The company will specialize in the sale of seconds in tires and tubes.

The J. & M. Auto Supply Company, Pittsburg, Penn., has opened a store at 3555 Grant boulevard. The company handles the Republic tires.

The Stott-Sturgnell Company, San Francisco, Cal., has the distribution of the Motokart and Batavia tires.

E. E. Bellows, New York City, formerly connected with the Gray-Bellows Motor Car Company, Saranac Lake, N. Y., is now in the former city and has opened an electric charging station and agency for Gould storage batteries at 453 West 155th street.

The Delavan Lake Boat & Engine Company, Delavan, Wis., has opened for business. A full line of automobile accessories and supplies is carried and repairs are made by experienced mechanics. Arthur H. Schumacher is manager.

The Murphy & Hammock Repair Shop, Birmingham, Ala., is a new establishment located at 115 21st street, South. The company will specialize in repairs for Ford owners.

The I. J. Cooper Rubber Company, Indianapolis, has opened a store at 219 West Vermont street. The company is state distributor for Racine tires and tubes, also Motz cushion tires.

The Acme Automobile Company, Glen Falls, N. Y., has been organized by George E. Smith and Herbert H. Patterson. The company will carry a full line of automobile accessories and supplies and will conduct a garage and repair shop.

The Brown Supply Company, Dallas, Tex., has taken the agency for Vulcan springs, manufactured by the Vulcan Spring Company, St. Louis, Mo.

The Panther Automobile Supply Company, Fort Worth, Tex., has opened a supply house at 603 Commerce street. Repair work will also be done.

The Ralston Electric Supply Company, Albany, Ore., has added a line of automobile accessories to its retail store.

Enger & Wright, Fargo, N. D., is a new firm located there. The company handles the Cartercar and has elaborate salesrooms to display the cars.

The F. W. Van Sant Company, Minneapolis, Minn., has taken the agency for the J. M. shock absorbers and the Peerless emergency tires. The company is located at 1206 Hennepin avenue.

A. D. Paine & Co., Salt Lake City, Utah, has opened an automobile supply house at 149 North Fourth street. A full line of accessories and supplies will be carried.

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Arthur R. Corning and Henry C. Carr, Des Moines, Ia., have formed the Diamond Tire & Repair Company. The new company is located at 417 Twelfth street and Diamond tires will be handled in central Iowa.

Crosby's Gasoline & Oil Station, Syracuse, N. Y., is a new firm recently organized. The company is located at 216 East Onondaga street and will deal in all kinds of oil.

Charles Troup and T. A. Vernon, Salem, O., have formed a partnership and will engage in the automobile business. The company will handle the Chalmers cars.

Berry & Smith, Temple, Tex., is a new firm located at Avenue A and Second street. The company handles the Studebaker cars.

The United Auto Supply Company, Birmingham, Ala., has opened salesrooms at 421 South 20th street. A complete line of automobile accessories and supplies will be carried. Mohawk tires will be a specialty.

The Schmid-Jeffress Company, San Francisco, Cal., is the name of a new company located in that city. E. E. Jeffress, for some time past connected with the tire trade, is one of the organizers of the company.

The Santa Fe Trail Garage, Halstead, Kan., is the name of a new firm located there. The company will handle a line of cars and supplies. A pressed brick building, 37 by 70 feet, is now in course of erection for the new firm on Main street.

The Bliss Garage, Egremont, Mass., is the name of a new firm which recently opened an up-to-date garage and machine shop. The building is fully equipped for storage and repair work. Charles Dewers is the proprietor.

The Gem City Tire & Repairing Company, Dayton, O., has been formed and opened a store and repair department at the corner of First street.

August Stef and J. P. Briant, New Orleans, La., have opened automobile salesrooms. The company is agent for Moon cars. Mr. Stef was formerly president of the August Stef Lumber Company and Mr. Briant was associated with the J. P. Briant Motor Car Company of that city.

C. H. Tucker, St. Louis, Mo., has started in the automobile business and has opened a repair shop for both American and foreign cars at 4347 Olive street and has a number of experienced mechanics to assist him. Mr. Tucker was formerly superintendent of the Cole Auto Repair Company.

The Jeffery Motor Car Company, St. Louis, has purchased the business of the Burns-Ramsden Motor Car Company at 5033 Delmar boulevard. The company is a new one and the officers of the concern are: President, H. S. Albrecht; vice president, Albert Albrecht; secretary, George Eigel; treasurer and general manager, T. V. Murphy.

H. Winthrop Chandler, Boston, Mass., has the general agency for the Stahle mechanical tires. The syndicate, which has the exclusive license for the manufacture of the Stahle tires, has the 34 by four-inch now under construction, and expects to have them ready by early fall. This size will be for taxicabs, pleasure cars and for 1.5-ton commercial cars. The tire will be sold with a 25,000-mile guarantee and the price is $100 a wheel.

The Star, Salisbury, N. C., has opened for business. The company is located in a first class garage, which is in charge of Eugene Thompson.

The Hays Punctureless Tire Company, Columbus, O., has taken the agency for the Stanwell demountable rims, for Ford cars. The company is located at 203 East Town street.

The Olive Garage Company, St. Louis, Mo., has signed a contract to distribute the Clyde Adams gasoline economizer device in that territory.

The Excelsior Cycle Company, Harrisburg, Penn., has opened a motorcycle and bicycle store at 1007 North Third street. The company proposes also to open a store at 126 North Front street.

Ramer & Smith, Salt Lake City, Utah, has opened an automobile business at 71 Automobile row. The company is agent for the Chandler cars.

Ira Holden, Chester, Vt., has taken the agency for Ford cars. He has established a garage and repair shop on Depot street. During the summer months he will conduct an automobile livery. The building is modern throughout.

The Weber Implement & Automobile Company, St. Louis, Mo., has taken over the agency of the Hupmobile cars which was previously handled by the General Motor Car Company. T. C. Kaut and C. O. Stewart will join the sales staff of the former company, which is located at 19th and Locust streets.

The Jacksonville Distributing Agency, Jacksonville, Fla., will now look after the interests of the Lozier cars in this city and adjoining territory. The company is a new one and is located at 220 West Monroe street. C. M. Snow, who has been identified with the Lozier interests for several years, is manager.

Gragg & Rardin, Excelsior Springs, Mo., have reopened the East Broadway garage and will specialize in all kinds of automobile repair work, as well as conduct an automobile livery.

The Sea Street Garage, Lynn, Mass., carries a full stock of accessories and parts for general repairs.

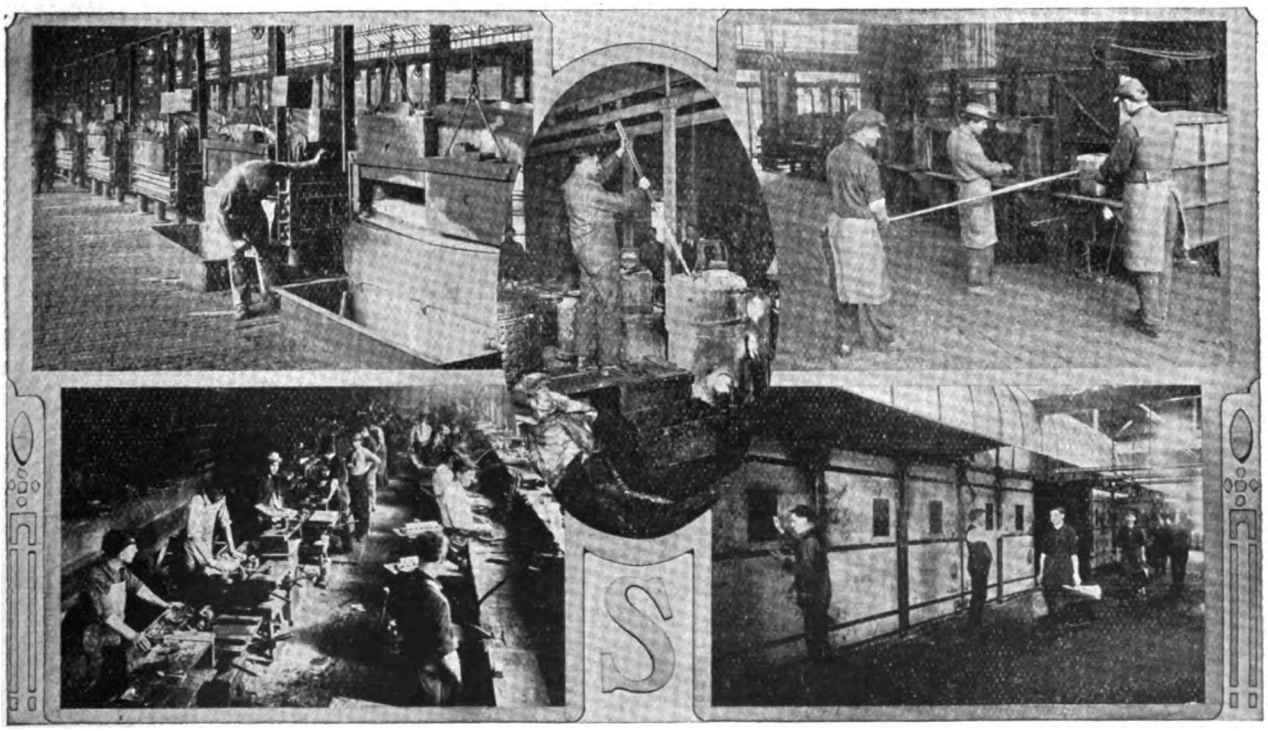
The Auto Sales Company, Jersey City, N. J., dealer in rebuilt cars, will open for business at Newar avenue and Coles street.

The Miller Rubber Company, Buffalo, N. Y., has opened an attractive salesroom at 1060 Main street, with R. J. Strong in charge.

The Savings Tire Company, San Francisco, Cal., has opened a large store at 1147 Van Ness avenue.

The Jeffries-Schmidt Company, San Francisco, Cal., has established an automobile tire business on Van Ness avenue.

R. F. Hodges, Huntington, W. Va., has opened automobile salesrooms. He has the agency for Reo cars.



Producing Studebaker Cars: Upper Left Hand View, Heat Treating Ovens at Plant No. 4; Left Hand Lower, Forming the Cores for Block Cylinder Castings; Centre, Heat Treatment of Camshaft After Forging but Before Grinding; Upper Right Hand, Battery of Heat Treating Ovens at No. 3 Plant, Showing Manner of Treating Small Parts by Means of a Metal Basket; Lower Right Hand, Enamelling Ovens Where Pressed Steel Parts, Such as Fenders, Hoods, Etc., Are Finished.

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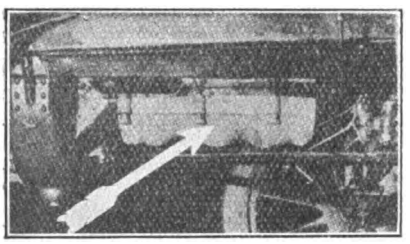
ACCESSORIES, SUPPLIES AND FITTINGS.

(When Writing, Please Mention The Accessory and Garage Journal.)

GARDNER ENGINE BASE.

For Ford Cars and Replaces Conventional Member.

The Gardner Engine Starter Company, 1455 Michigan avenue, Chicago, is manufacturing the Gardner auxil-



iary engine base designed for the model T Ford motor. One of the qualities emphasized is that it makes possible engine repairs without removing power plant from the chassis. The device is machined to fit accurately and as a further precaution against oil leakage is equipped with cork gaskets.

The maker states that new rings can be installed and the cylinders inspected with the Gardner base, and that connecting rods, etc., may be reached easily and adjusted in considerably less time than ordinarily. It lists at $10.

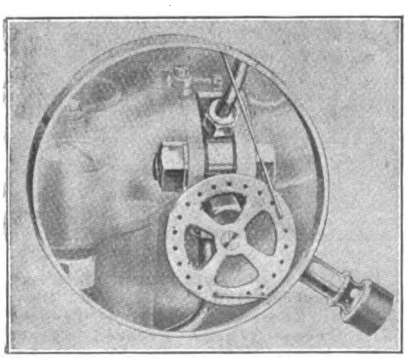
ALDERMAN PRIMER.

Operates from Seat and Combines Fuel Mixing Device.

The Alderman primer and power magnifier is produced by the Alderman Manufacturing Company, Rochester, N. Y., and, as the name implies, combines a priming and mixing device. The primer is constructed to be operated either from the seat or in front of the car and includes, in addition to the actuating means, a tube placed inside of the intake manifold. The fuel is led to this tube by a special connection, and when the piston descends on the suction stroke, the gasoline is sprayed, forming a rich mixture. Condensation is held to be eliminated. It is stated that the device can be fitted without drilling, etc.

The magnifier mixes superheated air in the proper proportion with the vapor from the carburetor, the heat of the exhaust being utilized and being carried through a special tube to the power magnifier. The control unit is mounted on the dash and is provided with a lever, enabling the driver to cut down or increase the air supply according to conditions. When a motor starter is utilized a press button is included.

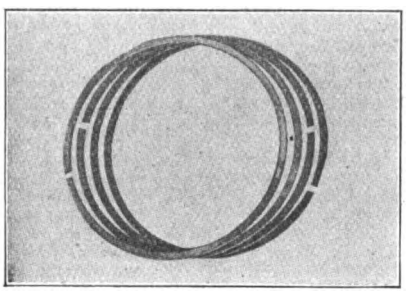
The fitting of the combined primer and power magnifier does not require any alterations, other than incorporating a union in the fuel line, and this member, as well as all necessary bolts, gaskets, screws, etc., is supplied with each outfit. It sells for $6. The Ford design retails for $5.



PERFECTION PISTON RING.

Is Constructed in Four Separate Sections and Is Very Light.

The Automobile Construction Engineering Company, 3324 Ludlow street, Philadelphia, is marketing the Perfection piston ring, which differs from conventional design in that each ring is made up of four separate members, all of which fit the single piston ring groove. It is claimed that they are lighter in weight than ordinary members, and that they cannot be broken when fitting as the piston can be entered into the cylinder without compressing them. An

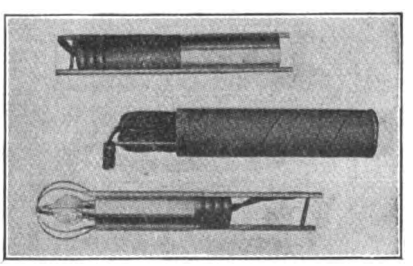


even tension and leak proof qualities are also claimed. Better lubrication is held to be obtained with the Perfection than with ordinary types.

CUNO INSPECTION LAMP.

A Novel Tube Design Having Reel for Winding up Cord.

The Cuno inspection lamp is marketed by the Cuno Engineering Corporation, 80 South Vine street, Meri-



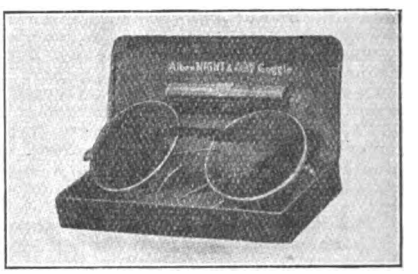
den, Conn. It has a black enamelled wooden handle with a special type of Ediswan socket, and the 10-foot extension cord is attached to a hard rubber plug connector. The bulb is protected from damage by a bronze spring guard projecting from the socket mounting. When not in service the bulb is protected by a brass tube which slides over it and the guard.

This provides a light for general purposes or concentrated rays, according to the position of the tube. The cord is wound up on a reel, a brass frame attached to the tube serving to accomplish this operation. One end of the reel frame provides a hook for suspending the light when in service. All metal parts are nickelled and polished, and the dimensions of the light are 1.5 inches diameter and 7.75 length. It retails for $1.65.

NIGHT AND DAY GOGGLE.

Includes Lense for Eliminating Glare of Headlights.

T. A. Wilson & Co., Inc., Reading, Penn., has brought out a new automobile goggle which presents practi-



cal features, in that its construction provides for eliminating the blinding effect created by powerful electric headlights. It is called the Night and Day goggle, and comprises all the desirable features of the ordinary goggle and, in addition, has an extra segment in the top of each lense. The small and lower section is of light amber, and the vision through this portion is for ordinary driving. The top lense is of dark amber, and is made smaller than the other member.

When the driver is confronted by dazzling headlights at night he simply tips his head to bring the vision through the dark segment, which so reduces the glare that the approaching machine and roadway can be seen with perfect clearness. A feature of the design is the use of a soft silk bridge band, adjustable to the face.

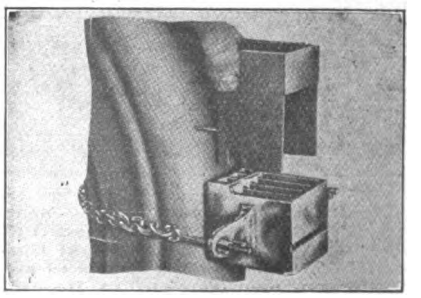
POSITIVE VULCANIZER.

Utilizes Heat from Steam and Is of the Portable Type.

Among the more recent types of portable vulcanizers designed particularly for the small garage and motorist is that manufactured by the Positive Supply Company, Davenport, Ia. In designing the vulcanizer the company had in mind the owner who is not familiar with vulcanizing and who wishes to perform repairs to casings and tubes.

It is stated that the Positive will not burn or overcure when employed by inexperienced persons, as the gasoline or fuel chamber is separated from the tube or casing by a water compartment.

It has a face measurement of three by four inches, weighs three pounds, and is so constructed that it may be securely mounted on the work bench, insuring accurate repairs to tubes. To vulcanize, the rubber is placed on the tube, the vulcanizer filled with fuel and water and the gasoline lighted. It retails for $3.50.



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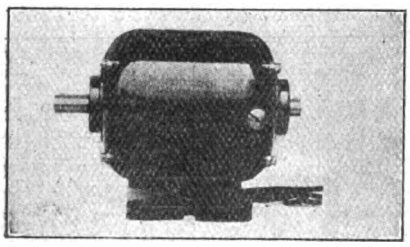
WARD LEONARD DYNAMO.

New Generator for Cyclecars Having Six-Ampere Output.

The Ward Leonard Electric Company, Bronxville, N. Y., maker of electric lighting and starting sys-



tems, has brought out a generator especially adapted for service on cyclecars. Dynamos, such as utilized on automobiles, are not adapted to the cyclecar motor, as the lamp load of a little car is approximately five amperes.

The output of the new Ward Leonard design is about six amperes at 1800 revolutions a minute, and it is a very compact generator, one having the same high grade material and workmanship for which the products of this concern are noted. The method of controlling the output of the new machine is the same as that used with standard types made by this company.

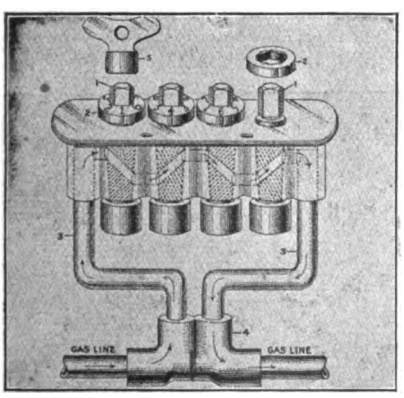
SECURITY AUTO LOCK.

Controls Fuel Supply by Ingenious Use of Combination Valves.

One of the most practical and efficient methods of preventing use of the car by others than those intended is to lock the fuel supply. When the flow of fuel is cut off, the amount remaining in the carburetor will be sufficient to operate the machine but a very short distance, and even this can be prevented by running the motor a little while after the fuel is locked.

The Security Auto Lock Company, 1733 Broadway, New York City, is making the Security auto lock, which is an ingenious device for incorporation in the fuel line, convenient to the operator. It comprises four valve members in a row, each having a passage for the gasoline. The fuel enters and flows as indicated by the arrows in the illustration, but it can pass only when the valve mechanism is set in a certain position. The failure of one of the valves, of course, locks the device.

At the top of each valve is a numbered ring, and the passages are made to register by turning the plug members with a small wrench key until those forming the combination are properly set. One of the qualities of the invention is that the numbered rings can be removed and re-



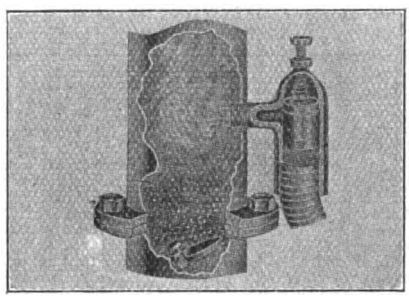
placed, providing an endless number of combinations known only to the owner. It sells for $7.50.

PEERLESS FUEL SAVER.

Introduces Heat into Intake Pipe Above the Carburetor.

The Peerless automatic gasoline saver is manufactured by the Peerless Motor Specialty Co., Inc., 1779 Broadway, New York City, for which the Harding Specialties Company, Inc., 755 Boylston street, Boston, is sole distributor. It is held to save from 25 to 40 per cent. of fuel, increase the efficiency of the motor, reduce carbonization to minimum and assist in starting.

The design differs from the usual application of heated air, in that the heat of the exhaust is utilized above the carburetor. A flexible metal tubing is connected with the saver,

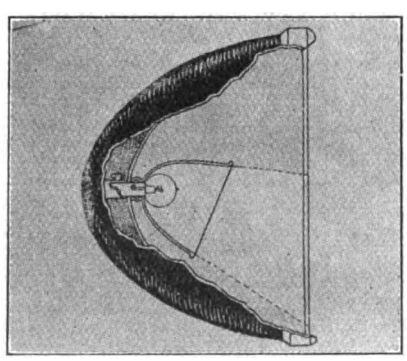


which is tapped into the intake manifold as shown. The hot air is injected and controlled automatically, and is supplied according to the demands of the motor. The heat thus introduced vaporizes any particles of fuel existing in the mixture.

LEGALITE REFLECTOR.

Eliminates Glare of Headlights by Novel Construction.

The Legalite Reflector Company, 1503 Bryant avenue, Bronx, New York



City, has brought out a novel device for eliminating the glare of headlights. As will be noted by the cutaway illustration presented herewith, an auxiliary reflector is utilized, and this is positioned at a downward angle.

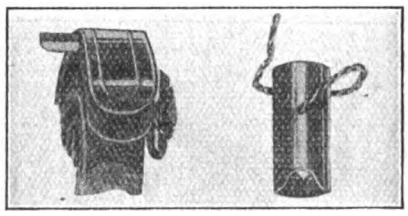
This projects the rays in such manner that the top of the beam is parallel with the ground, while the bottom of the beam strikes the ground close to the car. The small or auxiliary reflector is constructed to snap on over the Ediswan socket that ordinarily is fitted to electric headlights, when the bulb may be put back in place.

The maker states that the device may be slipped on or off easily, and that after being fitted it cannot work loose or change its position. It comes in sets of two and is inexpensive.

LITTLE GIANT TROUBLE LAMP.

A Combination Unit Including Magnetic Lifting Device.

The Harding Specialties Company, 755 Boylston street, Boston, and 1339 Michigan avenue, Chicago, maker of



the Boston tail light detector, is marketing the Little Giant magnetic trouble lamp.

It is a combination device, providing as it does an inspection or trouble lamp and a magnetic lifter. It will stick to metal, and the accompanying illustration depicts the device attached to the mudguard of a car, supplying the operator with light for making a change of a casing, for example.

One of the qualities of the device is that nuts, bolts, etc., dropped in places not easily accessible by the hands or tools, can be recovered easily, as the pull of the magnet is sufficient to lift ordinary tools. The Little Giant magnetic trouble lamp is inexpensive, and as above stated, can be made to serve a number of useful purposes. Its retail price is $8.

ALDERMAN MASTER VIBRATOR.

A Compact Unit Providing Battery and Magneto Control.

The Alderman Manufacturing Company, Inc., Rochester, N. Y., has brought out a new master vibrator intended for service with the model T Ford motor. The Alderman design is very compact, cylindrical in form, and the switch arrangement incorporated with the vibrator provides for control of the battery and magneto currents, as well as the usual "Off" position. The switch lever is very neat, and the terminals are not only sturdy, but well designed.

The special feature of the design is the condenser, the company stating that it absolutely prevents burning of the platinum contact points and that these members will not require attention. The advantage of a master vibrator with multiple-unit coils is well understood. Synchronization of the spark is obtained, and when batteries are utilized it makes for economy of current. The Alderman is moderately priced, is finished in black enamel, and can be supplied in brass or nickel if desired. It is sold under a 30-day trial. The Alderman master vibrator sells for $5.

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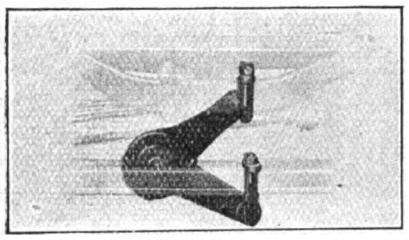
FORD SHOCK ABSORBERS.

Connecticut Design, Same as Utilized on Large Machines.

The Connecticut Shock Absorber Company, Meriden, Conn., maker of the shock absorber of that name, is



manufacturing a special design for the model T Ford automobile. The same principle as that used with the absorbers made for large machines is employed and the workmanship and material are of high grade.

Three absorbers are utilized with the Ford car, one in front and two at the rear. The method of mounting the front member is shown in the accompanying illustration, and it will be noted that the design makes for easy attachment, being secured as it is, to the axle and cross frame member. The rear members are fitted by means of a bracket bolted to the outside of the frame and an axle clamp to the axle housing. The clamp is prevented from moving by the use of a V shaped bar.

In the Connecticut design, one arm is integral with the case containing a triangular set of springs, and the other is attached to a three-faced cam which turns between the springs. The absorbers are set so that the springs are slightly deflected, permitting unrestricted motion of the cam in one direction, but checking the movement in the other. It is this principle that allows the car springs to perform their function of compensating for inequalities of the road, while all reaction is checked. The set retails for $15.

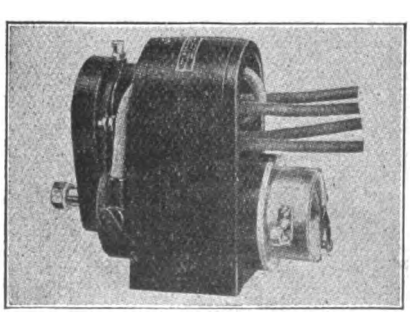
BERLING MAGNETO.

High-Tension, Dual, Water and Oil Proof Type for Cyclecars.

The Ericsson Manufacturing Company, 1119 Military road, Buffalo, N. Y., is producing the Berling magneto, a high-tension instrument of the dual type for two-cylinder V type cyclecar motors. The dual feature is obtained by a simple combination of the collector ring and distributor, and it is stated that gears and extra bearings are eliminated. The interrupter and timer are combined.

A transformer or dash coil is utilized for the battery current. The high-tension cables are so connected to the magneto that the possibility of short circuits is prevented, and a felt washer protects the driven end bearing from foreign elements.

The frame is a solid unit, and it is stated that there are no screws to loosen, causing short circuits. It is also claimed that the instrument is



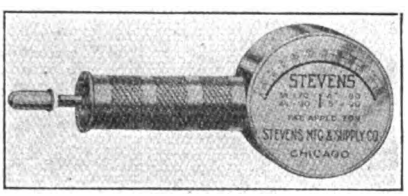
oil and water proof. Extreme efficiency is emphasized in the design, it being stated that the magneto will give off a spark of .1875 inch at 75 revolutions a minute.

The air gap between the armature and the field is about .005 inch and the armature is carefully wound. The bearings employed are imported and the platinum contact points are ample in size. The insulating material is noted for its high dielectric strength, and the interrupter mechanism is very accessible, as are other components utilized in service.

STEVENS PRESSURE GAUGE.

Indicator Remains Set After Pressure Is Registered.

Too much emphasis canot be laid upon the importance of keeping the tires inflated to the pressure recommended by the maker and for the particular size casing employed.



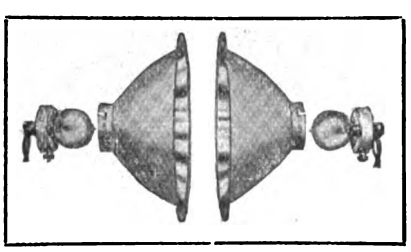
Over-inflation is held to be as bad as under, and the best method of determining the pressure is to utilize a gauge, which is not expensive.

The Stevens Manufacturing & Supply Company, Fisher building, Chicago, is marketing the Stevens auto tire pressure gauge, which is provided with special connections to fit any tire check valve marketed, and is guaranteed to register with perfect accuracy. The indicator remains set after the pressure is registered, enabling removal of the gauge and its reading at leisure. All gauges are tested before leaving the factory and an adjusting device is incorporated for correcting any lost tension in the spring occurring after considerable service. They sell for $2.25.

FORD ELECTRIC HEADLIGHTS.

A. H. Kling Company Marketing New and Practical Design.

The A. H. Kling Company, Detroit, distributor of accessories for the



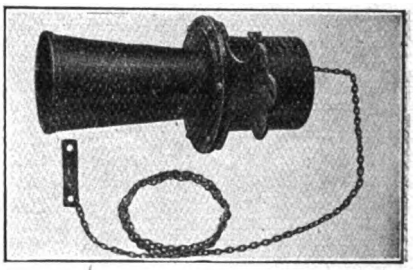
model T Ford car, is marketing a special design of electric headlight for this machine. The feature of the design emphasized is that the bulbs may be removed and new ones inserted without disturbing the reflector proper, as will be noted by the accompanying illustration, which depicts the attachments displaced from the lamp. This arrangement enables securely mounting the reflector.

Another feature of the equipment is the use of a quick make and break, flush type of switch, and it is held that it is positive in its action. The wiring connections are made on the hood side of dash, and the leads and connections are high grade in every particular. The outfit sells for $6.

THE CABLEPHONE.

A Mechanically Operated Horn Actuated by a Cable.

The Automobile Supply Manufacturing Company, 220 Taaffe place, Brooklyn, N. Y., maker of horns, an-



nounces a new design, which differs materially from conventional practise. It is a manually operated horn, but instead of being actuated by moving a lever, the signal is obtained by means of a cable. The Cablephone, as it is termed, is located at the side of the dash, and leading from it to the steering wheel or other convenient location, is a cable. A slight pull on the cable operates the horn, which is of the mechanical type. The design is moderately priced, comes complete with all necessary fittings and is guaranteed for three years. The Cablephone retails for $7.

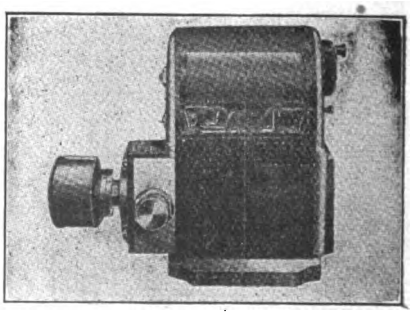
NEW-LITE LIGHTING DYNAMO.

Designed for Ford and Other Small Automobiles.

The New-Lite Manufacturing Company, Newton, Ia., is marketing a complete electric lighting system for small cars such as the Ford, Metz, etc. The system includes a belt driven generator, storage battery, headlights and tail lamp, dash switch, wires, connectors, etc. The outfit comes ready for installation.

Drive is taken from the usual fan pulley, one belt being utilized for the fan and the generator. The dynamo operates at six volts and is provided with an automatic cut-out. Provision is made for carrying the battery on the running board, a steel box with lock being included in the equipment. The lamps are finished in black and nickel, the headlights being eight inches in diameter and equipped with 15 candlepower mazda bulbs. The tail lamp is of two candlepower. Bullet side lamps are supplied at a slight extra cost. It is stated that the system may be installed on a Ford car in two hours, the generator being mounted on the left hand side of the motor by means of a plate bolted to the cylinder head.

The generator is very compact, and throughout the best of material and workmanship has been incorporated. Its output is stated to be sufficient to supply all requirements, and the bracket utilized for mounting the generator is well designed. Complete details will be given on request.



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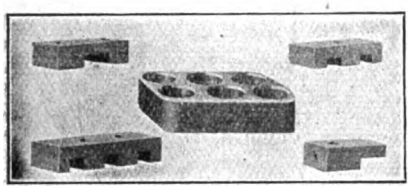
AMERICAN FIBRE CLEATS.

Made in Shades and Used to Secure Wiring on the Car.

The American Vulcanized Fibre Company, Wilmington, Del., manufacturer of hard and flexible vulcan-



ized fibre, kartavert and laminar fibre, is producing a large variety of vulcanized fibre cleats, some of which are shown in the accompanying illustration. These comprise a design having a single groove for twin or parallel wires, one for corners, for triple wiring, etc.

The company produces cleats which are not only compact and neat in appearance, but in shades to make them inconspicuous in places where appearance is considered. They are strong and durable and make an excellent substitute for wood and porcelain members. The value of fibre as a non-conductor of electricity is well known. The high-tension wire cleat shown in the centre of the illustration is designed especially for motors. The American Vulcanized Fibre Company also manufactures gears, etc. Catalogue and prices will be mailed upon request.

PRICE CUT-OUT SWITCH.

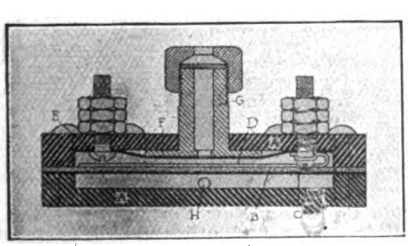
Automatically Cuts Out Horn and Electric Lighting.

John R. Price & Co., Basic City, Va., has brought out an ingenious device for preventing the operation of the electric horn or lighting system when the motor is not running, thereby locking these members against tampering. The Price automatic cut-out switch, as it is named, utilizes the pressure or suction of the intake manifold or pipe to actuate it.

A sectional view of the device is shown in an accompanying illustration with the various components lettered. It is a simple electric switch, comprising a strip or blade of special electrical copper D, which is normally out of contact with the contact piece E and terminal.

The spring is enclosed in a cylindrical chamber or fibre case A, which also contains a flexible leather diaphragm B, backed by a water proof oilcloth C. A protecting strip F is also utilized. The switch side of the chamber is connected by a small copper tubing G to the intake manifold, and the opposite side is provided with a vent H.

It is stated that a very slight suction, about two ounces to the square inch, will cause the circuit to close through the spring member making contact with the terminal contact. It it claimed that the action of the device is not affected by vibration, and that, as the circuit will be opened when the suction ceases, waste of current is prevented when the motor is stopped and when the driver forgets to turn off the lights. The



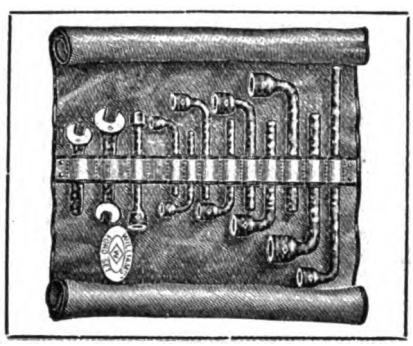
Price device weighs but three ounces, is 2.25 inches square and is sold with a one-year guarantee.

WILLIAMS FORD WRENCH SET.

Fit All Nuts and Bolts, Including Cylinder Head Members.

J. H. Williams & Co., Brooklyn, N. Y., maker of drop forgings, has brought out a wrench set for the model T Ford car, and one of the qualities of the outfit is that all wrenches are accurately milled. The wrenches in this selection have been thoroughly tried out and are drop forgings, case hardened.

They will provide adjustment for a large number of bolts and screws, including the cylinder head members. They will fit U. S., S. A. E. and A. L.



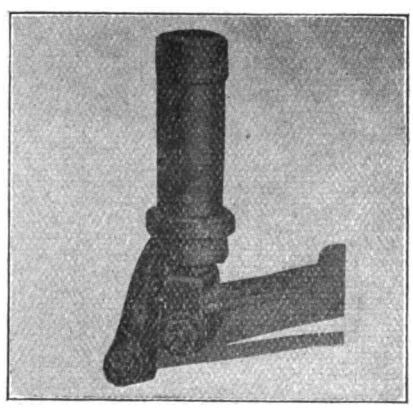
A. M. standard nuts and cap screws, the opening varying from .25 to .5625-inch.

The maker states that the wrenches will permit of removing and replacing nuts and bolts not accessible with the usual tools.

E. Z. SHOCK ABSORBERS.

Employ Coiled Spring and Are Constructed for Ford Cars.

The Forest City Electric Company, 5006 Windsor avenue, Cleveland, O., is marketing the E. Z. Rider shock absorbers, which are especially designed for the model T Ford auto-



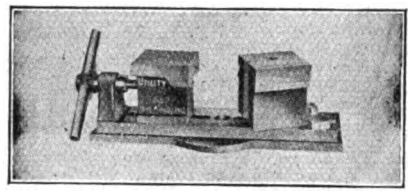
mobile. They come in sets of four, two for the front and two for the rear springs, and the principle involved is the use of a sensitive coil spring. One of the features of the construction is that they are interchangeable with the spring brackets, and can be easily and quickly installed.

It is stated that the springs absorb all jars, bumps and vibrations caused by rough roads, contributing to the comfort of the passengers, as well as making for tire economy. The complete set with all fittings, etc., weighs 18 pounds, and retails for $15.

JACKSON UTILITY VISE.

Designed Especially for Owner and Is Easily and Quickly Operated.

The Utility vise is manufactured by C. J. Jackson, M. E., Easton, Penn., and one of its qualities is its adapt-



ability for holding a variety of material in a number of different positions without the aid of clamps, bolts, etc.

Operation of the front jaw of the vise is by a steel screw and a bronze nut. The four-faced revolving rear jaw is in the form of a hollow cube, having one side left open to permit of using a wrench for actuating the locking screw nut. This construction permits of utilizing the jaws singly or in combination.

A type smaller than the standard size is manufactured, and is especially suited for the motorist who undertakes his own repairs. One of the features of the design is the rapidity with which the work may be clamped into position and removed.

AUTO-VALVE FUEL SAVER.

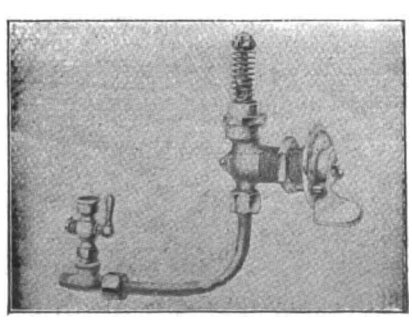
Extra Air Supplied Is Controlled by an Automatic Valve.

The Auto-Valve gasoline saver, manufactured by the Crary Company, 652 Woodward avenue, Detroit, is a simple device comprising two parts, a control lever mounted on the driver's side of the dash, which opens and closes an automatic air valve under the hood, and a connection to the intake manifold just above the carburetor. The function of the device is to admit extra air into the intake pipe, making for a homogeneous mixture, as well as to economize on fuel, etc.

The dash lever is operated after the motor becomes warm, permitting the piston to draw in extra air, thereby reducing the amount of fuel emerging from the jet of the carburetor by lessening the suction. It is pointed out that the stream of air encountering the mixture breaks it up, and that more energy is obtained from the explosion.

After turning on the air by the dash lever the automatic valve controls the supply of air, this being according to the speed of the motor. A priming cup is included in the equipment, located near the intake manifold, and it may also be utilized for introducing kerosene into the cylinders.

The company is also marketing the Handy automatic controller, a device which admits extra air to the intake pipe according to the requirements of the motor.



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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Reedsburg Motor Truck Company, Reedsburg, Wis.; $125,000; E. N. McNab, L. E. Montgomery, Edward Thom, J. Seamans.

Kel-Kee Cyclecar Company, Toronto, Ont.; $40,000; to manufacture cyclecars; J. J. Maclennan, J. N. Black, A. Adams and others.

Knox Motors Company, Springfield, Mass.; $2,500,000; E. O. Sutton, H. G. Fisk, C. H. Beckwith.

Columbian Electric Vehicle Company, Wilmington, Del.; $300,000; to manufacture vehicles of all kinds; W. M. Pyle, G. G. Stiegler, L. W. E. McCarthy.

Southern Cyclecar Manufacturing Company, New Orleans, La.; $10,000; to manufacture cyclecars.

Gary Auto Manufacturing Company, Gary, Ind.; $50,000; to manufacture automobiles; George E. Paff, L. G. Throckmorton, William C. Flanagan.

L. & M. Manufacturing Company, Chicago, Ill.; $10,000; to manufacture automobiles and accessories; Charles A. Larson, Louis Teuber, Iven Thorsell.

White American Locomotive Sander Company, Roanoke, W. Va.; $75,000; to manufacture automobiles and trucks; W. H. White and others.

Klingelsmith Electric Truck Company, Portland, Me.; $300,000; to manufacture electric trucks.

Dequindre Auto Repair Company, Detroit, Mich.; $5000; to deal in automobiles; Russell A. Lutes, Albert C. Glassner, Hugh M. Edwards.

Lomar Motor Car Company, Chicago, Ill.; $1,000,000; to manufacture automobiles.

Pneumatic Shock Absorber Company, Philadelphia, Penn.; $100,000; to manufacture automobiles and supplies; F. R. Hansell, George Martin, S. C. Seymour.

American Militaire Cycle Company, Cleveland, O.; $100,000; to manufacture and deal in motors and motorcycles; M. L. Thomsen, E. Frederick, A. Henry, Vernon E. Davis, H. E. Downing, M. H. Gallagher.

Jaegers Manufacturing Company, Dover, Del.; $400,000; to manufacture motor trucks, engines, etc.; Walter P. Garrow and others.

Canadian Bartlett Automobile Company, Toronto, Ont.; $1,000,000; to manufacture automobiles.

Flanders Electric Company, Pontiac, Mich.; $100,000; to manufacture automobiles; M. Rothschild, Don C. McCord, B. F. Edgar.

Herreshoff Light Car Company, Mechanicsville, N. Y.; $100,000; to manufacture cars; C. E. Herreshoff, N. R Holmes, A. L. Johnson.

Burrows Cyclecar Company, Ripley, N. Y.; to manufacture cyclecars; J. Watson Burrows, Robert P. Burrows, Robert Burrows.

Mutual Motor Service Company, Dover, Del.; $22,500; to manufacture automobiles, power boats, etc.

China Vehicle Company, Ltd., Portland, Me.; to manufacture motor vehicles of all kinds.

AUTOMOBILE DEALERS.

Hunter-Dammel Motor Car Company, Cincinnati, O.; $5000.

Knapp Motor Corporation, New York City; $10,000; H. Hughes, T. G. Jenkins, E. B. McKellar.

Lynn Motor Cycle Company, Lynn, Mass.; $2500; to deal in automobiles; Earl M. Lawrence, Fred A. Pratt, Ralph W. Reeve.

Long Ford Auto Company, Biddeford, Me.; $150,000; J. H. Pierce, R. O. Brewster, D. W. Snow.

Clemens & Grell, New York City; $5000; to deal in automobiles, motor boats, etc.; Otto Grell, Joseph Clemens, J. E. Smith.

H. J. Lupton Truck Company, Detroit, Mich.; $25,000; to deal in commercial cars; Harry J. Lupton, Elmer J. Richmond, Asa B. Haseltine.

Liverpool Motor Car Company, East Liverpool, O.; $10,000; to deal in automobiles; C. R. Larkin, S. J. Norton, H. A. McClain, Migarry Camarda, A. G. Ellis.

Tomberg Auto Company, Brooklyn, N. Y.; $1000; to deal in automobiles; William P. Finn, Salim Barson, Christiania Tomberg.

C. L. Fitzgerald Motor Company, Newark, N. J.; $125,000; to deal in automobiles; C. L. Fitzgerald, William J. McAvoy, A. D. Rawson.

Cadillac Automobile Company, Boston, Mass.; $100,000; to deal in automobiles; Albion L. Danforth, Bertha K. Danforth, J. James MacGregor.

Winslow Automobile Company, Fort Smith, Ark.; $5500; to deal in automobiles; L. F. Brock, R. N. Winslow, S. L. Williams.

Lawson-Pratt Sales Company, Boston, Mass.; $5000; to conduct an automobile business; D. Lawson, R. T. Pratt, E. B. Stanwood.

Tomberg Auto Company, Brooklyn, N. Y.; $1000; to conduct an automobile business; C. Tomberg, W. P. Finn, S. Barson.

Merkel & Spacher, Rochester, N. Y.; $15,000; to conduct a bicycle and motorcycle business; C. A. Merkel, Joseph G. Merkel, George M. Spacher.

Dixie Auto Supply Company, Louisville, Ky.; $6000; to deal in automobiles; A. H. Drake, H. Jansen.

Motor Sales Company, Louisville, Ky.; $6000; H. O. Herr, A. W. Lee, Jr., R. W. Herr, Jr.

Croswell Auto Company, Croswell, Mich.; $5000; to deal in automobiles.

Dobbin's Automobile Exchange, Newark, N. J.; $50,000; H. W. Dobbins, Jr., G. Dobbins, D. C. Dobbins.

Central Automobile Company, Alexandria, Va.; $1000; to deal in automobiles; W. H. Heymel, J. A. Eggborn.

Camden Auto Company, Camden, Me.; $5000; to deal in automobiles, etc.

Champion Motor Car Company, Wilmington, Del.; $100,000; to deal in automobiles.

Shea's Market, Lake Placid, N. Y.; $50,000; to deal in automobiles, etc.; H. D. Hayford and others.

Barter & Longtin, Watertown, N. Y.; $5000; to deal in automobiles and motorcycles.

Union Automobile Service Company, Detroit, Mich.; $4000; to deal in automobiles.

Empire Electric Vehicle Company, Wilmington, Del.; $200,000; to deal in automobiles.

Lake Auto Company, Raleigh, N. C.; $25,000; to deal in automobiles, etc.

John Dickens Company, North Paterson, N. J.; to deal in automobiles; Anna Dickens, John Dickens, Ellen Farley.

Fred G. Rinker Auto Company, Indianapolis, Ind.; $1500; to deal in automobiles; Fred G. Rinker, Charles V. Kinney, Charles F. Redding.

Graham Automobile Company, Chicago, Ill.; $2500; to deal in automobiles; Charles E. Graham, A. S. Robertson, N. J. Shupe.

PARTS AND FITTINGS.

Bantam Manufacturing Company, Boston, Mass.; $200,000; to manufacture motors; Frank J. Tyler, Lucius S. Tyler, Harry L. Burrage.

Eagle Motor Company, Los Angeles, Cal.; $100,000; Eugene W. Jump, P. O. Gordon, Charles E. Strong.

Federal Manufacturing Company, Inc., Nashville, Tenn.; $100,000; to manufacture automobile wheels, parts and accessories; J. L. Dann, J. R. Tubb, B. B. Coffey, G. A. Puryear, William Hume, Jr.

Sampson Engineering Company, Louisville, Ky.; $350,000; to manufacture automobile starters.

Harriman Motor Company, Boston, Mass.; $10,000; H. B. Chessman, D. F. Collins, G. L. Ware.

Spool Valve Motor Corporation, Minneapolis, Minn.; $50,000; to manufacture gasoline engines; L. B. Bird, C. H. Lundgren, J. E. Tappan.

Ashley Wire Wheel & Rim Company, New York City; $50,000; to manufacture wire wheels; R. W. Ashley, F. W. Kolb, C. Gaschott.

Ball & Roller Bearing Company, Danbury, Conn.; $100,000; Lewis Heim, J. H. Roth, William C. Barrett.

Springfield Valve Company, Springfield, Mass.; $100,000; R. M. Keating, B. J. Griffin.

Masco Manufacturing Company, Detroit, Mich.; $20,000; to manufacture steering gears.

Milwaukee Steel Products Company, Milwaukee, Wis.; $25,000; to manufacture motor car and engine parts, steel and iron goods; A. R. Marggraff, E. M. Dougherty, Nicholas Kies.

Lombard Tractor Company, Waterville, Me.; $250,000; to manufacture and deal in tractor engines; S. W. Lombard, A. C. Lombard.

Pike Rubber Company, Akron, O.; $50,000; to manufacture and deal in rubber goods; O. C. Pike, F. Grether, F. Seizer, V. R. Hardy, E. V. Hammaker.

Auto Comfort Robe Company, Gloversville, N. Y.; $25,000; to manufacture Comfort automobile robes.

Chelsea Manufacturing Company, Newark, N. J.; $100,000; to manufacture motors, engines, etc.; E. R. Milles, L. E. Hall, O. F. Root.

R. K. Mickey Company, Bloomfield, N. J.; $50,000; to manufacture electric lamps for automobiles, etc.; R. McNeill, M. L. Mickey, R. K. Mickey.

Lincoln Rubber Company, Akron, O.; $10,000; to manufacture rubber goods; J. Hadfield, I. Hadfield, W. E. Slabaugh, M. Siberling, S. A. Allen.

Lipman Air Appliance Company, Beloit, Wis.; $100,000; to manufacture air compressors; C. E. Ernst, E. K. Lipman and others.

Braun-Hoff Electrical Company, Canal Dover, O.; $50,000; to manufacture motors and electrical apparatus; W. A. Braun, J. D. Baker, S. L. Holmes, C. E. Krieter, O. A. Keyser.

United States Air Compressor Company, Cleveland, O.; $25,000; to manufacture air compressing machinery; R. L. Buchar, G. A. Hunter, W. G. Smith, W. W. Beauman, L. H. Bacher.

Globe Ball Bearing Company, New York City; $50,000; to manufacture ball bearings and other metal devices;

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George W. Carroll, Charles F. Bultemeyer, Ralph Royall.

Consumers' Gasoline Supply Company, Dover, Del.; $250,000; to manufacture and sell lubricating oils and grease of all kinds; William Boyd, W. I. N. Lofland, W. F. P. Lofland.

Jaeger Engine Company, Taunton, Mass.; $150,000; to manufacture automobile engines; C. J. Jaeger, W. R. Davenport, C. S. Day.

GARAGES AND REPAIR SHOPS.

Republic Vulcanizing & Welding Company, Louisville, Ky.; $5000; to repair automobiles and machinery; A. L. Rolli, Carl A. Tschanz.

Fordham Garage Company, Bronx, New York City; $2000; to conduct a garage; Vincent DeMeo, Albert DeMeo, Nathan Levy.

Manchester Auto Garage Company, Manchester, N. H.; $30,000; to conduct a garage; William C. Spear, William G. Berry, George H. Bammann, Edwin F. Jones, Robert L. Manning.

Case Garage Company, Fresno, Cal.; $25,000; to conduct a garage and repair shop; O. L. Everts, F. G. Logan, H. L. Gepford.

Auto Truck Garage Company, New York City; $50,000; to deal in trucks and conduct a garage; Alexander C. Brach, Henry J. Benjamin, Harry B. Emblem.

Scofield Garage Company, Los Angeles, Cal.; $5000; to conduct a garage and repair shop; A. J. Scofield, W. A. Scofield, E. P. Scofield.

Jefferson Street Garage, Portland, Ore.; $10,000; to operate a garage; R. H. Holmes, Fred A. Lewis, G. W. Caston.

Blair Auto Supply Company, Blair, Wis.; $2500; to operate a garage; C. J. Gibson and others.

South Side Machine & Auto Company, Clintonville, Wis.; $15,000; to operate a garage; W. Splittgerber, F. Gerbert, A. Poetter.

Lower Falls Garage Company, Wellesley, Mass.; $5000; to conduct a garage; D. A. Baldwin, G. R. Williams, N. J. McGaffin.

Deicher & Arndt Company, Plymouth, Wis.; $50,000; to operate garage and machine shop; Adam Deicher and others.

Wake Auto Company, Raleigh, N. C.; $25,000; to conduct a general machine and repair shop; W. G. Allen, O. B. Penny, Frank Allen, E. H. Baker, F. H. Phillips, J. W. Harden.

Bradley Electric Garage Company, Dayton, O.; $10,000; to conduct an automobile, garage and accessory business; Albert T. Miller, T. H. Hiester, Francis Bradley, Frank Blessing, L. E. Bradley.

Milwaukee Garage Company, Milwaukee, Wis.; $3000; to conduct a garage.

Lotos Garage Company, New York City; $10,000; to conduct a garage and repair shop; A. Larney and others.

ACCESSORIES AND SUPPLIES.

Tu-Way Head Light Company, Louisville, Ky.; $20,000; to deal in automobile supplies; Roy L. Carter, G. H. Boone, John Zimmerman.

Victor Leed Storage Battery Company, Rock Island, Ill.; $100,000; to manufacture storage batteries; E. E. Winters, G. E. Brown, W. H. Snider.

Portage Rubber Company, New York City; $1000; to deal in automobile tires, etc.; E. P. White, W. W. Wildman, Joseph F. Curtis.

Forbes Rubber Company, Freeport, N. Y.; $10,000; to deal in tires, rubber goods, etc.; Thomas P. C. Forbes, Jr., George V. Sloat, Anna S. Sloat.

Kelly-Springfield Tire Company, Springfield, Mo.; $5,149,500; to manufacture and deal in automobile accessories.

Common Sense Auto Lock Company, Spokane, Wash.; $1,000,000; to manufacture automobile locks; W. H. Purcell, Richard Weber.

Automobile Test Company, Warren, O.; $20,000; to deal in automobile supplies; F. I. Spellman, H. E. Vaughan, H. G. Paden.

Mid-Co Petroleum Company, Tulsa, Okla.; $25,000; M. M. Travis, A. E. Aeronson, R. S. Fellows.

Arco Rubber Company, Portland, Me.; $10,000; to manufacture tires; L. D. Apsley, W. E. Tucker, D. W. Snow.

Shirley Auto Fabric Company, New York City; E. J. Shirley, A. Shirley, M. Shirley.

O'Mullins Quick Adjustable Wrench Company, Terre Haute, Ind.; to manufacture tools; O. O'Mullins, J. N. White, Herman Harms.

Central Automobile Supply Company, New York City; $5000; to deal in accessories and supplies.

Boyd Tire & Supply Company, Cincinnati, O.; $16,000; to deal in tires and supplies.

Pat Toni Company, Buffalo, N. Y.; $5000; to deal in oils and supplies for motor driven vehicles; F. L. Lovelace and others.

Bigger Rubber Preservative Company, Buffalo, N. Y.; $10,000; A. Frank Bigger, William J. Connors, Walter E. Hocheins.

Pike Rubber Company, Akron, O.; $50,000; to manufacture rubber goods; O. C. Pike, F. Grether, F. Selzer, V. R. Hardy.

Americo-Syrian Petroleum Company, Bristow, Okla.; $25,000; to deal in oils; K. Wasaff, J. G. Adamie, J. Abraham.

Rubber Tire Accessories Company, New York City; $10,000; to deal in tires, etc.; O. Eahart, T. J. Nugent, S.

Automobile Accessories Company, Buffalo, N. Y.; $25,000; to deal in automobile accessories; A. B. Floyd, W. H. Linford, T. R. Thomas.

Kelvin Electric Company, New York City; $25,000; to deal in electrical apparatus and supplies; C. McMillan, S. Popper, K. Tikios.

Dunbar & Co., New York City; $200,000; to deal in rubber goods, etc.; G. W. Utter, A. T. Gibbs, F. W. Dunbar.

Euclid Penn Auto Supply Company, Cleveland, O.; $20,000; to deal in automobile supplies and accessories.

Auto Combination Switch Lock Company, Columbus, O.; $10,000; to deal in accessories.

United Anchor Tire Company, New York City; $2000; to deal in automobile tires; Frank H. Cross and others.

United Light Company, Cincinnati, O.; $5000; to deal in electric supplies; W. H. Odell, William R. Divers, Albert D. Alcorn, Grace Divers, Frank A. Cooper.

Auto Tire Corporation, Indianapolis, Ind.; $25,000; to deal in automobile tires, accessories, etc.; Walter Myers, A. A. Clark, K. W. Gant.

MISCELLANEOUS.

Bath Beach Auto Express Company, Brooklyn, N. Y.; $5000; Max Goldsmith, Isidore Goldsmith, Mathilde Goldsmith.

Rupp-Skeldon Motor Company, Toledo, O.; $50,000; to deal in all kinds of motors; R. G. Young, J. Nye, J. Greenwald, B. Young, B. W. Johnson.

Yselta Automobile Club, Yselta, Tex.; N. V. Mitchell, J. M. Duran, O. M. Eads.

Busch's Auto Tours, Boston, Mass.; $10,000; John J. Busch, Lucy M. Busch, Albert E. Busch.

L. J. Wells Livery, Baggage & Automobile Company, Des Moines, Ia.; $250,000; Jesse Wells, J. B. Flynn, John McDermott.

Solid Brass Works, Milwaukee, Wis.; $10,000; to operate a brass foundry; E. J. Nickey, W. J. Morgan, B. F. Saltzstein.

Wausau Abrasives Company, Wausau, Wis.; $50,000; to manufacture discs and wheels for grinding machines; R. E. Chartier, P. W. Sawyer, J. K. Sawyer.

Automobile Tire Cooling Company, Asbury Park, N. J.; $125,000; Sexter Ball, Allan Lindsley, C. C. Leonard.

At Left, Hoods for the Studebaker Four and Six in the Process of Manufacture; at Right, Placing the Finishing Touches on the Crowned Fenders.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham—Franklin, W. W. Robinson.
National, Haynes Motor Co.
Dothan—Maxwell, Tennille & Brown.
*Koehler, W. L. Brown.
Ensley—Maxwell, Barrett & Knapp.
Montgomery—Maxwell, L. J. Pake.
Ollo—Maxwell, Wallace & Strickland.

ARIZONA.

Holbrook—Haynes, Chas. Jarvis & Sons.
Maxwell, Thorwald Larson.

ARKANSAS.

Siloam Springs—Maxwell, Farmer & Perry.
Stamps—Maxwell, Sanders & Purser.

CALIFORNIA.

Esparato—Maxwell, Esparato Garage Co.
Graham—Maxwell, E. L. Zimmerman.
Hanford—Maxwell, J. R. Hayes.
Indo—Maxwell, Goldie Summers.
Kingsburg—Maxwell, Robert Gustafson.
Los Angeles—Chandler, Chandler M. C. Co.
Lewis, Earl Y. Boothe.
Paterson, A. G. Kerber.
Oakland—Reo, Muller Auto Garage.
Ontario—Maxwell, F. A. Saunders.
Redbluff—Maxwell, A. A. Curtis.
Rialto—Maxwell, John M. Bradford.
Salinas—Maxwell, C. S. Nuttall.
San Luis Obispo—Maxwell, Union Hdw. & Plumb. Co.
San Francisco—Lewis, James F. Gilson.
*Mogul, Pacific Mogul Co.
Sonora—Maxwell, W. H. Sharp.
Stockton—Maxwell, Stockton Garage.

COLORADO.

Carbondale—Maxwell, W. M. Dinkle Merc. & Lubricant Co.
Denver—*Stewart, W. W. Barnett.
Trinidad—Maxwell, Trinidad Garage.

CONNECTICUT.

Bridgeport—King, Emil L. Scherer.
Lyons-Knight, O'Connell's Garage.
Danbury—King, A. C. Penny.
Hartford—Haynes, New England Garage.
King, William R. Moore.
*Stewart, Universal Auto Co.
New London—Maxwell, Palmer's Garage.
Norwich—*Stewart, Shea & Burke.
Stamford—Maxwell, Ideal Garage.

DISTRICT OF COLUMBIA.

Washington—Cartercar, Cartercar Sales Co.
‡Little Princess, Selby Co.

FLORIDA.

Jacksonville—Franklin, Winchester M. C. Co.
Miami—Herff-Brooks, Belcher & Brown.
Pensacola—Maxwell, J. E. Nicholas.

GEORGIA.

Atlanta—Lyons-Knight, Johnson M. C. Co.
Griffin—Oakland, A. F. Gossett & Son.
Macon—*Koehler, W. E. Cookerly.

IDAHO.

Cour d' Alene—Paige, Walter G. Clark.
Idaho Falls—Haynes, Clay Auto Co.

ILLINOIS.

Avon—Hupmobile, A. E. Glaser.
Batchtown—Maxwell, Zigrang Bros.
Belleville—Jeffery, George Erdman.
Maxwell, Charles Procasky.
Bradford—Hupmobile, W. W. Jones.
Canton—Hupmobile, J. Jelly.
Casey—Westcott, W. C. Turner.
Chicago—Haynes, E. E. Fulton & Co.
Lyons-Knight, Ziegler & Co.
*Menominee, Menominee Motor Supply Co.
Clifton—Haynes, Henry A. Morel.
Danvers—Franklin, Simpson Bros.
Danville—*Menominee, Robert Holmes & Bros.
Decatur—Maxwell, Dawson Auto Co.
Delavan—Hupmobile, Warren Renner.
Galva—Haynes, W. O. Houghton.
Golconda—Maxwell, W. S. C. Motor Co.
Lexington—Oakland, Tilsen Patton.
Litchfield—Regal, Peter Cavallo.
Manito—Hupmobile, D. D. Zimmerman.
Milledgeville—R-C-H, E. C. Miller.
Monmouth—Hupmobile, G. L. Deffenbaugh.
Maxwell, E. M. G. Jeffreys & J. Lammey.
Morris—Maxwell, Bert Thorson.
Mount Morris—Maxwell, A. E. Clevidence.
Palestine—Maxwell, G. B. Mullen.
Peoria—Moline-Knight, E. Davis.
Rushville—Hupmobile, Hoffman Bros.
Sparland—Hupmobile, Dr. Royce.
Stark—Hupmobile, E. C. Jackson.
Taylorville—Maxwell, Walter B. Wood.
Trivoli—Maxwell, E. H. Kessler & Sons.
Tuscola—Krit, Thomas Bros.
Viola—Oakland, B. R. Mesbitt.
Yale—Maxwell, J. L. Forester.

INDIANA.

Aurelia—Herff-Brooks, James A. Hartigan.
Aurora—Oakland, C. O. Kemp & Son.
Batesville—Maxwell, Pohlar Auto Co.
Decatur—Maxwell, Peterson & Tumbleson.
Fort Wayne—*Menominee, B. S. Vail & Co.
Indianapolis—*Commerce, Frank C. Carey.
*Stewart, Pierce-Arrow M. C. Co.
Kempton—Haynes, Goodnight & Connarroe.
Lafayette—*Menominee, G. S. Patterson.
Linton—Maxwell, Beasley Auto & Sup. Co.
Marion—Maxwell, Stoebe-Helson Co.
North Vernon—Pilot, Pitchfield Bros.
Ray—Maxwell, McNaughton & Warner.
Roseville—McFarlan, Roseville Garage.
Waterloo—R-C-H, E. E. Goodwin.

IOWA.

Alexander—Oakland, W. H. McDowell.
Altoona—Maxwell, H. B. Blakely.
Anthon—Maxwell, Anthon Auto Assn.
Boone—Herff-Brooks, Chas. W. Nelson.
Buffalo Center—Marathon, E. Alleman.
Cedar Rapids—Herff-Brooks, Skerick & Kurick.
Chester—Marathon, Jones Hdw. Co.
Clarion—Oakland, W. Peterson.
Colfax—Maxwell, Tom E. Jordan.
Council Bluffs—Oakland, Skipton M. C. Co.
Westcott, L. P. Madsen.
Danbury—Maxwell, Fred H. Kann.
Davenport—Maxwell, G. H. Knowles.
Dodge—Paige, E. Kubuck.
Elkhart—Herff-Brooks, Frederick Maglot.
Fort Dodge—Haynes, Haynes Auto Sales Co.
Lyons-Knight, Knight Motor Co.
Fort Madison—Herff-Brooks, W. A. Arnold.
Grand Junction—Maxwell, W. W. Kirby.
Gravity—Chandler, Clyde Wilson.
Hastings—Haynes, Clarence Sandiland.
Hayesville—Maxwell, R. R. Jacobs.
Ida Grove—Maxwell, Julius Sauer.
Keokuk—KisselKar, W. W. Perdew.
Manning—Car-Nation, R. E. Dudgeon.
Massena—Car-Nation, N. H. Yarger.
Mount Pleasant—Herff-Brooks, Wind Bros. Auto Co.
Pella—Maxwell, Ever-Ready Auto Co.
Sioux City—*Stewart, John Kinquist.
Wallingford—Oakland, J. O. Kaasa.
Whittemore—Oakland, Swanson & Son.

KANSAS.

Benedict—King, R. S. Benedict.
Caney—Maxwell, Todd Hdw. & Sup. Co.
Hutchinson—Paige, Auto Exchange Co.
Independence—King, Chaney & Passauer.
Kiowa—King, G. V. Wilson.
Oswego—King, J. F. Dean.
Sylvia—King, G. A. McPherson.
Topeka—King, W. T. Dawson Auto Co.
Moon, Richmond Auto Co.
Pathfinder, Seery & Morton.
†Standard, Elec. Independent Auto Co.
Winfield—King, A. E. Hudson.

KENTUCKY.

Carrollton—R-C-H, Leon Ash.
Lexington—*Koehler, Union M. C. Co.
Louisville—Grant, Andrew Cowan & Co.
KisselKar, Thomas M. Carr.
Oldsmobile, Kentucky M. C. Co.
‡Zip, National Cyclecar Co.
Maysville—Case, J. D. Keith.
Millersburg—Case, E. B. Taylor.
Stanford—Maxwell, H. C. Carpenter.
Vine Grove—Maxwell, A. F. Vertrees & Son.

LOUISIANA.

Alexandria—*Koehler, W. Lennie Smith.
Mount—Oakland, Maxwell-Yerger Co.
New Orleans—Lyons-Knight, Enterprise Auto Co.
Springhill—Maxwell, M. A. Stephens.

MAINE.

Bangor—Velie, C. H. Abbott Co.
Lewiston—KisselKar, Hall & Knight.
Locke Mills—KisselKar, E. L. Tebbets Co.
Portland—*Stewart, Portland Co.
Yorkville—*Koehler, R. S. Blaisdell.

MARYLAND.

Baltimore—Abbott-Detroit, Roland Park Garage.
Crescent, Henderson Garage.
*Bessemer, Model Auto Co.
*Little Giant, Little Giant Sales Co.
*Vulcan, Model Auto Co.
‡Imp, Maryland Cyclecar Co.
Cambridge—*Menominee, Cambridge Auto Co.

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Cumberland—*Koehler, A. K. Rarig.
Uppercu—Maxwell, J. F. Armacost & Son.

MASSACHUSETTS.

Bridgewater—*Koehler, Bridgewater Inn Garage.
Brockton—Herff-Brooks, George Tuscan.
Boston—Marion, Norman Halliday.
Lyons-Knight, Fred H. Goss.
Fitchburg—*Koehler, Baxcom & Littlehale.
Gardner—Maxwell, L. Herbert Parcher.
Holyoke—Maxwell, Laduke Auto Exchange.
Lawrence—Maxwell, Edwin C. Merrill.
*Stewart, Knox Street Garage.
Lowell—‡Imp, H. N. Randall.
Maynard—Maxwell, J. A. Coughlan.
Mattapan—Ford, J. F. Duby.
New Bedford—*Koehler, E. L. Waybrant.
Taunton—R-C-H, I. W. Short.
Worcester—Lyons-Knight, Worcester Motor Car Co.
Maxwell, Worcester Automobile Co.

MICHIGAN.

Benton Harbor—King, W. S. Robinson.
Bessemer—*Menominee, Otto B. Olson.
Birmingham—King, James E. Valentine.
Coldwater—Maxwell, McNaughton & Warner.
Colon—Maxwell, H. L. Hobday.
Colwood—Hupmobile, C. D. Andrews.
Detroit—Haynes, F. H. Hill Co., 904 Russell St.
R-C-H, R-C-H Sales & Service Co.
*Stewart, Siegel Zeckendorf Co., Ltd.
Elba—Maxwell, John S. Smith.
Grand Rapids—King, L. Phelps.
Marathon, Grand Rapids Auto Co.
R-C-H, Robert Willey Auto Co.
Harbor Beach—Maxwell, Dell McCann.
Ishpeming—Pilot, P. P. Chase.
Jackson—R-C-H, Weber Bros.
Kalamazoo—Franklin, Louis E. Kraft.
Mitchell, Frank Lems.
Lake City—R-C-H, Orville Dennis.
Lake Orion—King, G. W. Bannister.
Norway—*Menominee, Norway Garage Co.
Owosso—Maxwell, F. E. Hartshorn.
Plainwell—Maxwell, Ingraham & Travis.

MINNESOTA.

Ada—Maxwell, Norman County Auto Co.
Appleton—KisselKar, Appleton Auto Co.
Argyle—Maxwell, F. J. Schreck.
Battle Lake—Reo, Orris Albertson.
Campbell—Maxwell, Weber & Wischhover.
Dassal—Maxwell, Dassal Motor Co.
Fairmont—Hudson, Fairmont Motor Co.
Lamberton—Maxwell, F. H. Retzlaff.
Mapleton—Maxwell, Brochert Bros.
Minneapolis—Alter, Alter Sales Co.
Ormsby—Hupmobile, Shellum & Dushinsky.
Rushmore—Maxwell, Borchert Bros.
St. James—Maxwell, Fred H. Klaras.
Ulen—Buick, Ulen Garage Co.
Ford, Ulen Garage Co.

MISSISSIPPI.

Armory—Maxwell, A. Dalrymple.
Water Valley—Maxwell, W. R. Williams.

MISSOURI.

Baldwin—Regal, Milton Bopp.
Brookfield—King, A. C. Carpenter.
Caledonia—Maxwell, R. R. Bean.
Chaffee—Regal, O. Sample.
Chillicothe—Cole, Adams & Sons.
Columbia—Maxwell, F. W. Neidermeyer.
Jeffery, West & Vanetta.
Denver—King, Bram Bros.
Edina—Hupmobile, Johnston Bros.
Evansville—King, S. E. Cook.
Fayette—King, Ballew & Kivett.
Joplin—King, Thomas H. Stults.
Kansas City—Haynes, Missouri-Haynes Motor Car Co.
*Koehler, A. E. Lewis.
*Stewart, A. E. Lewis.
Kirksville—Cole, W. A. Hunsacker.
Lewiston—Hupmobile, Daniel Turpin.
Malta Bend—King, Cole Bros.
Moberly—King, C. L. Leitch.
Old Monroe—Hupmobile, Westgoff & Wehde, Jr.
Owensville—Metz, J. H. Kormeier.
Polo—Maxwell, C. C. Bland, Jr.
Ridgway—King, Curtis & Francis.
Springfield—King, H. E. Seeley.
St. Joseph—King, Henry Kimmet.
St. Louis—Hupmobile, Weber Implement Co.
Lyons-Knight, Geo. C. Brinkman Motor Car Co.
Stanberry—King, Welch & Enyart.

MONTANA.

Great Falls—Maxwell, Johnson Motor Sales Co.
Miles City—KisselKar, Myers & Lindeberg.
Missoula—Haynes, J. W. Kirsham.
Terry—R-C-H, L. W. Lamb.

NEBRASKA.

Alma—Hupmobile, W. B. Ralston.
Arapahoe—Maxwell, A. Benjamin.
Beaver Crossing—Maxwell, Watts & Owen.
Broken Bow—Paige, G. Ream.
Claytonia—Maxwell, H. L. Lohmeyer.
Columbus—Paige, J. Luxa.
Crawford—Maxwell, J. J. Adams, Jr.
Eustis—Maxwell, J. L. Easterday.
Fairmount—Lyons-Knight, B. E. Aldrich.
Friend—Hupmobile, William Vossler.
Gordon—Car-Nation, B. M. Wilhite.
Holdredge—Maxwell, Western Motor Car Co.
Imperial—Maxwell, Joseph A. Hay.
Lincoln—Franklin, Ryan M. C. Co.
Merriman—Hupmobile, Metzger Bros.
Omaha—*Flint, Bullock Mch. & Sup. Co.
*Menominee, Liviger Imp. Co.
*Modern, William Pfeiffer.
*Stewart, Murphy & Sons.
Sidney—Maxwell, Livoni & Son.
Spaulding—Maxwell, F. J. O'Hara.
Waterbury—Maxwell, C. E. Armstrong.
York—Chandler, E. S. Clark.

NEW HAMPSHIRE.

Nashua—Chandler, Chandler M. C. Co.
Portsmouth—Franklin, C. A. Badger.
Woodsville—Maxwell, Burbeck & Young.

NEW JERSEY.

Bridgeton—Grant, J. R. Elwell.
East Orange—Lyons-Knight, Edwards-Knight Sales Co.
New Brunswick—King, Harvey J. Moynihan.
Paterson—King, James C. Gould.
Red Bank—*Koehler, E. von Kattengell.
Trenton—Chandler, H. J. Stout.
*Stewart, The Motor Shop.

NEW MEXICO.

Raton—Haynes, E. J. Love Motor Co.

NEW YORK.

Amityville—King, E. S. Van Nostrand.
Batavia—*Menominee, W. W. Buxton.
Berkshire—Hupmobile, Paul H. Mayor.
Binghamton—*Stewart, F. H. Wilbur & Son.
Bridgehampton—King, Leslie & Hallock.
Brockton—*Menominee, Wells Hdw. Co.
Brooklyn—†Baker, Clinton Garage.
Catskill—Maxwell, Amos Post.
Chatham—Maxwell, J. W. Darrow.
Crestwood—King, A. S. Sargent.
East Hampton—King, J. Y. Haslsey.
Elmhurst—King, J. H. Walsh.
Elmont—King, Hoeffner Bros.
Freeport—King, Thomas Forbes, Jr.
Friendship—Oakland, Middaugh & Thurston.
Hancock—Maxwell, Bell & Taylor.
Hilton—*Menominee, L. I. Silliman.
Hudson—Maxwell, Crescent Garage.
Lestershire—King, Charles Wakeman.
Lockport—King, A. L. Hoag.
Medina—King, E. B. Simonds.
Mineola—King, W. Simonson.
New York—Lyons-Knight, Lyons-Atlas Co.'s Branch.
Regal, Webster & MacGowan.
Olean—*Menominee, F. W. Forness, Jr.
Peekskill—*Menominee, Sorenson Co.
Perry—Marathon, Gray & Martin.
Port Chester—King, Lowden & Flint.
Potsdam—Maxwell, F. A. Seaver.
Poughkeepsie—King, Horace Sague & Sons.
Ravena—Maxwell, Joralemon Bros.
Saranac Lake—King, Shelley Tool Co.
Schenectady—King, Schenectady Weld. & Rep. Co.
Shelter Island—King, George B. Wells.
Utica—Herff-Brooks, Lawrence J. Zobel.
R-C-H, I. R. Gardinier.
Walton—Maxwell, Munn & Parker.
Watertown—KisselKar, Wolf Auto Co.
West Hampton Beach—King, E. A. Case.
White Plains—King, Bernard Hopp, Jr.
Willsboro—King, Dr. L. B. Barton.

NORTH CAROLINA.

Goldsboro—Haynes, Ford Garage Co.
Smithfield—King, Simon Jones.
Wilmington—Oakland, Dorsey Wolgamuth.

NORTH DAKOTA.

Bathgate—Maxwell, J. W. Scott.
Embden—Maxwell, J. Buck.
Goodrich—Maxwell, Billigmeier Mercantile Co.
Hankinson—Hupmobile, Fred Krause.
Jamestown—R-C-H, Wallace & Donnelly.
Lisbon—Maxwell, J. G. Hyde.
Milnor—Maxwell, J. K. Taylor.
Mitchville—Maxwell, Hanson & Holte.
New Leipsig—Maxwell, Val Horner.
Northwood—Maxwell, Thorsgard & Olson.
Starkweather—Maxwell, Resler & Fawcett.

OHIO.

Akron—Herff-Brooks, Diamond Auto Garage Co.
Babina—Oakland, L. E. Whinery.
Bluffton—Maxwell, Herbert Basinger.
Cadis—Ford, C. A. Young.
Chester—Maxwell, D. D. Ridenour.
Chicago Junction—Ford, Mehrling & Beelman.
Cincinnati—Lyons-Knight, H. C. Wendel.
Cleveland—King, Dunham Motor Co.
Westcott, Cuyahoga M. T. Co.
*Menominee, Colonial Sales & Service Co.
College Corner—Herff-Brooks, J. F. Bishop.
Columbus—Crow Elk-Hart, F. Mayer.
Cuyahoga Falls—*Menominee, Henry Schulze & Sons.
Cygnet—Ford, C. E. Grant.
Dayton—Haynes, Canton, Powers & Summersett.
Delta—Buick, W. E. Seely.
King, Blaine & Fraker.
Edgerton—Herff-Brooks, Arthur Krill.
Fostoria—Ford, William J. Hakes.
Fremont—King, Hilt & Keating.
Saxon, William H. Babione.
Hamilton—Westcott, Robert Baxter.
Hillsboro—Oakland, R. D. Currie.

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Jackson—Maxwell, McCoy Bros.
Jefferson—Maxwell, A. F. Sikes.
Lamartine—Maxwell, Murdock & Kirby.
Leetonia—Franklin, Auto Mch. Co.
Loraine—Chandler, Schnable & Burns.
Louisville—*Menominee, Louisville M. C. Co.
Mansfield—*Menominee, J. W. Newlon.
Marietta—Maxwell, W. W. Wood.
Paige, Theo. Riddle.
Marshallville—Herff-Brooks, T. E. Steiner & Son.
Mendon—King, E. J. Drake.
Mt. Vernon—Cartercar, Percy A. Greer.
Metz, Percy A. Greer.
Saxon, H. C. Plimpton.
New Bremen—Paige, F. N. Allen & Son.
Norwalk—Ford, E. S. Sly.
Grant, W. Muehlfeld.
Ottoville—Herff-Brooks, Huysman & Osenga.
Sheraville—Oakland, Elmer Vossler.
Springfield—Herff-Brooks, Jordon Motor Sales Co.
Steubenville—*Koehler, J. H. Timberlake.
Thornville—R-C-H, C. E. Dupler.
Wapakoneta—King, W. G. Taylor.
Wauseon—Buick, David Myers.
Chevrolet, Miller & Hoy.
Wilmington—R-C-H, O. L. Pidgeon.
Xenia—Krit, G. C. McClain.
Youngstown—Herff-Brooks, Cartercar Sales Co.

OKLAHOMA.

Dewey—King, Pope Garage Co.
Laverne—Marathon, Laverne Garage.
Oklahoma City—Maxwell, Herrick & Vandervoort.

OREGON.

Enterprise—Maxwell, Enterprise Garage & Auto. Co.
Fossil—Maxwell, Fossil Mercantile Co.
La Grande—Maxwell, W. H. Bohneukamp & Co.
Portland—Haynes, Nob Hill Garage & Auto Co.
*GMC, Columbia Carriage & Auto. Works.
Oregon City—Maxwell, P. A. Schmidt.

PENNSYLVANIA.

Allentown—Herff-Brooks, V. H. Steckel.
Bedford—Hupmobile, Milton Samuel.
Belleville—Herff-Brooks, L. M. Yoder.
Bradford—Herff-Brooks, Standard Garage.
Lyons-Knight, Standard Gas Engine Co.
Brownstown—Herff-Brooks, W. S. Evans.
Chambersburg—Maxwell, W. L. Forney.
Dallastown—Chevrolet, Ammon R. Smith.
Duke Center—Hupmobile, L. J. Lilly.
Easton—Herff-Brooks, Wilson Auto Co.
Emporium—*Menominee, Emporium Mch. Co.
Harrisburg—Chandler, Arthur Redmond.
Herff-Brooks, West End Garage.
Honesdale—Maxwell, E. W. Gammel.
Lancaster—Herff-Brooks, Samuel K. Landis.
Lebanon—Herff-Brooks, Isaac Plasterer.
Leetsdale—*Menominee, F. G. Mohn.
Matamoras—King, Lester Pitney.
Mt. Carmel—Franklin, P. H. Pye.
New Tripoli—*Koehler, Snyder & Winks.
*Stewart, Snyder & Winks.
Oley—King, Oley Motor Co.
Philadelphia—Lyons-Knight, S. R. Blocksom M. C. Co.
*Menominee, Service M. C. Co.
‡O-we-go, Bridge & Cyclecar Distributing Co.
Pitcairn—Maxwell, Pitcairn Auto Co.
Pittsburg—Herff-Brooks, Klingler Co.
Ridgeway—Haynes, John G. Hayes.
Riverside—Chandler, W. A. Hoover.
Scranton—King, Lackawanna Auto. Co.
Maxwell, Lackawanna Auto. Co.
Selinsgrove—R-C-H, D. G. Schucker.
Sharon—Vulcan, R. G. Vasu.
Shenandoah—King, R. H. Morgan.
Shinglehouse—Maxwell, Grand Central Garage.
Tyrone—Herff-Brooks, Penn Auto. Co.
Waynesboro—Maxwell, J. C. F. Groh.
York—Jeffery, York Auto. Exchange.
Maxwell, Snyder Auto. Co.
Republic, E. P. Beam.
Saxon, G. E. Swartz.
Vulcan, H. L. Bowers.

RHODE ISLAND.

Providence—Haynes, Richard G. Davis.
Lyons-Knight, Elmwood M. C. Co.
Pilot, H. E. Bradford.

SOUTH CAROLINA.

Charleston—Lyons-Knight, E. H. Palmer.
Chester—Chandler, Hardin Motor Co.

SOUTH DAKOTA.

Brookings—Maxwell, F. C. Fryer.
Onida—Maxwell, Johnson & Haverly.
Port Pierre—Maxwell, William Hayes.
Sturgis—Maxwell, M. R. Dobbins.
Watertown—KisselKar, Wolf Auto. Co.

TENNESSEE.

Knoxville—*Stewart, S. Sedgwick & Sons.
Nashville—Lyons-Knight, James K. Burton.

TEXAS.

Brownsville—Everson M. C. Co.
Brownwood—Maxwell, Bouldin & Wheeler.
Chico—Maxwell, H. T. Robinson.
Dallas—Chandler, J. W. Couchman & Co.
Partin-Palmer, Texas M. C. & T. Co.
R-C-H, Davis & Turney.
Denton—Maxwell, Holloway & Bishop.
El Paso—Franklin, Lee Moor.
Galveston—Locomobile, Charles Lewding.
Georgetown—Oakland, Towns Bros.
Geronimo—Maxwell, Alfred Koebig.
Nixon—Hupmobile, W. M. McGee.
Nordheim—Pilot, William V. Rabb.
Rhineland—Maxwell, Peter Loran.
San Antonio—Lyons-Knight, Knight M. C. Co.
Westcott, C. H. Dean.
†Buffalo, C. H. Dean.
Stonewall—R-C-H, F. W. Grobe.
Taylor—Partin-Palmer, Hoch Hdw. Co.
Temple—Partin-Palmer, J. M. Lee & Co.
Waco—Haynes, W. M. Oden.
Waldo—Hupmobile, J. G. Smythe & Co.

UTAH.

Minersville—Maxwell, A. L. Dolson.
Provo—Maxwell, Dell Chipman.
Salt Lake City—Hupmobile, Cheeseman Auto. Co.

VERMONT.

Barton—*Koehler, George H. Davis.
Burlington—Maxwell, Henry Todd.

VIRGINIA.

Farmville—Maxwell, Farmville Mfg. Co.

WASHINGTON.

Bellingham—Maxwell, T. S. Dahlquist.
Seattle—Lyons-Knight, Hamilton Auto. Co.
Oakland, W. P. Paugh.
Premier, Seattle Auto. Co.
*Selden, Bruce Osthimer.
Sedro Woolley—Maxwell, State Street Garage.
Spokane—Haynes, Ross & Williams.
‡Rocket, Rocket Cyclecar & Sup. Co.

WEST VIRGINIA.

Cairo—R-C-H, C. T. Headlee.
Chester—Westcott, Finley Bros.
Wheeling—Herff-Brooks, Jones & Kratzer.

WISCONSIN.

Antigo—Oakland, George H. Maxwell.
Appleton—Maxwell, Frank Wright Auto Co.
Berlin—Haynes, E. C. Deibler.
Black Earth—Lyons-Knight, J. H. Sarbecker.
Campbellsport—Maxwell, Campbellsport Imp. Co.
Fairchild—KisselKar, Butterfield M. C. Co.
Mason, Butterfield M. C. Co.
Maxwell, Butterfield M. C. Co.
Fall Creek—Overland, Stubbe & Stelter.
Fond du Lac—Paterson, Barnes Zuigsheim & Mabie Co.
White, E. W. Clark M. C. Co.
Green Bay—White, Lucia Bros. M. C. Co.
La Crosse—Oakland, Berg Piano Co.
Menominee—R-C-H, Menominee Auto Co.
Milwaukee—*Four Wheel Drive, Hughes M. C. Co.
*Stewart, Imperial Motor Sales Co.
‡LaVigne, Wisconsin Cyclecar Co.
‡Trumbull, Wisconsin Cyclecar Co..
‡Zip, Wisconsin Cyclecar Co.
Plymouth—Pilot, Deicher & Armdt Co.
Racine—Lewis, Milton E. Laux.
Seneca—Cartercar, W. E. Porter.
Sheboygan—Packard, E. H. Motor Co.
Viroqua—Rayfield, Herman S. Hanson.

FIRES OF THE MONTH.

Wells-Mills Electric Company, Connellsville, Penn.; garage damaged, $8000.

George A. Rice, Mechanicsville, N. Y.; garage and contents, $8000.

Moon Motor Car Company, St. Louis, Mo.; building, $40,000.

Bloomfield Campbell, Belmont, N. J.; garage and livery, $6000.

Vicksburg Automobile Company, Vicksburg, Miss; garage.

Splitdorf Electrical Company, 98 Warren street, Newark, N. J.; garage.

Mrs. John Munhall, rear 328 South Winebiddle avenue.

J. S. Fowler, Anderson, S. C.; warehouse and garage, $35,000.

New Jersey Automobile Company, Camden, N. J.; automobile store, $15,000.

O. T. Green, 651 North 42nd street, Philadelphia, Penn.; garage, $15,000.

Bourne Rubber Company, Providence, R. I.; factory.

Clifton H. Oakley, Trenton, N. J.; garage.

The Clarendon Garage, Seabreeze, Fla.; garage and laundry building, $12,000.

Percy Bicknell, Weymouth, Mass.; garage, $25,000.

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NEW LOCATIONS AND REMOVALS.

Chester A. Dodge, Worcester, Mass., has moved into new quarters in the Stafford Square garage building. He has large salesrooms and service station combined.

The People's Garage, Davenport, Ia., which was organized recently, will move into the building vacated by the Peterson Automobile Company on Main street.

Balcom & Rufe, Norwich, N. Y., has moved into its repair shop and garage on East Main street.

The Chandler Motor Car Company, Los Angeles, Cal., distributor of Chandler cars, has taken possession of a new building at 1144 South Flower street.

The American Auto Company, Tacoma, Wash., has located in larger quarters at 218 St. Helen's avenue. The company is agent for the Reo and Stearns-Knight cars.

Herbert Patterson and George Smith, Glens Falls, N. Y., have leased the Yarter property at 252 Main street and will establish a garage in connection with which they will conduct an automobile school.

Avery & Hurrie, St. Cloud, Minn., have moved into their new garage at the corner of First street and Sixth avenue, South.

N. A. Moquin, Holyoke, Mass., who conducts an automobile repair shop, has moved to 492 Dwight street, where he has obtained larger quarters.

The Romau Auto Company, Philadelphia, has moved from 849 North Broad street to the corner of Broad and Cherry streets.

The Oneida Garage & Machine Company, Rhinelander, Wis., is to move into the Pabst building on Rives street when repairs and improvements are made.

George Ward, Hibbing, Minn., has taken a lease of the third floor over the Advance Automobile Company, where he will conduct a paint shop for automobiles.

The Cartercar Sales Company, Washington, D. C., has secured headquarters at 1801 14th street.

The Krouse Motor Car Company, Philadelphia, Penn., has moved to larger quarters at 441 North Broad street.

The Ira S. Dill Company, Billings, Mont., has moved to larger quarters at 2909 Montana avenue. A garage and messenger service is conducted.

Jacob Willenbring, Richmond, Minn., has leased the Muggli building and will open a modern garage and repair shop.

The Miami Motor Company, Hamilton, O., has taken possession of the new salesrooms at 14-18 Main street. A line of accessories and supplies will be handled. The company is erecting a modern fireproof garage.

The Brewer & Van Vleck Company, Champaign, Ill., has opened its new garage. It is of fireproof construction and equipped with the very latest machinery and devices for a garage and repair business. The company handles the Overland cars and carries a large stock of parts for these cars, as well as a line of general automobile supplies.

The Exide Battery Depots, Inc., has opened an electric commercial vehicle garage at 527-541 West 23rd street, west of 10th avenue, New York City, to be known as the West Side garage. The Exide Battery Depots, Inc., also conducts the East Side garage at 141-155 East 25th street. The company has an area of 33,000 square feet and all of it is on the ground floor. The garages are devoted exclusively to storing and caring for electric commercial vehicles and batteries.

The Lafayette Smith Company, Little Rock, Ark., has opened new headquarters at Fourth street.

E. Anderson, New York City, rebuilder of high grade foreign and American cars, has moved to 250 West 54th street, which affords more commodious quarters.

The Virginia Auto Supply Company, Richmond, Va., has opened headquarters at 605 West Broad street. The company handles the Kelly-Springfield tires and tubes.

The Monte Cristo Garage, New London, Conn., will move to its new and large quarters on Washington street in the near future. James P. Sullivan is the proprietor.

The Oakland Motor Company, Baltimore, Md., has secured larger quarters at 321 North Watts street. The present address of the company is 227 North Broad street.

Heindl & Rothvoss, New York City, has moved to larger quarters at 211-15 West 19th street. The company makes a specialty of automobile repairing.

The Tire Company, Houston, Tex., is now located at 1514 Main street.

The Cutting & Smith Sales Company, Detroit, formerly located at Jackson, has moved and is now located in the Goldberg building at Warren and Woodward avenues.

The Motor Owners' Supply Company, Columbus, O., has leased larger quarters in East Gay street, where double the space is available as at the old quarters. The company handles a large stock of automobile accessories and supplies. A. I. Fishbaugh, formerly with the Early Motor Company of Columbus, is manager.

Callahan Bros., Worcester, Mass., is now located in its remodelled building at 36 Trumbull street. The building in the rear has been equipped by the company to carry on a garage and repair shop business.

The Butterfield Motor Company, Fairchild, Wis., has moved to a new garage on Main stret. The company handles the Mason, KisselKar, Maxwell and Crown cars, and also conducts a general repair and livery business.

The Trimble & Johnson Company, Wheeling, W. Va., has located in its new garage on Jefferson avenue, recently completed. It is modern throughout and the latest machinery has been installed.

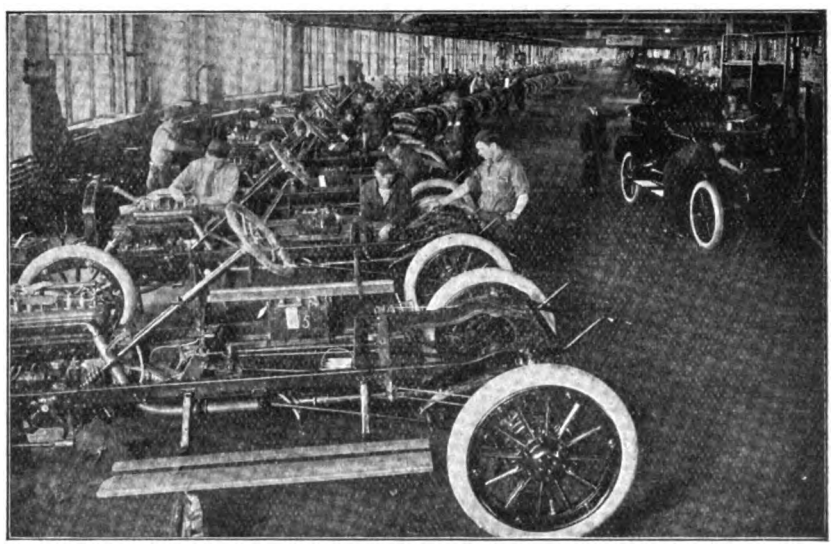
The Grand Rapids Republic Truck Sales Company, Grand Rapids, Mich., has secured quarters at the corner of Michigan street and Bond avenue. The company has established a complete service station and is also agent for the Republic trucks.

C. Pettiler, Pittsburg, Penn., has opened the Mammoth Auto Exchange at 6118 Station street.

The Panama Equipment Company, St. Louis, Mo., has opened a shop to equip automobiles with the Punctureless Cushion, a substitute for air.

Holmes, Lewis & Gaston, Portland, Ore., has opened a garage and repair shop in a large reinforced concrete building, which was formerly the home of the Portland Hunt club. The company will spend $25,000 in new equipment and machinery.

The Roberts Garage, Ltd., Boston, Mass., is now occupying the remodelled building at 320 Newbury street, which was recently vacated by the White Company. Velie cars are handled.



View of the Final Assembly of the Studebaker Four at Plant No. 3.

The H. L. Keats Automobile Company, Seattle, Wash., has leased the building at 1513-17 Broadway, and plans to have new showrooms and a service station.

The Thormey Auto Service, Inc., New York City, has leased a three-story garage at 241 West 68th street and will locate there.

The Hotel Taxicab Company, El Paso, Tex., has taken the entire fireproof building at Santa Fe street and will locate there.

C. J. Shannon, Chisholm, Minn., has leased the Bergeron rink and is remodelling it into a garage. New machinery will be installed and experienced machinists have been engaged. The company handles the Case cars.

The Winterset Auto Company, Winterset, Ia., has converted the premises recently vacated by the Smith Implement Works into a modern garage. The company represents the Maxwell line. M. G. Morarity is in charge.

Bolt & Maccracken, Milwaukee, Wis., has opened salesrooms in the building of the Gas Power Engineering Company, Second street and North avenue. The company is the agent for the Moline-Knight cars.

The Johnson Automobile Company, St. Louis, Mo., will shortly occupy the premises recently vacated by the Ford Motor Company at 3667 Olive street as salesrooms for the Ford and Empire cars. The Ford Company abandoned these quarters to occupy the new assembly plant at Forest Park boulevard and Sarah street.

The Moerschell Electric & Supply Company, St. Louis, Mo., has moved to more commodious quarters at 2827 Locust street, where a modern battery charging plant has been installed and a complete supply of electric appliances is on hand. The company makes a specialty of car wiring and equipping.

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The Grassner Motor Company, Toledo, O., distributor of Hupmobile cars, has moved to larger quarters in the heart of the automobile district at 1420 Madison avenue. Greatly increasing business necessitated this step.

The Holland-Wood Motor Car Company, Nashville, Tenn., has moved to its new remodelled four-story building at 108 Third avenue, North. The salesroom and repair department are on the main floor and the second and third floors are for new cars and dead storage. The old building will be retained for storage purposes also.

The Walter-Williams Hardware Company, The Dalles, Ore., has just completed one of best garages in that city. The main garage, used for storage and sales, is 100 feet square, in connection with which is a service department and finely equipped machine shop, these having a floor space of 36 by 92 feet, with fire doors between the garage and shop. The offices of the company are located off the main garage.

Leighton H. Smith, St. Paul, Minn., agent for the Jeffery cars, has leased the entire premises at 197 West Fifth street. He previously had desk room for several months in the building, but now has ample room for display and a service station.

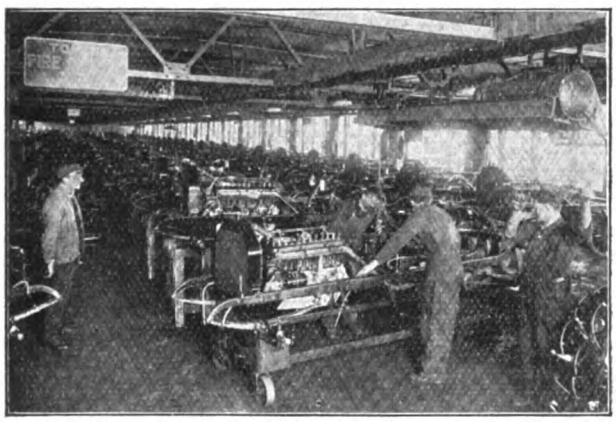
The Ozark Motor Car Company, Springfield, Mo., is to occupy the building at 208 South Jefferson street. It is to be remodelled and will cost $10,000. This building has been occupied by the Atkinson Motor Car Company.

The Nettleton-Crittenden Company, Boston, Mass., is now located at 1110 Boylston street. The concern is agent for Chandler and Paige cars.

The Wheelock-Jeffery Company, Boston, Mass., New England distributor for the Oldsmobile cars, is located in its new headquarters at 916 Commonwealth avenue. The showrooms are spacious and elaborately finished.

A. M. Signor, Scranton, Penn., has moved his garage from 329 Adams avenue to 515 Mulberry street, where he is better equipped to serve his patrons.

The Cole Motor Sales Company, Pittsburg, Penn., has moved into the salesrooms at the corner of Craig street and Baum boulevard, formerly occupied by the Lozier company. C. C. Laughner is in charge.



The Chassis in the Paint Shop of Studebaker Corporation.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

13,069. Medium Priced American Automobiles—A European representative of a high grade American made automobile, who has recently made sales of a number of these cars, believes that he can carry an agency for the whole country of a small low priced, medium powered American automobile of the two-seated runabout and small tonneau types, if the same can be laid down and still give him a reasonable profit when sold at $1400 to $1500. He informs an American consular officer that he would be pleased to hear from manufacturers of such machines, with catalogues, prices, and details regarding the establishment of an agency. It is suggested that the cars should be shipped complete, with all equipment, with or without self-starter. Correspondence, in English, should be sent at once, with a view to launching properly a campaign for 1915 models.

13,091. Cyclecars—A large foreign firm informs an American consular officer that it desires to get in touch with American manufacturers of cyclecars. One of its South African customers is considering the introduction of American cyclecars, and this inquiry is with a view to possible arrangements for an agency for the sale of such cars.

13,101. Small Motor Cars—A report from an American consular officer in the Far East states that he has received a request for price lists and discount sheets from American manufacturers of small motor cars. Reference will be furnished to interested firms.

13,108. Rubber Manufacturing Equipment—A business man in India has requested an American consulate to put him in touch with American exporters of machines for manufacturing bicycle inner tubes and solid rubber tires for carriages. He wishes the machine for his own use.

13,112. Automobiles, Cyclecars and Agricultural Machinery—An American consular officer reports that a firm in his district desires to represent American manufacturers of automobiles (medium priced and cheap cars, also cyclecars), agricultural machinery (tractors, steam or motor plows), etc. It is also interested in drainage and reclamation undertakings. Correspondence in German.

13,181. Chassis and Electric Motor Car—Tenders are invited by the Wellington City Council, Wellington, New Zealand, for the supply and delivery of an electric chassis for a 2000-pound parcel delivery van and an electric motor car, required for the electric tramways department. Copies of the specifications, etc., may be obtained from the office of the tramways and electrical engineer, Harris street, Wellington, on payment for each of the contracts of $5.11, which will be refunded upon receipt of a bona fide tender. Bids must be submitted by July 9, and local representation is necessary.

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of June were as follows:

Pennsylvania dark	$1.80	Ragland	$ .65
Second sand	1.80	Illinois above 30°	1.15
Tiona	1.80	Illinois below 30°	1.40
Mercer black	1.35	Kan. & Okla.	.75
Cabell	1.40	Corsicana light	.75
New Castle	1.35	Corsicana heavy	.50
Corning	1.00	Electra	.75
Wooster	1.46	Henrietta	.75
North Lima	1.19	Caddo, La., 38°	1.05
South Lima	1.14	Caddo, La., heavy	.50
Indiana	1.14	Spindletop	1.06
Princeton	1.15	Canadian oil	1.59
Somerset 32°	1.05		

California.

21 to 23.9 grav.	45	29 to 30.9 grav.	60
24 to 26.9 grav.	50	31 to 32.9 grav.	70
27 to 28.9 grav.	55		

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76	33	32½	23½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.			
Crude, barrels, a gallon	..	a	15
Refined, barrels	13	a	13⅛
Tank wagon delivery	..	a	9
Fuel, 31°	8¾	a	..
Fuel, 34°	9¾	a	..
Naphtha.			
Auto in wood	..	a	18
Auto in garages, steel bbls	..	a	14
V. M. & P. deod., in steel	..	a	12
V. M. & P. deod., in wood	..	a	14
Gasoline			
86°	..	a	26
74-76°	..	a	25
67-70°	..	a	22
Stove	..	a	20

DIVIDENDS DECLARED.

Packard Motor Car Company, Detroit; quarterly, preferred, 1¾ per cent.; payable June 15.

Texas Company, New York City; quarterly, 2½ per cent.; payable June 30.

Gray & Davis, Boston; quarterly, preferred, 1¾ per cent.; payable July 1.

J. I. Case T. M. Company, Racine, Wis.; quarterly, preferred, 1¾ per cent.; payable July 1.

Reo Motor Car Company, Lansing, Mich.; quarterly, 2½, and extra, 12½ per cent.; payable July 1.

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AUTOMOBILE PATENTS GRANTED RECENTLY.

Extra Tire Lock, John U. Barr, New York City; No. 1,097,608. Filed March 15, 1912.

Driving Axle, Thomas J. Lindsay, Indianapolis, Ind., assignor to Lindsay Auto Parts Company; No. 1,097,653. Filed Aug. 7, 1911.

Dust Subduer for Motor Vehicles, Benno Samuel, Brunswick, Germany; No. 1,097,674. Filed Feb. 26, 1914.

Resilient Tire, Harry J. Sherrill, Salida, Col.; No. 1,097,682. Filed Aug. 19, 1912.

Rear Signal, Cyrus S. Vaugh, New Rochelle, N. Y.; No. 1,097,689. Filed May 23, 1913.

Carburetor, Robert Wellesley, Anthony Brewer and George Herbert Jones, London, England; No. 1,097,787. Filed Dec. 16, 1912.

Driving and Steering Mechanism, Magnodeix Leonard, Montreal, Que.; No. 1,097,807. Filed March 15, 1913

Puncture Proof Inner Lining for Tires, William A. Ray, Jackson, O.; No. 1,097,820. Filed May 27, 1912.

Resilient Tire Filler, Claude S. Staten, Dallas, Tex.: No. 1,097,824. Filed July 29, 1912.

Resilient Wheel, Clarence Odum Vantrease, Nashville, Tenn.; No. 1,097,829. Filed Aug. 13, 1913.

Valve Trueing Device, George G. Bouthinon, Hempstead, N. Y., assignor to G. B. Garage Company; No. 1,097,841. Filed Oct. 29, 1912.

Differential Transmission Mechanism, Frank Brown, Lexington, Va.; No. 1,097,843. Filed July 12, 1912.

Axle, Hiram P. Maxim, Hartford, Conn., assignor to Waverley Company, Indianapolis, Ind.; No. 1,097,866. Filed Feb. 27, 1908.

Mechanical Starter, Bernhard Volkmar, New York City, assignor to Volkmar Auto Starter Company; No. 1,097,898. Filed Jan. 12, 1911.

Motor, Allan D. Shaw, Sayanna, Ill.; No. 1,097,947. Filed Jan. 2, 1913.

Fuel Tank, Elbert M. Stever, Branchport, N. Y.; No. 1,097,950. Filed Dec. 3, 1913.

Motor, Jared V. Brown, Jr., Waxahachie, Tex.; No. 1,098,012. Filed Aug. 8, 1913.

Demountable Rim, Roscoe C. Knowles, Empire, Ala.; No. 1,098,040. Filed Aug. 7, 1913.

Air Starter, Don D. Miles, Jr., San Francisco, Cal., assignor to Benjamin Goodwin; No. 1,098,046. Filed Jan. 20, 1912.

Spark Plug, Richard Brown, Belvidere, Ill., assignor of one-half to Willis S. Brown; No. 1,098,093. Filed Nov. 4, 1911.

Universal Joint, Eugene P. Edwards, Plainfield, N. J., assignor of one-half to A. S. Giles; No. 1,098,101. Filed Oct. 29, 1912.

Spare Tire Holder, Alfred Freschl, Detroit, Mich.; No. 1,098,103. Filed Oct. 15, 1913.

Piston Ring, Harry Magee, Detroit, Mich.; No. 1,098,121. Filed Dec. 11, 1913.

Tire Inflating Apparatus, Frederick A. Ruff, Newark, N. J.; No. 1,098,173. Filed Aug. 26, 1912.

Tire, Ira C. Terry, Monroe, La.; No. 1,098,191. Filed July 10, 1913.

Spark Plug with Priming Device, Ira V Beam, Elmira, N. Y., assignor of one-half to Nicholas D. Doxey; No. 1,098,214. Filed Dec. 12, 1912.

Magneto, William Casey and Isaac Lessen, Kingston, Ont.; No. 1,098,226. Filed Feb. 15, 1913.

Shock Absorber, Jeremiah C. Lautenbacher and Albert Geary, Schuykill Haven, Penn.; No. 1,098,271. Filed Dec. 3, 1913.

Tilting Steering Wheel, Franklin C. Prindle, Washington, D. C.; No. 1,098,301. Filed May 19, 1913.

Incandescent Electric Headlight, Charles W. Dake, Chicago, Ill., assignor to Pyle-National Electric Headlight Company; No. 1,098,317. Filed June 17, 1912.

Starting Gearing, Percy C. Day, Milwaukee, Wis.; No. 1,098,344. Filed Oct. 22, 1912.

Speed Indicator for Passing Vehicles, Roy M. Dean, Chicago, Ill.; No. 1,098,358. Filed Nov. 18, 1909.

Spring Tire, Harry S. Gover, Bel Air, Md.; No. 1,098,375. Filed Dec. 13, 1914.

Buffer for Door, Joseph F. O'Brien, New York City; No. 1,098,393. Filed May 29, 1912.

Air Starting Means, Alfred Arnold Remington and Arthur John Rowledge, Birmingham, England, assignor to Wolseley Tool & Motor Car Company, Ltd.; No. 1,098,406. Filed March 18, 1913.

Valve Mechanism for Motors, Augustus F. Schmidt, Pittsburg, Penn.; No. 1,098,411. Filed Oct. 10, 1912.

Differential Mechanism, Harry E. Bayly, Indianapolis, Ind.; No. 1,098,422. Filed May 12, 1913.

Magneto-Electric Generator, Richard H. Cunningham, New York City, assignor to Splitdorf Electrical Company, Newark, N. J.; No. 1,098,431. Filed Oct. 8, 1912.

Locking Device for Steering Wheel, Joseph E. Gibbons, Washington, D. C.; No. 1,098,435. Filed Nov. 24, 1913.

Nut Lock, Thurston Matheny The Plains, O.; No. 1,098,454. Filed May 12, 1913; renewed April 17, 1914.

Motor, George McDowell, New York City; No. 1,098,455. Filed Aug. 17, 1912.

Anti-Skidding Device for Wheels, Martin Mossberg, Minneapolis, Minn.; No. 1,098,457. Filed Oct. 27, 1913.

Safety Engine Starter, William R. Clark, Muncie, Ind., assignor to Clark Crank Company, Indianapolis, Ind.; No. 1,098,480. Filed May 13, 1912.

Tire Tool, John W. Dyar, Detroit, Mich.; No. 1,098,488. Filed Aug. 6, 1913.

Motor, Herman W. F. Niekranz, Toledo, O.; No. 1,098,522. Filed Aug. 11, 1913.

Motor Sled, John Francis Oakes, Copos, Minn.; No. 1,098,528. Filed June 10, 1913.

Motor, Joseph A. Williams, Cleveland, O., assignor to K-W Ignition Company; No. 1,098,539. Filed Dec. 19, 1910.

Cranking Device, Selby L. Williams, Richmond, Ind., assignor of one-half to Abiathar L. Way; No. 1,098,541. Filed Sept. 22, 1913.

Rotary Valve, Henry Hopkes, Detroit, Mich.; assignor of one-half to Robert Hartenstein and one-half to Arthur F. Saenger; No. 1,098,574. Filed March 2, 1912.

Truck Brake, Russell Huff, Detroit, Mich.; assignor, by mesne assignments, to Packard Motor Car Company; No. 1,098,576. Filed May 7, 1908.

Resilient Wheel, Samuel Johnston, Sacramento, Cal.; assignor of three-eighths to Joseph D. Cornell and two-eighths to Sim Canman; No. 1,098,577. Filed July 17, 1913.

Tire Armor, Alvah L. Powell, Stockton, Cal.; assignor of one-fiftieth to Henry E. Wolfe; No. 1,098,588. Filed May 17, 1913.

Vehicle Spring, Marquis J. Todd, Buffalo, N. Y.; assignor to Buffalo Pitts Company; No. 1,098,598. Filed April 25, 1913.

Intake Manifold, Morton E. Hidden, East Orange, N. J.; assignor to Willis H. Simpson; No. 1,098,626. Filed June 13, 1913.

Spark Plug, Elmer C. Rauch, Coeur d'Alene, Idaho; No. 1,098,637. Filed Sept. 11, 1912.

Vehicle Jack, Brayton C. Richards, Chicago, Ill.; assignor to Henry S. Wilkel; No. 1,098,639. Filed Oct. 19, 1912.

Lathe Attachment for Crankshafts, Clinton E. Wilder, Erie, Penn.; No. 1,098,654. Filed Feb. 13, 1913.

Tire Pump, Charles P. McDowell and Richard H. Easter, Porter, Wash.; No. 1,098,674. Filed Sept. 19, 1912.

Pneumatic Tire Wheel, Julius Miskey, Dayton, O.; No. 1,098,677. Filed Oct. 4, 1913.

Motor, Paul H. Mueller and Ludwig H. Schuller, Brooklyn, N. Y.; assignors by direct and mesne assignments to L-M-S Motor Company; No. 1,098,679. Filed July 8, 1912.

Spark Plug, Adolph G. Bergstrom and Arthur Bergstrom, Rockford, Ill.; No. 1,098,705. Filed Dec. 30, 1912.

Resilient Wheel, William R. L. Ray, Fort Jones, Cal.; assignor of one-half to Maurice M. Zelle; No. 1,098,759. Filed May 31, 1912.

Motor Starter, Hans R. Setz, St. Louis, Mo.; assignor to Fulton Iron Works; No. 1,098,767. Filed March 24, 1913.

Resilient Wheel, Sanders Craig, Eagle Station, Ky.; No. 1,098,782. Filed Dec. 6, 1913.

Lubricating System, Paul Daimler, Cannstatt, Germany; assignor to the firm of Daimler-Motoren-Gesellschaft; No. 1,098,784. Filed Nov. 17, 1913.

Nut Lock, Jacob Farrell, Barronvale, Penn.; No. 1,098,790. Filed Aug. 13, 1913.

Motor, Charles Francis Jenkins, Washington, D. C.; No. 1,098,805. Filed July 3, 1911.

Axle Construction, John A. Marsh and Roy Ulrich, Jacksonville, Ore.; No. 1,098,816. Filed March 20, 1913.

Motor, Edward Moore, Syracuse, N. Y. ; No. 1,098,824. Filed Sept. 8, 1908.

Shock Absorber, Francis X. Mudd, Chicago, Ill.; No. 1,098,826. Filed Oct. 23, 1913.

Carburetor, Clyde S. Munroe, River Forest, Ill.; No. 1,098,827. Filed Sept. 6, 1913.

Steering Knuckle, John Einar Nelson, Hettinger, N. D.; No. 1,098,830. Filed May 10, 1913.

Bumper, Charles Welland, New York City; No. 1,098,860. Filed Feb. 14, 1914.

Starting Crank, Preston H. Breed, Pittsfield, Mass.; assignor, by mesne assignments, to Alden Sampson Manufacturing Company; No. 1,098,878. Filed March 2, 1910.

Intake Manifold, Howard S. Mountford, Algona, Ia.; No. 1,098,915. Filed Dec. 28, 1912.

Valve, Joseph Obermire and Daniel Krous, Catalpa, Neb.; No. 1,098,963. Filed Nov. 29, 1913.

Gasoline Gauge Structure, Frederick L. Pfahl, Akron, O.; No. 1,098,968. Filed May 26, 1913.

Nut Lock, John B. Young, Los Angeles, Cal.; No. 1,099,005. Filed March 7, 1913.

Ambulance Automobile, Frank E. Campbell, New York City; No. 1,099,020. Filed April 3, 1913.

License Holder, Louis Gottschall, New York City; No. 1,099,035. Filed April 17, 1913.

Motor, Charles M. Leech, Lima, O.; No. 1,099,065. Filed Oct. 8, 1912.

Shock Absorber, James Moir, Burlington, Ia.; No. 1,099,073. Filed July 20, 1913.

Carburetor, Thomas S. Hamilton, Tampa, Fla.; assignor to the Purified Petroleum Products Company. No. 1,099,086. Filed April 6, 1912.

Electric Lamp, Ellsworth A. Hawthorne, Bridgeport, Conn.; No. 1,099,087. Filed Aug. 2, 1913.

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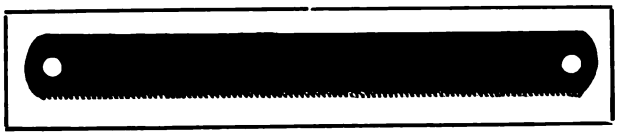
MACHINERY, TOOLS, AND EQUIPMENT.

ONE of the most important and useful small tools in the garage, repair shop and service station is the hacksaw blade. It is employed to cut metals of all kinds, tubing, pipe, steel, iron, brass, etc., and to obtain satisfactory results it



Sterling Hacksaw Blade.

is necessary that a blade be used that will obtain the best general service on all such metals.

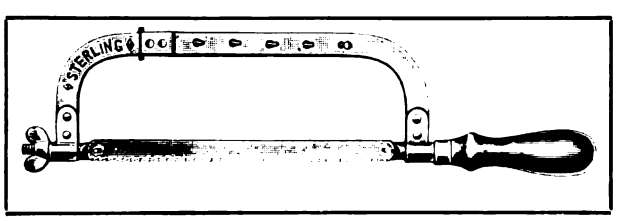
It is the opinion of practical hacksaw makers that a medium pitch blade about 24 teeth to the inch, in a 12-inch blade about .625-inch wide, and in an eight-inch blade, .5-inch wide, should give the best general results without the operator continually being obliged to shift the blade in the frame for different classes of work.

The Diamond Saw & Stamping Works, 361 Seventh street, Buffalo, N. Y., specializes in hacksaw blades and frames, and the Sterling trade mark is well and favorably known to the trade. An accompanying illustration shows its adjustable frame, which takes eight, nine, 10, 11 and 12-inch blades. The frames are light, strong in the centre, and can be quickly and easily adjusted to take the blades named. The blade is adjustable to four different angles. The frames come nickelled or polished.

The company also manufactures solid frames for eight, nine, 10, 12 and 14-inch blades. These are constructed of high grade material and are nicely finished. In addition to producing blades for hand frames and of different thickness, length, width, teeth, etc., the company makes a large variety of blades for power machines. Descriptive matter and prices will be mailed free upon request.

ECONOMY WELDING OUTFIT.

The Economy Welding Machine Company, Kansas City, Mo., specializing in welding equipments, is marketing what is known as the Economy Junior outfit. It was designed to meet the demand for the moderately priced high grade



Sterling Adjustable Hand Hacksaw Frame.

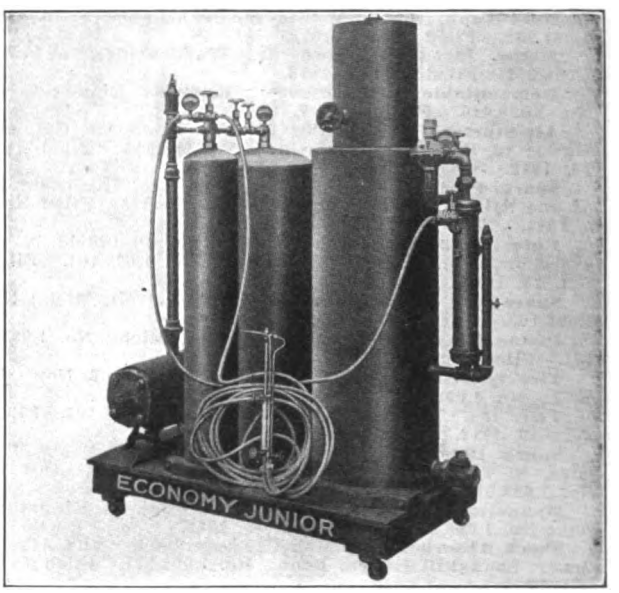
equipment, and one of its qualities is the provision made for generating the acetylene gas, a feature that will appeal to those not conveniently located to a source of supply.

As will be noted by the accompanying illustration the outfit is mounted upon a substantial wooden platform, which is 30 by 53 inches and fitted with roller bearing caster wheels. This permits of moving the apparatus in proximity to the work.

The oxygen generator is a steel storage tank, 16 by 48 inches, and the steel wash bottle is eight by 48 inches. All are constructed for 200 pounds working pressure and are tested to 300. The generator is provided with an Economy oxygen relief valve, regulating valve, high and low pressure gauges, stop pressure valves, hose connections, drain cocks, etc. The steel retort is five by 21 inches, fitted with gas or gasoline burners.

The acetylene pressure generator is 18 by 48 inches, oxy-acetylene welded, and tested to 20 pounds working pressure. The carbide hopper has a capacity of 25 pounds, and the carbide is fed by a hand feed of special design.

The balance of the equipment includes the



Economy Junior Welding Equipment.

Economy diaphragm relief valve, with gas tight bonnet connecting with relief pipe; regulating valve, flash back preventer, drying and filtering chamber, pressure gauge, hose connections, two-inch drain valve, etc. The torch is the No. 1 style, and has seven welding tips, numbers 1 to 7, and a removable cutting attachment with three tips. The company is issuing a pamphlet on welding which will be mailed free upon addressing the home office.

CINCINNATI BALL JOINTS.

The Cincinnati Ball Crank Company, Oakley, Cincinnati, O., is marketing a ball joint for spark and throttle controls. One of the qualities of the design is the use of an internal spring construction which takes up wear, eliminates noise and prevents backlash or lost motion. It comes completely assembled, 100 to the box.

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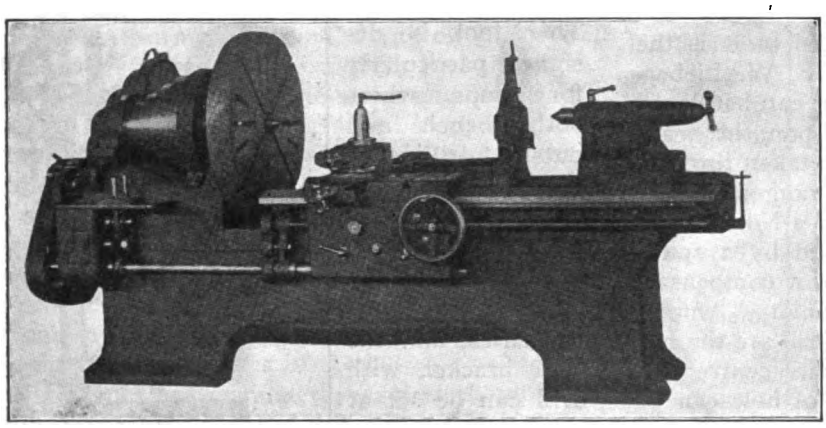
The material used is first class in every respect. Prices will be supplied upon request.

NEW BARNES LATHE.

A new 22 to 36-inch sliding extension gap lathe, having a bed 102 inches long, and adapted to a general class of work in a shop where the demands are of large range, has been brought out by the Barnes Drill Company, Rockford, Ill.

The lathe will take work between centres, with the gap closed, 50 inches in length, while the gap has a maximum opening of 36 inches. The top bed, which is 24.875 inches wide, extends beyond the main bed to provide a firm support for the carriage when turning large diameter work in the gap. This is held to eliminate the necessity of an auxiliary brace.

The lathe has a cone pulley drive, with a four-step pulley. There are 12 spindle speeds, ranging from 2.3 to 400 revolutions a minute, with a countershaft speed of 200 revolutions a minute. There are six geared feeds ranging from .008 to .123 inches a revolution of the spindle. Any number of threads ranging from two to 20 can be cut. Two sets of back gears, having ratios of 8:1 and 44:1, respectively, are provided. The net weight of the machine is approximately 5300 pounds.



Barnes New 22 to 36-Inch Sliding Extension Gap Lathe.

CHAIN-LUB.

Motor Accessories, Inc., 749A Boylston street, Boston, is marketing Chain-Lub, which is specially prepared for lubricating motor vehicle chains. It is stated to be a viscous, tenacious, mobile fluid that is easily and quickly applied; one that will penetrate between the rollers, etc. It is stated that it is not affected by centrifugal force or water. Samples will be forwarded upon request to the trade.

SLOCOMB MICROMETER.

The J. T. Slocomb Company, 29 Oxford street, Providence, R. I., is manufacturing the Slocomb micrometer, which is constructed to withstand severe service without affecting its accuracy. It is made in all styles and sizes and comes with inch or metric measurements.

THE CALCULAGRAPH.

The advantages of keeping an accurate record of the time spent on each job is appreciated both by the car owner and the proprietor of a garage or repair shop. Instances of a motorist questioning the time charged to him in a repair job are not uncommon, especially if the shop is not equipped with some form of time keeping instrument or practical system.

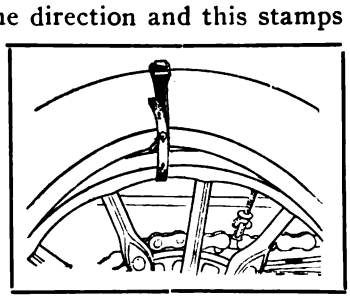
Calculagraph, a Time Record Clock.

A device that is stated to maintain an accurate record of the time spent by the workman on a job, and which prints the elapsed time or actual working time in hours and minutes or fractions of an hour, is the Calculagraph, made by the Calculagraph Company, 13 Maiden lane, New York City.

The clock is shown in an accompanying illustration and stamps on on a card the time the work is started, completed and the elapsed time. All the workman has to do is to insert a card in the clock and pull the stamping lever. When the job is completed he places the card in the clock again and the time consumed is automatically recorded.

The advantages claimed for the system are: Saves time wasted when workman makes out time slip, simplifies bookkeeping, as actual time is recorded, and insures accuracy.

The calculagraph has three dials. That at the right shows the time the work is commenced and the other two the time employed, the left indicating the hours and the centre the tenths. When the card is inserted in the machine the handle is pulled in one direction and this stamps the starting time, also the figures of the other two dials. When the job is completed the handle is moved the other way and this stamps two arrows, indicating hours and tenths on the card. Each arrow and its dial rotate together. A date printing attachment is supplied if desired.



Morgan Tire Tool.

The Morgan Manufacturing Company, Newport, R. I., is marketing the Second Man tire tool, shown herewith, which makes easy tire removals and replacements.

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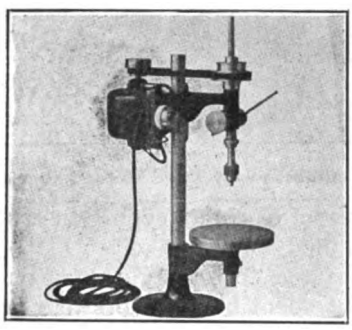
ELECTRICAL TOOLS AND EQUIPMENT.

Various Types of Portable Drills, Grinders, Etc., Capable of Completing a Wide Variety of Work at a Minimum of Expense.

THE practise of electrifying the repair shop and garage is becoming more general, and this is more specially noticeable in the tool equipment. The convenience of electrically operated machines appeals to the mechanic, and their use in many instances is a benefit to the customer, as considerable time is saved over the manually operated equipment. Where the drill, grinder, etc., are to be used occasionally, it is obvious that electric power results in economy in operation.

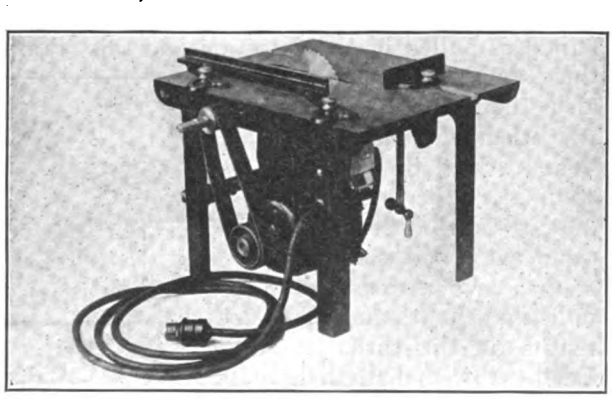


Portable Electric Drill Press.

PORTABLE DRILL PRESS.

Among the electrically operated tools is the portable drill press marketed by F. W. Lieberknecht & Co., Brookline, Mass. It can be placed on the floor, bench or directly upon the work to be drilled, and current supply is taken through the usual cord and lamp socket arrangement. It is held to be absolutely sensitive to a No. 70 drill, and its sensitivity can be adjusted by a spiral spring. Means are also provided for compensating for wear of the rack and pinion. Among other advantages claimed for the drill are the following: Platen will turn about its centre and about the upright column; depth of hole can be adjusted by a micrometer screw, which is not shown in the illustration; and drill press can be set directly on work for drilling vertical holes.

The specifications are as follows: Maximum diameter of drill, .375 inch; diameter of platen, 6.5 inches; maximum distance from chuck to platen, eight inches; face of driving pulleys, .75 inch; weight, 45 pounds; motor, .125 horsepower, alternating or direct current.

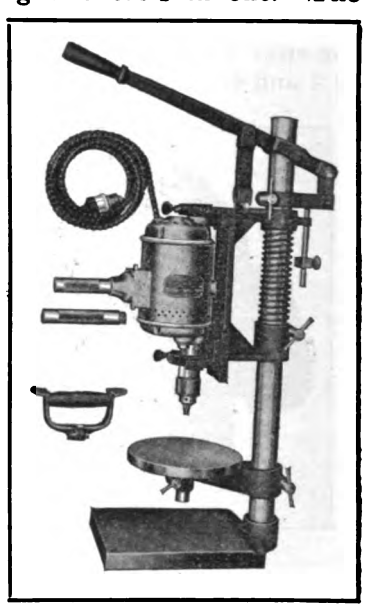


Lieberknecht Portable Electric Saw Table.

The same company is marketing a portable type of electric saw table shown in an accompanying illustration. It is held to be very efficient and economical of current, and to be well constructed. Prices and details of both the drill press and saw table will be supplied on request.

CINCINNATI BENCH DRILL.

The Cincinnati Electric Tool Company, Cincinnati, O., is manufacturing a line of electric drills, and herewith is shown the No. 0 combination sensitive bench drilling stand with a portable type of hand drill. The latter can be utilized independently of the stand, or as a sensitive bench drill, providing two tools in one. The hand drill is locked or released in a bracket, by means of thumb nuts. This tool is designed particularly for shops where both bench and outside drilling is to be done.



Cincinnati Bench Drill.

The stand is made to hold portable hand drills of .25, .375 and .5 inch capacities, and the drill bracket with drill can be set at any point on the column, and raised or lowered as desired. The weight of the drill and the bracket is counterbalanced by means of a spring on the column, and the drill is maintained in vertical alignment by means of a key on the bracket and keyway in the column. The depth of the hole to be drilled is regulated by a stop at the rear of the column. The lever feed is provided with a quick return.

The height of the column is 30 inches and the distance from base to drill chuck is 14 inches when the bracket is set at its highest point. The distance from column to centre of table is five inches and the diameter of the latter is eight inches. The base dimensions are nine by 11 inches. The weight of the stand is 60 pounds. Larger stands are made with lever or hand feed wheel, to carry portable drills of .75, .875 and 1.25 inches capacity. The capacity of the drills is from .25 to .5-inch steel, according to the type. Complete details and prices will be supplied upon request.

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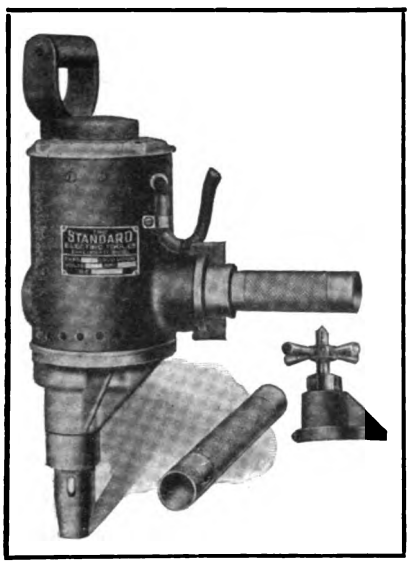
STANDARD PORTABLE DRILL.

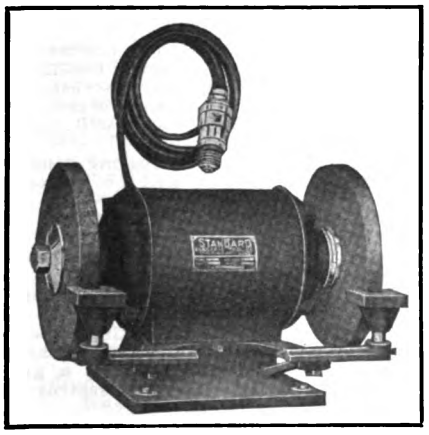
The Standard Electric Tool Company, Cincinnati, O., is marketing a line of high power universal portable electric drills, one of which is shown herewith. They are not only constructed of the best of material, but are designed to be run off any lamp socket or power circuit, both alternating and direct current of the same voltage. They will also operate satisfactorily on low frequency circuits, 60 cycles or less.



Standard Portable Electric Drill.

The Standard drills are built on the unit plan, consisting of five units, and can be easily disassembled. All armature spindles run on enclosed ball bearings and thrust is cared for by ball bearings. The motors are of the series commutating type, gears of high grade hardened steel, and the make and break type of switch is located in the handle. Special attention has been paid to cooling and they are guaranteed not to heat under severe and continuous service. Extremely high power is emphasized in the design. In tests of the drill it has been demonstrated that it requires but one minute and 26 seconds to drill a .5-inch hole through two inches of steel.

Nine types are manufactured, these having a drilling capacity ranging from .25 to 1.25 inches of steel. The reaming capacity varies up to .6875 inch. Spade handles are supplied with four types and feed screw or spade with five. The last named come equipped with No. 2 and No. 3 Morse taper socket, and breast plates are furnished when specified.



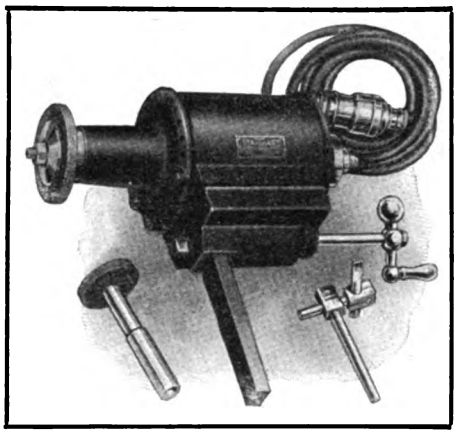
Standard Bench Grinder.

Each drill has variable speed, which regulates automatically up to its maximum capacity, and there is no racing. Standard tools will operate on all, no change in winding being necessary, only the voltage must be the same in each instance. They will also operate off any one-phase or two or three-phase circuits of the same voltage, thus enabling alternating current power circuit connection where this is desirable. Each drill is carefully tested before shipment. The company issues a booklet giving details and prices, which will be mailed free upon request.

STANDARD GRINDERS.

The Standard Electric Tool Company also manufactures a number of portable electric grinders, two types of which are shown herewith, a bench design and a universal grinder. These machines are very light and are constructed to meet the requirements of those who desire a high grade, efficient, durable tool.

The motors utilized are compound wound, and careful attention has been paid to the armature and commutator. The best of ball bearings is employed and enclosed in dust proof casings. The maker states that there is no chattering. The motors are cooled by forced ventilation, a fan being mounted on the armature shaft, expelling warm air, which is replaced by cool. The direction of the circulation being from the commutator end to the wheel end, emery dust cannot enter the tool. The brush holders are well enclosed, making it impossible for the operator to come in contact with them, thereby preventing opportunity for shocks. One of the qualities of the product of the company is that it is tested under actual service conditions and all motors subjected to a high voltage test before shipment.


Standard Universal Grinder.

The bench grinder shown is mounted on a pedestal when desired and the types made comprise 3B, 6B, 2Ba and 3Ba, and are useful for grinding small tools, castings, polishing and buffing. An emery wheel is fitted to either end, one coarse and one fine, or with one emery wheel and a buffing member. The tool rests are detachable. They operate on direct current of 110 or 220 volts and the usual lamp socket, etc., are included.

The universal grinders operate on both alternating and direct current, 60-cycle or less, and have a speed of 6000 revolutions a minute. They are especially adaptable for lathe and milling machine work, grinding centres, reamers, dies and rolls, and may be used also for surface work on the shaper and planer. They come with an internal grinding attachment and tooth rest as shown. The company issues a complete catalogue, which will be mailed free upon request.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

Edward P. Hanisch, 123 North Halsted street, Chicago, Ill.; one-story garage, 20x24.

Frank E. Christensen, 1224 West 55th street, Chicago, Ill.; one-story garage, 50x121.

M. C. Bersted, 1516 North Harding avenue, Chicago, Ill.; two-story garage, 40x44.

Neils Buck, 3806 North Clark street, Chicago, Ill.; one-story garage, 25x56.

Gustave Marquardt, 416 Liberty avenue, and Henry Kreckman, 205 Pennsylvania avenue, Brooklyn, N. Y.; one-story garage, 25x100, $4000.

Olean Brewing Company, Olean, N. Y.; one-story garage and barn, 25x100, $3000.

Petry Express & Storage Company, 320 East State street, Trenton, N. J.; two-story garage, 75x116, $12,000.

Aaron A. Benedict, Waterbury, Conn.; one-story garage, 21x24, $1000.

Harris & McAmbly, Bradford, Penn.; three-story garage, 47x100, $25,000.

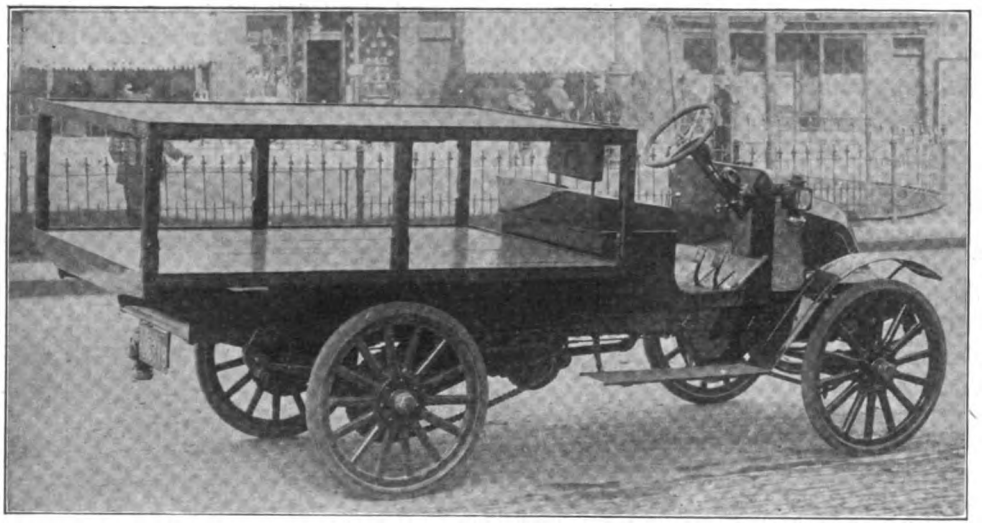
George R. Balch, Cincinnati, O.; three-story garage and salesroom, $3000.

Troy Laundry Company, 517 North Market street, Canton, O.; two-story garage, 70x50.

L. F. Howell, Scotts Bluff, Neb.; one-story garage, 50x140, $8000.

Anthon Auto Association, Anthon, Ia.; one-story garage, 75x150.

E. J. Healy, Detroit, Mich.; two-story garage, 22x40.



Double-Decked Platform Fitted to a Palmer-Moore Delivery Wagon for the Service of the Zenith City Bottling Works, Duluth, Minn.

Dr. Creswell, Danbury, Ia.; one-story garage and office, 30x40, $4500.

A. Bergenthal, 79 Buffalo street, Milwaukee, Wis.; garage, 23x43.

S. Plotkin, 90 Hendrie street, Detroit, Mich.; two-story garage and apartment building, 34x60 and 20x30, $10,000.

John S. Holmes, 69 West Washington street, Chicago, Ill.; one-story garage, $12,000.

Mack & Kounts, Nagle building, Hagerstown, Md.; two garages, each two stories, $4000 and $6000.

Wayne M. High, 416 Penn street, Reading, Penn.; two-story garage, 53x105, $12,000.

Louis Larquier, Monessen, Penn.; two-story garage, 46x65, $6000.

J. J. Schnurmacher, 179 East 111th street, New York City; four-story garage, 50x100, $25,000.

L. W. Morrison and A. M. Ulman, 53 Exchange place, New York City; two-story garage, 100x100, $25,000.

E. Hanckel, 35 Fort Washington avenue, New York City; four-story garage, 99x99, $55,000.

John Hamilton, 6216 Kimbark avenue, Chicago, Ill.; one-story garage, $3000.

W. Wojciechowski, 900 West Chicago avenue, Chicago, Ill.; one-story garage, $5000.

S. S. Corl, 28 Commerce avenue, Grand Rapids, Mich.; two-story garage, 50x135.

Dr. C. D. Owen, 106 Monroe avenue, Grand Rapids, Mich.; two-story garage, 23x26.

Northwestern Garage & Storage Company, Kansas City, Kan.; two-story garage, 94x123, $30,000.

Charles Wurdeman, Columbus, Neb.; two-story garage and office, 44x90, $10,000.

Paolone Bros., North street, Rochester, N. Y.; two-story garage and warehouse, 30x50, $6000.

CONTRACTS AWARDED.

Charles Gilpin, Philadelphia, Penn.; one-story garage, 15x15, $2000, at Cynwad, Penn., for the Philadelphia Electric Company, Philadelphia.

The Martin Construction Company, 82 West Washington street, Chicago, Ill.; one-story garage, $4000, for John R. Thompson.

The Turner Construction Company, 11 Broadway, New York City; two-story garage and shop, 70x150, $10,000, for the Spring Brook Water Company.

The Cowan Building Company, 106 West Madison street, Baltimore, Md.; two-story garage, 20x24, $3500, for Mary P. Baldwin.

F. E. Dandelin, 1815 South Turner avenue, Chicago, Ill.; one-story garage, 24x35, $7000, for Dr. J. N. Roe.

J. E. Warren, Marlboro, Mass.; 1.5-story garage, 19x30, for F. Lincoln Pierce, Newtonville, Mass.

Calhoun & Miller, Pittsburg, Penn.; two-story garage, 28x43, $7000, for W. S. Mackintosh, Ellsworth avenue.

GARAGES AND REPAIR SHOPS.

The Butte Water Company, Butte, Mont., will erect a new building to cost approximately $15,000 on West Mercury street. The first floor of the new structure will be used as a garage and repair shop.

H. J. Tinkman & Son, Grand Ledge, Mich., is building a new garage adjoining the present building, and the latter will be remodelled as soon as the new one is ready for occupancy. It will be modern throughout.

The Marshall Machine Company, North Adams, Mass., has purchased property on Main street and will establish a first class garage on the site.

Andrew M. Reidy and Timothy J. Lynch, Warrensburg, N. Y., have purchased property and will erect a large modern garage.

The Webster Avenue Garage, New York City, has erected a modern garage.

The Twentieth Street Garage Company, New York City, is erecting a garage between 10th and 11th avenues. The company was recently formed.

The Standard Garage, Grafton, W. Va., has purchased land on the West side and will erect a modern building. The company at present is located on Walnut street.

The Independent Oil Company, Brockton, Mass., is erecting a new and up-to-date garage which will have capacity for 12 automobiles.

Andre S. Hansom, Worcester, Mass., is erecting a new public garage at 143 Main street. It will be modern throughout.

The Dixie Motor Car Company, Nashville, Tenn., is erecting a new building on Ninth avenue.

Higley & Hart, Brooklyn, N. Y., is erecting a new and modern garage, costing $8000, at Park place.

Alexander Laird, Trenton, N. J., is building an up-to-date garage on East Clinton avenue.

Alfred D. Poirier, Providence, R. I., is erecting a new garage. He is agent for Crow Elk-Hart and Vulcan cars.

William Siebald, Skowhegan, Me., is building a garage on the site of the Coburn hotel, which was destroyed by fire recently. It will be of concrete.

Jeppe Christensen, Rodney, Ia., has begun the erection of an up-to-date brick garage.

Granger & Whittaker, Hammond, Ind., is erecting an up-to-date garage at 486 South Hohman street. It will be of fireproof construction.

Lincoln Kinnicutt, Worcester, Mass., is erecting a large garage at 72 Cedar street.

The Ford Sales Company and the Ford Service Station, Leadville, Col., are erecting an up-to-date garage and will operate it under the name of the Cloud City garage.

Grant Jones, Youngstown, O., is preparing to build a new and up-to-date garage and repair shop on Holmes street. The building will be provided with stalls in which machines may be placed and the doors locked.

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The McGregor Company, Waltham, Mass., is to erect a modern garage near Music Hall avenue.

H. V. Drown, Barton, Vt., is erecting a modern garage in the rear of his residence. Modern machinery will be installed and an up-to-date repair shop will be conducted.

J. D. Heard, Pittsburg, Penn., will erect a one-story brick garage on Center avenue, at a cost of $3500.

Geoffrey Winslow, Tacoma, Wash., has purchased two lots on South C street and will begin the erection of a three-story reinforced concrete garage.

Snavely Livery & Transfer Company, Green Bay, Wis., is building an up-to-date garage 22 by 100 feet. The company is agent for Jeffery cars.

R. I. Pollock and Rudolph Ahrens, Nora Springs, Ia., are erecting a large modern garage on the site of an old landmark, known as the old Furniture building.

N. S. Speer, Dallas, Tex., is to erect a modern garage on South boulevard. It will cost $30,000.

M. Boy, Philadelphia, Penn., is to erect a garage and factory at 20th street. It will be three stories in height and will be modern throughout.

Herbert Robinson, Hurley, N. M., is erecting a large modern garage, to be operated in connection with his livery business.

Bryan Motor Service Company, Bryan, O., is erecting a modern brick and reinforced concrete garage and salesroom. It will be 44 by 132 feet.

The Esplanada Garage & Supply Company, Chicago, is erecting a modern garage at Clark and Maple streets. It is to be two stories high, 65 by 160 feet and will cost about $25,000.

Ralph R. Moore, Wheeling, W. Va., will build an up-to-date garage at 300 South Penn street. He has secured the agency for Grant cars. Upon the completion of the building a line of accessories and supplies will be handled as well as parts for the Grant cars.

William Mohler, Ebensburg, Penn., is erecting a garage which will be modern throughout. New machinery will also be installed.

Atkinson Bros., Tuckerton, N. J., is to erect a new concrete garage, which will be one of the best when completed.

The Armfield Percival Motor Company, Fayetteville, N. C., is erecting an up-to-date garage and repair shop.

Ernst & Bush, Spokane, Wash., is completing its new garage and repair shop on Oak street and will occupy it in the near future, where the company will be prepared to handle cars and make repairs in a thorough manner.

Charles E. Renford, Indian Orchard, Mass., is erecting a new fireproof garage at 46 Main street. It will have the most up-to-date equipment.

Daniel F. Mehan, Wilkes-Barre, Penn., is erecting a first class garage on Terrace street. It will be two stories high and of brick construction. It will be modern throughout and fireproof.

Rodney Sharp, Wilmington, Del., is erecting an up-to-date garage on Greenhill avenue at a cost of $12,000. Modern machinery will be installed.

The Herring Motor Car Company, Des Moines, Ia., will erect a first class garage at a cost of $7700. It will be modern throughout and of fireproof construction.

C. C. Moore, New York City, is erecting a two-story garage at 203 West 64th street, costing $23,000. When completed it will be one of the best in that city.

Thomas W. Wright, Boston, Mass., is erecting a new fireproof garage on High street.

Katherine T. Moore, New York City, is building an up-to-date four-story garage at 516 West 20th street at a cost of $120,000.

H. N. McLernon, New York City, is erecting a new one-story garage at Fordham road. It will cost $5000 and will be modernly equipped.

Seinik & Thal, New York City, has leased two large floors in the building at the corner of Eighth avenue and 49th street, and also two adjoining buildings. The combined properties will be altered into one of the largest garages in that city.

H. A. Weber, Irvington, N. J., has secured a site on Ellis avenue and will erect a first class garage which will be modern throughout. The latest machinery will be used.

Bell & Conley, Pittsburg, Penn., is erecting a fireproof public garage at the corner of Fifth and Hamilton avenues. It will be modern throughout.

The White Star Motor Company, San Diego, Cal., is erecting a modern garage at 1063 India street. It will be fireproof throughout.

William H. Schieffern, Santa Rosa, Cal., agent for the Ford line of cars, is having a garage erected which will be modern in every respect.

ADDITIONS AND IMPROVEMENTS.

The Schutte Garage, Fredericksburg, Ia., is having extensive improvements made to its building. New machinery will be installed.

The Lewiston Auto Company, Lewiston, Mont., is having extensive improvements made to its garage. Frank E. Doran is manager.

Cushing Bros., South Duxbury, Mass., is building an addition to its garage at Hall's corner. New machinery will be installed.

The Aaby Garage, New England, N. D., is erecting a large addition to its building. A gasoline tank has also been installed.

G. C. Downs, Springvale, Mo., is having a large addition made to his garage which, when completed, will more than double the present floor space.

Stout & Dils, Parkersburg, W. Va., is erecting a large addition to its garage.

Kahn & Greenberg, Philadelphia, is having extensive improvements made to its garage and showrooms at 2415 North Broad street, costing $8000.

The Souhegan Auto Company, Milford, N. H., will make large and extensive improvements to its buildings.

Willys Utility Delivery Wagon Used by Emil Roesler, Baker and Confectioner, of Heidelburg, Germany, to Serve Royalty and Other Patrons.

The Parker Avenue Garage, Detroit, is having large and extensive improvements made to its building at 253 Parker avenue.

Benjamin Siebel, Detroit, is having a one-story addition put on his garage at Woodward and Brady streets. The new improvement will be 100 by 120 feet.

Hannah & Henry, Plattsburg, N. Y., is building an addition to its garage on Margaret street, which will be the same size of the present building, 50 by 170 feet. The company is representative for the Cadillac car.

Forest S. Lowell, Hinsdale, N. H., has purchased an old carriage factory and will remodel it into a first class garage.

The Powers Hotel Garage, Rochester, N. Y., is adding two stories to its building at a cost of $12,000.

The East Court Street Garage, Urbana, O., is installing a new vulcanizing plant in its building. Frank Prince is the proprietor.

Herbert Kimmens, Appleton, Me., has leased one of the carriage shops of the G. H. Page concern and is remodelling it into a garage. He will also repair motor vehicles and stationary marine engines of all kinds.

Joseph Trethway, Bagertown, Penn., who has been conducting a vulcanizing plant and repair shop in the rear of his home on South Reading avenue, has purchased a plot of ground on which he will erect a two-story brick building. The first floor will be used for a garage and the second for vulcanizing and repairs.

The Grinnell Electric Car Company, Detroit, has taken a lease of the building on 467 Woodward avenue and will remodel it into a modern garage.

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EISEMANN MAGNETO ATTACHMENT FOR FORD.

IN KEEPING with its policy not to market a new product until it has been thoroughly tested in practise, the Eisemann Magneto Company, Brooklyn, N. Y., has withheld details of its magneto attachment for the model T Ford motor until recently. In designing the equipment the company gave careful consideration to the method of drive and lubrication, important factors with this high speed motor. Quietness of operation and accessibility, as well as ease of installation, are features.

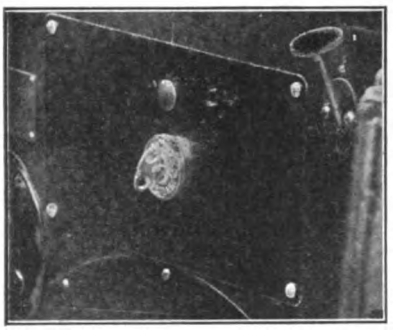

Fig. 1—Switch Used with Eisemann Ignition System for Ford.

The simplicity of the equipment will be noted by reference to Fig. 2, and each detail has been worked out very carefully. For example, the trouble generally experienced in removing a gear from a conical shaft without the aid of a special tool, is eliminated in the Eisemann design by a simple device in which the removal of the nut retaining the gear in place automatically pulls off the gear. Another feature, one that will appeal particularly to those not familiar with timing a magneto, is the use of marked gears and an indicating window on the instrument.

Gears Well Mounted.

The attachment is an aluminum casting, it serving a double purpose, in that it provides a bracket for mounting the magneto, also a housing for the driving gears. The structure provides a rigid, well ribbed mounting, and as all bolt and screw holes are accurately machined, it is simply a case of utilizing the parts supplied.

The gear housing, which is integral with the bracket, has two removal covers, these permitting of the fitting of the large camshaft gear and armature gear. The entire construction is proof against leakage of lubricant, special gaskets being utilized.

For driving the magneto, two bronze gears are employed. The larger one is securely fastened to the camshaft by means of a spacing ring, dowel pin, lock washer and a nut. The dowel pin is extra heavy and, passing through the gear directly into the shaft, assures a positive and reliable drive. The magneto pinion is retained by a Woodruff key, lock washer and nut, and the magneto is secured to the bracket by dowel pins and straps. Control of the movement of the breaker box of the magneto, providing variable ignition, is by means of a shaft passing through a solid bearing in the support, and a lever and link. This linkage is connected to the Ford ball joint at the base of the steering column by a second lever and rod. The movement provided is sufficient to permit the timing lever of the magneto to be advanced to its maximum without the spark lever travelling over the entire length of the quadrant.

Reference has been made to the easy timing feature. The Ford crankshaft and camshaft gears are marked and, with these marks registering, the camshaft gear is removed and replaced by the marked new gear. With the magneto on its base, its armature is turned until the figure 1 appears in the indicating window. The magneto pinion is then slid on and so meshed with the camshaft gear that the marks coincide. As the new camshaft gear is retained by a dowel, it is a simple matter to install it correctly.

Careful attention has been paid to supporting the high-tension wires leading from the distributor of the magneto to the spark plugs, a solid bracket being utilized. It is secured to the two middle bolts of the stirrup holding the intake and exhaust manifolds.

Spark Coil Eliminated.

As the Eisemann system eliminates the coil, the space on the dash is neatly covered by an enamelled steel plate, as indicated at Fig. 1. This plate carries the Eisemann switch, a simple and efficient construction, one permitting of securely locking the car, as its key is removable.

The magneto supplied is the well known EM type, a true high-tension magneto, which provides a very hot spark at very low motor speeds, and it is stated that the Ford motor car be started easily on a quarter turn. For those owners desiring to start the motor on the spark, the Eisemann Magneto Company supplies the dual ignition system, type EB. This includes a flush type dash coil, having a starting button, which, when pressed, produces a shower of sparks in the cylinder on compression.

The dual system lists for $5 extra.

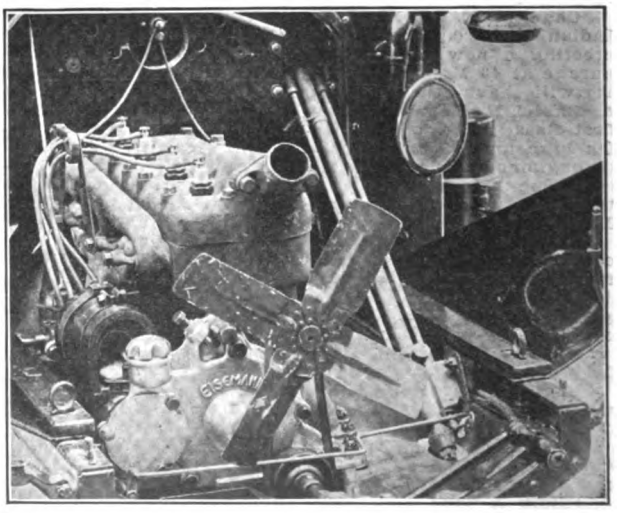

Fig. 2—Showing the Eisemann Magneto Attachment for Ford Motors Installed—A Quiet Gear Drive, Well Lubricated, Is Among Its Practical Features.

The Eisemann Magneto Company is issuing a booklet, which describes and illustrates in detail the magneto attachment for Ford motors.

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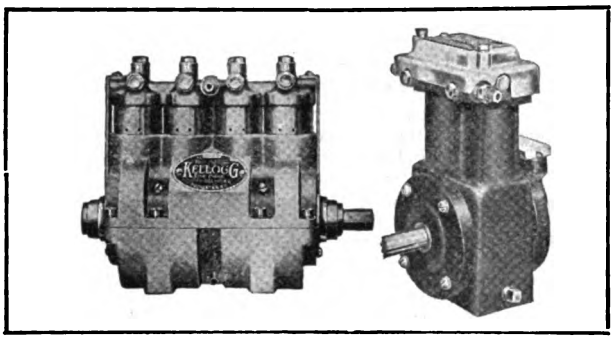
TOOLS, MACHINERY AND SUPPLIES.

THE introduction of the power driven tire pump was largely due to the demand of the owner for relief from the laborious work of inflating by the manually operated pump. As a result many 1914 machines were equipped with the more convenient method, one



Kellogg Motor Driven Tire Pumps for Motor Cars Come Complete with Attachments for Fitting: At Left, Four-Cylinder Unit; at Right, Two-Cylinder Design.

which makes for greater tire economy, as maintaining the proper pressure in the casings involves no other labor than attaching the hose and the valve.

The engine driven pump is in demand by owners of cars made previous to 1914 and many of the late models are not equipped with the new accessory. Many owners have hesitated to install the power tire pump because of special attachments, gears, etc., but this problem has been solved by the Kellogg Manufacturing Company, 128 Circle street, Rochester, N. Y., which concern has specialized for years in power pumps.

The company has been designing special attachments to go with the different designs it makes for over five years and is now prepared to supply them for a large number of standard models. One of the qualities of the equipment is that it may be installed easily and correctly by the garage man and dealer. Some idea of the number of attachments made by the Kellogg Manufacturing Company may be obtained by the list given in their advertisement which is contained elsewhere in this issue.

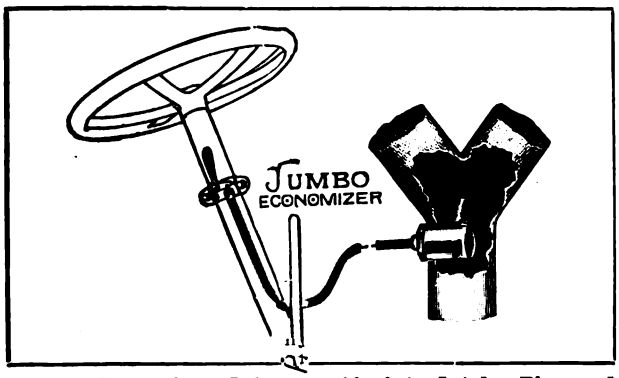
The company has inaugurated a practical selling campaign that should appeal to the garage, repairman and the dealer. It promotes sales and good profits and does not involve any outlay of time, as the Kellogg Manufacturing Company attends to all details. This proposition will be forwarded to the trade upon request, also the Kellogg News, which teems with practical and pertinent data on power driven pumps for the motor car, garage, service station and repair shop.

The product of the company is very well known. It manufactures one, two, four and six-cylinder models, and one of the four-cylinder type is shown in an accompanying illustration. It retails for $30. The two-cylinder model, which sells for $26 with attachments, is adaptable to a number of cars.

JUMBO ECONOMIZER.

Sold by E. Edelmann & Co., Under a Money-Back Guarantee.

E. Edelmann & Co., 227 West Illinois street, Chicago, is marketing the Jumbo economizer shown in the accompanying illustration, which varies the air supply injected into intake manifold and fully vaporizes the fuel.



Jumbo Economizer, Injecting Air into Intake Pipe and Having Steering Post Lever Control.

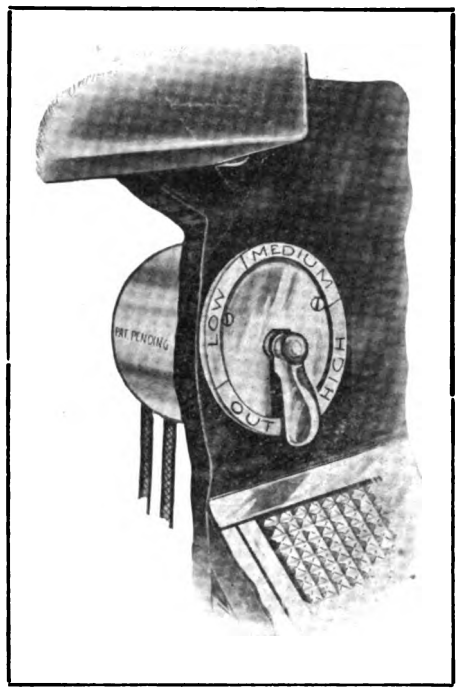
The Jumbo is controlled from the seat, a lever being provided for attachment to the steering column under the wheel. By this lever the amount of air supplied may be regulated to produce the best results. The maker states that the Jumbo may be easily attached in 10 minutes; is very durable and is a big seller. It is adaptable to all types of gasoline cars and retails for $2.50. It is accompanied by a money-back guarantee. Liberal discounts are offered to the trade, which is invited to write for prices, samples, etc.

CHANEY HEADLIGHT DIMMER.

Provides Graduated Control of Lights, Can Be Operated by Foot and Is Easily Installed.

One of the latest devices for dimming the electric headlights of a motor car is the Chaney, manufactured by the L. F. Chaney Company, Springfield, O. It not only enables the driver to eliminate the glare of the lights, but the control is so arranged that their intensity can be graduated, and that, too, by a slight kick of the foot.

The design makes possible the elimination of the electric side lamps and without altering the head members in any manner. The same headlights are utilized and the intensity of the rays is modified by the Chaney device, which is very compact, as will be noted by the accompanying illustration. The Chaney is fitted to the dash and it is stated that it can be installed and wired in less than 10 minutes. As will be noted by the illustration, there are three light positions, these being low, medium and high, which arrangement provides for all conditions of driving. There is also an "out" position. Operation is by kicking the sturdy switch lever.



Chaney Headlight Dimmer, Enabling Graduation of Intensity of Electric Lights and Eliminating Need of Side Members.

The maker has a very interesting trade proposition and has a number of agencies to award. The device retails for $3.50 and the margin of profit to the dealer is very attractive. The company stands back of its product and will forward details of its proposition upon request.

EXCLUSIVE AGENCIES OPEN.

Opportunity to Handle Houk Detachable Wire Wheels in Many Localities.

The George W. Houk Company, 1699 Elmwood avenue, Buffalo, N. Y., maker of the Houk detachable wire wheels, announces that exclusive agencies are open in many localities for representative dealers who will have highly developed co-operation from the company in the sale of its product.

The Houk wire wheels are made to fit all cars and one of their qualities is that they can be installed in one hour. The advantages of the wire wheel have been demonstrated in road and track contests and their production in form adaptable to used cars make them a good proposition for any dealer. The George W. Houk Company has a special dealer's proposition, the details of which will be forwarded upon the receipt of a postal card or letter.

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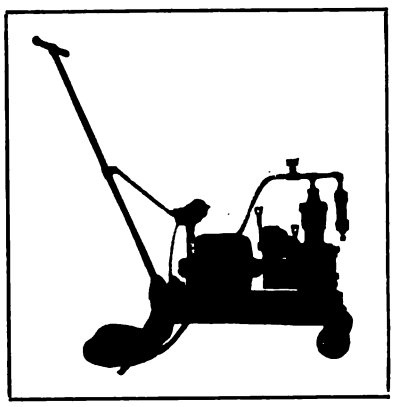
NEW AND ATTRACTIVE LINES.

VELOS PORTABLE COMPRESSOR.

A Complete Electrically Operated Garage Type of Equipment, Easily Moved About the Building.

The Philadelphia Timer & Machine Company, 51st street and Lancaster avenue, Philadelphia, Penn., maker of a wide variety of compressors, is marketing the Velos portable garage compressor, which is a complete equipment, mounted on a three-wheel metal base, as shown in the accompanying illustration. The design is such that it makes for convenience in the garage, and one of its qualities is that it can be operated for a few cents a day. It is stated that the compressor will inflate a 3.5-inch tire in three minutes.



Velos Portable Garage Compressor.

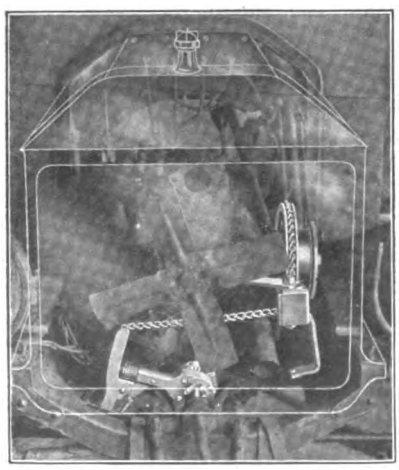
The cylinder of the compressor has a bore of 1.75 inches and the crankshaft revolves at 450 revolutions a minute. A safety pop valve is provided, eliminating danger of injuring the tire through over-inflation. Ten feet of tire hose with connections are included, also 20 feet of high grade flexible wire cord, and socket plug for connection to a lamp socket.

The workmanship and material utilized are first class in every respect. The cylinders are accurately bored and the pistons are carefully fitted, carrying two rings. The connecting rods are of bronze and all bearings are lubricated with grease cups, with the exception of the cylinder, which is oiled by splash from the crankcase. The speed reduction from the electric motor is by cut gearing of ample size, and all parts are constructed for durability. The motor is of .25 horsepower. The size of the base is 10 by 22 inches over all. The Velos is supplied with 100-volt motor for alternating or direct current. The company issues a catalogue of its compressors which will be supplied with trade prices upon request.

UNIVERSAL MOTOR STARTER.

Mechanical Type, Operated from the Seat and Designed Especially for Ford Motor.

The Universal Manufacturing Company, Racine, Wis., is placing on the market a new style of motor starter for the model T Ford car. It is of the mechanical type, the crankshaft of the engine being rotated by the driver giving a slight pull to a starting handle which is placed in the toeboard near the dash, where it is out of the way, yet conveniently operated.



Universal Ford Motor Starter.

The device installed is shown in an accompanying illustration, and it will be noted that considerable energy may be imparted to the crankshaft with but little effort by the construction, the maker stating that a child can operate the handle easily.

The design includes a device for preventing injury to the motor or operator in the event of a back fire, and a rapid rotation is imparted to the crankshaft by the leverage obtained. One of the qualities of the starter is that it may be installed in a short time without any alterations, etc., the Universal coming complete for attachment. Simplicity and a few number of parts are emphasized by the construction. The maker guarantees it for one year against defective material and workmanship, also that it will turn the motor past the compression and firing stroke every time. The price is an attractive one and dealers are invited to write for the company's sales proposition.

BOSTON FORD STARTER.

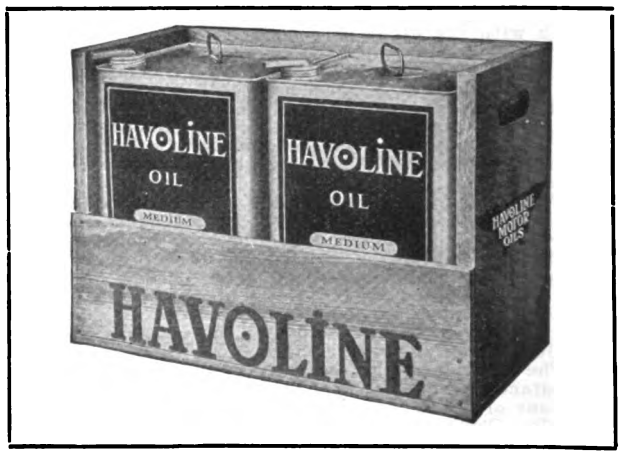
Automatic Appliance Company's Product Obtainable Through Large Number of Distributors.

The Boston starter, which spins the Ford motor by a pull of a handle convenient to the driver, is now obtainable from a number of distributors appointed by the Automatic Appliance Company, 172 Columbus avenue, Boston, maker of the device. The company calls attention to the thousands of Ford cars in service, affording opportunities to the live dealer to add considerably to his season's profits. A special proposition is offered to dealers and agents and it will be mailed upon request.

HAVOLINE OIL.

Indian Refining Company Inaugurates Selling Policy to Aid the Dealer, Etc.

Dealers handling Havoline oil will be pleased to learn that the Indian Refining Company, New York City, is backing up the trade handling this well known lubricant by forwarding suggestions for selling, as well as literature to interest motorists in the qualities of Havoline oils. The company's house organ, the Sales Oiler, will be supplied, and it contains much valuable information upon lubrication of the motor. It will be sent free upon request. The company also has a new price scale policy, the details of which will be given upon addressing Dept. L. The Indian Refining Company is issuing free a booklet entitled "Lubrican" for distribution among customers of the garage, etc.



Container Utilized for Shipping Havoline Oil.

OPPORTUNITY FOR DEALERS.

Sullivan Motor Car Company Has Interesting Proposition for 1915.

The Sullivan Motor Car Company, Rochester, N. Y., maker of the Sullivan 3000-pound motor truck, has a 1915 proposition which should be of decided interest to dealers. It is broad, liberal and progressive, and the company states that it enables a dealer to make a large number of sales and big profits.

The price of the Sullivan truck is $1600 and the company prides itself upon the high grade material and workmanship entering into the design. The vehicle was built to serve the purposes of the business interests that constitute the largest and most constant market.

Every detail of the design makes for simplicity, accessibility, economy of operation and maintenance. The truck is built for service wherever highways exist and business is transacted. The company back of the Sullivan truck is an old and well known concern, one entirely familiar with transportation problems. A postal

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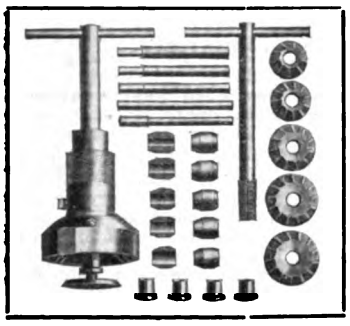
will bring complete details of the proposition above referred to, which is a profitable one for live dealers.

FOSNACHT VALVE RESEATER.

Restores Worn Valves and Their Seats Quickly and Accurately, Effecting Economy.

H. G. Paro, suite 719, Michigan boulevard building, 30 North Michigan boulveard, Chicago, is marketing the Fosnacht valve reseater, which presents a number of practical features, among which is that the tool can be utilized to cut new seats as well as restore the faces of the valves.



Fosnacht Valve Reseater Outfit.

One of the qualities of the design emphasized is that it will do accurate work and in very fast time, thereby effecting a saving when worn and pitted valves are to be reseated or cut. As will be noted by the accompanying illustration, the equipment is sufficient to handle all types of motors. Every tool is guaranteed.

The Kraemer valve spring releaser and retainer shown herewith is also marketed by H. G. Paro. It has an adjustable jaw, adapting it to any valve spring, and when the latter is compressed it is retained, leaving both hands free. The maker states that it will save its cost in one job. The retail price is $1.50. Full information of the reseater and Kraemer tool will be sent upon receipt of a postal.

GREENERD ARBOR PRESSES.

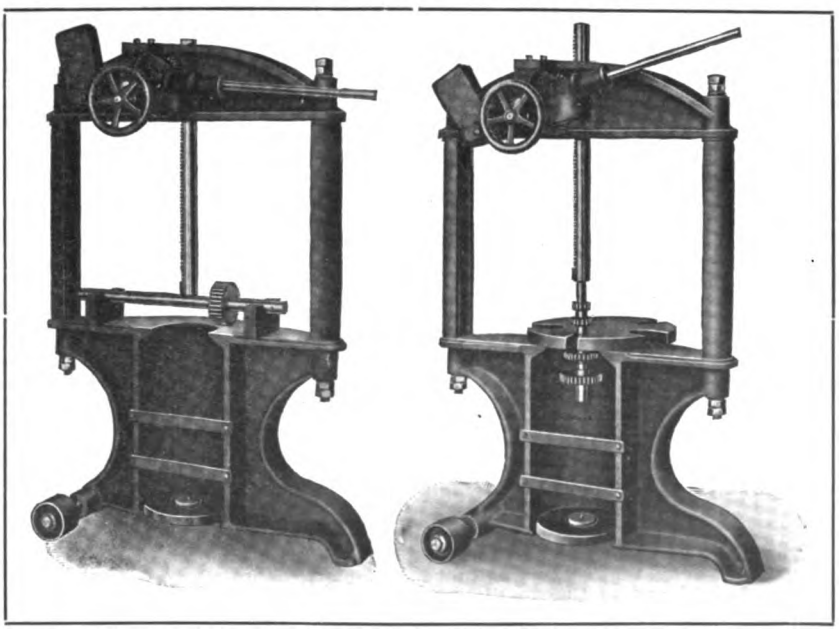
Edwin E. Bartlett Company Markets Design Especially Adapted to the Garage and Repair Shop.

One of the most practical and useful units of the machine equipment in the garage, repair shop and service station is an arbor press which can be employed for a number of purposes. For example, the old fashioned method of removing a transmission gear from its shaft is to utilize a sledge hammer, a practise that not only runs up a labor bill for the owner, but is likely to result in damage to the shaft. Removing flywheels, straightening axles, etc., which frequently require a pressure of several tons, is easily and quickly accomplished by the arbor press.

The Edwin E. Bartlett Company, 322 A street, Boston, has been making a specialty of arbor presses for years and the product of this concern is well and favorably known among the machinery and manufacturing trade. The No. 15 Greenerd shown in the accompanying illustration was designed especially for garage work, and the maker points out that it will repay its cost in a short time and that it will build up trade, in that the cost of labor to the owner is considerably reduced by its use. The press is easily handled and the ram can be quickly run up or down by a small hand wheel in front of the machine.

The press provides 36 inches between the uprights, has a 12-inch opening under the plate, 26 inches over the plate and 48 inches over the lower or auxiliary plate. Being mounted on wheels the press can be easily moved to the centre of the shop to straighten an axle, or over a trap hole through which a crankshaft may be placed to remove a flywheel. The auxiliary plate at the bottom of the chamber under the revolving plate having a receding centre and a self-conforming surface to press against, makes it very convenient when needed. This plate is removable.

The gearing is all of special heat treated steel, and vanadium is used in gears subject to the greatest stresses. One man can exert a pressure of 10 tons and two men, 16. The workman is able to "feel" what he is doing; therefore a pressure gauge is not needed. Greenerd arbor presses are built to endure and the No. 15 weighs 1500 pounds. The company makes 15 sizes and of different capacities. Complete details will be mailed upon request.



No. 15 Greenerd Arbor Press, Designed Especially for Garage Use, Enabling a Variety of Work to Be Performed at a Saving of Time and Labor.

PANHARD OIL.

Maker of Lubricant Marketed Since 1904 Calls Attention to Its Quality.

George A. Haws, 148 Front street, New York City, manufacturer of the well known Panhard oil, is issuing a series of bulletins in The Accessory & Garage Journal which should be digested by its readers. This lubricant has been on the market since 1904 and those dealers who have not investigated the merits of this oil are invited to write the manufacturer for details of the selling campaign. The simplicity of the advertising copy is noticeable, comprising as it does, bulletins directed to the trade.

NEW MOSSBERG CATALOGUE.

General and Special Wrenches and Socket Sets Listed, Described and Illustrated.

The Frank Mossberg Company, Attleboro, Mass., well known maker of Mossberg wrenches, etc., is issuing a new catalogue, in which is described and illustrated the numerous types of general and special wrenches, also socket sets. The No. 16 catalogue will be mailed free upon request. The company also has catalogued its line of Ford necessities, which will interest the trade. When writing ask for catalogue No. 16 A.

APCO CUTS PRICES.

Steering Rod Anti-Rattlers for Ford Cars Reduced to Fifty Cents Each.

The Auto Parts Company, Providence, R. I., whose trade mark Apco is a household word among Ford owners, announces that its anti-rattler prices have been reduced from 75 cents to 50 to dealers.

The Apco steering rod anti-rattlers are licensed under the Towle patent and come packed in individual cartons, 50 cartons to a corrugated box. They are nickel plated and polished. They can be obtained direct or from the numerous branches of the company.

WIRE WHEELS FOR FORD.

Mott Wheel Works Wants 1000 Dealers to Handle Its Ready-to-Attach Design.

The Mott Wheel Works, Utica, N. Y., is manufacturing a design of wire wheels for the model T Ford car, and one of their qualities is that they come ready for attachment, being constructed to be fitted without any alterations whatsoever. The company wants 1000 wide awake dealers to write for particulars of its agency proposition. The wheels retail for $20 the set and the discounts are stated to be very liberal.

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LAX-FAL TUBES.

Made in Gray or Red Colors, of High Grade Rubber and Are Guaranteed.

The Lax-Fal Rubber Company, 77 Chambers street, New York City, is calling attention to its Lax-Fal tubes, which are constructed for those who desire a high grade tube, one that is made to give the best of service. The tubes are made of an excellent Para rubber, in gray or red, come 40 per cent. off the list and are guaranteed. Considerable territory is open to live dealers.

BALL CARBON REMOVER.

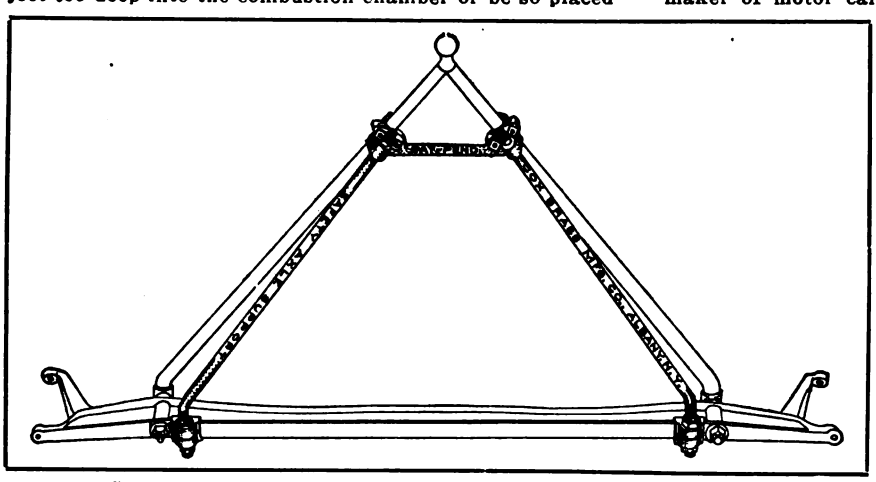
Some Territory Still Open for Dealers Desiring a Practical Carbon Remover.

The Bowling Green Sales Company, 42 Broadway, New York City, sole distributor for the United States and Canada of Ball Carbon Remover, announces that it still has territorial rights open. The chemical compound removes carbon from the cylinders of a motor when it is running, eliminating delays. Details of the agency proposition will be submitted by addressing Dept. A.

SPARK PLUG DATA.

A. R. Mosler & Co., Issuing Booklet on Sizes and Styles of Plugs for All Cars.

To obtain the greatest efficiency from the motor it is important that the spark plugs employed should not project too deep into the combustion chamber or be so placed that the gas will be pocketed. A. R. Mosler & Co., New York City, is issuing a brochure called "Spark Plug Size Booklet", which enables one to determine promptly the size and style of plug best adapted to the respective cars and motors. It will be mailed free upon request.



Cox Safety Axle and Radius Rod Support for Model T Ford Automobiles.

THE MOTOKART.

A Light Commercial Delivery Car Adapted to a Large Number of Trades.

Dealers who are in the market for a light, high grade delivery car, will do well to investigate the merits of the Motokart, manufactured by the Motokart Company, with factories at Peekskill and Tarrytown, N. Y., and with general offices at 1790 Broadway, New York City. The Motokart is a four-wheeled vehicle, especially designed for business men who desire a practical, light, economical machine. It retails for $365 and compares favorably with many large commercial vehicles.

THERMOID BRAKE LINING.

Is Hydraulically Compressed, Is Lining Clear Through, and Is Liberally Guaranteed.

Thermoid hydraulically compressed brake lining is manufactured by the Thermoid Rubber Company, Trenton, N. J., and one of the qualities emphasized by it is that it can be worn down to a ribbon thinness without losing its efficiency. It is lining clear through, grips positively without chattering and is not affected by water, oil or gasoline. The guarantee is unusually liberal. Thermoid brake lining comes in different sizes and thicknesses. Prices and details will be supplied upon request.

TRUNK RACKS.

Connecticut Steel & Wire Company Manufactures Designs to Fit All Cars.

With the approach of the touring season there is a demand for trunk racks. The Connecticut Steel & Wire Company, 61 Allyn street, Hartford, Conn., produces a high grade, moderately priced trunk for all types of automobiles. A special design is manufactured for the model T Ford car. Liberal discounts are offered to the trade.

BRAKE LINING CABINET.

Maker of Multibestos Lining Has Free Neat Container for Handling Its Product.

The Standard Woven Fabric Company, Framingham, Mass., maker of the well known Multibestos brake lining, is offering the trade a neat cabinet for carrying and displaying the material. It not only saves time in selecting the particular size desired, but economizes on room and is a decided improvement over the usual method of keeping the lining on the floor, in the storeroom, etc. Details of this free offer will be mailed upon request.

NEW SAFETY AXLE.

Cox Brass Manufacturing Company Brings Out Axle and Radius Rod Support for Ford Car.

The Cox Brass Manufacturing Company, Albany, N. Y., maker of motor car specialties, has brought out an entirely new accessory for the model T Ford car. The Cox safety axle and radius support embodies "Safety First", the popular phrase of the day. The maker states that owing to the construction and design of the Ford front axle, the triangular radius rod being supported or connected above the centre, it has a tendency, on rough roads at rapid speed, to tilt or bend the axle toward the back.

The Cox device increases the rigidity of the car, and is stated to make driving much easier. It insures safety, as it provides a double truss support. As will be noted by the accompanying illustration, which depicts the device fitted to a Ford axle and radius rod, there are no holes to drill or alterations to make. An adjustable, movable clamp is utilized to connect the Cox device to the front axle, and it has an additional advantage in that it may be employed to line up the front wheels. The rear extensions and cross member are secured by clamps to the radius rod just back of the ball member, as shown. It is obvious that the design greatly adds to the sturdiness of the structure. The Cox safety axle and radius rod support is moderately priced and is constructed with the same high grade material and careful workmanship for which the products of this concern are noted. Complete details and prices will be forwarded upon request.

AGENTS WANTED.

Palmer-Moore Company Has Proposition for Dealers in Unoccupied Territory.

The Palmer-Moore Company, 104 North Geddes street, Syracuse, N. Y., maker of the 1600-pound Palmer-Moore truck, desires to hear from dealers in unoccupied territory. The company fits a large variety of bodies to its chassis. Details of its agency proposition will be submitted upon receipt of a postal.

FORD DELIVERY BODIES.

"Lew" Fales, Providence, R. I., Specialises in Bodies for Runabout and Touring Car.

"Lew" Fales, one of the oldest carriage makers in Rhode Island, is carrying a complete line of delivery bodies for the model T Ford car. They are constructed especially to meet commercial requirements and a postal addressed to "Lew" Fales, Dean and Washington streets, Providence, R. I., will bring a circular giving complete details and trade prices. The bodies come ready for attachment.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

10,118—Kansas Dealer is in the market to represent a line of pleasure cars selling from $350 to $800.

10,120—Nebraska Firm wants to secure the agency for pleasure cars selling from $500 to $1000.

10,123—Nebraska House is in the market to secure the agency for pleasure cars selling from $750 to $2000.

10,128—Rhode Island Company wants to secure the agency for pleasure cars selling from $1785 to $2785.

10,133—New York House wants the agency for four and six-cylinder cars; the fours selling from $500 to $3300, and the sixes selling from $3850 to $6000.

COMMERCIAL CAR AGENCIES.

6121—Arizona House wants to represent a line of electric commercial cars selling from $600 to $1500.

CYCLECAR AGENCIES.

1778—Texas Dealer is seeking information relative to cyclecars selling from $350 to $500.

1780—West Virginia House wants the agency for cyclecars.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

405—Canadian House wants the following: Anti-rattlers, axles, batteries, bearings, carburetors, chains, coil springs, commutators, dimmers, dynamos, engines, forgings, gears, guards, headlights, horns, ignition, jacks, joints, lamps, levers, magnetos, mechanical starters, motors, mufflers, plugs, pumps, radiators, rims, rods, rubber, speedometers, spokes, starters, steering wheels, storage systems, switches, tanks, tools, tops and parts, washers, windshields and wrenches. The above products to be used in assembling cars.

406—Indiana Firm is in the market for air compressors, air pumps, cements, cloth, cutters, gaskets, gasoline, headlights, injectors, jacks, rims, rubber, tanks, tire accessories, tires, tools and vulcanizers. The above goods to be used in the trade.

411—Arizona Dealer wants air pumps, autogenous welding equipment, batteries, bearings, brakes, cable, carburetors, charging apparatus, clutches, cones, couplings, dynamos, electric starting and lighting outfits, engines, fans, gauges, gears, generators, headlights, hydrometers, ignition, jacks, locks, magnetos, odometers, pins, radiators, rectifiers, rims, searchlights, speedometers, tools, transmissions, wheels and wrenches. Products to be used on Vim cars, Republic and Standard trucks.

413—New York Concern wants a three-ton electric elevator.

418—Massachusetts Dealer wants fire extinguishers, carbon removers and wheels.

422—New Jersey Firm is in the market for cements, stampings and terminals.

426—Oregon House is interested in air pumps, bulbs, bumpers, cable, carbide, cements, chains, coils, gaskets, horns, jacks, magnetos, patches, plugs, pumps, rectifiers, shock absorbers, speedometers, storage systems, tape, tire accessories, tools and vulcanizers. The goods to be used for wholesale and retail.

428—California Company is in the market for ball bearings, retainers and races; also bolts, cylinder grinders, cylinder machines, cylinders, drills, engines, fenders, gear cutting machines, gears, reamers, shapers, valves and wire and wooden wheels. The above goods to be used in a general garage and machine shop business.

431—Kansas Dealer wants a general line of automobile accessories and supplies.

432—New Jersey House wants bodies.

435—Nebraska Company is interested in washers.

438—Indiana Dealer wants forgings.

439—Iowa Concern is in the market for the following: Air compressors, camshafts, charging apparatus, cylinders, dynamometers, pistons and steel.

442—Indiana Company is interested in batteries, bearings, dynamos, engines, gears, generators, ignition magnetos, mufflers, odometers, plugs, racks, radiators, rheostats, speedometers, starters and tanks. The goods to be used for self-propelled railway cars.

445—New York Dealer is in the market for the following: Air compressors, air pumps, batteries, chains, electric horns, fire extinguishers, spark plugs, speedometers, starters, tape, tires, vulcanizers and waste.

448—Wisconsin Company wants one and five-gallon oil cans.

451—Nebraska Dealer is in the market for tires and tire accessories.

455—California House wants bearings, cable, camshafts, charging apparatus, coils, couplings, dimmers, dynamometers, generators, headlights, ignition, magnetos, platinum, plugs, rectifiers, reflectors, regulators, rheostats, searchlights, shims, starters, storage systems, switches, terminals, testers and timers. The above products are to be used for automobiles.

459—Colorado Dealer is in the market for the following: Air compressors, air pumps, gear cutting machines, lathes and shafting; also mechanical starters for Ford cars. The products wanted are to be used in equipping a new garage.

463—Massachusetts Concern is interested in the following: Air compressors, air pumps, axles, batteries, bearings, belts, bolts, brakes, brushes, bulbs, bumpers, carbide, carburetors, castings, chains, charging apparatus, chemical tanks, coils, cylinder machines, drills, fire extinguishers, gauges, generators, goggles, horns, hose, jacks, lamps, lubricators, patches, pins, plugs, tape, tire accessories, tires, tools, tubing, valves, vulcanizers and wrenches.

COMING EVENTS.

June 30—Track races, Sioux City, Ia.
June 30—Fourth International Rubber and Allied Industries Congress, London, England.

July.

July 1- 3—Non-stop run, Chicago-Boston, for Glidden trophy.
July 2—Targa-Florio cup road race, Mandonic circuit, Italy.
July 3- 4—Mid-summer meeting, American Automobile Association, Bretton Woods, N. H.
July 3- 4—Road races, Tacoma, Wash.
July 3- 4—Track race meet, Taylor, Tex.
July 4—Track race meet, Cedar Rapids, Ia.
July 4—Track races, Providence, R. I.
July 4—300-mile race, Sioux City, Ia.
July 4—Grand Prix, Lyons, France.
July 10—Track race meet, Rockdale, Tex.
July 17-18—Speedway meet, Seattle, Wash.
July 25-26—Grand Prix, Belgium.

August.

Aug. 16—International Light Car Race, Le Mans, France.
Aug. 21-22—Road races, Elgin, Ill.
Aug. 23—Coupe de l'Auto Race, Auvergne, France.
Aug. 27—Race meet, Brooklands track, Weybridge, England.

September.

Sept. 5—Track races, Milwaukee, Wis.
Sept. 7—Track races, Providence, R. I.
Sept. 9—Speedway races, Pomona, Cal.
Sept. 9—Road races, Corona, Cal.
Sept. 9—Grand Prix, Italy.
Sept. 14—Track meet, Milwaukee, Wis.
Sept. 26—Race meet, Brooklands track, Weybridge, England.
Sept. 26-Oct. 6—Show, Berlin, Germany.

October.

Oct. 1—Kerosene motor competition, Paris, France.
Oct. 2- 3—Track meet, Oklahoma City, Okla.
Oct. 2- 3—Track meet, Trenton, N. J.
Oct. 9—Speedway races, Chicago, Ill.
Oct. 9-Nov. 2—European trip, Society of Automobile Engineers.
Oct. 16-26—Automobile Salon, Paris.
Oct. 17-24—Show, Pittsburg, Penn.
Oct. 19-26—American road congress, Atlanta, Ga.

November.

Nov. 6-16—Olympia show, London.
Nov. 8-11—Track meet, Shreveport, La.

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NEW SIX-CYLINDER CAR.

Willys-Overland Company to Market a Seven-Passenger Car of This Type.

An announcement of more than general interest to the automobile trade and public, and particularly to the many dealers handling Overland cars, is that the Willys-Overland Company, Toledo, is to market a seven-passenger, six-cylinder car, which will be fully equipped, for $1475.

So quietly were the plans made that no inkling of Mr. Willys' intention to enter the six-cylinder field was made public until recently, although the Overland engineers have been developing and testing the new car for some time. There will be a larger number of four-cylinder machines built in 1915, and the new car will serve the purpose of providing Overland dealers with a complete and inclusive line which will enable them to satisfy the demands of all customers with the product of a single manufacturer.

In appearance the Overland six is stylish and attractive. It has a long stroke motor, rated at 45-50 horsepower, streamline body, 35 by 4.5-inch tires and demountable rims, electric lighting and motor starting, as well as other modern conveniences. The wheelbase is 125 inches.

GASOLINE IS CHEAPER.

Automobile Owners Interested in the Drop in the Fuel Market.

Automobile owners have been watching the gasoline market for several months. As the summer approached the price dropped somewhat until now gasoline is being sold as low as 18 cents a gallon. Only a few years ago the price of gasoline at retail was around 12 cents. This has steadily advanced until last summer and in some cases it actually doubled.

REMY LINE IN EUROPE.

Walter H. Johnson of London, England, is Appointed Agent for the Continent.

The Remy Electric Company, Anderson, Ind., maker of ignition, lighting and motor starting systems, has appointed Walter H. Johnson, 60 Haymarket, London, England, as manufacturer's agent in Europe. Mr. Johnson will also open a completely equipped service station to take care of all users of and dealers in the well known Remy products in that section of the world.

FORDS FOR BOSTON.

Following in the Footsteps of a Western City to Supply City Officials with Fords.

Ford runabouts will be purchased for all employees of the City of Boston who are provided with cars in the future, according to Mayor Curley of that city. "I have decided to make the Ford runabout the official car under my administration. It does not cost so much to buy and can be run 20 miles to a gallon of gasoline. By discarding the heavy cars now in use and putting in an equipment of Fords, the city will save several thousands of dollars without impairing in any way its automobile service".

At present the City of Boston owns about 75 automobiles, ranging in price from $3500 down to $1800. These will be replaced by Fords as soon as the change can be made. Boston is following the example of Kansas City, which a short time ago sold 11 cars at public auction and replaced them with Fords.

AUTOMOBILE PLANT SOLD.

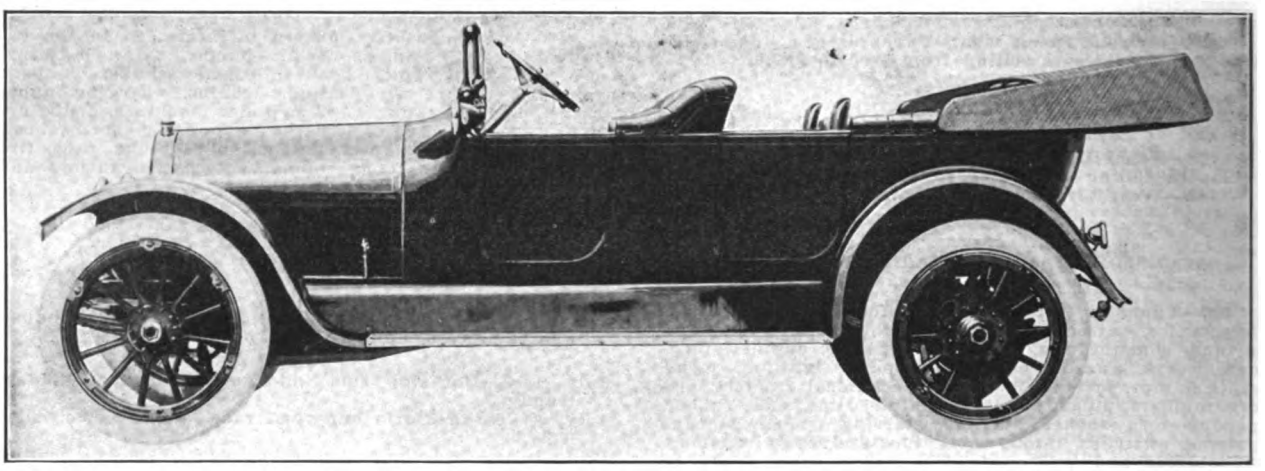
Brown Motor Car Company Acquires Factory of Ohio Falls Concern.

The automobile manufacturing plant at New Albany, Ind., formerly owned by the Ohio Falls Motor Car Company, has been taken over by the Crown Motor Car Company of Louisville, Ky. It is said the company soon will be reorganized under the name of the Hercules Motor Car Company, new capital will be infused and the plant will be operated on a more extensive scale than has been attempted heretofore.

MERCER DEFEATS STUTZ.

Texas Owners Seek to Determine Relative Merits of Two Makes of Cars.

Following the recent 500-mile race at Indianapolis, Ind., the feeling between the Mercer and Stutz owners in Houston, Tex., ran high. Varied claims were made for the cars of each make, and the rivalry finally culminated in a match race between a stock Mercer touring car carrying driver and two passengers and a stock Stutz "Bear Cat" raceabout with driver only.



Overland Six-Cylinder Seven-Passenger Touring Car, Announcement of Which Is Made by the Willys-Overland Company—The New Machine Is Provided with Every Convenience and Will Sell for $1475.

Two one-mile trials were held, in which the Mercer covered the distance the first time in 57 seconds and the second time in exactly one minute. The Stutz made the mile the first time in 1:06 and the second in 1:07. The Stutz owner is said to have challenged the Mercer owner for another race on the Galveston beach during the beach meet to be held the latter part of July.

WORKING HOURS REDUCED.

Ford Company of Detroit Continues to Cut Down Its Operating Schedule.

The Ford Motor Company, Detroit, recently cut down the operating schedule of its plant to five days a week and the night shift was done away with, this arrangement to be in effect for from two to three months during the usual slack summer period, before work is commenced on the new models. Parts have been stocked up ahead and operations will be confined to assembling cars. Those on the night crews were placed on the day shift, and the plant will run only eight hours daily for five days a week. At this rate the $5-a-day men will draw about $100 monthly. The company now is manufacturing parts which formerly were supplied by Dodge Bros.

The Studebaker six, in the second of its five 200-mile tours, averaged 15.3 miles a gallon of gasoline. In connection with this, two quarts of oil and three quarts of water were used. The car carried six passengers. The run was through the foothills of the Alleghenies, the exact mileage being 206.7.

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BUICK MANAGERS' CONVENTION.

Branch Heads and Distributors from All Over the Country Assemble at the Plant.

The annual meeting of the Buick branch managers and distributors was held at the factory at Flint, Mich., June 19 and 20. The branch managers who attended were: George M. McCutcheon, Atlanta; E. T. Strong, Chicago; J. E. Trotter, Indianapolis; Robert McKay, Battle Creek; H. K. Noyes, Boston; J. A. Coy, Buffalo; J. W. Atwood, Dallas; C. C. Starkweather, Detroit; J. F. Martin, Kansas City; N. J. Munson, Milwaukee; A. G. Southworth, New York; W. H. Vesper, Oklahoma City; P. S. Russell, Philadelphia; A. H. Sarver, Pittsburg; B. R. Webb, San Antonio; J. E. Finney, Savannah, and R. H. Martin, Washington.

The distributors present were: A. G. Randall, Boise; C. C. Coddington, Charlotte, N. C.; H. S. Leyman, Cincinnati; G. G. G. Peckham, Cleveland; F. L. MacFarland, Denver; H. E. Sidles, Lincoln; Edgar M Rowe, Little Rock; F. S. Howard, Los Angeles; H. E. Pence, Minneapolis; Lee Huff, Omaha; Mel G. Johnson, Portland; C. L. Whiting, Rochester; G. S. Garber, Saginaw; F. W. A. Vesper, St. Louis; A. E. Thourssen, Salt Lake City; C. S. Howard, San Francisco, and S. C. Douglas, Sioux City.

KRIT COMPANY PROSPEROUS.

Pays 20 Per Cent. on Outstanding Indebtedness, Making a Total of 30 Per Cent. in Four Months.

The Krit Motor Car Company, Detroit, has made a payment of 20 per cent. on its outstanding indebtedness, which, with a 10 per cent. payment in February, makes a total of 30 per cent. in four months. The officers of the company state that business has been at least two per cent. better thus far this year as compared with the corresponding period last year. The business in the West is reported excellent, and as the crops in Oklahoma and Kansas are large, a big business is anticipated in those states. The exports of the company have grown steadily, especially in the foreign field, which includes South Africa, South America and New Zealand.

SCRIPPS-BOOTH WINS.

Well Known Make of Cyclecar Carries Off First Honors in Club Meet at Teaneck, N. J.

That the cyclecar has arrived was demonstrated by the very successful race meet held under the auspices of the Cyclecar Club of New Jersey, which organization has the honor of being the first to give a meeting under the sanction of the Cyclecar Association of America. The contests, which were varied, were held Saturday, June 13, at Teaneck, the farm of Dr. Charles G. Percival, president of the Cyclecar Club of New Jersey.

Four events were on the card, these comprising a slow race, up grade on the high gear; reverse gear event, 75 yards, up grade; highest average or secret time and a hill climb. The machines were divided into classes, according to the classification adopted by the association, comprising the cyclecar, having motors of not more than 71 cubic inches cylinder displacement and 750 pounds chassis weight; light cars, with motors of not more than 101 cubic inches cylinder displacement and 1150 pounds chassis weight.

William Boulding, 3rd., of East Orange, N. J., carried off the honors at the meeting with his Scripps-Booth stock cyclecar, winning the hill climb, reverse gear race and secret time event. The slow race was also won by a Scripps-Booth, P. G. Schull of Newark, N. J., being declared the winner over James Pearsons of New York City, who drove an O-We-Go. Boulding captured the McIntyre cup offered by W. H. McIntyre of the Imp Cycle Car Company, Auburn, Ind., and president of the Cyclecar Manufacturers' National Association, for the driver who scored the largest number of points in the meet.

The manufacturer's cup in the cyclecar class was won by the Scripps-Booth team, captained by H. C. Fairchild of Newark, N. J., with 30 points. The two Twombleys, driven by F. Haag and G. A. McLaren, the Newark distributors, won the manufacturer's cup for the light car class.

The events took place over a specially constructed track 50 feet wide and 1500 feet long. Dr. Percival took special pains to make it as uneven and as steep in grade as possible, it having a gradient of one in seven.

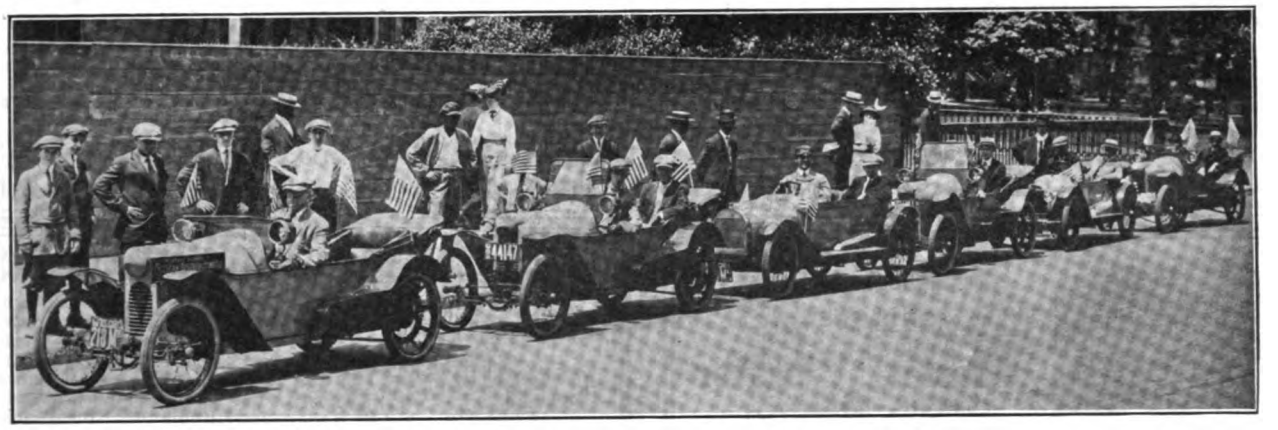
The events were held under the rules compiled by the contest committee of the Cyclecar Association of America, which governs all cyclecar competitions in the United States. The meet was a success from every viewpoint.

AUTOMOBILES IN ENGLAND.

Perry of Ford Motor Company Says the Industry Could Not Be More Flourishing.

P. L. D. Perry, general manager of the Ford Motor Company in England, who is visiting the main plant at Detroit, says that the motor industry in England could hardly be in a more flourishing condition.

"England has been enjoying an unprecedented trade boom for the last three years", said Mr. Perry. "Work has been plentiful and many people have been making money. This perhaps has benefited our business more than any other one thing, for the Ford plant is increasing its output more rapidly than any other. Although established a comparatively short time, we are turning out more cars than the five next largest plants put together, and are increasing our capacity as fast as possible. We seem to have reached the British field at the psychological moment".



Some of the Participants in the Endurance Run from Newark to the Farm of Dr. Percival, Where the First Cyclecar Meet Was Held.

TO BOOST DETROIT.

Moving Pictures Inaugurated by the Ford Motor Company to Show What an Important Centre Detroit Is.

Henry Ford, the well known Detroit automobile manufacturer, has inaugurated a somewhat novel publicity plan in which he has enlisted the aid of moving pictures. This is known as the Ford-Detroit Weekly, and is intended to show what an important manufacturing centre Detroit is, and, incidentally, to advertise the huge Ford plant.

BUSINESS IS GOOD.

Fisk Rubber Company Shows Big Increase in Trade This Season.

The Fisk Rubber Company of Chicopee Falls, Mass., which was reorganized in 1912 and succeeded in meeting its preferred dividend requirements in the first year of operation, has just issued a statement showing, in addition, a realization of about eight per cent. on the common stock, and a gross business of nearly $12,000,000, about 50 per cent. in excess of the business of 1913.

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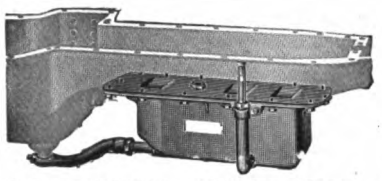


Live Jobbers Handle The Daco Ford Accessories

The DANVER OILER produces more lubricating capacity, provides constant circulation, is automatic and prevents smoking and fouled plugs. The only perfect oiler for Ford motors. Its principle is right. Easily fitted. A BIG SELLER. Write for descriptive matter and discounts.

BE A LIVE ONE

DANVER ACCESSORY CO.
18 Broadway, Pawtucket, R. I.

"LAX-FAL"
Guaranteed Tubes

Red or Grey
An excellent Para rubber inner tube fully guaranteed at

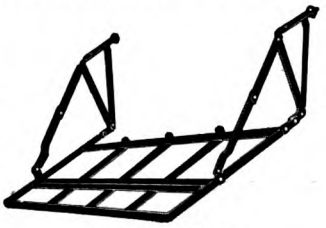
40% Off Standard List

Are you interested?
Territory open for responsible agents
Write Now

LAX-FAL RUBBER CO.
77 Chambers Street Dept. S New York City

"SPECIAL" 1914 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of
TRUNK RACKS
For all makes of Automobiles



1914 Ford Rack

This Rack Will Fit Any 1914 Ford Car

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company
57-61 Allyn Street, Hartford, Conn.

A PROFITABLE DEALERS PROPOSITION

MORGANBRITE

THE Brass and Metal Polish WITH THE 6 Talking and Selling Points

1. Is quicker and more lasting than anything on the market.
2. Being yellow it is not as noticeable on brass when dry as others.
3. The Lithographed Cans are superior to any on the market, as regards design and color.
4. Cans are of our unique "Polisaver" type. Screw cap secured to body of can, with chain and swivel. Cannot be lost.
5. All cans sealed at the factory.
6. Profit is good.

MORGAN MFG. COMPANY, DEPT. F. NEWPORT, R. I.

The Famous Model "T" FORD SPECIAL

Master Vibrator

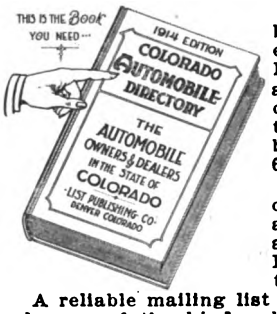
Price $10.00

THE BEST PROPOSITION FOR THE DEALER

NEW YORK COIL CO.
338 Pearl St.,
New York City, N. Y.

WESTERN BRANCH
1429 Michigan Ave.,
Chicago, Ill.

REACH COLORADO OWNERS AND DEALERS



Colorado has more automobiles by 3000 than the six western states of Wyoming, Utah, New Mexico, Arizona, Idaho and Nevada, and there are more cars per capita in Colorado than in Illinois or New York, being one automobile to every 61 people.

This directory contains a complete list of the owners of automobiles licensed in Colorado for 1914. Also a classified Business Directory of the auto trade of the state.

A reliable mailing list for direct advertising, and the only one of the kind published. Price, $5.00, postpaid. Order now, and get early use of this valuable book. Advertising rates and sample page sent on request.

THE LIST PUBLISHING COMPANY, Dept. 2.
615 Denham Bldg. Denver, Col.

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Knox
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX MOTORS CO., Springfield, Mass.

MOTOR TRUCK

Is a business man's magazine and all who have to do with haulage should subscribe for it.

The best investment those in the buying and selling ends of the industry can make.

$2.00 THE YEAR

Times Building, Pawtucket, R. I.

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ALWAYS THE BEST SELLER

The Dressing for Auto Tops That **Always Satisfies.** Better Handle It. A Quart Can for a Dollar, by Parcel Post

THE FRANK MILLER CO.
349-351 W. 26th Street NEW YORK

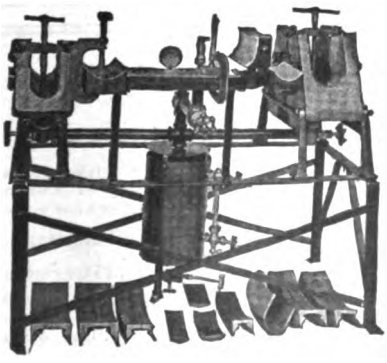
THE SPRINGFIELD PUMP

Single Action Long Barrel

Diameter 1 3-16", No. 20 Gauge, Seamless Brass, 27" Stroke. Brass Base. Five Ply Cloth Inserted Rubber Hose with Heavy Brass Valve Connection. Factory Test 150 Lbs.

PRICE $3.00

THE SHAWVER CO.
Springfield Ohio



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For Catalogue, Address

VANDERPOOL CO.
SPRINGFIELD, O.

Here is Proof Positive Mr. Dealer

Over 49,000 Kellogg Air Pumps have been placed on cars through dealers and manufacturers, and they are saving tire bills for those car owners. You know what tire saving means in making the owner feel satisfied with the car you have sold him. You can afford to push the sale of

Engine Driven KELLOGG Air Pump

One, Two, Four, Six-Cylinder Models

With Attachments and Instructions, Ready to Install

The owner does not have to have misfit gears made. For 5 years we have been designing special attachments to go with the different designs of our pumps so that they would give maximum efficiency on every car. You cannot go wrong in installing the pump that is standard or special equipment for these cars:

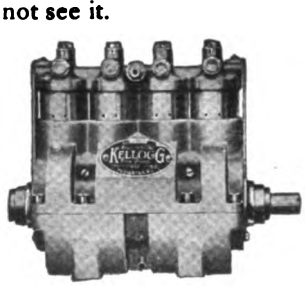
Packard	Havers	Chandler
Peerless	Stearns	Howard
Stevens-Duryea	Imperial	Mitchell
Lozier	Jackson	Fiat
Franklin	Lexington	Speedwell
Winton		

and made with special attachments that any dealer can install on the:

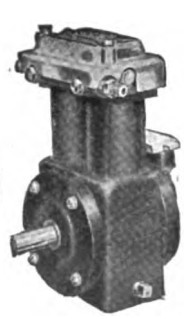
Chalmers 1914	Studebaker Six	Pierce
Hudson	Buick	Cadillac
Maxwell 6	Overland	Reo
Simplex	Abbott	Stutz
Henderson	Oakland	Cole

SEND NAMES OF OWNERS

There are probably quite as many old cars giving good service in your locality as there are 1913 and 1914 models. They ought to have the Kellogg pump. Send us the names of some of the owners and let us send literature and tell them about the Kellogg pump. Our arguments added to your own will induce more business. Do you look over the Kellogg News? It is an unpretentious sheet, but it has information for you and we send it each month. Ask for it if you do not see it.



The 4-Cylinder Pump with attachments for above named cars... **$30**



2-Cylinder Pump with attachments for Buick 25, 26, 37 Mitchell 4 and 6 Overland 59, 69, 79 Reo 5 Stutz 4 and 6 Complete cost... **$26**

KELLOGG MANUFACTURING CO.
128 Circle Street, Rochester, N. Y.
NEW YORK SAN FRANCISCO DETROIT CHICAGO

Special Pumps and Air-Starting Units Made in Quantity for Manufacturers

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

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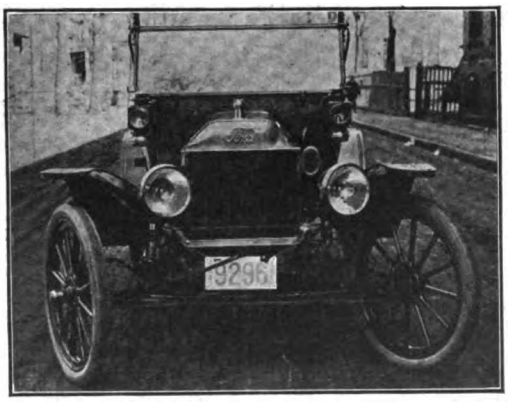


They Turn to the Right They Turn to the Left

The "Clear Ahead" Lamp Bracket

The SPOT LIGHT Always in the Right SPOT

A Live Wire for Dealers—Install one set—sell dozens. Everybody wants and needs them.

Regulars - $15.00
Ford Specials, $12.50 } *F. O. B.*

Write for Circulars and Discounts

THE AUTO PROTECTOR CO.

58 Tyler Street SPRINGFIELD, MASS.

The Dependable Signal The Ford Special The Horn with a Clear Exhaust

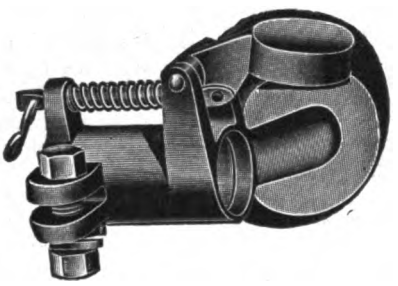
Especially designed for

THE FORD CAR

Embodying all of the features of the New Tremo. Clear Exhaust—No Clogging—No Humming—No parts to get out of order

No Coupling, as horn shank clamps over end of exhaust pipe

Easily attached in a few minutes



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Horn for the FORD CAR is the last word in Automobile Signals

A perfect warning at HIGH SPEED, blowing equally well when engine is throttled down

Complete equipment, $4.00

PRICE LIST FOR TREMO HORNS.

No. 1—16 to 25 H. P., $6.00 No. 3—40 to 50 H. P., $7.00
No. 2—25 to 40 H. P., $6.50 No. 4—50 H. P., and over, $7.50

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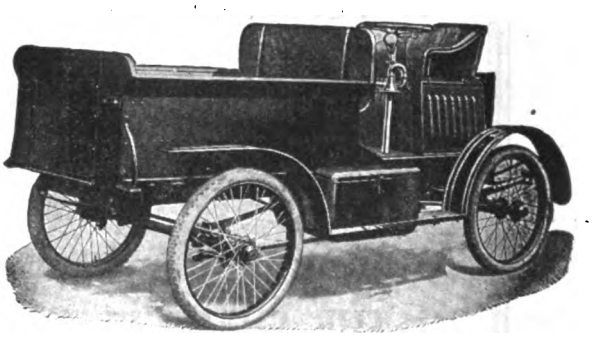
is the Commercial light cavalry of the automobile business. If you are selling cycle cars your line will not be complete without the only strictly commercial four wheeler smaller than standard car built in the United States of America.

$365.00

Wide awake dealers wanted in every city, town or village where merchants deliver groceries, dry goods, etc.

THE MOTOKART COMPANY

General Offices: 1790 Broadway, New York City.



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Tear Out---Don't Forget

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Every man in the industry that has to do with pleasure or commercial cars should have this library of Automobile Mechanical Information. A full training school course.

10 Great Books—800 Pages of Text—1500 Illustrations

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Accessory and Garage Journal

Times Building, Pawtucket, R. I.

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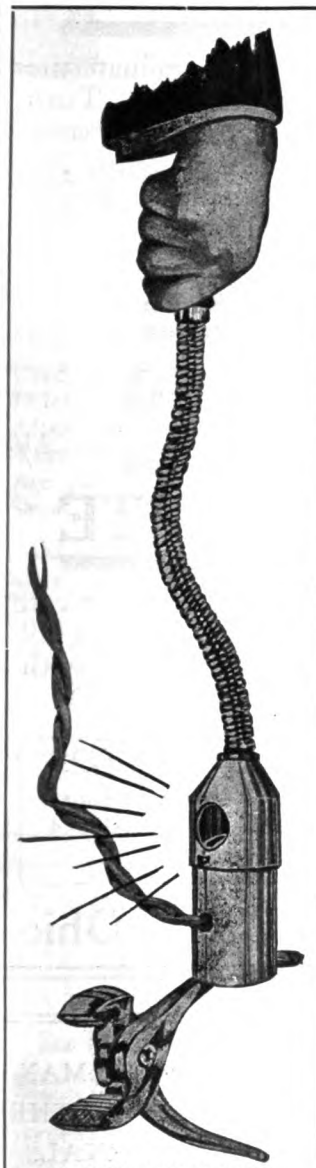
LITTLE GIANT

MAGNE TIC

Trouble Lamp

(Combination)

Price $3.00



Lights when you want it.

Sticks where you place it.

Dropped a Tool?

Picks it up when you want it to.

Lost a Nut?

Finds it when you fail to see it.

Is a combination in all that name implies.

Indispensable to Motorists.

Should be in every garage and with every car.

Price $3.00

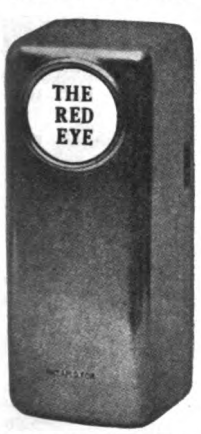
PATENT APPLIED FOR

RED EYE WARNS YOU

Right On The Dash

The Boston

Tail Light Detector



Tells you when your rear light fails to work—Saves you court fines and court records.

Easy to attach to all makes of cars —no electrician needed.

Guaranteed for life of car.

Price $5.00

Patent Applied For

Send for Dealers' Proposition

The Harding Specialty Company

755 Boylston Street, Boston, Mass.

HAVOLINE OIL

"It Makes a Difference"

in

Carbon and Bank Deposits

Havoline Oil leaves the smallest carbon deposit, because it burns up evenly and cleanly.

Being widely advertised to the consumer both in the home and on the highway

It Brings You Trade

who appreciate its never varying, superior quality; due to its being made from but *one, uniform base crude* of tested worth and to our

Special Process of Manufacture

which preserves the molecules of the oil yet frees it entirely from floating carbon and other impurities.

Write for our *New Price-Scale Policy*, which insures you the *continuous patronage* of your customers. By our *special contract plan* you are kept in closest touch with your trade for at least a period of one year.

Ask for our Booklet, the "Lubrican" to distribute to your customers. It attracts orders!

Free subscription upon request for our publication, the "Sales-Oiler." written especially to help you market your products.

Write today!

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Offers 100 % Circulation Value to Such Interests

Circulation 19,000 Copies the Issue

$1.00 THE YEAR **24 ISSUES**

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Federal	Marathon	Combination	Swinehart
Indiana	Morgan & Wright	Batavia	Miller
Empire	Portage	Racine	Mohawk
Overman	Lee	Pennsylvania	McGraw
Rutherford	Miskawaka	Firestone	Republic
Fisk	Hood	Goodyear	Mansfield
Falls	Walpole	Diamond	
Gordon	Kelly-Springfield	Acme	

Ask any one of them about the AKRON-WILLIAMS PATENTED TIRE REPAIR VULCANIZER. Every one of these 30 leaders—and others—use A-W repair vulcanizers in their factories, branches and service stations.

SPECIFY A-W PATENTED VULCANIZER

You will eventually enter the TIRE REPAIR BUSINESS.

When you equip, specify the A-W Patented Tire Repair Vulcanizer. Demand what the 30 leading Tire Manufacturers use. Then you take no chance.

Get our catalog No. 12 and all the facts about A-W. Write us today.

THE WILLIAMS FOUNDRY AND MACHINE CO., Ash St., Akron, O.

The Waterhouse & Lester Co., San Francisco, Exclusive California Distributors

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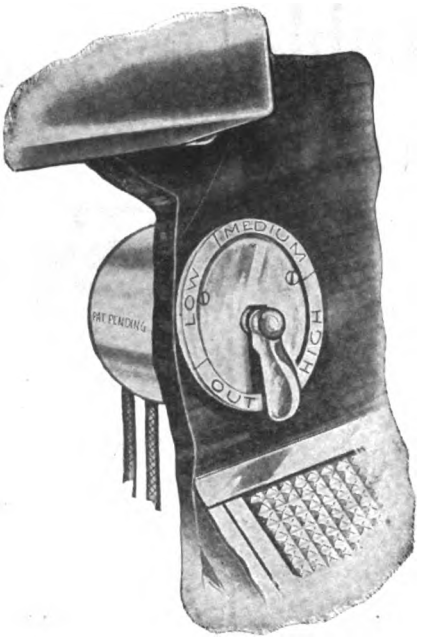
CHANEY AUTOMOBILE HEADLIGHT DIMMER

Blinding headlight glare is a menace. Safeguard yourself and others from accidents by attaching a CHANEY Headlight Dimmer.



It enables you to graduate the intensity of your light. Turn down electric light the same as you would an oil lamp. No need of side lamps. High, Medium or Low.

GUARANTEED 10 YEARS

All that shows is the plate and it is a little larger than a dollar. It can be placed on the floor or dash. If placed on the floor, the other part of dimmer is placed underneath; if placed on dash, the other part of dimmer is placed on the outside of dash.

Dimmer is 2 1-2 in. by 1 1-2 in.

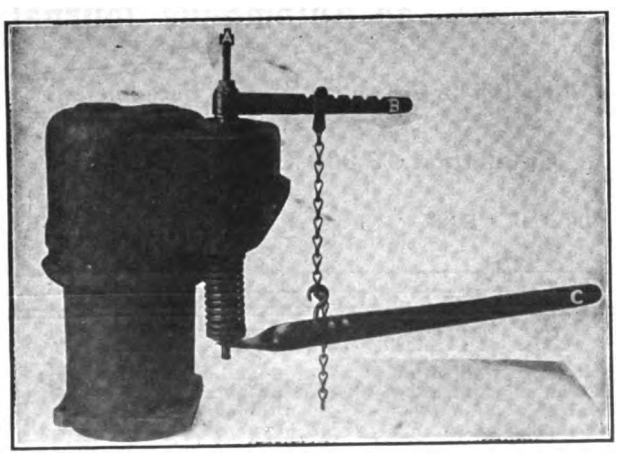
Recommended for Ford Electric Lighted Cars.

PRICE $3.50 COMPLETE

The CHANEY Dimmer can be placed on any car in 10 minutes. Easily worked with the foot.

DEALERS should write us at once and get our Trade Proposition. It means money to you right from the start. We stand back of every Chaney Dimmer you sell. No dealer can afford not to carry the Chaney Dimmer. Your trade demands them. Get in touch with us by first mail and secure agency for one of the best selling accessories ever offered.

L. F. CHANEY COMPANY, - - - Springfield, Ohio



WINSOR PATENT ADJUSTABLE MOTOR VALVE REMOVER

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained, will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.
LIST PRICE—Enameled black, each $1.50. Nickel plated, each $3.75
Extra barrels, each $1.20.

Dealers, Write Today for discounts. Manufactured by

Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

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PUBLISHED MONTHLY AT PAWTUCKET, R. I.

(Required by the Act of August 24, 1912.)

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(Signed) WM. H. BLACK, Member of Firm.

Sworn to and subscribed before me this sixth day of April, 1914.

(Signed) THOS. P. CORCORAN, Notary Public.

(SEAL) (My commission expires July 3, 1914.)

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Stevens Valves
Stevens Auto Tire Check Valve

Actual Size Complete Valve

Patents Issued 1,043,224---1,050,942---1,078,347 and others Pending.

Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve Stem.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Tire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

The Quickest Selling Accessory in the Market.

Agencies Wanted in All Unassigned Territory. Write for Terms and Discounts.

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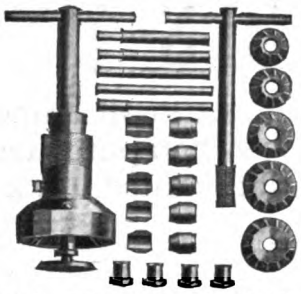
Fisher Building Chicago, Ill.

Labor Savers—Money Savers

Every Minute Saved Has a Cash Value to You. Time Economy Is Your Biggest Business Asset.



All Engine Valves Wear. Reseating Is the Only Certain Remedy. The Fosnacht Valve Reseater Is the Only Tool with Which Valves and Seats Can Be Restored Quickly and Accurately. Saves 75 Per Cent in Time and Does Work You Can Absolutely Guarantee.

Price Within Reach of All. This Tool Makes the Small Garage Equal to the Large. You Must Do the Saving to Make a Profit. Every Tool Guaranteed. Write for It Today.

KRAEMER

Valve Spring Releaser and Retainer. The Adjustable Jaw Adapts It for Any Spring. When Compressed the Spring Is Retained. Both Hands Are Free for Work. Will Save Its Cost on One Job, Removing and Replacing the Valves of an Engine. Is a Big Money Saver in Engine Jobs.

Price $1.50. Full Information for a Postal.

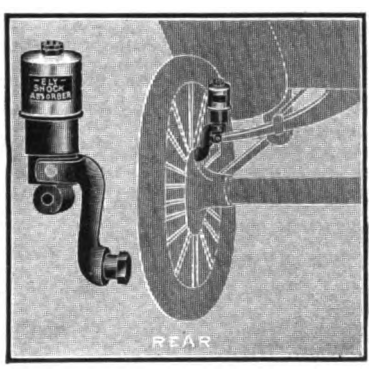
Chicago H.G.Paro **Illinois**

Suite 718-719 Michigan Boulevard Building 30 North Michigan Boulevard

SPECIALLY DESIGNED

Ely Shock Absorber

For FORD Cars



Highly Efficient, Easily Installed, Enduring, and Guaranteed for One Year.

The Best Selling Accessory in the Market. Selling Price:

Set of Four $12.50
Set of Two $7.00

SPECIAL DEALERS' PROPOSITION — Write Today for Prices and Discounts.

DONNELLY MOTOR EQUIPMENT CO., 1785 Broadway New York City

HALE

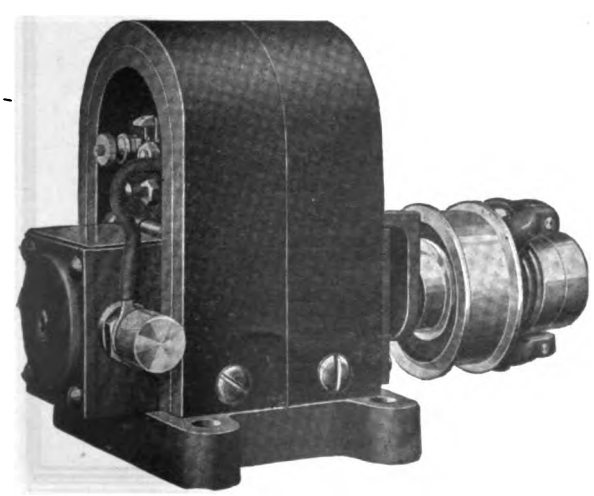
Portable Electric Air Compressor

Ideal Equipment for the Public or Private Garage

An Outfit of Steel Tank, Motor, Compressor and Gauges, Supplying 1.5 Cubic Feet of Air at 175 Pounds Pressure a Minute, 12 Feet of Hose and 12 Feet of Cable. Can be operated from any lamp socket.

Constructed of High Class Materials and Will Give Good Service for Years. Splendid Selling Proposition for Dealers and Jobbers.

HALE ELECTRIC & ENGINEERING COMPANY
1232 East Third Street Cleveland, O.



ELECTRIC LIGHTS for YOUR FORD - MAXWELL or CYCLECAR

The Eureka Lighting Outfits from $20 to $50

Depending on Capacity Required. Write for Details.

With or without Storage Battery

Special fittings furnished, which make installation easy for any garage man.

DEALERS—There's big profit for you in selling our lighting outfit. Write us today.

HENRICKS NOVELTY COMPANY
1575 St. Paul Street, Indianapolis, Ind.
Eastern Office—136 Liberty Street, New York

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.
Auto Parts Co., Providence, R. I.
Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.
Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Waite Auto Supply Co., 81 Exchange place, Providence, R. I.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)
Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1786 Broadway, New York City; 805 Woodward Ave., Detroit.
Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Hyatt Roller Bearing Co., Detroit.
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
Norma Co. of America, 1790 Broadway, New York City. (Norma.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Edison Storage Battery Co., 137 Lakeside Ave., Orange, N. J. (Edison.)
Geiszler Bros. Storage Battery Co., 514 W. 57th St., New York.
Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Russell Mfg. Co., Middletown, Conn. (Russco.)
Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn.
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.
Thermoid Rubber Co., Trenton, N. J. (Thermoid Hydraulic Compressed.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)
Branches: 1140 Michigan Ave., Chicago; 1211 Woodward Ave., Detroit; 1902 Broadway, New York City.
Zenith Carburetor Co., Detroit. (Zenith.)

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

American Voiturette Co., Detroit. (Keeton.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Knox Motors Co., Springfield, Mass. (Knox.)
Lexington-Howard Co., 131 Main St., Connersville, Ind. (Lexington and Howard.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Metz Co., Waltham, Mass. (Metz.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Premier Motor Mfg. Co., Indianapolis. (Premier.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
Willys-Overland Co., Toledo, O. (Overland.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Alma Motor Truck Co., Detroit. (Republic.)
Factory: Alma, Mich.
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Motors Co., Springfield, Mass. (Knox and Martin Tractor.)
Motokart Co., 1790 Broadway, New York City. (MotoKart.) Factories, Peekskill and Tarrytown, N. Y.
Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Signal Motor Truck Co., Detroit. (Signal.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Motors Co., Springfield, Mass. (Knox and Martin Tractor.)
Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Northwestern Chemical Co., The., Marietta, O. (Se-ment-ol Radiator.)
Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

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BUYERS' GUIDE---Continued

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 80 Flatbush Ave., Brooklyn, N. Y. (Ball Carbon Remover.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

FORD AUTOMOBILE SPECIALTIES.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS AND GASKET CUTTERS.

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HORNS.

Bonner, D. Henry, Co., Cambridge, Mass. (Tremo.)

Garford Mfg. Co., Elyria, O. (Tuto.)

JACKS, ETC.

Shawver Co., Springfield, O.

LAMPS, TAIL. (See Tail Lights.)

LEATHER GOODS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTING SYSTEMS, ELECTRIC.

Garford Mfg. Co., Elyria, O. (Dynalux.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Haws, Geo. A., 148 Front St., New York. (Panhard.)

Branch: 899 Boylston St., Boston.

Indian Refining Co., 17 Battery Place, New York City. (Havoline.)

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)

Northwestern Chemical Co.,. Marietta, O. (Gear-Silence.)

Platt & Washburn Refining Co., 1 Broadway, New York City. (Veedol.)

Standard Oil Co., New York. (Polarine.)

Branches: In all cities.

Vacuum Oil Co., Rochester, N. Y. (Mobiloil.)

Branches: 49 Federal St., Boston; 29 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; Ford Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.

Eisemann Magneto Co., 225-227 W. 57th St., New York City. (Eisemann.)

Branches: 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.

Heinze Electric Co., Lowell, Mass. (Heco.)

Holtzer-Cabot Co., Brookline, Mass.

Branches: 101 Park Ave., New York City, 161-65 So. State St., Chicago; 1005 Union Trust Bldg., Baltimore, Md.

Marburg Bros., 1790 Broadway, New York. (Mea.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LIST.

Owners' Auto List Co., Albany, N. Y.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PATCHES, TIRE.

Braender Rubber & Tire Co., Rutherford, N. J. (Cementless.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

International Metal Polish Co., Quill St. and Belt. R. R., Indianapolis, Ind. (Blue Ribbon.)

Morgan Mfg. Co., Dept. F, Newport, R. I. (MorganBrite.)

Northwestern Chemical Co., Marietta, O.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

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PUMPS, OILS AND GREASE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

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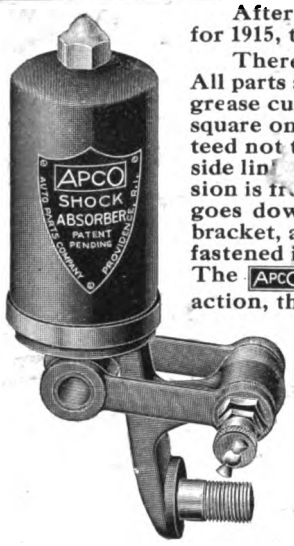
TRADE APCO MARK Safety First Shock Absorbers



After two years experimenting with different types and styles of shock absorbers, we offer for 1915, the APCO

There has always been a demand for quality absorbers for Fords and ours will fill the bill. All parts are 30 degree carbon steel drop forgings. Every bolt is a lubricating bolt fitted with a grease cup. Every bearing is phosphor bronze. The springs are square in section and ground square on the ends. They are made from the finest tempered alloy spring steel and are guaranteed not to settle or break during the life of the car to which they are attached. The cantilever side links prevent all side sway, reduce skidding and by using these links, the center suspension is free and therefore it requires no lubrication. The casing or shell is attached so that it goes down with the car and prevents the shell from being crushed by the front mud guard bracket, a trouble met with by practically every other absorber on the market. The shell is fastened in place by the top nut and can be removed easily but will not drop off on the road. The APCO Shock Absorbers have no internal strains within themselves to contend with and in action, they are as free and resilient as the air itself. They contain all that is good and efficient in shock absorber construction and resilient suspension. There are no castings of any description used in their make up. They will prevent spring breakage, increase tire mileage, reduce upkeep and lengthen the life of the car. Sold on a 30 days free trial. They cost more but they are worth more and when you realize that a broken shock absorber would turn your car over, we think you will pay the difference and be sure.

OUR GUARANTEE

We guarantee the APCO Shock Absorber for life and will replace any defective parts absolutely free of charge, including transportation charges and *cost of making the change.* This is the most liberal guarantee ever made and we know there will be no replacements or we would not make the offer.

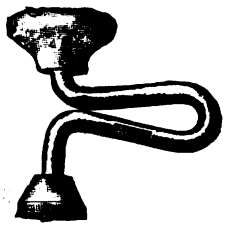
PRICE per Complete Set - - $25.00
Half Set, Front or Rear - - 12.50

Prepaid anywhere in the United States

VALVE GRINDERS

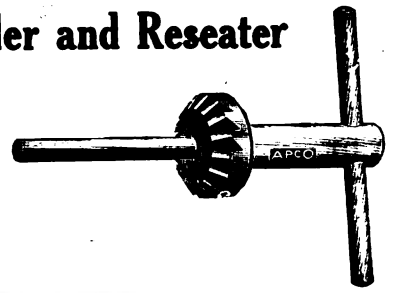
We have just placed a large order for Grinders and are pleased to offer them at half our previous prices

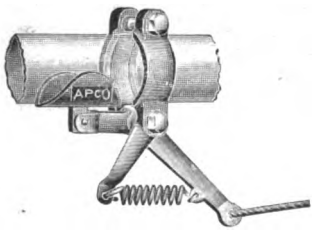
List 25c. Dealer 17 1-2c



Valve Grinder and Reseater

$2.50
Per Set



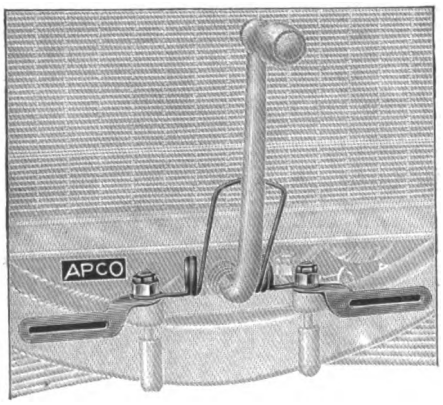


Muffler Cut-Outs

Now furnished with chain instead of cable. Lock open pedal screws, etc. Complete

List $1.00
Dealer 65c

Dealer $1.75



New Apco Starting Crank Holder

Ford Owners have been looking for an Automatic Starting Crank Holder and here it is. Made from one piece of spring steel. Easily applied, positive in action and no attention is necessary. Does not interfere with spinning of the car and holds the crank out of the mud and stops the rattle.

Application is simple. Remove two nuts from spring clips and put on holder, pointing up, as shown in cut. After cranking car, lift crank to position shown in cut and it will stay there.

PRICE COMPLETE 25 CENTS

AUTO PARTS COMPANY

PROVIDENCE, R. I.

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$2.00 the YEAR

THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV PAWTUCKET, R. I., JULY, 1914. NO. 3

PANHARD OIL

QUALITY, ALWAYS QUALITY!

The DEALER WHO BUYS WISELY BUYS STOCK OF KNOWN QUALITY.

His market is always constant, his stock has a definite value and his profits are sure.

The MOTORIST WHO BUYS WISELY BUYS WHAT HAS A RECOGNIZED QUALITY.

He is certain of satisfaction, he can depend upon results, and he has the guarantee of both dealer and manufacturer.

KNOWN QUALITY means guaranteed satisfaction from a standard established by continued use in all conditions.

PANHARD OIL has been a STANDARD of the trade for 11 years. Its recognition has been through its uniform excellence.

PANHARD OIL QUALITY has been proven innumerable times. It has never failed to satisfy.

PANHARD OIL DEALERS have the benefit, the prestige and the advantage of universal recognition by the motoring world, the guarantee and the support of a firm of highest rating, and a market absolutely established.

The AGENCY proposition is Panhard quality, too. Write TODAY for details.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK

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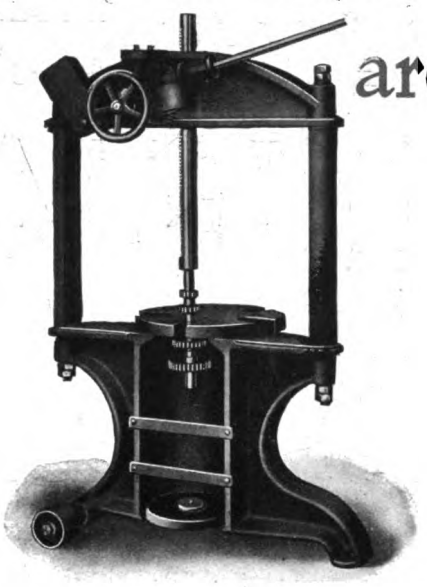
GREENERD ARBOR PRESSES

SAVE TIME AND MONEY

AND HELP TO CIVILIZE

Some Automobile repair men are looking foward



to the time when they can make a forcing press. The home-made press seems to be all right until it is about finished, when the weakness or unhandiness appears.

The first time the press is used the maker is disappointed.

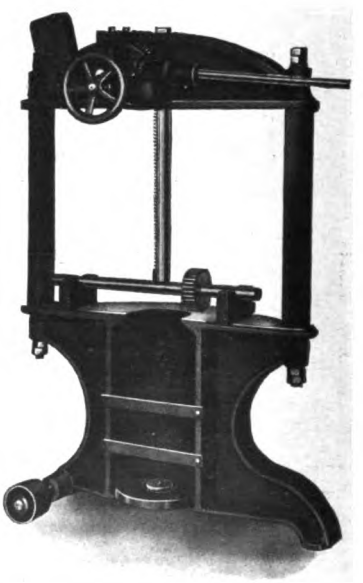
The first machine is usually a failure.

This home-made press has undoubtedly cost more than would a

No. 15 Greenerd Arbor Press

A score of practical mechanics using the Greenerd Arbor Press have given us their ideas and experiences.

In this way we have been able to build a press that brings us unsolicited testimonials, thus,–



40 Mathewson St., Providence, R. I. July 15, 1914.
Edwin E. Bartlett, Boston,

Dear Sir:- The No.15 Greenerd Arbor Press is proving more usful every day. We would not be without one for three times its cost. We are discovering new uses for the press that we did not think of when we bought it.

You are at liberty to refer any one to us.

Yours truly,
CORP BROTHERS.

Why wait? Sometime you will have a
GREENERD ARBOR PRESS.

Edwin E. Bartlett, 326 A Street, Boston, U. S.

MACHINE SHOPS

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PAY FROM THE PROFITS

Free Trial Offer

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.

The Original Welding Outfit Costs Less Than Imitations---Sold on Terms to Prove Its Value.

$42

NO DULL TIMES IF YOU OWN A

Waterhouse Welder

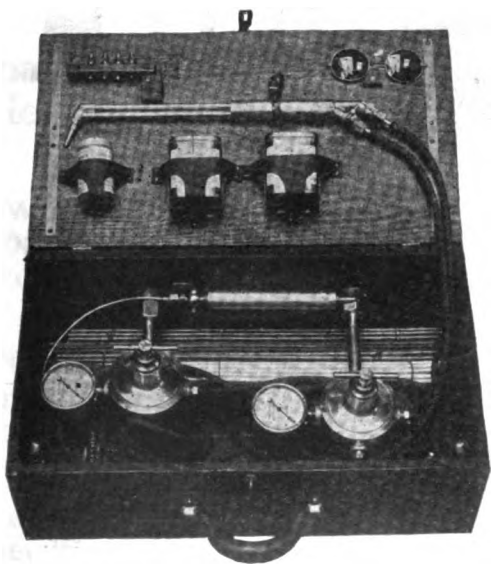
U. S. PATENTS
Nos. 1,039,036 and 1,075,818

$42

Protect Yourself!

Buy the Right Apparatus

Positively Non-Flashable
Lowest in Operating Cost
Built by the Pioneers



If you already have a regulator for carbon burning, the oxygen regulator with the equipment is unnecessary and you can deduct it ($10.25) from the whole amount.

$42

What You Get.

1 B Welding Torch with 5 tips	**$17.00**
1 Oxygen Reducing Valve with 50 lb. line pressure gauge . .	**10.25**
1 Acetylene Reducing Valve with 50 lb. line pressure gauge .	**11.00**
1 Set of Special Welding Hose (20 ft.)	**3.00**
1 Pair of Welding Glasses . .	**.75**
1 Carbon Burning Torch . .	**Free**
1 Set Instructions	**Free**
	$42.00

Terms: 5% discount cash with order or C. O. D. *or* $12 cash with order, balance in 3 payments of $10 each, 30, 60 and 90 days *after receipt of outfit by you.*

If supplies are desired as well, we sell for $4.50 additional the following, making you ready for any auto welding:

1 Bottle Aluminum Flux.
1 Can Cast Iron Flux.
1 Can of Copper and Brass Flux.
2 pounds Brass Welding Rods.
5 pounds Cast Iron Welding Rods.
2 pounds Aluminum Welding Rods.
2 pounds of Steel Welding Rods.

Waterhouse Welding Company

3 PELHAM STREET, BOSTON, MASS.

Established 1908 **Welding and Cutting Equipments Exclusively**

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Sell Sullivan Trucks

The DEALERS' PROPOSITION of the Sullivan Motor Car Company Is the Broadest Ever Made By a Motor Truck Manufacturer.

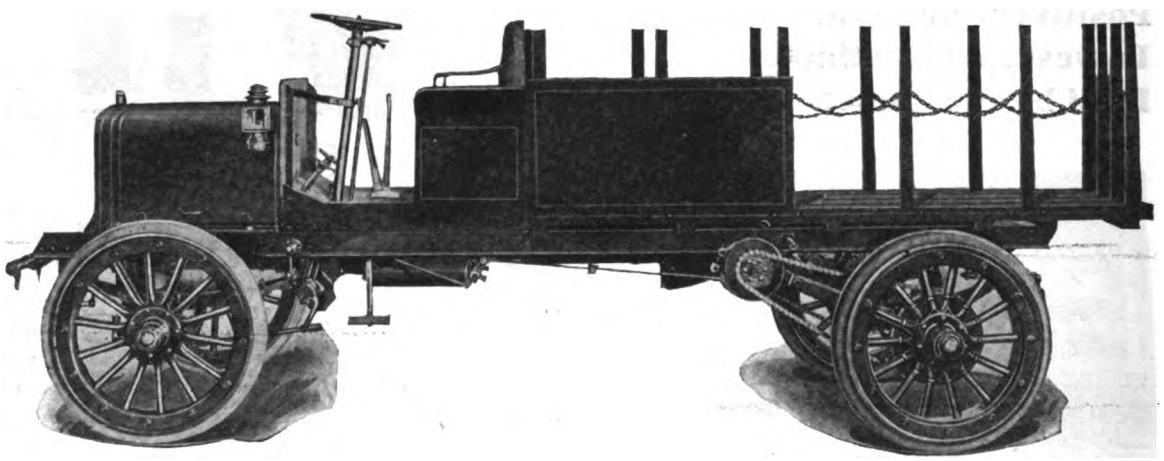
The Sullivan Motor Trucks Are the Development of 30 Years' Experience Building Commercial Vehicles.

Model G2 Truck, 3000 Pounds Capacity, is the Greatest Truck Value Ever Offered in the Market.

A Standardized Machine, Built of the Best Material the Industry Can Produce, Designed for Universal Utility, with the Greatest Simplicity, Accessibility, and the Largest Economy for Operation and Maintenance.

Sullivan Cooperation, Sullivan Service, and the Sullivan Guarantee of Quality, Workmanship and Material is Assured Every Dealer and Every Owner.

The Market for Sullivan Trucks Is the Largest That the Motor Vehicle Industry Can Develop, and the 3000 Pound Model G2 Sullivan Truck Was Designed to Meet a Universal Demand.



Model G2 Sullivan Truck, Capacity 3000 Pounds, Price, (Chassis) $1600

THE SPECIFICATIONS:

Motor—Four-Cylinder, Vertical, Cast Enbloc, Bore 3 3-4"x4 1-2" Stroke.
Ignition—Bosch Magneto.
Transmission—Selective Sliding Gear, Three Speeds Forward and Reverse.
Front Axle—I-Beam Drop Forging. Roller Bearings.
Rear Axle—Drop Forging 1 5-8"x2 1-4". Roller Bearings.
Springs—Front, Semi-Elliptic; Rear, Half Platform.
Frame—Channel Steel, 5" Section.
Brakes—Service on Jack Shaft; Emergency on Rear Wheels.
Chains—Quick Detachable, Heavy Duty.
Wheels—Front, 14 1 3-4" Spokes; Rear, 14 2" Spokes; Best Second Growth Hickory.
Tires—S. A. E. Standard, 36"x3" Front, 36"x4" Rear.
Clutch—Leather-Faced Cone.
Cooling—Vertical Tube Radiator, Thermo-Syphon.
Control—Levers in Center.
Wheelbase—129".
Tread—56"
Speed—Maximum Allowed by Governor, 18 Miles.
Equipment—Horn, Tools, Three Oil Lamps, Driver's Seat.

SULLIVAN MOTOR CAR COMPANY

ROCHESTER, NEW YORK

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

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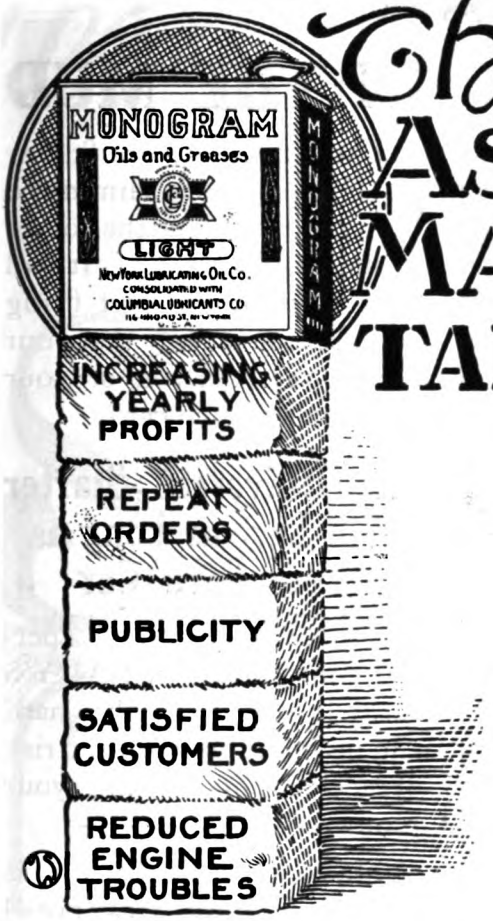

The GREATEST ASSET FOR THE MAN WHO RE-TAILS AUTOMO-BILE OILS

IS A KNOWN LUBRICANT OF QUALITY

The DEMAND for STANDARD, RECOGNIZED Oils, like the MONOGRAM Brands, will more than offset the gains made by selling inferior grades, unless a dealer deliberately swindles his customers, by substituting cheap quality lubricants.

The honest dealer is as careful of the brands of oil he sells as is the car owner of the oil he buys. A QUALITY OIL means for the dealer a constant business and certain profits, and for the purchaser positive satisfaction and the greatest value for his money.

The MONOGRAM QUALITY and MONOGRAM SELLING POLICY equally protects the dealer and the owner. MONOGRAM OILS are sold with an ironclad guarantee of quality, and in sealed packages that insure the purchaser that he is receiving precisely what he wants.

MONOGRAM OILS have been maintained at a definite standard for years. They have been proven in every condition of use. They have been exploited until their value is known wherever motor vehicles are used. The demand for MONOGRAM OILS is universal.

A MONOGRAM AGENCY IS THE BEST BUSINESS ASSET A DEALER CAN HAVE

The MONOGRAM OIL selling proposition is liberal and will interest any dealer. It will be explained in detail at request.

NEW YORK LUBRICATING OIL COMPANY

Consolidated with the COLUMBIA LUBRICANTS CO. OF NEW YORK

116 BROAD STREET, NEW YORK CITY

Branches at Newark, Boston, Chicago, Cleveland, Philadelphia, San Francisco, Los Angeles, Portland, London, England, Johannesburg, South Africa. Distributing stations in all principal cities.

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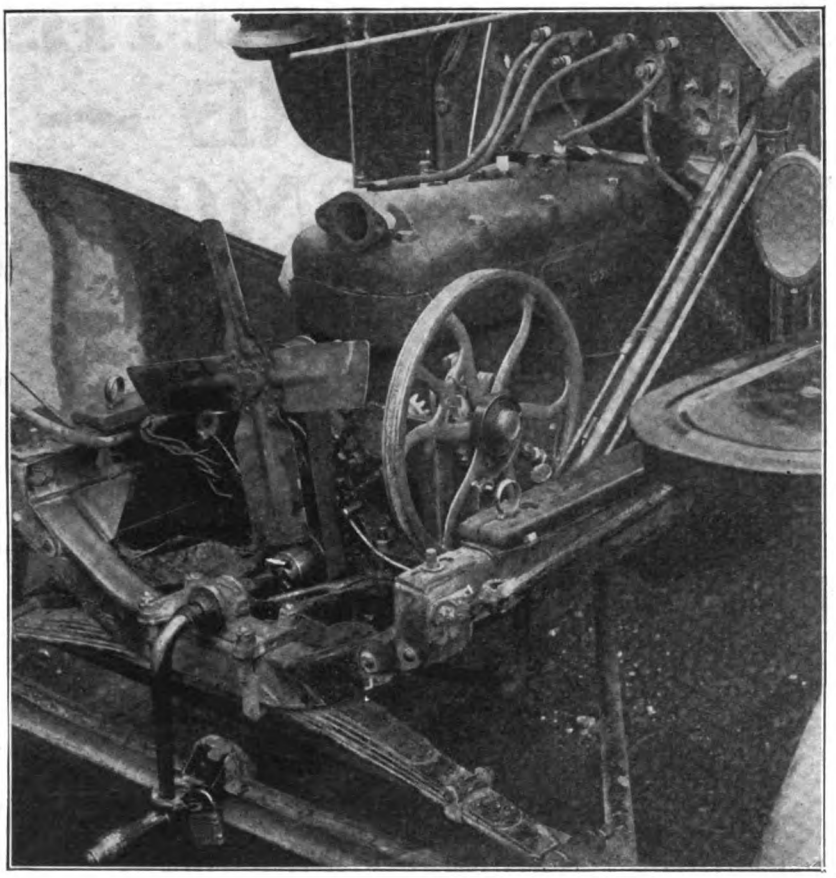
NO MORE BROKEN ARMS
NO MORE CRANKING IN THE MUD



The Universal Ford Starter for Ford cars has eliminated both the danger and the bother in starting the motor. It will turn your motor past firing compression so easy that your twelve year old son or your wife can start the car.

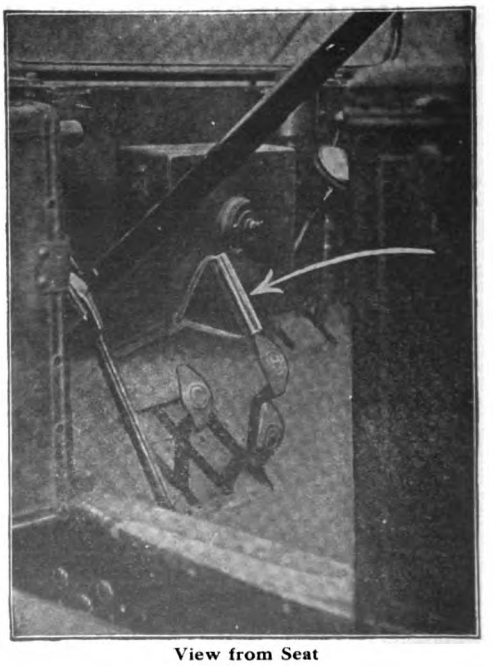
The Universal Starter Will Last as Long as Your Ford Car

It makes the Ford car a perfect convenience—a LADY'S car. It eliminates the hard and disagreeable work and risk of accident in starting your motor.

The Universal Starter is really the most practical Starter manufactured, regardless of price. It is always ready. There are no wires to short circuit, no dynamos to go wrong, and no storage batteries to run down. Get in the seat, adjust the starting mechanism, touch the priming device, pull the starting lever, and the motor starts.

When you trade your old Ford in for a new one you will take off the Universal Starter and put it on the new car. It is simple, easy to install and will outlast the car.

On account of its simplicity it can be manufactured and sold at a price that makes the cost a secondary consideration.



View from Seat

Ask Your Dealer to Demonstrate It to You. If He Does Not Handle It Yet, Write Us Direct.

WE POSITIVELY GUARANTEE

the Universal Starter against mechanical defects and to do all we have claimed in this advertisement, for one year. *Write us today for full particulars.*

UNIVERSAL MANUFACTURING CO., Dept. 3, RACINE, WISCONSIN

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"The Lubricant that Kills Heat"

SPEDOLENE

For Transmissions, Universal Joints Differentials, Timing Gears, Worm Gears

Is Revolutionizing Automobile Lubrication

If it were possible to reach 100% efficiency in lubrication practice, automobiles would never wear out. Spedolene gives the highest efficiency possible to secure in gear lubrication, consequently it makes an automobile last longer and give better service than any other lubricant. From every standpoint, Spedolene has proved to be the ideal lubricant for all automobile gears.

Asbestos the Foundation of Spedolene

A lubricant manufactured with asbestos is revolutionary in principle, chiefly because this idea is such a radical departure from ordinary methods. As employed in Spedolene, asbestos becomes the foundation of one of the most valuable lubricants ever discovered.

Investigation and trial, either by the engineering expert or the motoring amateur, are sufficient to convince any one of the practicability, and the superiority, of this foundation. Spedolene has revolutionized the gear lubricating problem of the country in less than three years and is unquestionably the greatest success in the shortest period of time in the history of lubrication.

LOOK FOR THIS SHIELD

ON EVERY CAN AND BARREL

Those who are using Spedolene find that it will positively eliminate gear noises; will not run out or throw out at axle drums or gear cases; will not gum; will keep the gears cool, as well as lubricate them; will last longer than any oil, grease or compound; is not affected in any way by any degree of heat or cold; has no corrosive action, no fats, grease, acids, lye, soda or water; is the most efficient and economical lubricant under any temperature.

Used Extensively in Foreign Countries.

Where You Can Get Spedolene

Spedolene is now sold by progressive dealers in many parts of the country. If you experience any difficulty in getting Spedolene from, or through, your regular dealer, we will see that you are supplied, without expense or inconvenience. Ask your dealer or write us.

Dealers: We are rapidly extending our distributing organization and need an agent in every town, city and state. Write us to-day for full information. Every live automobile dealer and jobber can profitably add Spedolene to his stock.

Continental Asbestos Corporation

Manufacturers of Asbestos Lubricants, etc., Spedolene, Journolene, Asbestolene, Cupolene, Axolene, Gearolene

Worcester, Mass., U. S. A.

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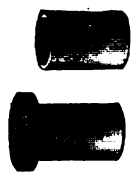
FORD DEALERS AND REPAIRMEN

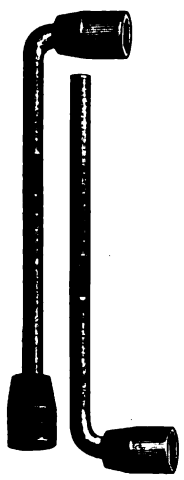
Do you know that the APCO Line of Repair Parts for Ford Cars consists of more than fifty of the best selling articles on the list and our prices represent a saving of 25 per cent. over the factory prices? The goods are absolutely guaranteed in every way and by insisting on APCO you are absolutely protected against inferior substitutes.

APCO STEERING GEAR BUSHINGS



Consisting of four large bushings and two small as shown in cut. Ford Repair Catalog No. 2713-2714. They are both turned from the highest grade bearing bronze obtainable and we are sure a set will outlast three sets of the ordinary soft brass that you are familiar with.

Price 10c Each



APCO SOCKET WRENCHES

On the Model T" Ford" it is necessary to remove the cylinder head to grind the valves and to do this the sixteen bolts in the cylinder head have to be removed. It is impossible to remove these without a special wrench and we have designed our No. 1 and No. 2 socket wrenches for this purpose. They are made from high grade hardened steel throughout and will outlast two or three cars. Both sockets on the double wrench are the same, but the bolt is loosened with one end and spun out with the other.

PRICE

No. 1, Double End 50c
No. 2, Single End 40c

APCO ADJUSTABLE SPINDLE ARM BOLT

These bolts are made to take the place of Ford part No. 2718, but they are hardened and ground and will outwear ten of the soft ones you are familiar with. As shown in the cut they are 1-16 inch shorter than the regular bolt and are made this way so as to provide an adjustment, which, heretofore, has been impossible. Tightening down on bolt closes up the yoke on steering arm and prevents rattle from this source. This adjustment is easily made and it will be appreciated by Ford owners.

Price 20c Each

EMERGENCY BRAKE SHOES

These are furnished in Iron and Manganese Bronze. Price is for complete set.

Iron 80c Bronze $2.50

APCO FORD LOCK WASHERS

To be used under nuts instead of using cotter pins. Size 3-8 inch.

5c Dozen

No. 2811 Small Ball, 3-8 in. **4c Each**
No. 2810 Large Ball, 1-2 in. **5c Each**

APCO HOSE CLAMPS

These clamps are the famous "Thompson" same as used on the Ford car. They represent the highest development of hose clamps and are very easily adjusted and removed. They are twice as heavy as the regular clamp and will last twice as long. We are able to quote the same price as on the cheap kind, owing to the large quantity we use.

5c Each
Large Hose Connections 25c Each
Small Hose Connections 25c Each

No. 2704

Inner Stationary Cone for inside bearing of front wheel.

Each 30c

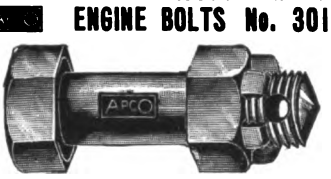
No. 2807
LARGE RETAINER
Each 5c

No. 2808
SMALL RETAINER
Each 5c

No. 2805
Large Inner Ball Race.
Each 35c

No. 2804
Small Outer Ball Race.
Each 25c

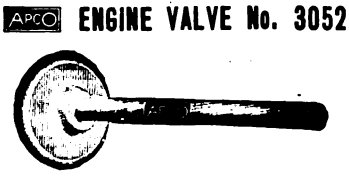
APCO ENGINE BOLTS No. 3014



With casteled nut and hole for cotter pin. Size 3-8 inch. Threads run to within 1-4 inch of head of bolt.

5c Each

APCO ENGINE VALVE No. 3052



This is as good a valve as they use on the high priced car. Steel stem cast iron head.

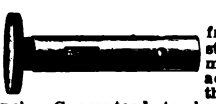
30c Each

REAR AXLE FELT WASHERS No. 2510-B

Made of high grade felt and if these won't keep the grease in the axle housing, nothing will.

5c Each

APCO PUSH ROD



These rods are made from the highest grade steel obtainable, finely machined, hardened and accurately ground to the thousandth part of an inch. Guaranteed to be satisfactory in every respect.

Price 20c Each

APCO PISTON RINGS

These rings are made from the very best close grained gray iron and each ring is cast individually instead of being cut from a pipe shaped casting. They are carefully machined and accurately ground to size and are superior in every way to the ring you are familiar with at the same price.

Price 17c Each

No. 2705-6.

Right and left Adjusting cone. For outside bearing of front wheel.

Each 20c

APCO SPINDLE BODY BOLT

This is to take the place of Ford part number 2710. It is made from high grade steel and is ground after hardening. This is a very important feature as each bolt must be perfectly true and straight, while those that are hardened after grinding are inclined to be distorted in the hardening process. You can see the quality at a glance.

Price 40c Each

Fourteen Branches in Fourteen Cities. Write for One Nearest You.

The Largest Ford Specialties Manufacturers in the World.

AUTO PARTS CO., Providence, R. I.
Please send me catalog and discount sheet on Ford parts, also address of nearest branch. Send special discount proposition on first order.

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AUTO PARTS COMPANY

PROVIDENCE, R. I.

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., JULY, 1914. No. 3

BOSCH ABSORBS RUSHMORE WORKS.

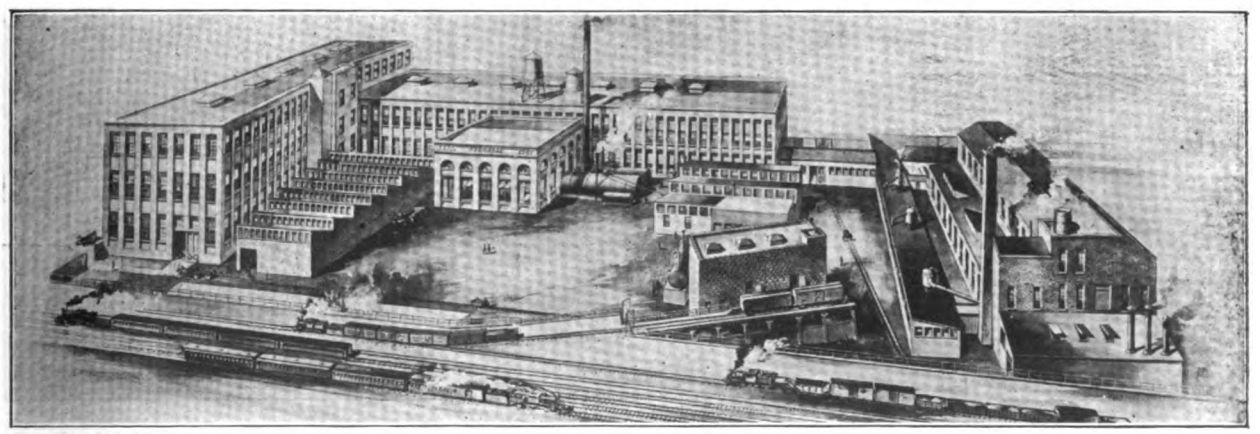
Company Will Manufacture Full Electric Car Equipment, with Motor Starters, Dynamos, and Lamps Under Trade Name of Bosch-Rushmore.

WHAT is considered the largest merger of the motor vehicle electrical accessory industry was consummated July 11, when the Bosch Magneto Company, New York City, absorbed the Rushmore Dynamo Works, Plainfield, N. J., one of the oldest concerns of the kind in the country. Announcement of the Bosch lighting and starting system was made last autumn, but no extensive advertising and selling campaign was inaugurated. Careful analysis of the market demonstrated very large undeveloped possibilities. The great advantage to both the vehicle builder and the owner having a complete electrical equipment for ignition, lighting and engine starting produced by one manufacturer, and all of a quality recognized as standard throughout the world, was such that the company decided to develop its resources for producing lighting and starting systems that would be sufficient to meet any demand made upon it.

With this policy the Rushmore Dynamo Works were taken over in their entirety. The Plainfield plant will be known as the Rushmore Works of the Bosch Magneto Company and operated in conjunction with the Springfield, Mass., factory and will have manufacturing facilities probably second to none for the particular lines to which they are devoted.

The Bosch Magneto Company will continue to manufacture and market its well known ignition apparatus and specialties and the production and marketing of all products of the Rushmore Company. The selling organization, method of distribution and supply is exceptionally large, there being, beside the four branch houses, a main office and more than 239 distributors and supply stations.

The addition to the Bosch Company production department is more than 100,000 square feet of floor space, with equipment entirely modern and complete. At the Springfield works of the company, all material is received and shipped on a private siding from a main line of a through railroad. The Rushmore Works has its own foundry equipped with power moulding machines; it has its own lens grinding factory in fact, every part of the Rushmore-Bosch products including lamps, searchlights, lighting and start-



Rushmore Dynamo Works, Plainfield, N. J., Purchased by the Bosch Magneto Company—The Plant Is Now Known as the Rushmore Works of the Bosch Magneto Company.

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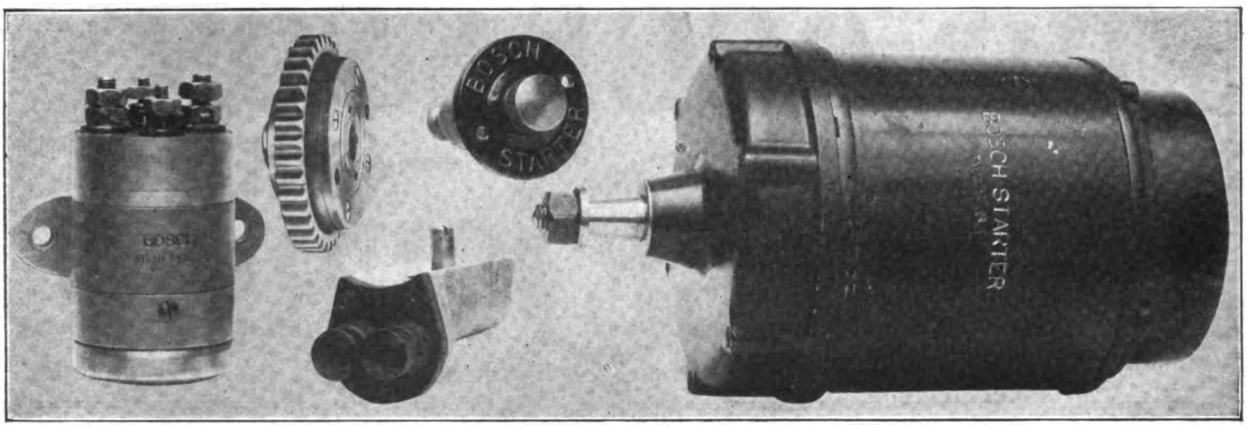


Bosch Starting Motor with Over-Running Clutch.—The Main Starting Switch Is Shown at the Left; the Small Lower Illustration Is the Pilot Switch Above Which is the Automatic Ignition Switch.

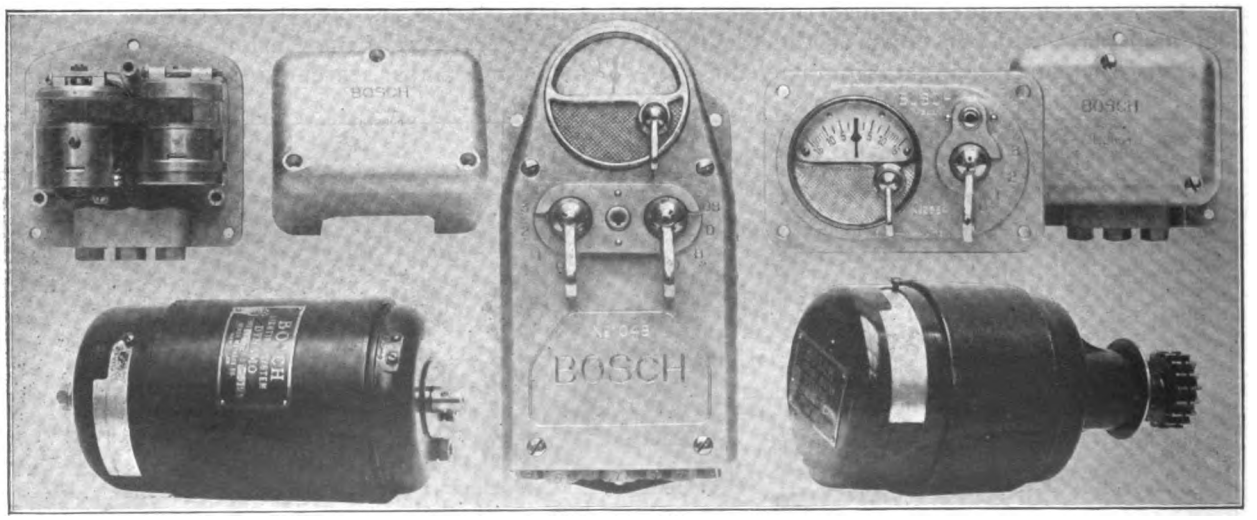
ing systems for trains, automobiles, motor boats, etc., can be produced in the new plant. The factory employs more than 700 men, and the Springfield works is even larger.

The growth of the Bosch Magneto Company is one of the most interesting annals of the automobile development. The Bosch magneto was first built by its inventor, Robert Bosch, in a small shop in Stuttgart, Germany, about 1885. Twelve years after Mr. Bosch established his two-men magneto plant, he was ready to enter the foreign field and in 1900 a selling agency was made in France under the name of the Compagnie des Magnetos Simms-Bosch, with Frederick R. Simms as selling representative to introduce the magnetos in France and England under the name of Simms-Bosch. After several years the arrangement was terminated. Mr. Bosch taking all rights to the trade name, trade marks, etc.

In 1903 a factory was built in Stuttgart, and two years later the plant was increased, having then an annual output of 40,000 magnetos. In the summer of 1906 a selling branch was located in New York City, directed by Otto Heins, E. E., president of the Bosch Magneto Company, for the purpose of introducing and distributing Bosch magnetos in America. Under his direction the business has grown at a remarkable rate. At first the magnetos were imported, but several years ago a modern plant was erected at Springfield, Mass., where Bosch magnetos are manufactured complete, save a few small parts that are still made abroad.

The absorption of the Rushmore Dynamo Works will greatly increase the business scope of the Bosch Magneto Company, New York City, and its products for 1915 will be very much more general. The company now produces magnetos in a great variety of types, electric motor starters and generators, lighting accessories, starting switches, oilers, searchlights, a battery ignition system, control devices, spark plugs, etc. The Bosch Magneto Company occupies a unique position in the automobile industry in that, with the exception of electric horns, it can supply all electrical equipment needed or desired for the average modern car.

The Bosch lighting systems include five different generators, with a diversity of design that the company may meet the many requirements as to mounting, drive and speed. The two Bosch motor starters are over-running clutch types and are 12-volt machines, the standard voltage of the company, such as is generally used abroad. The Bosch company states that it has overcome



Bosch Lighting Dynamos.—The Upper Left View Is the Control Box with Cover Removed; the Centre Is the Bosch Combination Switch and Control Box for Standard Dashboard; at the Right Is the Lighting Switch and Control Unit for Cowl Dashboards.

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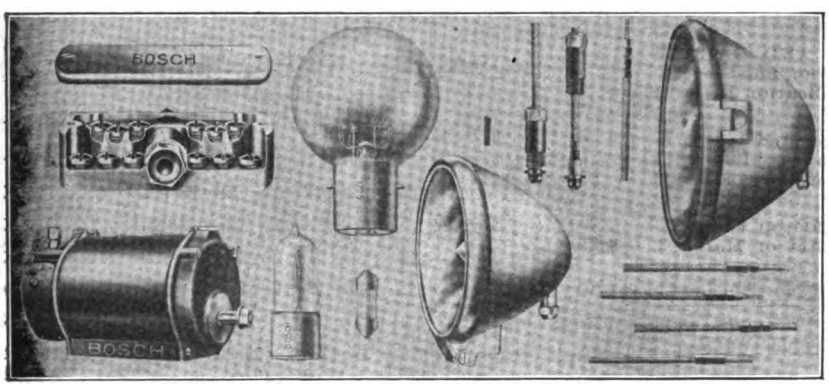
the obstacles to manufacturing lamps of this voltage, and that there is now an advantage in the use of a 12-volt system, as the current required for any particular lamp load is considerably less than with a six-volt system. As the commutator of the first-named system is smaller, the loss due to brush friction and electrical resistance is less.

The Bosch lighting generators are of the shunt wound type, and the excitation of the field magnets is governed by an automatic controller of the electro-magnetic type carried in the switchboard. This controller reduces the strength of the field as the speed increases and conversely increases the field strength as the speed decreases, thus maintaining the output of the dynamo constant.

The switchboard is a novel construction and is made for standard and cowl dashes. The switch is a kick type and affords use of the battery or dynamo, or both, for carrying the lamp load. A combination voltammeter is included, and the double reading scale shows both charge and discharge currents. A quality of the switchboard is a removable key.

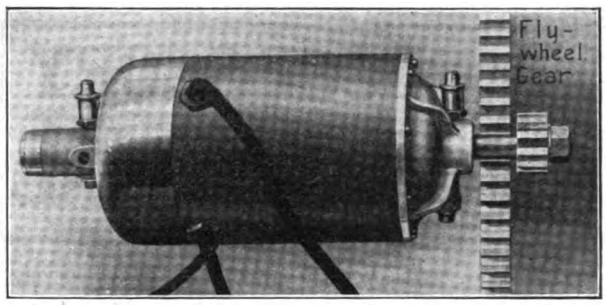
The Bosch Magneto Company will market two types of motor starters, the Bosch, which includes an over-running clutch, and the Bosch-Rushmore, which is a direct drive to the flywheel construction. Both will be wound for 12 volts, permitting of their use in conjunction with Bosch dynamos.



The Bosch Dynamo with Magneto Shaft Height Drive and Base, and the Accessories Utilized with the System.

An interesting type of starter switch is utilized with the Bosch design, one eliminating long leads, devices in the circuit, etc. In the Bosch system the switch proper and its operating device are separated. The switch is actuated magnetically and is attached directly to the starting motor. The energizing of the switch magnet is by a pilot switch, composed chiefly of a plunger through the dashboard, which is pressed by the driver. Closing the pilot switch energizes the switch magnet, admitting current to the motor starter. This eliminates the necessity of resistance in the circuit.

The Bosch Magneto Company is marketing a safety device which automatically retards the spark in case the driver cranks the motor by hand. This device, which is shown in the group of motor starters, is attached to the forward part of the engine and is so arranged that when the starting crank is introduced by the driver, he automatically pushes aside an arm which is connected to the ignition lever, retarding the spark.

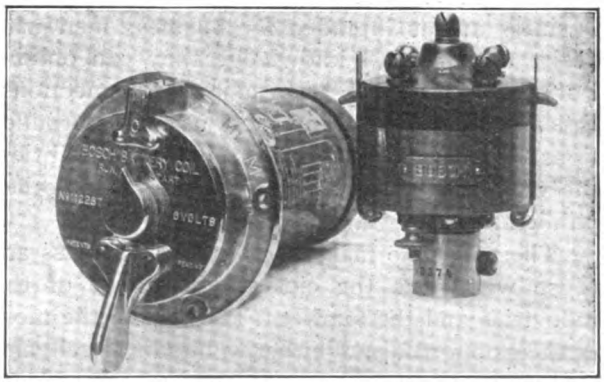


Bosch-Rushmore Starting Motor, a Type Especially Adaptable to the Used Motor Car.

The motors, generators and accessories of the Rushmore system are well known and will be continued under the name of Bosch-Rushmore. The line includes three dynamos of different size, all wound for six volts; four starting motors wound for six volts, and three starting motors wound for 12 volts.

The Bosch-Rushmore starting motors are simple four-pole machines of comparatively low speed, with forged steel electrically welded frames. The armature shaft carries a small pinion which meshes directly with a gear secured to the flywheel of the engine, obtaining a single reduction, one resulting in a high efficiency of transmission as well as a high starting speed. The driving pinion is meshed and unmeshed automatically by a patented end throw of the armature and spring. The device is particularly adapted for equipping used motor cars and it is easily installed. A feature of the Bosch-Rushmore dynamo is the manner of controlling the charging current. Its principle involves use of high positive temperature and resistance coefficient of iron.

The Bosch Magneto Company is also marketing a battery ignition system, comprising a combined circuit breaker and high-tension distributor. The circuit breaker is practically the same as used in the magnetos constructed by this company, except that it is operated by an external instead of an internal cam.



Bosch Battery Ignition System, Consisting of Combined Circuit Breaker and High-Tension Distributor.

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. JULY, 1914. NO. 8.

AUTOMOBILE JOURNAL PUBLISHING CO.
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William H. Black, Treasurer. D. O. Black, Jr. Secretary.
Publisher of
THE AUTOMOBILE JOURNAL THE MOTOR TRUCK

Offices in New York, Chicago, Detroit and Boston

SUBSCRIPTIONS.

The United States and Mexico, the year, $2 in advance; Canada and Foreign Countries in Postal Union, the year, $3 in advance. Twenty cents the copy.

CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

YOUR BUSINESS OPPORTUNITIES.

The value of the Accessory and Garage Journal to every interest of the automobile industry is the information it contains that relates to your business. It reaches every manufacturer, sales manager, sales agent, jobbing house, dealer, garage or service station owner or manager, and repair shop 12 times a year with a wealth of facts that are pertinent and will concern every reader.

The Accessory and Garage Journal is a collation of dependable information, all of which is verified. Every detail is authentic. It is purely business and is intended for business men who desire the broadest knowledge they can obtain. For those who wish to reach new connections, to learn of the latest and most perfected productions, to learn of practical selling possibilities, the magazine cannot be equalled by any other publication.

The men who make successes of business are those who have the closest knowledge of the industries and the market. They make the most of their opportunities, either to buy or to sell, and they learn of them by studying the demands of the people and supplying them. Reaching business men, the real buyers, the publicity value of the Accessory and Garage Journal is 100 per cent. at all times. Its distribution is made with the strongest guarantee to advertisers that can be made. As an advertising medium it is unequalled.

MODERN EQUIPMENT.

Competition is the life of business. The garage or repair shop not equipped with modern time and labor economizing facilities cannot expect to compete with those that have installed them. For example: It is hardly probable that a customer will sanction the dismantling of the motor when carbon deposits must be removed from the cylinders, when the work can be performed in less time and at less expense by the oxygen process. Not only does the modern equipment of the repair shop save time and money for the customer, but it advertises the garage. The motorist has been educated to prompt and efficient service and to charges proportional to the work performed. The day of the poorly equipped repair shop is past.

QUALITY, NOT QUANTITY.

The garage or dealer who attempts to foist inferior quality goods upon his customers because of the profit accruing is penny wise and pound foolish. No concern can expect to build a stable business by such methods. Experienced buyers are not caught, but hundreds of new motorists are frequently influenced. The result of such salesmanship is the eventual loss of custom. The original packages are demanded by purchasers who know what they want and insist upon having their requirements satisfied.

VALUE OF SYSTEM.

The value of a system accounting for all material, parts, labor, etc., and the disadvantages of slip shod methods, was strikingly demonstrated in court recently. The time and material were questioned in the one case, but the system of the plaintiff enabled him to account satisfactorily to the court. The other repairman's method of keeping track of time and labor was such that the amount sued for was considerably reduced by the court.

TOOLS AND SUPPLIES.

The arrangement of tools, etc., in the repair shop is not always given the consideration deserved. It is a simple matter to construct racks or stands in which the workman can locate tools quickly. A systematic arrangement of the tools will save valuable time that is wasted in finding them if scattered over benches or the shop floor.

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PRACTICAL GARAGE ACCOUNTING.

Comprehensive System Developed to Provide for a Public Service Station Conducting a Car Agency, Repair Shop and Accessory Department.

WHEN a garage proprietor arrives at the conclusion that he is not securing the profits to which he believes his investment entitles him, he ought immediately to institute inquiry into his business to locate the trouble. It is possible this may disclose it, but unless he has been in close touch with the activities of the different departments he will be confronted with a tedious task. He may conclude that finding the leak is practically an impossibility, but the idea of again facing the deficit is by no means pleasing. He can begin another and different kind of investigation,—that of securing a corrective.

The only protective remedy to prevent leaks which always cause a substantial loss, is the inauguration of a system of account keeping, which protection may have been neglected principally because the owner was too busy to consider the matter. When there is a deficit he realizes the importance of a system that will cover all departments. The all important question of finding a simple method has to many been difficult to solve.

However, there are systems that are suitable and are not complicated and confusing. It is essential always to select a system that does not require a complex set of books. The method herein described has been used to advantage in a garage of large proportions for a considerable period and the owner is able to learn at a glance the volume of business he is doing. For accounting purposes the books deal with four departments, namely, sales, supplies, garage and repairs.

A fixed charge for each department, including such items as rent, interest, light, power, water, advertising, office expense and salaries is made, and as this is based on the expense of the year previous, it permits comparison for any particular month and shows whether there has been a deficit or gain. In the bookkeeping there is a ledger account for each department in which the charges are made for each division. On the credit side are placed all the earnings, the balance indicating the profit or loss, as the case may be. The sales for each day are posted to the credit of the department, but in the sales department, the total cost and total sales are the principal items of record.

The stock is arranged carefully and neatly, so that attention is attracted to every department, and it is grouped according to its size. A well kept garage and neat arranging of supplies, always impresses a customer favorably. Most of the stock, however, is placed in locked compartments and on shelves and bins to prevent indiscriminate handling by customers, which would of course be detrimental to the goods. The show cases are also closed in such manner that the stock carried on display cannot be obtained by anyone except those authorized. Thus there is no undue depreciation, nor an unnecessary shrinkage in the stockroom.

A summary is made each month which includes 13 totals of items as shown at Fig. 1, a glance at which is sufficient to indicate the expense, cost or revenue of any of the different departments. The first column is that of the cash revenue from storage of cars, labor, battery charging, and sale of gasoline, oil, tires, parts, accessories and cars; the second, for charges made of similar transactions; the third, the total income from each source, which should equal the totals of the first two columns. The fourth column shows the expenditure charged against each item; the fifth, the difference between the receipts as shown in the third column and the expense as shown in the fourth. The third, fourth and fifth totals show gross and net reve-

	Cash Sales	Charge Sales	Total Sales	Cost	Net Receipts	Sales Dr.	Sales Cr.	Supplies Dr.	Supplies Cr.	Garage Dr.	Garage Cr.	Repairs Dr.	Repairs Cr.
Storage	$ 100	$ 150	$ 200	$ 50	$ 200					$ 250	$ 50		
Gasoline Sold	85	15	100	90	10					100	$ 90		
Oil Sold	25	10	35	25	10					35	25		
Tires Sold	250	50	300	200	100			$ 300	$ 200				
Labor	400	175	575	326	250							$ 575	$ 325
Battery Charging	25	10	35	20	15					35	20		
Parts Sold	90	20	100	65	35							100	65
Accessories Sold	250	70	320	195	125			320	195				
Cars Sold	7200		7200	5965	1235	$ 7200	$ 5965						
	$ 8415	$ 500	$ 8915	$ 6935	$ 1980	$ 7200	$ 5965	$ 620	$ 395	$ 420	$ 185	$ 675	$ 390
Gross Earnings							1235		225		235		285
Payroll							100		40		100		75
Charges (Approximate)							350		80		65		130
Net Profit							$ 785		$ 105		$ 70		$ 80

Fig. 1, Summary Sheet for Combination Agency and Garage, Showing Transactions of Each Department, with Cost, Gross and Net Receipts, the Fixed Charges and Net Profits of the Entire Business.

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nue and expense. The sales, supplies, garage and repair departments are each shown in four additional columns, by receipts and expenditures,

Storage Tag

PORTER GARAGE CO.

OWNER'S NAME Henry C. Peck

CAR M22111 DATE Nov-5-1911

	Amount
During Day Yes	50
Over Night Yes	1 00
Washing Yes Polishing Yes	1 50
Gas 10 gals. Oil 1 gal.	3 00
	6 00

Fig. 2, Storage Tag, Showing the Amount of Work and the Length of Time a Car Is Stored.

as taken from the items of revenue in the first five columns, the footings giving the total receipts and expenses of each department. One will readily see that a complete and separate account of the entire business is maintained, which is of great benefit to the owner.

The sale of oil, gasoline, waste, carbide, grease and the like, also the storage, washing and polishing, are sources of revenue in a garage, while the labor and the parts sold are credited to the repair department, the sale of tires and accessories to the supplies department and the sale of cars to the sales department. The

No. 542 Car Pope-Hartford

Owner's Name Henry C. Peck

Date Received Nov-16-

Finish Nov-22

REPAIR TAG

Adjust brake-bands; adjust universal joint; change carburetor; straighten mudguard; repair speedometer shaft.

Fig. 3, Repair Tag, the Reverse Side of the Storage Tag.

advantage of having the supplies locked up, with the keys in charge of a foreman, is at once apparent.

As in many garages, it had been the custom for amateur mechanics to enter and work upon their own cars, using wrenches and other tools. At the conclusion of the work if they returned the tools in as good condition as when they were borrowed, which was very rarely the case, they helped themselves to a small quantity of gasoline to clean their hands. Of course this was freely given, but a number of such incidents happened daily, and a gallon of gasoline often disappeared for which there was no record. The garage of course suffered the loss and at the end of the month the gasoline account would show a perceptible decrease.

Consequently it became necessary to put tools, oils and all materials used in such an establishment under lock and key and the losses were stopped. As the proprietor of the garage is doing repair work of all kinds, the client now is forced to go to the office and clearly state his needs. A repairman is then assigned to the work and if the job be a simple one, necessitating only a few moments, the garage profits a small fee. Should the work be of such a nature that no charge is made, the proprietor has

NO. 542 Car Pope-Hartford

AUTO REPAIR DEPARTMENT

Name Henry C. Peck Date Nov-16-

Mechanic	Date	16	17	18	19	20						
F.R. Daley		5½	8¼	6	10	2¾						
Hours	31½											
Parts Used		5½" brake lining $4.25										
Outside Work		Mudguard $1.28										
Totals	$5 3	41										

Fig. 4, Foreman's Record Card, Showing the Time the Mechanic Worked and the Materials Used.

gained, as the company's tools were handled by an experienced workman, and it has saved the gasoline which the customer would have used to cleanse his hands. The customers are quick to realize much of the system, and the fact that they are not charged unless the job is of sufficient proportions to justify a charge is proof that they are treated fairly.

Sales made in the garage are recorded by sales slips with carbon copies to indicate the cash and charge transactions. In the service records, in the event of a transient customer, the storage tag shown at Fig. 2 is filled and attached to the car. This indicates the kind of service, with charges against each item, and the total cost. When the car is delivered the tag is removed and a copy or receipt is given the owner or whoever has charge of the car. In case of repair, the reverse of the storage tag is filled in with the necessary instruction, as shown at Fig. 3. When the car is received by the repair department, a record is kept through the different stages of the work. This is illus-

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trated at Fig. 4. The mechanic's name is entered on the face of this card, together with the date and number of hours he worked each day.

PARTS USED

	Amount	
5½" Brake lining	4	25
1B Carburetor	22	50
Outside Work		
Straightening crankcase	1	68
Repair Speedometer Shaft	2	10
	30	53

Fig. 5, Reverse Side of Foreman's Record Card, Showing Value of Outside Work.

On the reverse of this form the record is continued under a summary which includes every component supplied from the stockroom under "Parts used," while "Outside work" classifies

TIME CARD

This card must be made out and filed at close of day

Automobile Dept.

Mechanic F. R. Daley

Date

✓ Repair Work
Rental
Station Work

Hours	Shop Ticket or Description of Work
5½	No. 842

Fig. 6, Time Card Used by Workmen, Which Records the Time Spent on a Car.

whatever may not have been done within the facilities of the garage shop. This is shown at Fig. 5, which completes the record of the entire job and which is then sent to the office by the foreman with the notification that the car is ready for service. The owner is then notified that his car is ready for use.

BOUGHT OF

PORTER GARAGE CO.

Eureka, Cal.

Saleman Fifield Date Nov 14 190

M Henry C. Peck

Break-O-Lite tank	25	
12" Stilson	2	25
6 lbs waste	1	00
	28	25

Fig. 7, Sales Slip, Which Records the Items Sold to a Customer.

Owners of cars stored in the garage are required to keep their property in lockers, so that no responsibility for private property is incurred by the management. The cars of transients are kept under lock and key, so that it is absolutely impossible for either the owner or the chauffeur to touch the car without the knowledge of the garage management. One cannot too strongly emphasize that care should be taken in the choice of employees. Paying good wages insures a class of workmen who will value their employment and incidentally take an interest in the affairs of the garage. There will also be less possibility of visitations by their friends who may be attracted by unprotected property of the establishment.

Each workman keeps account of his own time under the direction of the foreman and the cards are collected each day and sent to the office. These are grouped with reference to each job, and they must coincide with the records of the foreman. The time card is shown at Fig. 6. The repair blank is a bill in itself from which the outgoing bill is made up and passed upon before being sent to the customer. Should the account be paid immediately, it is recorded by a sales slip, a copy of which is given as a

GASOLENE AND OIL SCHEDULE

MONTH OF

Date	Gas. Gals.	Oil		
		Cyl. Qts.	H. Speed Qts.	Gear. Qts.
1	10	4	0	0
2	5	4	0	1
3	15	6	0	1
4	0	0	0	0
5	20	10	2	0

Fig. 8, Gasoline and Oil Record, Used to Keep Account of Goods Shipped for Boarders' Cars.

voucher with the receipted bill, there being two records, for the patron and office, instead of one. This method is shown at Fig. 7.

A gasoline and oil schedule with account for every day in the month is made out for each car in live storage, and entry is made whenever the tanks are filled. This is original and is kept on file, being a check against sales records. A copy is sent to the owner of the car for verification of the items entered on the bill. This shows gasoline in gallons, cylinder, high speed and gearcase oil in quarts, with incidentals and the total value. From these slips the charges are made monthly. This is illustrated at Fig. 8 and has been found to be of great value to the owner and garage alike.

A feature of the business is found in the fact that the stock is carefully kept and is tagged whenever possible. When a sale is made these tags are turned into the cash register and these give the information of what stock has been sold and also permits immediate ordering, so that there may be always the required amount of goods on hand.

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GENERAL NEWS OF THE MANUFACTURERS.

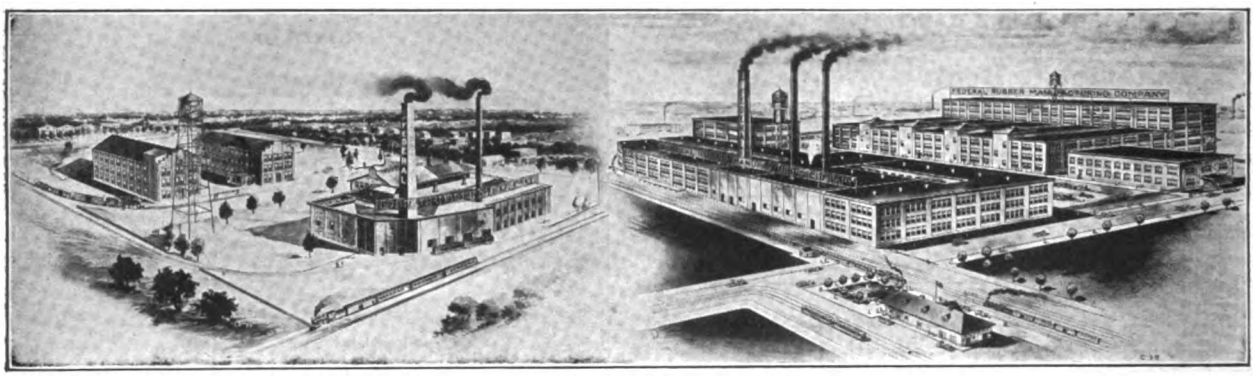
The Buick Motor Company, Flint, Mich., is erecting a three-story building for its enamelling plant. The structure will be 108 by 265 feet and according to Buick officials it will be one of the most complete factory buildings in the world. In addition to the standard equipment of the modern enamelling plant, in the Buick building will be installed the mono-rail system for moving the raw material and the finished product to the various parts of the factory. There will be 15 ovens and two high-speed electric elevators of 4000 pounds capacity each. There will be washed-air ventilation, dustless floors, ice-cooled drinking fountains of running water, well-lighted and sanitary lunch and locker rooms and shower baths for employees.

The Splitdorf Electrical Company, Newark, N. J., maker of the Splitdorf and Apple electrical equipment lines for motor vehicles, has established branches at Minneapolis and Dallas.

The Paige-Detroit Motor Car Company, Detroit, has opened a branch at Birmingham, Ala., in charge of John H. Campbell.

The Dallas Body & Wheel Works Company, Fort Worth, Tex., is establishing a large plant at 23 Commerce street for the manufacture of automobile bodies, wheels, etc. Another plant will be operated at Dallas.

The Federal Rubber Manufacturing Company, Milwaukee, Wis., celebrated its third anniversary on July 1 by the issuance of orders for the erection of new factory buildings costing more than $500,000. These will consist of a separate building 60 by 497 feet with six stories and basement and additions to four of the present buildings, all 50 by 500 feet and five stories high. Brick mill construction will be used throughout. When completed the new buildings will mean an increase of 150,000 square feet, making 450,000 square feet in the entire factory. At the present time the number of men employed on night work equals the number on the day shift. Three years ago the Federal Rubber Company employed about 30 men, and today the company employs over 1500 men.



Federal Rubber Manufacturing Company's Present Plant at Left; at Right, Sketch of Projected New Plant.

The Pacific Rubber & Tire Manufacturing Company, Seattle, Wash., has established a large plant in that city.

E. L. Carmody, Pittsburg, Penn., of the Motometer Company, has announced that headquarters have been located at Baum boulevard. The company manufactures a device for automobiles to warn the drivers of any derangement in the cooling system.

The Hendee Manufacturing Company, Springfield, Mass., maker of the Indian motorcycle, has opened a branch and service station at 501 South Sixth street, Minneapolis.

The Nordyke & Marmon Company, Indianapolis, Ind., has removed its Chicago branch to 2430 Michigan avenue.

The Cole Motor Car Company, Indianapolis, has added a little six model which resembles the larger six very closely and sells for $1865.

The Peerless Motor Car Company, Cleveland, announces a line of four-wheel tractors, to be used for hauling trailers. One type hauls the trailers behind as with the standard truck. Another type carries one end of the trailer upon the tractor chassis.

The Schiedel-Thompson Manufacturing Company, Indianapolis, has changed its name to the Metal Auto Parts Company. The company intends to enlarge its plant. The management and stockholders remain the same as in the past.

The Four Wheel Drive Auto Company, Clintonville, Wis., held its annual meeting recently. The articles of incorporation were amended, increasing the board of directors from seven to nine members, and A. W. Priest and A. Kuckuk were elected as directors. The company expended about $500,000 in the past year for improvements to its factory and also machinery. A dividend of four per cent. on all stock outstanding on June 30, 1914, was declared and paid in cash. The sales for the past year for Four Wheel Drive trucks showed an increase of 165 per cent. over the preceding year.

The Kearns Motor Truck Company, Beavertown, Penn., has acquired 25,000 square feet of additional floor space which will be used for the building of a small car known as the Lulu.

The Buckeye Machine Company, South Lima, O., is erecting a new factory between Atlantic avenue and Broadway. The main building will be of brick. The company manufactures gas engines.

The Pullman Motor Car Company, York, Penn., has under consideration plans for a big expansion of operations at its factory. The firm is under new management and will build several types of high class cars.

The Chandler Motor Car Company, Cleveland, after operation for seven months, has declared a dividend of five per cent. on its common stock. The company has paid full dividends on its $200,000 seven per cent. preferred stock.

The Reo Motor Car Company, Lansing, Mich., will erect a large addition to its plant. The new buildings will represent an increase of about 30 per cent. of the present capacity and will be located on South Washington avenue. The company plans to build 18,000 for the 1915 season.

The Maxwell Motor Company, Detroit, entertained about 100 of its dealers from Indiana recently. They were taken to the Tuller hotel where arrangements had been made for them. After a visit to the Maxwell plants a tour of the city was made and the Hoosiers were afterwards entertained at luncheon at the Detroit Motor Boat Club. In the evening the visiting Maxwell dealers were the guests of the company at a theatre party. The dealers returned home in new Maxwell 25's.

The Willys-Overland Company, Toledo, O., has for several months past been making extensive additions to its plant. A number of large buildings is being added. One of them will be 410 by 500 feet and will have four stories and basement. Another will be an immense body plant which will be 200 by 410 feet, including two stories and basement. The power building is 162 by 134 feet and built of brick, containing four 500-horsepower McNaul water tube boilers.

The Weson Tire & Rubber Company, Springfield, Ill., is erecting a new automobile tire factory costing $25,000. This company is the successor of the Detroit Pneumatic Tire Company, Ford building, Detroit.

The H. W. Johns-Manville Company, New York City, has moved its Duluth office to larger quarters at 327 West First street in order to take care of its increased business. The new office is on the ground floor, with windows for the display of the company's well known and varied lines of automobile accessories and supplies.

The Lyons-Atlas Company, Indianapolis, was elected to membership in the National Automobile Chamber of Commerce at the meeting of the board of directors held recently. The company manufactures the Lyons-Knight car.

The Flanders Manufacturing Company, Lansing, Mich., has been reorganized with an increase in capital and will be known hereafter as the Flanders Electric Company. The new officers are: President, M. Rothschild; vice president and general manager, D. C. McCord; secretary and treasurer, B. F. Edgar.

The Carson Rowell Company, Appleton, Wis., manufacturer of babbitt metal for bearings and other purposes, has started work on the construction of a new plant which will enable this concern to produce about three times the tonnage of the past. The new factory is 66 by 90 feet and is two stories high, with a large basement. The equipment includes 12 large furnaces, with a combined capacity of 5,000,000 pounds of babbitt metal annually.

Fitzgibbon & Crisp, Trenton, N. J., manufacturer of automobile bodies and carriages, will build an addition to its shop on Bank street.

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QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week, and in comparison with the conditions existing at the same time last year.

	June 15		June 22		June 29		July 6		1913	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb, com	220	...	220	...	220	...	220	...	155	165
Ajax-Grieb, pfd	99	...	99	...	98	104	98	...	94	99
Aluminum Castings, pfd	98	100	98	100	98	100	98	100	87	100
Borne-Scrymser	293	300	295	305	295	305	295	305	...	...
Case, J. I., pfd	88	93	81½	90	81½	86	83	91	...	...
Chalmers Motor, com	98	102	81½	90	98	103	101	104	135	...
Chalmers Motor, pfd	96½	99	95	98	95	98	94	97	98	102
Electric Storage Battery	52	52½	51	51½	51	52	51	52	...	...
Firestone Tire, com	300	305	300	305	299	304	300	305	270	280
Firestone Tire, pfd	108	109½	108	109½	108½	110	108½	110	104	106
Garford Co., pfd	75	85	75	85	75	85	75	85	85	95
General Motors, com	93	94	93	94	92	93	92¼	93	26	30
General Motors, pfd	93¼	95	93½	94	92½	94	93	94	72	75
Goodrich, B. F., com	24⅝	25	24¾	25	23½	24	26½	26¾	27	28
Goodrich, B. F., pfd	90	90½	87	88⅛	87½	88	88½	89	91	93
Goodyear Tire, com	172	175	170	175	166	172	166	170	325	335
Goodyear Tire, pfd	97½	99	97	99	96	98	96	97½	97	98½
Gray & Davis, pfd	95	102½	95	102½	98	102	98	102	...	...
International Motor, com	...	5	...	5	...	3	...	3	3	5
International Motor, pfd	3	10	3	10	3	9	3	9	18	25
Kelly-Springfield Tire, com	62	64	58	60	56½	57	56	58	...	...
Kelly-Springfield Tire, pfd	140	145	*75	83	*76	80	*76	80	...	...
Lozier Motor, com	...	21½	15	20	...	20	...	20	15	20
Lozier Motor, pfd	30	43	...	41	...	41	...	41	...	90
Maxwell Motor, com	14⅞	15⅛	14½	14⅞	14½	14⅞	14½	14⅞	3	3½
Maxwell Motor, 1st pfd	44	45	43	44½	42½	42¾	43½	44	24	27
Maxwell Motor, 2nd pfd	18½	19	17½	18½	17¾	18⅛	17¾	18¼	7	8½
Miller Rubber	139	142	139	142	138	140	138	140	133	137
New Departure, com	125	127	126	128	126	128	125	127	...	...
New Departure, pfd	106	107	106½	...	106	...	105	108	...	...
Packard Motor Car, com	103	...	103	...	93	...	103	112	...	...
Packard Motor Car, pfd	97	100	97	100	97	100	97	100	...	...
Peerless Motor Car, com	18	25	18	25	10	17	10	17	45	50
Peerless Motor Car, pfd	...	62½	...	62½	...	50	...	50	...	96
Pope Mfg. Co., com	...	1	...	1	...	1	...	1	5	10
Pope Mfg. Co., pfd	...	3	...	3	...	3	...	4	...	35
Portage Rubber, com	...	40	...	40	...	30	...	30	30	40
Portage Rubber, pfd	...	90	...	90	...	90	...	90	96	99
Reo Motor Car	20	22	18	19	17¾	18¼	18	18½	19	20½
Reo Motor Truck	10	10¾	10¾	11¾	11	11½	11¾	12¼	10½	11½
Rubber Goods, pfd	100	110	100	110	100	110	...	...	...	...
Splitdorf Electrical	40	50	40	50	40	50	40	50	...	...
Stewart-Warner, com	47	49	48	49	47½	48½	51¼	52	...	...
Stewart-Warner, pfd	97	99	98	100	97½	99	99	101	...	...
Studebaker, com	31½	32½	29¼	30	29	29¾	31⅞	32⅜	22	25
Studebaker, pfd	87	89	82	84½	81	85	83½	86	84	86
Swinehart Tire	85	86	85	86	85	86	85	87	85	88
Texas Co	147	147⅝	145¼	146	142⅝	143½	143	144	...	...
U. S. Rubber, com	58½	59	58⅛	59	59	59½	60	60¼	60½	61
U. S. Rubber, 1st pfd	103	103⅝	103¼	104	102	103	103⅞	104	103	104
Vacuum Oil	225	228	221	225	220	223	219	222	...	...
White Co., pfd	107	110	107	110	107	110	107	110	102	104
Willys-Overland, com	80	80⅛	80	81	88	90	89	90	56	60
Willys-Overland, pfd	93	95	93	95	94½	95	95	95½	85	93

*Indicates 1st preferred.

PRICE SITUATION IN GENERAL MATERIAL MARKET.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period for purposes of comparison. Southern iron and northern iron has dropped 25 cents. Bessemer iron and steel dropped 50 cents a ton. Copper, lake, showed a decrease of 25 cents a hundred pounds. Tin rose 65 cents a hundred pounds for the month. Pennsylvania crude oil and cottonseed oil fell 10 cents on the barrel.

	June 15		June 22		June 29		July 6			
	High	Low	High	Low	High	Low	High	Low	July 13	July 15
Antimony, lb	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾
Iron, Fdy., S. ton	10.75	10.25	10.25	10.25	10.25	10.00	10.00	10.00	10.25	10.00
Iron, Fdy., N. ton	12.75	12.75	12.75	12.75	12.75	12.50	12.50	12.50	12.75	12.50
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	19.50	19.50	19.50	19.50	19.50	19.00	19.00	19.00	19.50	19.00
Steel, open hearth, ton	19.50	19.50	19.50	19.50	19.50	19.00	19.00	19.00	19.50	19.00
Beams and chan., 100 lbs	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Copper, elec., 100 lbs	13.80	13.70	13.70½	13.50	13.60	13.37½	13.60	13.75	13.87½	13.60
Copper, lake, 100 lbs	14.00	13.87½	13.87½	13.62½	13.75	13.50	13.87½	13.75	14.00	13.75
Lead, 100 lbs	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90
Tin, 100 lbs	30.60	30.00	30.85	30.00	31.70	30.37½	32.30	31.55	30.85	31.50
Petroleum, Kan., cr., bbl	75	75	75	75	75	75	.75	.75	.75	.75
Petroleum, Penn., cr., bbl	1.80	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.80	1.70
Linseed oil, raw	54	54	54	54	54	54	.54	.54	.54	.55
Rapeseed oil, refined	59	59	59	59	59	59	.59	.59	.59	.59
Lard oil, prime	93	93	93	93	93	93	.93	.93	.93	.93
Fish oil, Menhaden, br	40	40	40	40	40	40	.40	.40	.40	.40
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	17	17	17	17	17	17	17	17	17	17
Cottonseed oil, bbl	7.25	7.20	7.20	7.10	7.26	7.09	7.30	7.20	7.35	7.25
Sea Island cotton	23½	23½	23½	23½	23½	23½	23½	23½	23½	23½
Silk, raw, Japan	4.57½	4.45	4.60	4.50	4.55	4.50	4.50	4.52½	4.60	4.50
Silk, raw, Italy	5.10	4.75	4.80	5.00	5.00	5.00	5.00	4.75	5.10	4.90
Rubber, fine up-river Para	70	69	69	69	69	69	69	69	70	70
Tire, scrap	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3000—Minnesota Dealer desires to represent a line of cars selling from $500 to $700.

3006—Pennsylvania House wishes to secure an agency for pleasure cars selling from $1000 to $1800.

CYCLECAR AGENCIES.

1782—Texas Dealer is desirous of securing the agency for a cyclecar with the seats arranged side by side.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

464—Texas House wants to acquire a line of cements and rubber stock.

465—Wisconsin Dealer is interested in information relative to drills, gaskets, hose, hydrometers, jacks, platinum, ratchet drills, reflectors, carbon removers, shock absorbers, timers, voltmeters and wrenches.

468—Maryland Firm wants trade information of axles, engines, fenders, frames, horns, magnetos, pumps, radiators, stampings, steering wheels, tanks, transmissions and wheels.

471—Pennsylvania Concern is in the market for air pumps, batteries, bearings, bolts, bulbs, bumpers, chains, gasoline, lathes, magnetos, maps, mechanical starters, platinum, plugs, pullers, pumps, radiators, ratchet drills, reamers, reflectors, carbon removers, shock absorbers, soaps, speedometers, springs, tools, turntables, vises, voltmeters, vulcanizers, washers, washstands, waste and wrenches.

475—Ohio Company is interested in trade facts of batteries, bumpers, celluloid, cushions, cylinders, gasoline, headlights, horns, lamps, locks, machinery, mechanical starters, paints, plugs, carbon removers, speedometers, bulbs, bumpers, jacks, lamps, magnetos, mufflers, pans, tire accessories, tools, turntables and wearing apparel.

477—Minnesota Dealer wants quotations on batteries, pumps, radiators, reflectors, carbon removers, searchlights, shock absorbers, tanks, tops and parts, trimmings, washstands, waste, whistles and windshields.

480—Missouri Dealer is interested in bodies, charging apparatus, curtains, cushions, discs, fenders, generators, glass, headlights, lamps, leather, radiators, reflectors, seats, starters, steel, steering wheels, trunks, upholstery and windshields.

483—Mississippi Firm wants batteries, carburetors, cements, chemical tanks, coils, engines, ignition, lathes, magnetos, molds and cores, mufflers, platinum, plugs, testers, tire accessories, tires, vaporizers and vulcanizers.

486—Michigan Dealer is in the market for air compressors, carbide, dimmers, tire accessories and tires.

489—Pennsylvania House wants air compressors, air pumps, cans, charging apparatus, lathes, motors, pulleys, tires and vises. The above products to be used for garage equipment.

FOREIGN TRADE OPPORTUNITIES.

No. 13,220. Auto Trucks—An American consul in a South American country reports that a municipality in the country in question is in the market for two motor trucks of two tons capacity for use in hauling away garbage and waste.

No. 13,279. Motor Cars and Motorcycles—An American consul in a Latin-American country has recently received a number of requests for catalogues of American motor cars and motorcycles and for information as to the terms under which representation may be procured. The consul would welcome catalogues, descriptive advertising matter, and correspondence furnishing full information as to the prices, discounts and agents' commission that can be granted, and a demonstration machine secured. Several copies of the catalogues should be sent for distribution to the firms interested. More than a dozen motor cars and motorcycles have recently been imported, and it is considered likely that at least an equal number will be ordered within a short time.

No. 13,281. Fire Fighting Apparatus and Supplies—The fire department of a South American city has decided to replace its horse-drawn engines and trucks with motor-driven ones of up-to-date type. The chief of the department has informed an American consulate that he would be pleased to receive catalogues of American fire fighting apparatus and supplies, especially of motor-driven engines, hose carts and ladder trucks. Catalogues and correspondence may be sent in care of the consulate or directly to the chief of the department. They should furnish full information as to prices, discounts and terms that can be granted.

No. 13,285. Motor Cars and Motor Trucks—A report from an American consul states that the use of automobiles is increasing in his district, and there are now more cars of American make used than of any other make. There would also appear to be an opening for the use of motor trucks to convey products from the farms and villages to the ports and to bring back general supplies needed. A municipality is advertising for bids to supply motor sprinklers and motor garbage carts to the street cleaning department. The sprinklers must use sea water and be equipped with a motor-driven pump capable of lifting the water from a source six meters below the tank. Further details, as well as a list of dealers in automobiles and supplies, will be furnished to interested American manufacturers.

No. 13,335. Motor Cars and Motorcycles—An American consul reports that a local dealer in motor cars and motorcycles desires to take the exclusive agency for low and medium priced motor cars and motorcycles of American make. He wishes to receive catalogues with price lists and discounts, so as to make a selection of the kind of motor vehicles he desires to handle. Firms wishing to correspond with him may use English, setting forth whatever proposition they may have for the establishing of an agency. It will be useless to send catalogues without prices and discounts. C. i. f. prices port of delivery should be given as an inducement to overcome European competition.

TRIAL OFFER OF WELDING OUTFIT.

Warehouse Welding Company Makes Liberal Proposition to the Trade.

The Waterhouse Welding Company, 4 Pelham street, Boston, specializing in welding and cutting equipments, is making a free trial offer to the garages and repair shops. The company will forward an apparatus for a two weeks' trial and will accept the return and refund all monies without question if the purchaser does not care to retain it.

The Waterhouse Welding Company is a pioneer in the manufacture of welding outfits. Some of the features of its apparatus are: The low cost of operation, that it is non-flashable, is absolutely safe, is mechanically right and scientifically constructed. The equipment includes one B welding torch with five tips, one oxygen reducing valve with 50 pound line pressure gauge, acetylene reducing valve, one set of special welding hose, one pair of welding glasses, one carbon burning torch and complete instructions.

Supplies are included at a slight extra cost and comprise one bottle of aluminum flux, one can of cast iron flux, one can copper and brass flux, two pounds of brass, five pounds of cast iron, two pounds of aluminum and two pounds of steel welding rods. The welding and decarbonizing apparatus comes in a neat, substantial hardwood box. Complete details of the offer made by the company will be supplied upon request.

CORRECTION OF ERROR.

In the May issue of the Accessory and Garage Journal, under the heading of Agents Appointed During the Month, an error was made in connection with the agent for the Cole car at Harrisburg, Penn. This should have read Bowman & Company and not Hasting's Garage.

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PERSONAL NEWS OF THE INDUSTRY.

Charles F. Redden, Detroit, general sales manager for the Maxwell Motor Company, Inc., of that city, has sailed for Europe. He will go to Liverpool and London and will carefully analyze the automobile situation in Great Britain. He will also visit France, Germany, Italy and Russia, where he will appoint district managers and supervisors.

Charles F. Redden, General Sales Manager of Maxwell Motor Company, Inc.

H. B. Gates, Norfolk, Va., has become manager of the Chemi Company of that city. He was formerly connected with the Chemi Company, Richmond, Va.

W. S. Porter is now manager of sales for the Boston branch of the Locomobile Company of America, Bridgeport, Conn. Mr. Porter comes from the New York office.

E. E. Schwartzkopf has become a special representative for Gray & Davis, Boston, visiting the automobile manufacturers in relation to the Gray & Davis electrical equipment for starting, lighting and ignition. Mr. Schwartzkopf is well known to the trade.

Harry R. Radford, vice president and general manager of the Cartercar Company, Pontiac, Mich., has just returned to the factory from a trip through the western states. He visited Texas, Kansas, Nebraska, Missouri, Iowa and the Dakotas. He booked 176 Cartercars for immediate delivery.

Burleigh Crockett, who is well known in the automobile industry of New England, has been appointed sales manager for F. H. Gosse Company, Boston, Mass. Mr. Crockett is a man well qualified to fill this position, as he is perfectly familiar with affairs throughout this section.

George M. Davis, Springfield, Mass., has been appointed assistant sales manager of the Knox Motors Company. He was with the Pierce-Arrow Motor Car Company for four years and was also identified with the Packard interests at Albany.

George Peak, San Francisco, has been promoted to the management of the retail department of the branch of the Oakland Motor Car Company in that city.

Clarence N. Booth is now acting in an advisory capacity with the management of the Universal Motor Truck Company, Detroit. Mr. Booth was formerly general manager of the Studebaker Corporation.

S. G. Chapman, San Francisco, well known along the Pacific Coast as the distributor of Chandler cars, has retired from the automobile business and will make a tour of Europe.

Frederick S. Bremer, Racine, Wis., has disposed of his holdings in the Bremer-Wilson Manufacturing Company, and will take a rest in California and the Hawaiian islands.

L. R. Pomeroy, New York City, has been appointed manager of the sales office of the U. S. Light & Heating Company, Niagara Falls, N. Y., with headquarters at 16-24 West 61st street. He will have under his direction the sale of U-S-L starting, lighting and ignition equipment for automobiles.

J. L. Bender, Cleveland, has accepted a position with the Yuster Axle Company as sales manager. Mr. Bender has been associated with the automobile industry for a number of years and was formerly connected with the American Ball Bearing Company and the Timken Roller Bearing Company.

John E. Clifford, for the past two years representative for the General Motors Export Company at the Buick factory at Flint, Mich., sailed from Vancouver on the steamer Manukau for Sydney, Australia, to assume the sales and general management for that Commonwealth and New Zealand. The Buick business in that territory last year was about 1000 cars.

W. A. McDermid has resigned as sales manager and secretary of the Falcon Cyclecar Company, Staunton, Va., to become advertising manager of the Gerhard Mennen Chemical Company, Newark, N. J. He still retains his financial interest in the cyclecar company.

O. B. Henderson, Cleveland, has resigned as sales manager of the pleasure car department of the Baker Motor Vehicle Company to take up his permanent residence in Los Angeles.

F. C. Millhoff, formerly tire sales manager of the Miller Rubber Company, Akron, O., has been appointed general sales manager.

W. F. O'Brien has been appointed manager of the branch of the Chevrolet Motor Company, Flint, Mich., at Newark, N. J. Mr. O'Brien has been head salesman in the Boston store branch for some time.

Howard A. Hamilton, New York City, has joined the sales staff of the Minerva Motors Company. He was formerly assistant manager of the Panhard-Levassor Company.

J. W. Gogarn, for 10 years advertising manager for R. M. Owen & Company, general selling agents for Reo cars, has become sales and advertising manager for N. B. Whitfield, New Haven, Conn.

S. D. Waldon, vice president of the Packard Motor Car Company, who has just completed a transcontinental tour by motor, expressed the opinion that the Lincoln highway is undoubtedly the safest and shortest route between the two coasts.

John Aitken, a member of the experimental department of the National Motor Vehicle Company, Indianapolis, is in Europe visiting the foreign automobile factories. He also witnessed the Grand Prix race. He will be the guest of Jules Goux while in Paris.

George H. Cox, for many years salesman for the Pope Manufacturing Company, Hartford, Conn., has become affiliated with Dodge Bros., Detroit. Mr. Cox is widely known among automobile men all over the United States. He will be Kansas City district representative for Dodge Bros.

Dr. K. J. Thompson, chief chemist of the Federal Rubber Manufacturing Company's laboratories at Cudahy, Wis., recently left for Europe to attend the rubber auctions at Liverpool, Antwerp, Hamburg and London, and also to attend the International Rubber Exhibition and Congress which will be held in London, England.

W. A. Zimmerman, Buffalo, N. Y., who was formerly secretary and general manager of the Mercury Manufacturing Company, has become director of sales and publicity for the Buffalo Electric Vehicle Company.

H. W. Hayden, York, Penn., has been appointed manager of the Pullman Motor Car Company. He was formerly associated with the Stoddard-Dayton and Edwards automobile companies.

George H. Strout, Indianapolis, is now with the Cole Motor Car Company, and is touring the southwestern territory in the interests of that company. He was formerly sales manager of the Haynes Automobile Company, Kokomo, Ind.

Joseph Gardham, Detroit, who has been with the Hudson Motor Car Company for some time in various capacities, has been appointed chief factory inspector.

Benton Fremont, formerly connected with the sales force of the New York office of the Oakland Motor Car Company, has been appointed territorial sales manager for the Grant Motor Company of Findlay, O., for State of Iowa.

Ray Austin, Findlay, O., has accepted a position with the Grant Motor Company as assistant engineer. He was formerly associated with the Studebaker Corporation and the Amplex Company in the same capacity.

Miller Pontius, Joseph Gardham, Chief Factory Inspector, Hudson Motor Car Company.

F. C. Brown, Buffalo, N. Y., has become identified with the Buffalo Electric Vehicle Company as manager of the truck department. He was formerly associated with the Chase Motor Truck Company as district manager for that concern.

Miller Pontius, Detroit, is to represent the Maxwell Motor Car Company in Europe. He was a star member of the University of Michigan football team.

W. Crighton Harris, Newark, N. J., has accepted a position as chief engineer of the Titan Storage Battery

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Company. He resigned from the engineering firm of Crighton Harris & Company.

S. A. Miles, who manages the annual automobile shows held in New York City and Chicago, returned recently from a month's tour in England, Scotland and Wales.

S. A. Miles, Well Known to the Industry, Returns Home.

Henry Ford, Detroit, the well known automobile manufacturer, recently made a proposition to the directors of the General Hospital of that city, which provided for his taking over the project and spending $2,000,000 in making it a modern hospital for the treatment of the poor of that vicinity.

F. W. Prather, Detroit, has been appointed publicity director of the Maxwell Motor Company, succeeding Mr. Baker.

Ernest H. Brandt has severed his connection with the Detroit-Cadillac Company of New York City, to become general eastern representative of the Hudson Motor Car Company of Detroit, with his headquarters in New York City. He will have entire charge of the eastern states and Eastern Canada.

F. M. Guy, Detroit, who is the superintendent of the American Starter Company, was tendered a complimentary dinner at the Fellowcraft Club recently by members of the firm and friends in honor of his marriage.

William Lehman, Findlay, O., has accepted a position with the Grant Motor Company as special representative. He was formerly production manager of the Commerce Truck Company. Mr. Lehman is well known to the industry and is now on a trip through the West.

Thomas H. White, founder of the White Sewing Machine Company, the offshoot of which is the White company, Cleveland, manufacturer of White motor vehicles, died recently at his home in that city. He was 78 years old.

Joseph J. Cole, Sr., died suddenly at his home at Connersville, Ind. He was 70 years of age and is survived by a widow, two sons and two daughters. One of his sons is president of the Cole Motor Car Company, Indianapolis.

E. T. Gillard, York, Penn., who has been connected with the Pullman Motor Car Company for the past five years as chief engineer, has resigned.

Bruce Daniels, Indianapolis, who was advertising manager of the Stutz Motor Car Company, has resigned to accept a similar position with the Prest-O-Lite Company. He has also been with the Motor Car Manufacturing Company of that city.

H. G. Fisk, treasurer of the Fisk Rubber Company, Chicopee Falls, Mass., has been elected president of the Knox Motors Company, Springfield, Mass., which was recently reorganized. E. O. Sutton is treasurer of the company.

Professor Walter Parke Bradley, Middletown, Conn., has joined the staff of the United States Tire Company. He was for the past 25 years professor of chemistry at Wesleyan University, but resigned in order to accept his present position.

J. M. Chase, Detroit, has been appointed manager of advertising and sales promotion of the Abbott Motor Car Company. He was formerly connected with the Regal Motor Car Company.

N. H. Jewett, Detroit, is now sales representative of the Jiffy Auto Curtain Company, succeeding Harry Kane. He will make his headquarters with the company in the Dodge Power building.

H. S. Carpenter, Fostoria, O., is the inventor of a motor plow which is being tested in that city.

Charles Johnson, Detroit, has been appointed special representative of the Lovell-McConnell Manufacturing Company, maker of the Klaxon line of horns.

C. J. Baker, Detroit, has become identified with the Ward Advertising Agency. He was recently connected with the Maxwell Motor Company and is well known in advertising circles. He was also connected with the Brush and Lozier companies.

L. E. French, Los Angeles, Cal., has spent the last six months at Buffalo, N. Y. He is the designer of the Los Angeles Cyclecar Company and returned recently to the Pacific Coast.

J. D. Hallowell, Racine, Wis., has been appointed general manager of the Mitchell Wagon Company. He was formerly associated with the Moline Wagon Company, Moline, Ill.

John J. McDonough, Jr., Atlanta, Ga., has been appointed southern district representative of the Lippard-Stewart Motor Car Company of Buffalo, N. Y.

E. E. Arnold, Buffalo, N. Y., has resigned as chief engineer of the Houk Manufacturing Company, in order to devote his entire time to the management of the Standard Screw Products Company.

Robert J. Pilkington, Lafayette, Ind., has been appointed resident engineer of the American Efficiency Survey of Motor Car Units and is now in charge of the company's laboratories.

Wakely T. Bull, Racine, Wis., died recently. He assisted his brother-in-law, Jerome I. Case, and brother, Stephen Bull, in the foundation of the J. I. Case Threshing Machine Company of that city. He was 80 years of age.

R. C. Norberg, Cleveland, who is assistant manager of the Willard Storage Battery Company, has sailed for Europe, where he will arrange for the installation of a main branch of the Willard company and establish service stations in the larger European cities.

C. T. Butin, Columbus, O., has become assistant manager of the Motor Supply & Tire Company.

J. F. Trotter, Chicago, who was until recently assistant manager of the local branch of the Buick Motor Company, has been appointed manager of the Indianapolis branch.

A. R. Cosgrove, Milwaukee, has been appointed sales manager of the Vulcan electric gearshift department for the Cutler-Hammer Manufacturing Company. Mr. Cosgrove was for a number of years sales manager of the National Drill & Manufacturing Company, New York City. He has also acted as a manufacturer's agent in London, Paris and Detroit.

William H. Schultze, New York City, has become associated with Birch Field & Company. He was formerly advertising manager of the Hartford Suspension Company, Jersey City.

Norman Flowers, Jackson, Mich., secretary and general manager of the American Distributing Company, has moved to Detroit, where the company's headquarters will be in the future.

Louis E. Wagner, Detroit, has become affiliated with the Century Electric Company. He will direct his efforts to building up the efficiency of the sales and service branches in the national field and will organize a department for assisting dealers.

John J. Poole, who is the European export manager of the Hupp Motor Car Company, Detroit, recently returned from a year's trip abroad. He reported that the American manufacturers are making great strides in the business on the other side of the Atlantic, despite the keen competition offered by the foreign makes.

P. P. Willis has resigned as advertising manager of the National Motor Vehicle Company, Indianapolis. He is now a member of the advertising firm of the Thompson-Carroll Tripp Company of Cleveland.

W. R. Barnes, Philadelphia, now has charge of the sales agency of the Lee Tire & Rubber Company. Mr. Barnes was previously connected with the United States Rubber Company, the Goodyear Tire & Rubber Company, as well as a number of other prominent firms.

P. P. Willis, Member of the Thompson-Carroll Tripp Company.

A. H. Smith, Toledo, formerly connected with the Willys-Overland Company as controller since the organization of that concern, died recently while visiting at Atlantic City, N. J., after an extended illness.

Vincent Link, Detroit, has joined the forces of the Universal Motor Truck Company in the capacity of chief engineer.

Yarworth Jones, managing director of the Victor Tire Company, Ltd., London, England, will visit this country and establish agencies for the Victor tire throughout the States.

Alfred P. Sloan, Detroit, general manager of the Hyatt Roller Bearing Company, has sailed for Europe.

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J. H. MacAlman has been re-elected president of the Boston Automobile Dealers' Association. J. S. Hathaway is again vice president and F. A. Hinchcliffe is treasurer. C. I. Campbell was also re-elected secretary.

J. H. MacAlman, President Boston Automobile Dealers' Assn.

S. L. Jackson, Detroit, has been appointed sales manager for W. Smalley Daniels, manufacturers' sales representative of that city.

H. F. Crawford, Los Angeles, Cal., has been appointed secretary and general manager of the Phineas Jones & Company, Newark, N. J., in the former city.

W. H. Jahns, Los Angeles, Cal., was elected president of the Garage & Repair Men's Association, which has a membership of 42. The other officers are as follows: Vice president, R. C. McClay; secretary and treasurer, Philip Wilcox.

Lyle Adams, Fort Wayne, Ind., has accepted a position as sales manager of the Ideal Motor Truck Company. He was formerly connected with the Adams Bros. Company, Findlay, O.

A. C. Stevens, Seattle, Wash., has become assistant sales manager of the Winton Motor Car Company. He was formerly the company's superintendent.

Fred J. Titus, New York City, has joined the C. T. Silver Company. He is well known throughout the industry, having been connected with the Simplex company for some time.

H. E. Garlent, Detroit, has been appointed superintendent of the Hupp Motor Car Company.

Herbert C. Snow, Cleveland, is now connected with the engineering department of the Winton Motor Car Company. He was formerly assistant engineer of the Willys-Overland Company, Toledo, O.

V. D. Lersch, manager of the Goodyear Rubber Tire Company, Albany, N. Y., has resigned to become sales manager of the Herreshoff Motor Sales Company.

Thomas C. O'Connor, York, Penn., who until recently was president of the Pullman Motor Car Company, has resigned. He will, however, retain his position as one of the directors.

J. F. Roark, St. Louis, has been announced as district manager of the St. Louis territory for Dodge Bros., Detroit, manufacturer of automobiles.

E. E. Arbogast has been appointed manager of the Cole Motor Company of the State of Missouri, with headquarters at St. Louis. He succeeds Nelson W. Gotshall, who resigned. Mr. Arbogast was formerly connected with the Cole Motor Company at Indianapolis, in both engineering and sales capacities.

H. M. Kiesewetter, New York City, is now identified with the George W. Houk Company as advertising manager and manager of its New York branch at 58th street and Broadway, from which office all Houk wire wheel business in Greater New York is being handled.

Paul Bruhl, general manager of Maschinenfabrik-Rheinland, A. G., Dusseldorf, Germany, manufacturers of Rhineland ball bearings, accompanied by the American manager, Stuart Shepard, is visiting the American factory, the Fafnir Bearing Company, New Britain, Conn., and certain of the leading American motor car and machinery plants.

Enrique Arvelo, Caracas, Venezuela, who is the South American agent for the Chalmers Motor Company, Detroit, visited the plant recently.

Arthur G. Prichard, Tacoma, Wash., has been re-elected president of the Tacoma Automobile Club. A. L. Sommers is secretary.

E. A. Bennett, Toledo, O., factory representative of the Willys-Overland Company, has purchased the Seely Auto Sales & Training School at South Bend, Ind.

E. L. Schumacher, Detroit, who is the traffic engineer of the Federal Motor Truck Company, is to visit all the large cities in the country and gather data on the actual haulage work of various concerns in various lines of business.

Howard Wilcox, Detroit, has acquired an interest in the Signal Motor Truck Company and will act as consulting engineer and sales manager.

Charles P. Barrett, Springfield, Mass., has been announced as advertising manager of the Knox Motors Company.

J. E. Spencer, Detroit, has been appointed assistant to first vice president A. R. Erskine of the Studebaker Corporation.

George Houghton, St. Louis, has accepted a position as sales manager of the American Para Rubber Company, and is located at 6727 South Broadway. The company manufactures automobile rubber accessories and supplies.

Thomas Warner, Toledo, has withdrawn from the Muncie Gear Works, Muncie, Ind. He is president and general manager of the Warner Manufacturing Company, Toledo, O.

Sidney W. Shattuck, Flint, Mich., has joined the ranks of the benedicts. He was married recently to Miss Margaret C. George. Mr. Shattuck is metallurgist in the factory of the Weston-Mott Company.

Coy C. Goodrich of the Studebaker corporation in California for the past three years, sailed recently for Shanghai, China, and he will there represent that company for a period of three years. Mr. Goodrich was formerly a resident of Charlotte, Mich.

J. R. Price, Basic City, Va., general manager of the Price Electrical & Manufacturing Company, established a New York branch at 1777 Broadway recently.

H. W. Hayden, York, Penn., has been appointed manager of the Pullman Motor Car Company. He was formerly connected with the Stoddard-Dayton and Edwards Motor Car companies.

Richard D. Northrop, South Framingham, Mass., was married recently to Miss Jessie A. Rose of Block Island, R. I. Mr. Northrop is advertising manager of the Standard Woven Fabric Company, maker of the well known Multibestos brake lining.

Dudley A. Johnson, Chicago, is now the manager of the branch of Joseph Dixon Crucible Company of that city. He takes the place of the late Samuel Mayer and was for a number of years assistant to Mr. Mayer.

Walter E. Holland, Detroit, has been appointed manager of the mechanical and electrical departments of the Anderson Electric Car Company. Mr. Holland is an electrical engineer of high standing and is widely known as an authority on the storage battery and its applications.

Waller Chanslor, Los Angeles, Cal., recently returned from a trip around the world. He is a well known member of the automobile accessory firm of Chanslor & Lyon. He was accompanied by his wife and they toured most of the Old World in an automobile.

J. W. Shelor, Dallas, Tex., has been appointed district resentative for the sale of Dodge Bros.' automobiles in that territory. He was formerly connected with the Shelor-Morris Automobile Company, Texas distributor of the Velie cars.

Guy O. Simons, Indianapolis, who was vice president and factory manager of the Motor Car Manufacturing Company of that city, has severed his connection with the company. He intends to take up distributing for one of the large car manufacturers in the Middle West.

J. C. Dunsmoor, formerly of the Buick Motor Company, Philadelphia, has been appointed sales manager of the Philadelphia branch of the Oakland Motor Company with headquarters at 227-29 North Broad street.

H. H. Rice, vice president of the Waverly Company, Indianapolis, has been elected president of the National Metal Trades Association.

Leigh B. Lynch has severel his connection with the Studebaker Corporation, Detroit. He had charge of the body, top and finishing plants of the company.

Wallace C. Hood, has been appointed sales manager of the Briggs-Detroiter Company, Detroit. Mr. Hood will relieve C. S. Briggs, who is the president of that company from the selling end of the business.

O. A. Schreiber has been transferred to Detroit as special representative of the Abbott cars, made by the Abbott Motor Car Company.

B. W. Vallat has been chosen vice president of the Dominion Stamping Company, Ford, Ont. The concern is a subsidiary of the Michigan Stamping Company, Detroit, which specializes in aluminum and sheet metal stamping and drop forgings for automobiles.

Louis Goodhart has been appointed sales manager of the Woods Electric Vehicle Company, St. Louis, Mo.

Wallace C. Hood, Sales Manager of the Briggs-Detroiter Company.

Eugene F. Russell, former factory manager of the Locomobile Company of America, Bridgeport, Conn., has been elected secretary of the Manufacturers' Association of Connecticut, succeeding Capt. Philip E. Curtis.

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NEW CONCERNS AND BUSINESS CHANGES.

GARAGES AND REPAIR SHOPS.

Martin Bros., Akron, N. Y., has opened a new garage.

The Wright Garage Company, Merrimac, Mass., has opened a first-class garage on Mill street.

J. B. Price, Quincy, Fla., has opened a new garage. It is modern throughout.

Andrew Stried, Briswold, Ia., will open a garage and repair shop in the old Motor Inn building on Third street.

George E. Mickel, Walnut, Ia., has opened a new garage and repair shop. It is modern throughout.

Carver & Twyman Garage Company, Trenton, N. J., has opened an up-to-date garage.

Earl Winters, Hutchinson, Kan., has opened an up-to-date garage at 106 Sherman street.

G. E. Mosser, Batavia, Ia., has opened a new garage and repair shop which is modernly equipped.

The Stewart Garage Company, Muskegon, Mich., has opened a new garage which is modern throughout.

W. L. Forney, Chambersburg, Penn., who is the owner of the Franklin Auto & Supply Company, has converted his large sale and exchange stable into a garage.

J. Heidelmayer & Son, College Point, N. Y., has opened a modern garage at 90 Jackson avenue. The garage is of fireproof construction.

Cedar & Russell, Santa Cruz, Cal., is the name of a new firm who will operate a first-class garage and repair shop. The company is located on Pacific avenue.

John W. Werts & Son, Shillington, Penn., has opened an automobile repair shop. The new company is located at Lancaster avenue.

The Ahwaga Garage Company, Owego, N. Y., has opened for business. The company has an up-to-date machine shop and repair department. The building is a new one.

Bennett & Fife, Oakland, Cal., has opened a machine shop on 12th street. The company is the local agent for Ford cars.

Rich & Sprague, Scranton, Penn., has opened a new garage at 638 Quincy street. It is modern throughout and the latest machinery has been installed.

The Marksheffel Automobile Company, Colorado Springs, Col., has opened a large garage at 22 North Cascade avenue. It was erected at a cost of $50,000.

The Mohegan Garage, Lake Mohegan, N. Y., is the name of a garage which was recently opened. Dudley F. Benton is the proprietor. He is agent for the Ford cars.

J. R. Borthwick, Pittsfield, Mass., formerly with the City Garage Company, has opened a garage and repair shop at 159 Union street.

The Central Garage, Detroit, has been opened in the former Pingree building at Jefferson avenue and Shelby street.

Burns Bros., Aberdeen, S. D., has opened a garage and repair shop at 211 South Lincoln street. The company is agent for Buick cars.

O. J. Hanson, and his brother, J. G. Hanson, Grand Forks, N. D., has opened a garage at 312 Bruce avenue. The company represents the Maxwell car and conducts a general repair shop. A full line of supplies is handled.

Bennett Bros. & Koelbel, Muskegon, Mich., has opened a new garage on West Clay street. It contains an up-to-date vulcanizing plant and the garage is modern throughout. The company conducts an automobile accessory store on Western avenue.

North & Walter, Lockport, Ill., is a new firm which has opened. The company maintains a garage and repair shop and is located at Ninth street.

Shepard & Harms, Platteville, Wis., has entered the trade. A first-class garage has been opened. The company handles the Case cars.

Carl Crawford, Columbus, O., has opened a general repair shop for bodies and tops at 534 Parson avenue.

Earl Wright, Oconto, Wis., has opened a garage which is of fireproof construction. The structure is 46 by 80 feet and is two stories high.

Alexander Foth, Long Branch, N. J., has opened an up-to-date garage and repair shop on North Broadway. It is fully equipped.

The Enterprise Machine Works & Garage Company, Santa Cruz, Cal., is the name of a company which was formed recently to operate a garage.

F. L. Cunningham, Toledo, O., has opened a first-class garage. He has been connected with the trade for the past 12 years.

F. A. Krohne, Springfield, Mass., has opened a new fireproof garage at 57 Pecowsic avenue. A feature of the building is a thoroughly equipped machine shop with facilities for doing all kinds of repair work.

The Combination Repair Shop, Minneapolis, was opened for business recently at 423 East Lake street. Electric lighting and starting systems will be specialized in. R. R. Wellington is the proprietor and manager.

William F. Merchant, Juneau, Alaska, has opened the most complete garage in that section. He represents the Ford and Garford. A full line of accessories, parts and supplies for these makes of cars will be carried.

The Hagerty & Moore Garage, White Pigeon, Mich., has been opened on Chicago street. The new company will do a general garage business and handle a full line of accessories and supplies. The company is also desirous of securing the agency for a first-class car.

Peter J. McCormick, Hagerstown, Md., until recently part owner of the Autogenous Welding & Equipment Company, Baltimore, has opened a garage and oxy-acetylene welding plant in a new building erected for the purpose on South Prospect street of the former city. He is agent for the Cartercar and Stanley steamer.

Overland Band in Musicians' Uniforms.

Members of the Band in Working Attire.

The Serfas Automobile Company, Mauch Chunk, Penn., has opened a first-class garage in the Mansion house building.

Harry K. Stormont, Indianapolis, has entered the garage business at Central avenue.

The Division Avenue Garage, Lansing, Mich., is a new firm which has started business.

Hamilton & Slater, Vancouver, B. C., is the name of a company which was formed recently. The company has opened a first-class repair shop at 757 Beatty street.

Waters & Swarts, Mayetta, Kan., will opened a new garage and secure a car agency.

A. N. Barber, Riverside, Cal., has opened a garage at 446 Eighth street. Maxwell cars are handled.

The Jensen Bros., Currie, Minn., has opened for business at the new location. All machinery has been installed. A welding outfit was part of the equipment.

D. E. Marriott, Seattle, Wash., has opened a large and up-to-date service station and automobile supply house at 724 Pine street. The company is known as the Auto Tire & Rubber Company.

Baldwin Bros.' Club Garage, Spokane, Wash., is the name of a new company which has started in business. A first-class garage will be conducted and repairs will also be handled.

The Mission Garage, San Diego, Cal., has opened its new garage on India street. It was erected at a cost of $25,000 by E. D. Miller and associates.

C. H. Rutherford, San Diego, Cal., has opened a garage and repair shop at 3736 Eagle street. He also carries a full line of accessories and supplies.

Clem Thompson, Lorian, O., has opened a large and up-to-date garage. The building was completed recently at a cost of $10,000. It is located at 324 West Market street.

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The Front & A Street Garage, San Diego, Cal., is the name of a new concern that has opened for business. L. G. Hayford, formerly of Idaho, is the proprietor.

The Auto Kraft & Garage Company, Detroit, was formed recently for the purpose of conducting a general garage business. The garage will be a three-story structure, 120 by 60 feet, located at 76-78 Forest avenue. The first floor will house 40 cars and will be for gasoline cars only. The second floor will be for electric cars and will house 35, while the third floor will be used as a repair and machine shop.

Smith & Aldrich, Columbus, O., has opened an up-to-date garage and repair shop at 1082 North High street, under the name of the Buckeye Automobile Company. Mr. Smith will have charge of the garage and repair shop.

Johns & Vogelgesang, Lima, O., has established a welding plant at 120 Spring street.

AGENCIES AND DEALERS.

G. W. Hawkins, Houston, Tex., has taken the agency for Mohawk tires, manufactured by the Mohawk Rubber Company, Akron, O.

The Scheip-Budke Tire & Rubber Company, St. Louis, Mo., has opened a new automobile store at 3042 Locust street. A full line of tires and rubber goods will be carried.

Frederick R. Welch, Highlands, N. J., has opened an automobile supply house on Bay avenue. He will also carry a line of motor boat supplies.

The Concord Street Garage Company, Corry, Penn., is the name of a new company which has opened on Concord street. The company handles the Saxon and Chalmers cars.

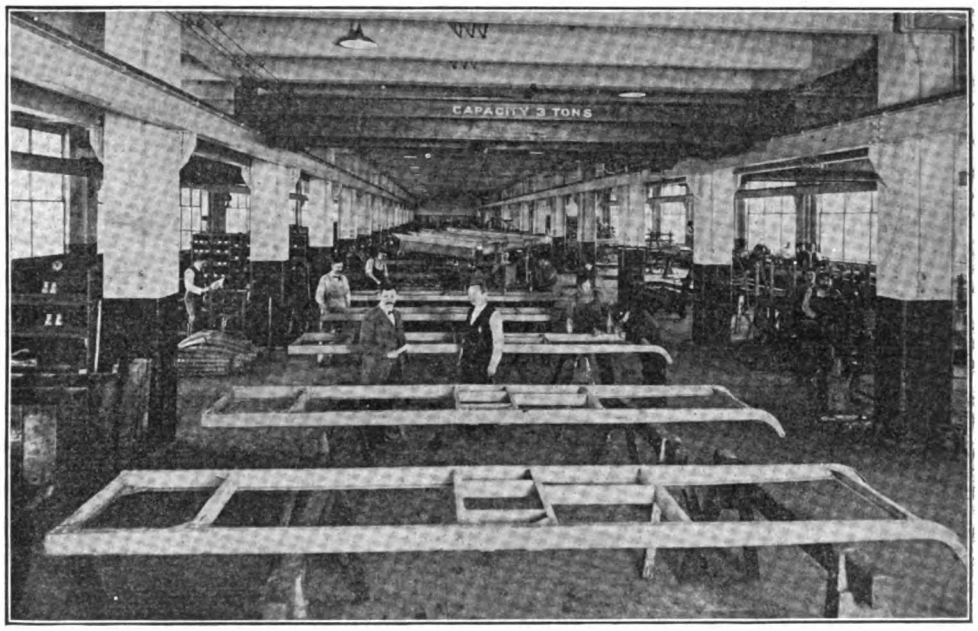
Claude Bollman, Rockford, Ill., wil engage in the automobile business. He will handle the Jeffery cars.

Charles J. Clapp, Toledo, O., has taken the agency for the Gabriel shock absorbers. His store is located at 1015 Jefferson avenue.

The Boyd Tire & Supply Company, Toledo, O., has opened an automobile supply store at Jefferson avenue. The company will carry a full line of supplies and accessories.

Justus & Parker, Columbus, O., has taken the agency for the Corbin-Brown speedometer and will also establish a service station.

Eric Nelson, Omaha, Neb., has established an automobile business on Farnham street under the name of the Auto Sales Company. The new firm will handle the Lozier line.



A Portion of the Assembling Rooms in the Electric Division of the General Vehicle Company, Which Extends the Length of the Fourth Floor of the Building.

Sylvester & Livingston, Washington, D. C., has opened a new automobile tire store at 1621 14th street. The company will specialize in Hood tires.

Bruce Osthimer, Indianapolis, has taken the agency for the Chaney automobile headlight dimmer. He is located at 431 North Capitol avenue.

The Gibbes Machinery Company, Columbia, S. C., has taken the agency for Bosch magnetos for that territory.

W. S. Robertson and Samuel Eaton, Edwardsville, Ill., have opened an automobile accessory store at 218 St. Louis street. The company will be known as the Southern Illinois Equipment Company.

The Savage Tire Company, San Diego, Cal., has opened a branch store in San Francisco. C. W. Whitston will have charge.

The Pacific Coast Automobile Company, San Francisco, is the name of a new concern which has started in the automobile business at 1441 Bush street.

Louis C. Miller, Detroit, has entered the automobile field at 291 12th street. He will specialize in remodelling old cars.

R. Shanholtzer, San Bernardino, Cal., has opened a supply store. He makes a specialty of Miller tires.

The Safety Tire Company, Detroit, has been organized and will operate an automobile accessory and supply house at 953 Woodward avenue. Tire repairing will be the most important feature of the business.

The Northern Motor Car Company, Jacksonville, Fla., has opened an automobile house.

The Regal Motor Company, Minneapolis, has been organized and succeeds to the place of business of the Regal Sales Company at 1400 Hennepin avenue. The new company has a capital stock of $25,000.

The Gross Hardware Company, Milwaukee, has been appointed sole agent for the Braender tire for the State of Wisconsin.

The Consumers' Tire Company, Milwaukee, has been appointed exclusive distributor for Acme tires and accessories. The company is located at Seventh and Wells streets.

The Down Town Garage Company, Detroit, is the name of a new concern which has opened for business at 80 Congress street, West.

The Republic Tire Company, Grand Rapids, Mich., has established a salesroom at 124 Division street. George E. Moran is in charge.

The Chalmers & Saxon Sales Company, Macon, Ga., is a new company which has started business in that city. The company has opened salesrooms in the Grand building. A service station has been established and all parts are carried.

The Lee Tire & Supply Company, Grand Rapids, Mich., is now handling the products of the Lee Tire & Rubber Company, Conshohocken, Penn. The company is located at 206 Ionia avenue.

E. Isenflam, Indianapolis, has entered the trade as proprietor of the Indianapolis Auto Tire & Accessories Company. He is located at 1702 West North street. Until recently he was manager of the Marmon branch in that city.

The Bartles-Maguire Oil Company, Milwaukee, Wis., has been appointed distributor for the Knight tire. The company is located at 539-543 Broadway.

The Panama Tire & Rubber Company, Newark, N. J., announces that it has taken the sole agency for Portage tires for Newark and the surrounding territory. This tire is said to be one of the most satisfactory on the market and in use has lasted upward of 6000 miles.

Julius Andrae & Sons Company, Milwaukee, Wis., has taken the exclusive selling agency for the Kemco fan-type generator and reports good business on both the regular type and the special Ford generators. The company is also the Wisconsin distributor of Willard storage batteries, Remy magnetos, Stromberg carburetors and a standard line of accessories and supplies.

The Asheville Steam Vulcanizing Company, Asheville, N. C., will handle the Braender tires for that territory. The company is located on East College street.

C. L. Thayer, Columbus, O., has taken the agency for the Gould batteries. He also operates a garage and charging station at 174 South Wall street.

The Como Garage, St. Paul, Minn., carries a complete line of supplies and fittings for automobiles. The company also deals in used cars of all makes.

The Willis-Halff Company, Waco, Tex., is establishing a large and up-to-date accessory and supply house at Temple. The company will locate on East avenue, A. The Willis-Halff company is one of the largest firms in the South and will carry the same stock at Temple as characterizes the Waco house. H. L. Smith is manager of the new firm.

The Morris-Westall Auto & Tire Company, Birmingham, Ala., is the name of a company which has just opened for business at 422 South 20th street. The company will be temporarily located on this site, pending the completion of plans now under way to build a mod-

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ern sales house. The company has the agency for the Premier cars and also handles the Ajax tires. Thomas E. Morris and Henry Westall are the proprietors and are both well known to the trade.

Little & Kennedy, Tacoma, Wash., has opened an automobile supply house at 739-745 C street. The company handles the Cadillac cars.

A. S. Pearson, Salem, O., has opened an automobile supply store on West Main street.

Thomas S. Kendall, Des Moines, Ia., has organized the Kendall Auto Taxi Service Company. He will conduct a taxicab business. The company is located at 324 West Seventh street.

Andrew Murphy & Son, Des Moines, Ia., has opened an automobile salesroom and will carry the Kelly and Stewart trucks.

The Red Letter Tire Company, Columbus, O., is the name of a new concern located at 20 East Town street under the management of Leo Sulzer. Acme tires are handled.

The Ellis-Ward Company, Boston, will handle the New England distribution of the Gaulois tyre. A temporary location has been secured at 817 Boylston street, in the heart of the tire row, and already a brisk demand has been reported for these well known tires.

L. L. Barnes, Atlanta, Ga., formerly southern district manager for the Hudson Motor Car Company, and Max Springer, have formed the Saxon Motor Company of Atlanta and opened salesrooms and a service station at 397 Peachtree street.

R. G. Sloan, Greensboro, N. C., formerly with the Greensboro Motor Car Company, has sold his interests in that company and formed the R. G. Sloan Motor Company. The new company will handle the Hupmobile cars and will also conduct a garage. A building has been leased on South Davie street.

Campbell & West, Spokane, Wash., is the name of a new automobile supply house that has been opened. A. J. West and R. Campbell are the proprietors.

W. A. Sanders & Son, Detroit, has opened first-class salesrooms for the Cricket car at 762 Woodward avenue.

The Craighead Motor Sales Company, Columbus, O., has opened a sales department for the Corbin-Brown speedometer and will maintain a service station for them. The company handles the Crescent cars.

E. H. Rhinehart, Menominee, Mich., has started in the automobile business, having taken the agency for Buick cars. He was formerly manager of several local theaters.

The Don Lee Company, Los Angeles, Cal., has added an accessory and supply department to its garage at 12th and Main streets. The company repairs cars of all makes.

Elbert Ferrell, Everett, Wash., has re-entered the trade and now conducts an automobile supply store at 2413 Hewett avenue.

A. Schlueter, Milwaukee, Wis., has gone into business for himself and has opened an up-to-date garage at 319 Farwell avenue. He was formerly with the Creek Motor Sales Company.

The Auto Sales Company, Mobile, Ala., has been purchased by C. H. McBroom and F. E. Tacon. The company was formerly conducted by E. L. Moran. The new firm has fitted up a first-class repair shop for automobiles and motorcycles and has also started a taxicab service.

The Grand Rapids Oil Company, Grand Rapids, Mich., has opened two new oil and gasoline stations at Commerce avenue and Louis street northwest and 1496 Lake drive.

The Townsend & Kinney Automobile Company, Reedsburg, Wis., has been organized to conduct a general automobile business. The new company has purchased the garages of Paul Fiber and of Foss & Sorge Automobile Company, and will operate both under one management. The consolidation gives the concern the agencies for the Overland, Buick, Studebaker, Jeffery and Ford cars.

The H. W. Nichoalds Company, Detroit, motor car parts and accessory dealers, has opened a branch at 250 East Jefferson avenue.

The Excelsior Motor Supply Company, Harrisburg, Penn., has opened a branch store at 126 North Front street, Steelton, Penn.

The Franklin Motor Car Company, Pittsburg, Penn., will handle the Baker electric car exclusively in that city. Murray Carr is president.

GARAGE TRANSFERS.

The Carlton-Faulkner-Bowles Motor Car Company, Los Angeles, Cal., is the name of a new concern which has opened a salesroom and garage at the corner of 10th and Hope streets. The company is agent for the McFarlan and Fiat cars.

Benjamin W. Mosher, Greenwich, Conn., has taken over the business of the Opperman & Hennessey Company. He has equipped the garage with new machinery.

The Orange Street Garage, Redlands, Cal., has been purchased by F. E. Stowe, who is agent for the Studebaker cars.

Burton & Roach, Rehoboth, Del., has purchased the Rehoboth Avenue Garage and will conduct the business. J. L. Carmine was the former owner.

The Manley-Wilkins Garage, Mt. Carmel, Ill., has been purchased by E. L. Wilkins and Jay Lescher, who will operate same. The garage is located at Fourth street.

George O. Athorne, Dover, N. H., has purchased the Granite State Garage and will operate same. Improvements will be made.

Ruh Bros., Bayonne, N. J., has taken over the Broadway Garage, at 815 Broadway. A repair shop will also be conducted by the new company.

The Greenecastle Garage, Greencastle, Ind., has been purchased by Guy Coons, formerly of Advance, Kan., and he will operate it.

Bert W. Cole, Grand Rapids, Mich., has purchased the garage of Williams & Hann at 1010 Godfrey avenue. The business will be conducted under the name of the Godfrey Avenue Garage.

Ernest Coffey, Lawton, Okla., has purchased the Ford Garage, and will conduct the business. He will make many improvements.

A. L. Hendricks, San Diego, Cal., has sold his interests in the Park Garage. This sale includes the well known Dill Pickles. Charles C. Albright is the new holder of the stock.

The Auto Service Company, Marinette, Wis., has been purchased by D. F. Poyer of Menominee, Mich. He will continue the business. Improvements will also be made.

The Frank X. Parker & Company, Portsmouth, Va., has been purchased by T. W. Westbrook and will be operated by him as the Virginia Garage & Supply Company. The new firm will handle a complete line of accessories and will also have the agency for the Partin-Palmer cars. Repair work and storage will be specialized in. The company is located at 709-711 Crawford street.

Joseph Fratus and William Hurd, Plymouth, Mass., have purchased the automobile tire repair shop on Water street from N. J. Wentworth. The new company will operate the business.

Bisensius & Hemberger, St. Cloud, Minn., Overland agent, will be continued as the garage at the corner of Seventh avenue and First street south. Mr. Bisensius has purchased the interest of his partner, J. A. Hemberger.

P. L. Gannon, Larchwood, Ia., has purchased a half interest in the Griffin-Frans Automobile Company.

Chestnut Bros., Clay Center, Kan., has purchased the Yohe garage at Wapello, Ia. Many improvements will be made.

August H. Klatt, Algoma, Wis., has sold his interest in the Klatt & Son Garage to Berl F. Rider. The new firm of Klatt & Rider will conduct business along former lines.

The Seventeenth Street Garage, Columbus, O., has been purchased by J. R. Jones and is now being operated under the name of the Columbus Auto Service Station.

Thomas Brooks, Detroit, who operates two garages at 2674 and 2711 Woodward avenue, has purchased the Highland Park Garage, formerly operated by W. S. McEvoy. The name will be changed to Brooks—The Automobile Exchange.

W. Martin, Huntington, W. Va., has purchased the Modern Garage and will operate it.

The Brassill Service Station, Hartford, Conn., has taken over the Dillon Court Garage. It was formerly conducted by Charles Yetter.

H. A. Anderson & Son, Adams, S. D., has sold its garage to Anton Swenson, formerly of Warren, who will operate it.

H. W. Stone, San Diego, Cal., formerly in the employ of Leonard & Stone, has assumed control of the business and will continue at the old location on Broadway.

H. J. Neverman, Denver, Ia., has purchased the garage and Ford agency of Diekman Bros.

Johnson Bros., Irene, Ia., has sold its garage to the George J. Sogge Auto Company. The company will make extensive improvements.

Albert Albright, Webster City, Ia., has purchased his partner's interest in the automobile establishment known as Ead Hamlin, and will operate the business.

W. J. Burns and Bert Peterson, Pendelton, Ore., have purchased the garage of the City Motor Company on Cottonwood street and also the galvanizing plant of the Pendelton Auto Company. The new company will operate both plants.

The Park Garage Company, Roseville, N. J., which was formerly the Roseville Garage, has been purchased by Harry Pitt of Westfield avenue. The entire garage will be romedelled and a full line of accessories carried.

Cleve Fisch, Gaza, Ia., has purchased the Gaza Garage and is operating same. He has made several improvements and installed modern machinery.

The Electric Service Garage, Indianapolis, Ind., has been taken over by H. L. Krieger and William E. Roby. The company is located at the corner of Meridian and Walnut streets.

Stockley & Quigley, Middletown, Del. has purchased the automobile repair business of W. S. Burris and will operate same. Improvements will be made.

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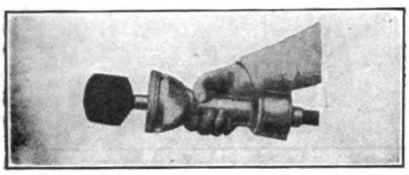
ACCESSORIES, SUPPLIES AND FITTINGS.

WIZARD WASHER.

Hands Are Not Wet and Design Is Stated to Be Very Efficient.

The Century Foundry Company, 1620 North Carolina street, Syracuse, N. Y., is marketing the Wizard wash-



er, designed to enable the owner and others to wash the machine without the usual equipment of rubber boots, aprons, etc. One of the qualities of the washer is that the hands do not come in contact with the water.

The Wizard consists of a special nozzle, a ball bearing turbine motor, a 14-inch extension and two interchangeable brushes, one long and pointed for washing corners, etc., and the other shaped like a sponge for flat surfaces. The nozzle throws a hollow film of water completely around the rapidly rotating brush, and it is stated that it removes all deposits without injury to fine finishes.

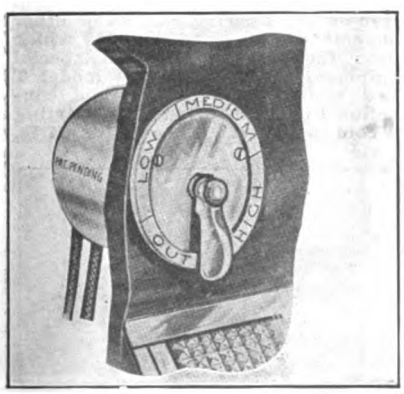
CHANEY HEADLIGHT DIMMER.

Practical Design for Eliminating Glare of Electric Lamps.

One of the latest devices for eliminating the dazzling effects of the electric headlights is the Chaney automobile incandescent lamp dimmer, manufactured by the L. F. Chaney Company, Springfield, O. The design is simple, very compact, and may be installed easily by the owner without a knowledge of electricity, as the wiring is very simple, there being but the connections shown in the illustration.

One of the qualities of the design is that the lights may be regulated to meet all requirements. The dimmer is mounted on the dash and being equipped with a kick type of lever, the driver can move the last named member to each of the four positions provided.

Placing the lever to "Low" effectually dims the lights, eliminating all glare. Medium and high positions are included, also an "Out". The installation of the Chaney dimmer is made easily. Three small holes are bored in the dash to retain the front plate and dimmer and a fourth opening for the shaft member, to which the handle or lever is attached. Being of the flush dash type, the design does not detract from the appearance of the car. The dimmer retails for $3.50.



MAXIM FORD MUFFLER.

Embodies Same Principle as the Firearm Silencer.

The Maxim Silencer Company, Hartford, Conn., maker of the well known Maxim gun silencer, has brought out a design of muffler for the model T Ford car in which is embodied the same principles as those incorporated in the device used on firearms. The design differs radically from the usual type of muffler.

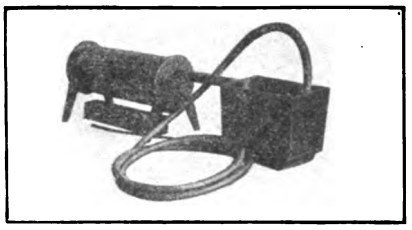
The exhaust gases enter the Maxim muffler at the expansion chamber, then pass to the whirl chambers, a feature of the Maxim silencer. These are formed by three segments of sheet steel separated from each other at the joints, so as to obtain a circumferential discharge. The next chamber is made in a similar man-

ner and has discharge spaces pointing in an opposite direction, thus obtaining the whirl referred to. The noise wave is thus divided and subdivided and is gradually dissipated. The silencer comes with brackets to fit car and includes a tail pipe for clearing rear spring. Its dimensions differ from the Ford muffler only in diameter, being 5.75 inches. It sells for $6.

PROGRESSIVE DECARBONIZER.

Employs Oxygen and Includes Rechargeable Generator.

The Progressive Manufacturing Company, Reading, Penn., is introducing a popular priced oxygen car-



bon removing equipment which is designed for the small garage and the owner. It consists of an oxygen generator, which is held to be easily operated and which may be utilized indefinitely when refilled with the proper dry chemicals.

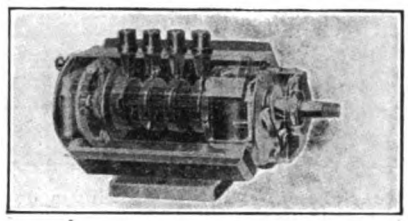
One of the qualities of the equipment is stated to be the use of non-poisonous material. Another feature is that the gas is always at low pressure, which eliminates the need of reducing valves. The outfit comes complete with sufficient material for cleaning a large motor, and the usual flexible hose is provided. Extra charges may be obtained at a nominal cost. The principle is similar to the conventional decarbonizing equipments. It retails for $6.

Ed. Note—Always consult The Buyers' Guide, found elsewhere in this issue, when in need of anything new in cars, accessories, supplies or fittings. It is an authoritative list of the reliable concerns of the industry. These are alphabetically arranged, making it an easy matter to obtain the name and address of the maker of the material desired.

HIBBARD MAGNETO.

A Novel Design Differing Radically from Usual Practise.

The Grip Nut Company, Chicago, is marketing the Hibbard magneto, presenting several interesting fea-



tures which differ from conventional practise. It is of the true high-tension type, operates at half engine speed with four-cycle motors, and has two armatures, each containing its own primary and secondary winding. It is of the four-pole type, four straight bar magnets being employed instead of the horseshoe design.

It is stated that almost any degree of advance or retard may be obtained, the change in the spark occurrence being accomplished by shifting the armatures and not the field or breaker box, as is used in present constructions. Another innovation is that the distributor is located inside the magneto, and the entire so-named distributor board revolves.

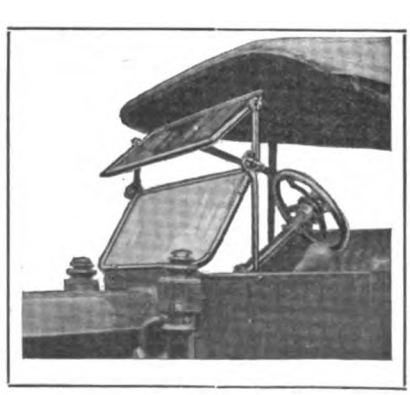
The breaker mechanism carried at the end, consists of four stationary cams, for the four-cylinder type, and they are made of fibre. Each point of the interrupter is carried on a separate strip of metal and the two are held together by the pressure of a spring. The shifting of the armature is accomplished by a slot in the shaft, a sleeve and a spool. A pin attached to the spool is moved backward or forward.

BANKER WINDSHIELD DEVICE.

Permits Adjustment of Ford Shield and Provides Ventilation.

The Banker Windshield Company, Ellsworth and Negley avenue, Pittsburg, Penn., is manufacturing a device for windshields for the Ford car and machines of similar size. The design is particularly intended to provide a clear vision when driving in a rain or snow storm, when the view is more or less obstructed.

The attachment permits of adjusting the top half of the shield, it replacing the usual hinges, and the maker states that any owner can fit the design without trouble and in a short time. As will be noted by the accompanying illustration, the shield may be set at an angle and the adjustment can be made as desired.



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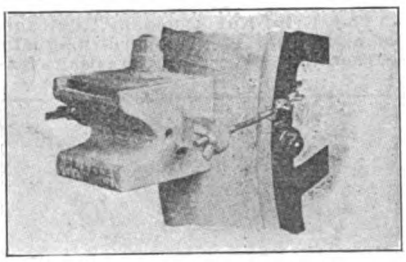
NURINKLE VULCANIZERS.

Proper Temperature Is Automatically Regulated.

Among the manufacturers specializing in vulcanizing equipments for the private owner is R. E. Stevenson,



Muncie, Ind., who is marketing a device termed the Nurinkle. It is constructed for motorists who undertake the maintenance of their tires and inner tubes, and who are not familiar with the operation of vulcanizing. The Nurinkle is of the portable type, very compact, and the maker states that the instructions are so simple that anyone can obtain perfect results with this design.

It employs gasoline as a fuel, and one of the qualities of the construction is that too large a supply of fuel cannot be utilized, as a cup integral with the vulcanizer prevents this mistake. The amount is held to be such as to provide sufficient heat to maintain a correct steam pressure, and to keep the vulcanizer at a uniform and proper temperature to effect a repair. One of the qualities of the design is that the flame is turned away from the tire without the use of a separate deflector. It sells for $5.

PRENTISS KITCHENETTE.

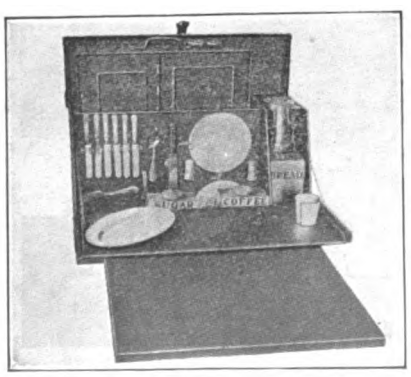
Includes Stove, Full Set of Dishes, Cooking Utensils, Etc.

The Prentiss Manufacturing Company, Racine, Wis., is making a specialty of cooking outfits for tourists, and the steel kitchenettes, as they are termed, are very compact and may be carried on the running board of the car. That illustrated is the No. 1 or six-party outfit.

It contains a full set of dishes for six persons with the necessary knives, forks and spoons, and, in addition, containers for coffee, sugar, salt and pepper. There are also frying and baking pans and other cooking utensils. The dishes are made of the best white enamelled ware.

The case is made of No. 22 gauge auto steel, nicely finished in black, and adjustable leg supports are fitted to the outer leaf of the table. All openings are felt lined to exclude dust and foreign elements. The case measures 28 inches long, 17.5 high and 12 wide. It weighs 75 pounds.

The folding stove utilized with the equipment employs gasoline as fuel and has three burners, two of which



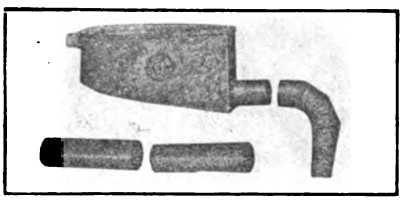
are for cooking and the other for the oven. The last named folds out of the way when not in use. It retails for $37.50.

METALCRAFT FUNNEL.

Has Offset and Two Extensions and Two Filters for Fuel.

William Vogel & Bros., 47 South Ninth street, Brooklyn, N. Y., is manufacturing the Metalcraft offset funnel, one of the qualities of which is that filler caps not accessible with ordinary funnels may be reached easily. The design is particularly adaptable to special types of cars having fuel tanks not easily reached.

As will be noted by the accompanying illustration, the Metalcraft funnel is provided with two sectional spout extensions, these being seven inches long, also an offset elbow, which when coupled with the other members gives an extension some 20 inches long, sufficient to reach the



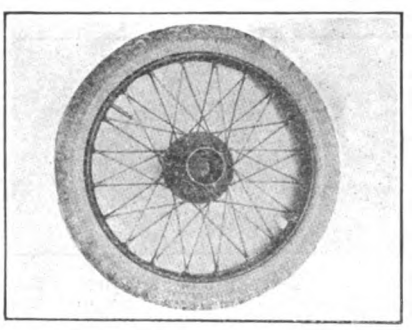
filler of any rear tank of the pressure type.

The design is constructed of seamed sheet iron with locked seams, and is galvanized.

CAMERON WIRE WHEEL.

Ford Design Installed Without Any Alterations.

The Cameron Wire Wheel Company, 47 Adelaide street, Detroit, is marketing a wire wheel for the model T Ford car. One of the qualities of the design is that it is interchangeable with the regular wood wheels



fitted to the Ford machine. The Cameron construction is also detachable, and is designed to carry 30 by 3.5-inch tires.

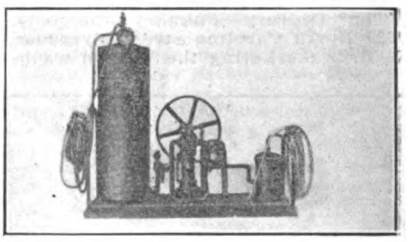
The wire wheel is securely locked by means of special studs, these taking the place of the old bolts used in the wooden members. The locking studs are operated by a socket wrench, much in the same manner as the demountable types of rims. As the original brake drums are not interfered with there is no change to the brake adjustment, etc.

One of the features emphasized by the maker is the lacing of the spokes, it being held that they will not catch in ruts, and that at the same time they afford ample resistance to torque and lateral stresses. The wheels are finished to withstand weather, being first copper plated, then given two coats of black enamel. The Ford design comes in sets of five. The company also manufactures wire wheels for standard cars.

DUNKLEY COMPRESSOR.

Combines Power Pump, Motor Cleaner and Vacuum Cleaner.

The Dunkley Company, Kalamazoo, Mich., is manufacturing an equipment for the private as well as pub-



lic garage, which combines the functions of a high grade air compressor, a vacuum cleaner and a motor cleaner, all mounted on one base.

The compressor is designed to be driven either by a belt or by an electric motor, provision being made for the installation of the last named unit. The compressor proper is of the double acting, water-cooled type and is a high pressure design. The tank has a capacity of 80 gallons and is provided with a gauge, suitable length of high grade flexible hose and connections.

Mounted on the same base is the motor cleaning attachment. It comprises a fuel tank and a two-way nozzle, which has passages for the air and gasoline, which breaks the liquid up into a very fine spray. Being projected under considerable pressure, the atomized fuel will reach and clean places not easily accessible by the usual methods. It is stated that heavy deposits of grease and oil may be displaced readily and that the surface is left very clean.

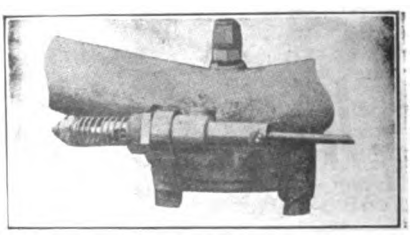
The vacuum cleaner is obtained by utilizing the intake of the compressor, a vacuum tank and dust collector being provided. This permits of utilizing the equipment for removing dust from tufted cushions, tops and places difficult of access with ordinary cleaning members.

HANDY CONTROLLER.

Automatically Admits Air to Intake Manifold as Required.

The Handy carburetion controller is the product of the Crary Company, 652 Woodward avenue, Detroit. It is a simple, compact device, which is fitted to the intake manifold between the carburetor and the cylinders. The function of the controller is to automatically provide extra air to the mixture, thereby reducing the suction at the spraying jet and preventing undue enriching of the mixture at all motor speeds. The stream of air striking the fuel vapor breaks it up into a fine spray and mingles it with the air, thereby obtaining a rapid burning charge.

The Handy controller is automatic in its action. After the motor has become warmed up a small control lever on the steering column or other convenient place is moved, which opens the Handy valve. A special equipment is made for the model T Ford motor, including a tube connection to a dash primer for starting in cold weather. It sells for $7.50.



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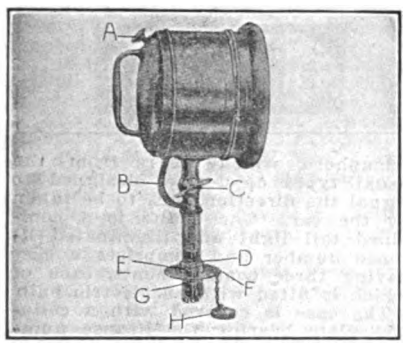
CELLO SEARCHLIGHT.

Wireless Design Operated by Push Button with Dry Cells.

The A. S. Campbell Company, 284 Commercial street, Boston, is manufacturing the Cello Wire-Less search-



light. As the name implies the construction is without wires, to prevent opportunity of short circuits, and the design makes for easy and rapid installation. The light is equipped with the same reflector as is used in high grade lamps.

The connection to the batteries is made through a highly polished flush deck socket, and when the light is not in service, a cap screwed on to the deck socket makes a water proof fitting. The push button A operates the lamp, and pressing down obtains a flash, while a half-turn gives a steady illumination. The flexible cable is indicated by B, and C is the hinge joint obtaining movement.

The deck swivel is locked by a nut D. E is the bronze contact spring and F the deck socket, which connects to the main wiring below. The self-cleaning, positive contact is shown at G. H is the cap screw utilized when the lamp is not in service.

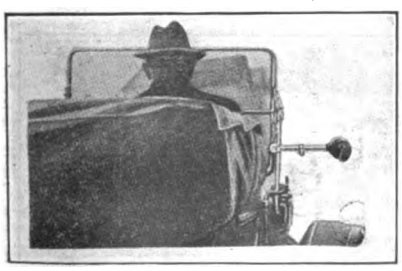
The design is very sturdy and can be set at any convenient angle. It is stated that ordinary type can be read at a distance of 1000 feet and that the lamp will operate economically on six dry cells. It is adapted for service with a storage battery or dynamo, and the bulb is an eight candlepower six-volt member. The finishes are: Brass, bright nickel and black nickel. It retails for $7.50.

COLUMBUS TRAFFIC SIGNAL.

A Day and Night Signal Operated by Pedal and with Red Light.

Edward S. Adams & Co., Columbus, O., is manufacturing the Columbus traffic signal, which presents a number of interesting features, among which is that it is of service in the daytime as well as night. As will be noted by an accompanying illustration the signal is in the form of a disc attached to an arm which, when raised as indicated, denotes that the machine is about to make a right hand turn.

There are two of these signals, one on either side of the windshield to which they are attached, and each disc is raised independently of the other by pressing a pedal convenient to the driver. Normally the arm



bearing the signal is in a vertical position, but upon wishing to signal the traffic officer or a machine approaching in the rear, the pedal is touched with the foot, raising the arm. The signal is finished in red, and at night is illuminated by an electric bulb, current for which is supplied by a set of six dry cells. A switch is included for cutting off the current supply in the day time. The Signal sells for $15.

MULTIBESTOS BRAKE LINING.

Special Weave Eliminating Brass Wire and Cut to Size.

The Standard Woven Fabric Company, Framingham, Mass., maker of the well known Multibestos brake lining, is marketing the Multibestos Ford special, a brake lining which is held to meet every condition of service on the Ford car.

It is similar in weave and appearance to the standard material, but differs in that the interwoven brass wire is eliminated. As the lining operates in a bath of oil in the Ford machine, it is treated by a special process with a composition that renders it oil proof.

Multibestos Ford special comes in neat pasteboard boxes, each containing a complete set of linings, three in number, these being 23.5 inches

long, 1.125 wide and .15625 thick. Brass rivets are enclosed for attaching the linings. The straight lining and rivets will be sold separately.

SECURITY TIRE ENAMEL.

A Rubber Compound for Protecting Shoes from Weather.

Security tire enamel is manufactured by the Security Reliner Company, Montgomery, N. Y., for which the D. Henry Bonner Company, Cambridge, Mass., is New England distributor. It is a specially prepared

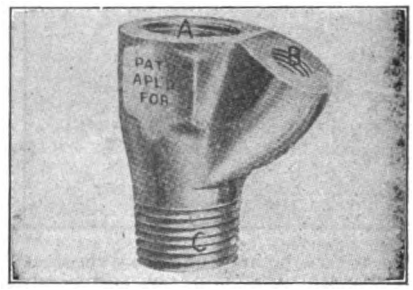
liquid paint made from a pure rubber combined with selected pigments, and is stated to be quick drying.

The preparation is made for protecting and preserving tires, mats and other rubber articles exposed to the action of the weather, and when applied to a casing dries rapidly, imparting a beautiful gray appearance. It is applied with a soft brush after the shoes have been cleaned, and it is stated that it spreads perfectly, leaving no brush marks. The maker claims that it will fill cuts, preventing moisture penetrating to the fabric, etc. Security tire enamel comes in press top cans, having capacities ranging from one-half pint to a gallon. The half-pints retail for 50 cents and the gallon cans for $3.50.

STRYKER STARTER FITTING.

Provides Means for Introducing Fluids into Cylinder.

C. W. Stryker, 240 Shonnard street, Syracuse, N. Y., is manufacturing the Stryker starter fitting, which is de-



signed for the model T Ford and other makes of motors in which provision has not been made for the fitting of petcocks or means for introducing gas or fluids as is necessary with some forms of motor starters.

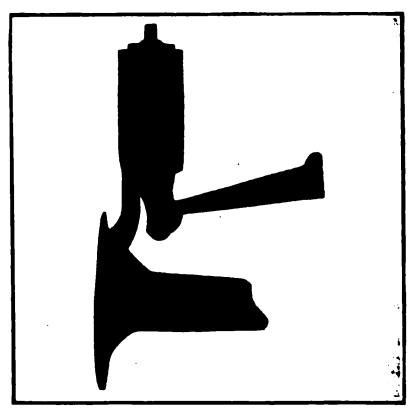
The Stryker device is constructed much in the same manner as the shell of a spark plug, but differs in that it is made much thicker at one side, this section being indicated at B in the illustration. The lower part C is threaded and this is screwed into the cylinder, replacing the usual spark plug, which is threaded into the opening at A. The member B is also threaded and into this is screwed the starter connection or a petcock for priming purposes.

J. M. SHOCK ABSORBER.

New Design Termed No. 3 for the Model T Ford Automobile.

The J. M. Shock Absorber Company, Inc., 210 South 17th street, Philadelphia, maker of the well known J. M. shock absorber, has brought out a new design, termed the type No. 3, for the model T Ford car. It is based on the same helical spring principle and the same high grade material and workmanship for which the products of this concern are noted is incorporated. The maker calls especial attention to the sliding sleeve container, the automatic oiling attachments, and the adaptability of the design to the Ford machine.

The hanger is a high grade steel drop forging with rigid attachment for insertion and great strength is emphasized in the construction. The interior of the hanger contains a bronze bushing and at a point where the wear is concentrated. This part may be replaced for a very slight cost, doubling the service of the absorber. The new J. M. type comes in pairs for the rear springs, but front members are supplied. That illustrated is a rear design. The rear members retail for $15 the set.



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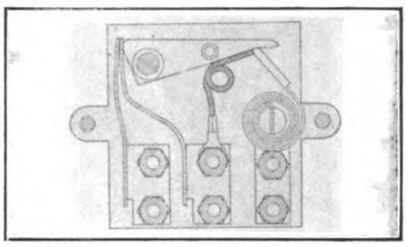
MAPLE THERMO CUT-OUT.

Replaces Fuses in Lighting System and Breaks Circuit.

The R. H. Maple Company, Indianapolis, Ind., has brought out the Maple Thermo cut-out, which is a de-



vice for replacing fuses in the electric lighting system of the motor car. It employs the thermostat principle, being affected by the heat of the current passing through it, and it is adjusted to break the circuit at a temperature of 200 degrees.

The thermostat metal is in the form of a coil, as shown to the right in the illustration, and the connections are two nuts at the lower corners. The electricity passes through the thermostat metal and wire connection to the central metal fitting, thence to a similar member at the left through contact points at the upper corner.

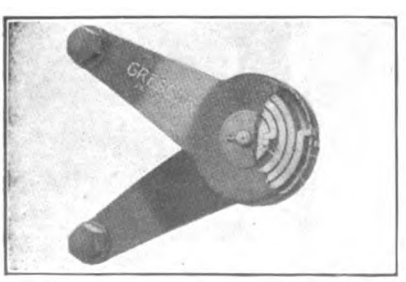
Any excess current causes the thermostat to coil more closely, allowing the lever across the top of the cut-out to be lowered under the influence of the spring contact points, interrupting the current. With a two-wire system two cut-outs are combined. A post projects through the cover near the middle of the lever, serving as a visual indicator when the current is interrupted by the cut-out, by assuming a position opposite the word "Off". It is stated that the device offers only a fraction of the resistance of fuses. It is placed on the dash and wired between the battery and the switch.

GRESSER SHOCK ABSORBER.

Coil Springs Utilized and Device Acts in Both Directions.

The Buckeye Suspension Company, Cleveland, O., is manufacturing the Gresser shock absorber, which resembles those employing the friction principle, but the shock absorbing action is obtained by two coil springs. One of these is secured to one arm of the device and the second to the other member in such manner that the absorber acts in both directions. The special feature claimed for the device is that a limited amount of spring movement is permitted without the absorber being actuated, but with large oscillations of the springs the movements are controlled.

This is explained by the fact that with seven or eight-inch leverage the outer coils of these springs will offer practically no resistance when wound at an angle of 12.5 degrees. With this leverage approximately 1.5 inches play above and below the normal position is allowed, or three



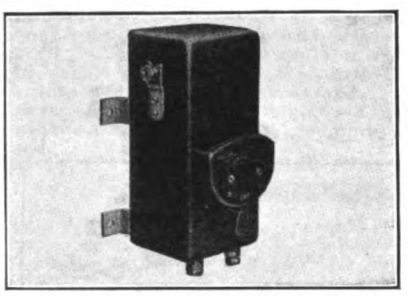
inches in all. The Gresser is made in one style, that for cars over 1500 pounds. They retail for $25.

BROWN MASTER VIBRATOR.

New Design for Model T Ford Motor Held to Be Very Efficient.

The Brown Company, Syracuse, N. Y., is manufacturing a new type of master vibrator for the model T Ford motor, and one of its qualities is the purely mechanical adjustment employed. It is stated that it is so simple that a novice may adjust it without trouble and in a very short time. It is also stated that when once set it will require no attention, as the adjustment is permanent.

Another feature is the use of non-sticking contact points. This is obtained by the method of separation, a sharp blow action being utilized instead of their being drawn apart. They are constructed of a specially hardened material. The vibrator is mounted in a mahogany dash case equipped with a substantial kick

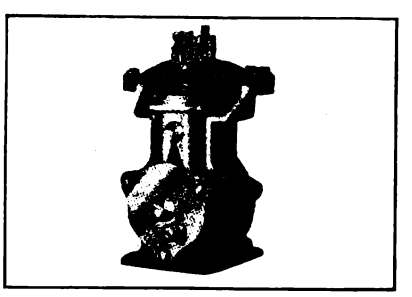


switch, and can be attached to the dash between the regular coil and the source of current supply. A Puritan switch is utilized, the design being thief proof, as the lever or handle may be displaced. The advantages of a master vibrator are well known. The new design is constructed of high grade material and the workmanship is first class in every respect.

TAYLOR POWER PUMP.

New Design Has Many Improvements and Is Lighter.

The Taylor Manufacturing Company, box 485, Chicago, maker of the Taylor engine driven tire pump, has



made a considerable change in the original design, which has been described in these columns. The air valves in the head are now machined out of bar stock and replace the rough casting formerly utilized.

It is pointed out that this tends to keep the pump much cooler. The body has been stripped of all unnecessary corners, ribs, etc., and now presents a very smooth, attractive appearance. The weight has also been reduced by the removal of all surplus material. A larger oil filler has been incorporated for replenishing the supply to its crankcase. The Taylor is of the plunger and diaphragm type and the maker states that it will positively exclude all oil and its vapors from the tube.

WALTZ AUTO SEMAPHORE.

A Combined Tail Light and Illuminated License Number.

The Irwin-Waltz Interests, City Hotel building, Ellwood City, Penn., is manufacturing the Waltz Auto

semaphore, which differs from the usual types of devices designed to signal the direction, etc., to be taken by the car. The Waltz is a combined tail light and illuminated license number and comprises a case having three compartments, each of which is fitted with an electric bulb.

The case is covered with a celluloid plate bearing the license number in the shaft of a double headed arrow which is set in an opaque background. The heads of the arrow rest on separate compartments of the case and are illuminated when desired by means of two push buttons located convenient to the driver. A dashboard switch operates the license number. The current supply may be the electrical equipment of the machine or a set of dry cells, etc.

LIVINGSTON RADIATOR.

V Type, Honeycomb Design for Model T Ford Cars.

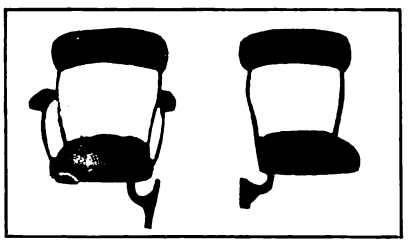
The Livingston Radiator & Manufacturing Company, 146 West 52nd street, New York City, is marketing a V type radiator for the model T Ford car. It is of the honeycomb design, constructed with bronze tubes, and the water channels are sufficiently large to flush out foreign deposits easily. Small corrugations, which are formed in the sides of the tubes, are designed to give additional strength, to increase the radiating surface and to allow for expansion. The radiator holds 4.5 gallons of water.

HILL AUXILIARY SEATS.

Lock Automatically, Fold in Small Space and Are Detachable.

The Hill Manufacturing Company, 27 Fuller street, Buffalo, N. Y., specialist in seats for motor cars, is marketing the revolving auxiliary seats shown in the accompanying illustration. These designs have folding cushions and the seats are square, with slightly rounded corners. The width is 13 inches; depth, 11.5; height from bottom of seat to top of back, 17.5; back, 16 by five. The spring cushions are trimmed plain or tufted and with dark leathers.

The seats lock automatically in two positions without the use of springs or levers, fold up in a small space and are instantly detachable without the aid of tools. The riding qualities are said to be all that could be desired and the best of material is utilized throughout. Attaching irons are included in the price, which varies according to the design. The Hill Manufacturing Company produces a wide variety of types to meet individual requirements.



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NEW CONCERNS RECENTLY INORPORATED.

CAR MANUFACTURERS.

Greenleaf Manufacturing Company, Hartford, Conn.; $35,000; W. H. Greenleaf, George J. Long, John R. Hayes.

W. R. Lants Carriage & Automobile Company, Muskogee, Okla.; $25,000; W. R. Lantz, A. E. Lantz, J. O. Humphries.

Cyclops Cyclecar Company, Indianapolis, Ind.; $10,000; to manufacture cyclecars; James W. Smith, C. A. Hargraves and others.

Excello Tire & Rubber Company, Wilmington, Del.; $500,000; to manufacture automobiles and supplies.

Cook & MacConnell, New York City; $1500; to deal in automobiles; John MacConnell, Eugene T. Scudder, Benjamin N. Scudder.

Comet Cyclecar Company, Indianapolis, Ind.; $20,000; to manufacture cyclecars; F. P. Metz, L. F. Metz, W. H. Ogborn.

Crown Tire & Supply Company, Philadelphia, Penn.; to manufacture automobiles and accessories; J. M. Frere and others.

Savage Motor Car Company, Detroit, Mich.; $10,000; to manufacture automobiles; Robert W. Fishbock, Delbert H. Cummings, Alexander H. Fuss.

The Shurgas Manufacturing Company, Detroit, Mich.; $15,000; to manufacture automobiles, carburetors and accessories.

Parkolte Company, Chicago, Ill.; $10,000; to manufacture automobiles.

Motor Gasket Company, New York City; $10,000; to manufacture motor gaskets; P. H. Lowenthal, C. H. Lowenthal, R. M. Lowenthal.

Hubbard Auto Repair Company, Hubbard, O.; $2000; to deal in automobiles; S. D. L. Jackson, H. T. McCarthy, A. H. Howatt, M. S. Logan, J. Boshim.

Adams, Golder & Johnson, Benton, Penn.; to manufacture automobiles.

Edwards Newcomb Company, Dover, Ill.; $100,000; to manufacture automobiles.

American Underslung Company, Indianapolis, Ind.; $50,000; to manufacture automobiles; Ernest Duncan, Clarence M. Brown, Albert D. Ogborn and others.

Edwards-Newcomb Company, Chicago, Ill.; $100,000; to manufacture automobiles, pianos, etc.; Millard F. Edwards, Carmen A. Newcomb, John C. Williams, Charles C. Pickett.

Wentworth Motors, Ltd., Hamilton, Ont.; $40,000; to manufacture automobiles and trucks; D. B. Wood, C. W. Heming.

Danielson Engine Works, Chicago, Ill.; $50,000; to manufacture automobiles, parts and accessories; Frank Danielson, Eben T. Runyan, Richard Williams.

Pneumatic Wheel Company, Toronto, Ont.; $200,000; to manufacture automobiles; C. F. Ritchie, J. H. Oldham, W. J. Beaton and others.

AUTOMOBILE DEALERS.

Booraem-Nichols Motor Car Company, Newark, N. J.; $100,000; to conduct a general automobile business; R. R. Booraem, L. B. Thelaud, J. D. Nichols.

New Era Automobile Corporation, Perth Amboy, N. J.; $50,000; to conduct a general automobile business; A. Conquest, R. Henderson, T. Conquest.

Washington Park Garage Company, Newark, N. J.; $125,000; to conduct a general automobile business; G. Devine, A. Devine, Jr., P. F. Devine.

J. H. Cogan Company, Augusta, Me.; $50,000; to deal in automobiles, etc.; John H. Cogan, Henry J. Tetreault, William E. Ryan.

Fox Taxicab Company, Rochester, N. Y.; $6000; to conduct an automobile business; J. T. Fox, Charles F. Buehlte, P. Rothenbuescher.

Bucking Ram Washington Motor Company, Belleville, Tex.; $7500; to conduct an automobile business; C. F. Bellmuth, M. Bader, F. C. Roensch.

Carter Sales Company, Alexandria, Va.; $15,000; to deal in automobiles; E. Rosslyn.

Champion Motor Car Company, St. Louis, Mo.; $50,000; to conduct an automobile business; A. R. Walton, O. A. Peters, F. D. McMahon.

Physicians' Automobile Company, New York City; $70,000; to deal in automobiles; G. Maschke, M. Elkan, H. Elkan.

Packard-Cleveland Motor Company, Cleveland, O.; $40,000; to deal in automobiles; J. L. Cannon, C. W. Fuller, W. A. McIlrath, H. E. Werner, E. E. Linden.

Range Motor Service Company, Duluth, Minn.; $50,000; to deal in automobiles; L. O. Kirby, J. A. Redfern, H. A. Mann, S. R. Kirby.

Duryea Motor Sales Company, Chicago, Ill.; $100,000; to deal in automobiles; A. P. Campbell, V. H. Stackwell, J. E. Packer.

L. M. Cotton, Boston, Mass.; $50,000; to deal in automobiles; F. E. Crawford, A. M. Cussen and others.

Car-Nation Motor Car Company, St. Louis, Mo.; $10,000; to conduct an automobile business; Odon Guitar, Frank B. Ottofy, Frank Ottofy, Robert L. Guthrie.

John P. Agnew, Brooklyn, N. Y.; $5000; to deal in automobiles and supplies; Roberta B. Agnew, John P. Agnew, Annie T. Maude.

International Motor Company, Punxsutawney, Penn.; $15,000; to deal in automobiles; John Whiting, C. M. Long, Jacob E. Wolf, William Burley, Joseph P. North, Agnes B. North, Odessa Whiting, Fred J. Smith, I. N. Graffus.

Automobile Livery Company, Cincinnati, O.; $1000; to conduct an automobile business; William C. Jungclas, John C. Johannigman, J. A. Duchemin, A. Heinzman, Gertrude Finnerman.

Hasler Shock Absorber Sales Company, Indianapolis, Ind.; $10,000; to deal in automobiles and accessories; E. D. Fouts, A. Hammersly, R. H. Hassler.

Gloor Motor Truck Company, Chicago, Ill.; $10,000; to deal in motor trucks.

Automatic Current Motor Company, Spokane, Wash.; $250,000; to deal in automobiles; O. W. Watson, Edgar Watson, Clifford Rinear.

Dunlap Electric Truck Company, Columbus, O.; $20,000; to deal in electric motor trucks; G. H. Hedges, S. A. Hoover, H. R. Tingley, M. E. Heasley.

Dayton Overland Sales Company, Dayton, O.; $30,000; to deal in automobiles and supplies; Charles H. Bosler, Robert Reuch, Herbert S. Allen, L. G. Breen, Lena Cress.

J. A. Cowley Automobile Co., Utica, N. Y.; $1000; to deal in automobiles; John Owen, James A. Cowley, James A. Cowley, Jr.

Brodrick-Glennan Corporation, Richmond, Va.; $10,000; to deal in automobiles; W. S. Brodnick, M. Glennan.

Cyclecar Exposition Companyy, New York City; $4000; to deal in cyclecars; J. T. McMahon, E. Astroff, J. Quittner.

Hudson Motor Sales Company, Cleveland, O.; $25,000; to deal in automobiles; C. W. Comstock, L. A. Kraus, J. C. Royon, M. T. Gorton, F. M. Wolke.

Franklin-Nichols Motor Company, Spokane, Wash.; $10,000; to deal in automobiles; L. A. Nichols and others.

R. G. Sloan Motor Company, Grensboro, N. C.; $25,000; to deal in automobiles; R. G. Sloan and others.

McAlester Car & Auto Works, McAlester, Okla.; $25,000; to deal in automobiles; H. H. Kirkpatrick, C. Coon, G. Deibler, G. Le Baron, G. C. Jones.

Fisher-Shackelford Company, Chattanooga, Tenn., $5000; to conduct a general automobile business.

Saginaw Motor Company, Saginaw, Mich.; $150,000; to deal in automobiles; A. R. Thomas, W. L. Wells and others.

Detroit Electric Motor Company, Montreal, Que.; $20,000; to deal in electric pleasure cars.

Motor Transport Company, Charleston, S. C.; $2000; to deal in automobiles; M. S. Pundt, C. K. Williams.

Erie Sales Company, Toledo, O.; $5000; to conduct an automobile business; G. E. Beely, M. R. Smith, F. H. Lutz.

Citizens' Auto Company, Knoxville, Tenn.; $5000; to deal in automobiles; L. D. Harth, F. J. Baumann, J. B. Marcus.

Binghamton Automobile & Supply Company, Binghamton, N. Y.; $110,000; to deal in automobiles; F. E. Spawn, C. J. Phillips, D. C. Herrick.

Coppinger Motor Car Company, Orange, N. J.; $5000; to conduct an automobile business; F. W. Coppinger, J. R. Monroe, H. G. Dechant.

Dickson Motor Car Company, Nashville, Tenn.; $30,000; to deal in automobiles; S. Bryan and others.

Cedar & Russell, Santa Cruz, Cal.; to conduct an automobile business.

Seneca Motor Supplies Company, Springfield, Ill.; to deal in automobiles, parts and accessories; A. W. Senz, J. C. Garriott, Jr., H. M. Kling.

James C. Stopps, New York City; $15,000; to deal in automobiles; James C. Stopps, Joseph M. Palmer, Louis C. Goetting.

Overland Auto & Truck Company, Los Angeles, Cal.; $10,000; to deal in automobiles and trucks; Julius Kranz, Salo Deaky, W. R. Middleworth.

R. H. Lyon Company, Chicago, Ill.; $2500; to deal in automobiles; Frank D. Mayer, Selma G. Mayer, Walter Herschman.

Chambersburg Automobile Company, York, Penn.; $40,000; to deal in automobiles; D. G. Pfoutz, T. J. Brereton, F. M. Brereton.

Indiana Commercial Truck Corporation, New York City; $10,000; to deal in motor trucks; H. H. Lawson, M. M. Richardson, M. Ely.

Oil City Motor & Machine Company, Sapulpa, Okla.; $2000; to conduct a general automobile business; C. W. Tolliver, R. V. Rule, C. W. Welsh.

Vesper Buick Company, St. Louis, Mo.; $50,000; to deal in automobiles; F. W. A. Vesper, Fred Campbell, F. E. A. Brock.

Dunham Piston Ring Company, New York City; $30,000; to deal in automobiles, motors, etc.; R. J. Horner, F. M. Randall, H. C. Blye.

The Manufacturing Auto Sales & Repair Company, New Brunswick, N. J.; $50,000; to deal in automobiles.

Nineveh Coach & Car Company, Nineveh, N. Y.; $15,-

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000; to deal in automobiles; G. B. Raymond, William A. Hyer, Frank L. Horton.

The B. Z. T. Car Company, Owego, N. Y.; $25,000; to deal in automobiles, motors, etc.; F. B. Baker, F. D. Baker, C. K. Bell.

Sterling Motor Car Company, Brockton, Mass.; $500,000; to deal in automobiles; George A. Lewis, James Shrivers, David F. Tilley.

New York Noble Air Pump Company, Newark, N. J.; $100,000; to conduct an automobile business; J. H. Herman and others.

PARTS AND FITTINGS.

Float Jet Carburetor Company, Newark, N. J.; $200,000; to manufacture carburetors for internal combustion engines; E. S. Smith, M. B. Smith, E. G. Gifford.

Bar-Bar Company, Grand Rapids, Mich.; $15,000; to manufacture machinery and automobile novelties and specialties; Irving W. Barnhart, E. M. Barnes, R. R. Barnhart.

Canfield Gas Engine Company, Binghamton, N. Y.; $50,000; A. Louis, W. J. Newing, E. L. Whitlock.

Swan Carburetor Company, San Francisco, Cal.; $200,000; to manufacture carburetors; H. S. Hutchings, Ella M. Boynton, B. W. Dobbins.

Chicago Auto Radiator Manufacturing Company, Chicago, Ill.; $1500; K. H. Emmerman, Louis Shaffer, Jacob Siegel.

Sloane-Daniel Motor Company, Bound Brook, N. J.; $25,000; to manufacture engines, machinery, etc.; J. E. Sloane, C. Hogue, W. Phipps.

Stokes Carburetor Company, New York City; $100,000; J. F. Smith, W. O. Stokes, T. M. Stokes.

Meder-Staudt Company, New York City; $10,000; to manufacture and deal in storage batteries, motors, etc.; Philip F. Meder, Charles Meder, Charles Staudt, Katherine Staudt.

Harris Oil Engine Company, Bangor, Me.; $200,000; to manufacture engines, etc.; H. L. Brown, DuPont Ammen, L. A. Hammersley.

J. & P. Sales Company, New York City; $5000; to deal in motors, etc.; Joseph J. Miller, Walter L. Perley, Grace Feeney.

William Woop Company, New York City; to manufacture automobile bodies; E. Woop, M. A. O'Connell, G. M. Congdon.

Flex-Spring Company, Chicago, Ill.; $5000; to manufacture motor car parts and accessories; Thomas E. Beman, Albert F. Mecklenberger, Ward B. Sawyer.

Swarts Carburetor Company, Columbus, O.; $50,000; to manufacture carburetors; M. A. Corbett, F. E. Stevens, B. J. Corbett, T. A. Swartz, L. S. Corbett.

Master Carburetor Corporation, Wilmington, Del.; $250,000; to manufacture carburetors; H. Leffoets and others.

The Alday Manufacturing Company, Cleveland, O.; $10,000; to manufacture motors of all kinds; F. X. Cull, H. A. Hauxhurst, M. T. Flanagan, Richard Unglis, V. Svancar.

The Maag Gear Company, New York City; $50,000; to manufacture gears and machinery; A. T. Otto, H. S. Otto, K. Klaiber.

Eastern Parts Manufacturing Company, New York City; $6000; to manufacture parts for automobiles and motorcycles; Benjamin Frankel, C. Young, Julia Greenthal.

Toledo Steel Tube Company, Toledo, O.; $100,000; to manufacture steel tubing; H. W. McKission, J. C. McKission, H. E. Durbin, F. W. Flicker, F. B. Evarts, E. M. Spooner, C. Verbsky.

Parok Tire Company, Wilmington, Del.; $100,000; to manufacture engines for automobiles; R. B. Halt, D. L. Killam, J. B. Stahl.

S. Katsur Company, New York City; $5000; to manufacture automobile bodies; M. Katsur, P. Buzark, A. Buzark.

Riess Starter Company, East Orange, N. J.; $200,000; Charles E. Reiss and others.

Motor-Cooling Apparatus Company, Pawtucket, R. I.; $10,000; to manufacture motor cooling apparatus; John W. Nolan, Kenneth Moller, John Henshaw.

Swarts Carburetor Company, Columbus, O.; $50,000; to manufacture carburetors; M. A. Corbett and others.

F. Joseph Lamb Company, Detroit, Mich.; $3000; to manufacture motor car starters; F. Joseph Lamb, John W. Fitzgerald.

Gates Manufacturing Company, Indianapolis, Ind.; $20,000; to manufacture automobile parts; F. E. Gates, F. O. Kane, R. A. Gates.

Miller & Van Winkle, Brooklyn, N. Y.; $150,000; to manufacture metal springs, motor car accessories; C. L. Miller, E. M. Miller, G. P. Brush.

Corser Carburetor Company, Los Angeles, Cal.; $10,000; to manufacture carburetors; J. W. Corser, W. D. Murray, E. E. Leighton.

Motor Compressor Company, Wilmington, Del.; $500,000; to manufacture engines.

Hayden Manufacturing Company, Fort Wayne, Ind.; $10,000; to manufacture gearless differential mechanisms for automobiles; R. C. Diserus, Van B. Perrine, William H. Schuman.

Becker Bros., Chicago, Ill.; $25,000; to manufacture dynamos, motors, electrical apparatus, etc.; Olive E. Becker, Charles J. Becker, William P. Becker.

Remington Motor Car Company, Newark, N. J.; $500,000; to manufacture motors; C. W. Bliss, E. M. Kolstad, P. E. Remington.

Mower-Campbell-Hollister Manufacturing Company, Kittery, Me.; $2,000,000; to manufacture automobile parts and accessories; Harry W. Foster, George E. Burnham, Elmer J. Burnham.

Pallau Steel Company, Mt. Clemens, Mich.; $75,000; to manufacture motor car springs; A. T. Conaldson, A. J. Pallau, C. D. Jackson.

U. S. Gas Governor Company, Cincinnati, O.; $410,000; to manufacture gasoline engines; A. P. Best, E. W. Patchell, A. J. Koehle, W. H. Best, S. K. Proctor.

Pritchard-Lyon Motors Corporation, Rochester, N. Y.; $25,000; C. B. Lyon, A. R. Pritchard, P. H. Pritchard.

Standard Motor & Manufacturing Company, Kansas City, Mo.; $10,000; H. T. Folson, J. E. Harvey, J. B. Renshaw.

GARAGES AND REPAIR SHOPS.

Acme Automobile Company, New Orleans, La.; $10,000; to engage in a general automobile business.

Simpson Garage, Esopus, N. Y.; $1500; to conduct a garage; Herbert Cohen, Emil Adler, J. J. Curtin.

St. Mark's Garage, Brooklyn, N. Y.; $10,000; to conduct a general garage and repair shop; D. Saladino, A. Quick, A. E. M. Quick.

Ponca City Garage, Ponca City, Okla.; $10,000; to conduct a garage and repair shop.

Washington Garage, Chicago, Ill.; $2500; to conduct a garage; Daniel Lynch, Della Lynch, John Divine.

The Auto Kraft & Garage Company, Detroit, Mich.; $2000; to conduct a garage; A. C. Born, V. Oldberg, J. Palmer, Jr.

Archiable-Brouse-Parker Company, Cincinnati, O.; $5000; to conduct a repair shop; Henry M. Brouse, W. H. Parker, R. J. H. Archiable, William B. Parker, Garritt J. Fredericks.

National Auto Repair Company, New York City; $3000; to conduct a repair shop; Edward Grossman, Albert F. Tins, Walter Peppin.

Spencer Garage Company, Brooklyn, N. Y.; $5000; to conduct a garage; J. O. Spencer, Jr., Anne E. Spencer, P. M. Weidmann.

The M. & M. Delivery & Garage Company, Buffalo, N. Y.; $20,000; to conduct a general garage and delivery business; G. Roughead, R. Macdonald, Maud Macdonald.

Division Avenue Garage, Grand Rapids, Mich.; $1000; to conduct a garage.

Indian Head Garage, Nashua, N. H.; $300,000; to conduct a garage and repair shop.

Twentieth Street Garage, New York City; $26,000; to conduct a general garage and automobile business; J. Ginbaugh, P. A. Lee, I. Dugan.

Esplanade Garage & Supply Company, Chicago, Ill.; $12,000; to conduct a garage and supply house; E. W. Roemer, A. Ryan, J. J. Bittourna.

Portland Garage Company, Portland, Ore.; $15,000; to conduct a garage; Frank Kiernan.

Wright Garage Company, Merrimac, Mass.; $10,000; to conduct a garage.

Matz Motor Livery Company, Chicago, Ill.; $1000; to conduct a garage and livery; H. Matz, W. Zimmerman, J. J. Marensky.

Central Garage Company, Detroit, Mich.; $20,000; to conduct a garage and repair shop; Gustave E. LeVeque, Percy B. Brown, Frank D. McCormick, Seymour Finney.

Anthony Bonofrio & Company, New York City; $2000; to conduct a garage and taxicab business; G. Bonofrio, A. Bonofrio, Jr., A. DeFio.

Three Fields Garage Company, Portland, Me.; $5000; to conduct a garage and general automobile business; M. A. Thurston and others.

F. S. Lauterbur Company, Sidney, O.; $10,000; to conduct a garage and repair shop; F. S. Lauterbur and others.

Lyndale Garage, Minneapolis, Minn.; $25,000; to conduct a garage.

Metropolitan Garage, Boston, Mass.; $10,000; to conduct a garage; A. Schiavina, A. L. King, M. W. Melrose.

Main Auto Machine Company, Cincinnati, O.; $5000; to conduct a repair shop; G. D. Haynes, J. E. Weber, N. Weber, W. Reiker, G. J. Fredericks, Jr.

H. & M. Harahe Company, Brooklyn, N. Y.; to conduct a general garage; C. Higley, R. M. Hart, B. M. Hart.

Rosslyn Garage, Richmond, Va.; $1000; to conduct a general garage; C. R. Pritchard, R. G. Finney and others.

Oil Mill Machine Shop & Garage, Austin, Tex.; $7500; to conduct a garage; E. F. Wolters, D. C. Daniel, C. B. Welhausen.

Seventh Street Garage, New York City; $10,000; to conduct a garage; Morris Pollack.

ACCESSORIES AND SUPPLIES.

Sussex Rubber Company, East Rutherford, N. J.; $50,000; C. F. Teigiler, Alfred Teigiler, W. M. Sharp.

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Mutual Oil Company, Jersey City, N. J.; $125,000; to deal in oils and supplies.

Jiffy Jack Company, Cleveland, O.; $50,000; to deal in automobile accessories; W. L. Widlar, J. F. Engle.

Telescopic Fender Company, Cleveland, O.; $50,000; to deal in motor car accessories; C. L. Weisell, Arthur Sharp, R. E. Dickson, H. M. Dolan, E. D. Sabin.

Independence Tire & Rubber Company, Rochester, N. Y.; $5000; to deal in tires, etc.; L. Walter Lissberger, Harry L. Lewis, Frank H. Gross.

Airplex Inner Tire Company, St. Louis, Mo.; $3000; to deal in automobile tires, etc.; Richard M. Howe, Stanton Palmer and others.

Kentucky Auto Supplies Company, Louisville, Ky.; $2500; to deal in automobile supplies; F. T. Hinckle, L. A. Henline, R. V. Nordeman, Paul B. Collins.

W. J. Donnelly & Company, New York City; $5000; to deal in automobile accessories and supplies; V. S. Bogardus, F. B. Dobbin, E. C. Hobcroft.

Turbine Company, New York City; $10,000; to deal in tire fillers, repairs, etc.; Osmer S. Burr, Achille Brile, Fred Rosenbaum.

Motor Economy Company, Boston, Mass.; $35,000; to deal in motor car supplies; E. F. Tirrel, C. E. Fournier, C. Toye, E. L. Hunnewell.

National Rubber Filler Company, Midlothian, Tex.; $300,000; to manufacture rubber fillers for tires; W. W. Major, E. F. Aycock, C. S. Staten, E. T. Staten, L. Miller, L. M. Allen.

Weiss-Bosley Company, St. Louis, Mo.; $50,000; to deal in motors and electrical supplies; A. E. Bosley, A. F. Weiss, V. N. Weiss.

Auto Supply Company, Jackson, Miss.; $5000; to deal in automobile supplies; G. L. Arnold.

Alden Rubber Company, Boston, Mass.; $100,000; to deal in rubber goods; G. E. Alden, C. W. Hoyt, B. E. Phillips.

Prenzel Pneumatic Section Tire Company, Jalifax, Penn.; $250,000; to manufacture automobile tires.

Pell-Mello Horn Company, Jersey City, N. J.; $3000; to deal in automobile accessories; W. S. Myers, Helen Myers, F. T. Wentworth.

Vehicle-Safeguard Instrument Company, New York City; $25,000; to manufacture automobile accessories; J. A. Howe, F. G. Howe, J. J. Howe.

Enterprise Tire Shop, Stamford, Conn.; $25,000; to deal in automobile tires; Henry James Bond, Claude Leroy Post, Rupert C. King.

Miami Motor Car Company, Columbus, O.; $10,000; to deal in automobiles.

Guarantee Oil Company, Elyria, O.; $10,000; to manufacture petroleum products; G. H. Lewis, A. D. Ely, G. H. Thomas, G. H. Marsh, C. T. Lersch. G. H. Marsh, C. T. Lersch.

Spartan Tire & Rubber Company, New York City; $100,000; to manufacture tires, etc.

East St. Louis Gasoline Company, East St. Louis, Mo.; $5000; to deal in lubricating oils and gasoline; S. M. Boyer, C. C. Cragen, L. H. Bach.

Steck Progress Oil Company, New York City; $2000; to deal in lubricating oils; H. L. Steck, S. C. Steck, R. Steck.

Pacific Rubber & Tire Manufacturing Company, Seattle, Wash.; $25,000; to manufacture automobile tires and tubes; B. L. Gates, C. A. Kilbourne and others.

Tisch Automobile Supply Company, Grand Rapids, Mich.; $20,000; to deal in automobile supplies; J. Tisch, E. Tisch.

Auto Gas Service Company, Youngstown, O.; $10,000, to deal in automobile supplies; J. P. McCombs, S. A. Daniels, W. H. Ludt, M. J. Daniels, A. K. Leu.

Motor Economy Company, Boston, Mass.; $10,000; to deal in automobile supplies; Phillip K. Farrington, John W. Smith.

Jacob Norden Company, Mt. Vernon, N. Y.; $10,000; to deal in automobile supplies; Max Jaeger, Jacob Norden, Sarah J. Norden.

Niagara Battery Corporation, Buffalo, N. Y.; $5000; to manufacture automobile fabrics; H. B. Parry, George H. Woodward, E. C. Schlenker.

Liniger-McHugh Company, Detroit, Mich.; $10,000; to manufacture automobile accessories; William Liniger, Philip A. McHugh.

Alladin Electric Company, Chicago, Ill.; $10,000; to deal in electric and automobile merchandise and supplies; Samuel P. Marmly, Jr., Norman C. Croshaw, Joseph Bonomo.

Central Automobile Supply Company, New York City; $5000; to deal in automobile accessories; T. C. Gorman, P. Gorman, E. Emerson.

Harris-Henders Tire Company, Cleveland, O.; $5000; to deal in accessories, tires, etc.; F. A. Henderson and others.

Electric Hose & Rubber Company, New Orleans, La.; $500,000; to manufacture automobile tires and rubber goods.

Brandt Brothers-Chapman Company, Indianapolis, Ind.; $15,000; to manufacture automobile accessories; J. R. Brant, W. E. Brant, G. W. Chapman.

Woodward Pump Company, Detroit, Mich.; $3000; to manufacture tire pumps.

Powers Shock Absorber Company, New York City; $10,000; to deal in shock absorbers; Perry Powers, John Lange, Frederick G. Hurst.

G. & J. Tire & Rubber Company, New York City; $10,000; to deal in tires and rubber goods; John W. Behus, Edward A. Jacobs, Sidney S. Levine.

Eikert Carburetor Company, New York City; $5000; to deal in carburetors; E. Schulkind, J. H. Lambert, J. Ingle, Jr.

Columbus Oil Company, Columbus, O.; $20,000; to deal in all kinds of lubricating oils. C. A. Laubach, Clara Laubach, W. T. Trimble, J. H. Trimble, H. Steick.

Jennie Gasoline Extracting Company, Oklahoma City, Okla.; $20,000; to deal in gasoline; J. H. Gauthier, G. W. Colliver, J. A. Peterson, J. S. Thompson, H. Billingslen.

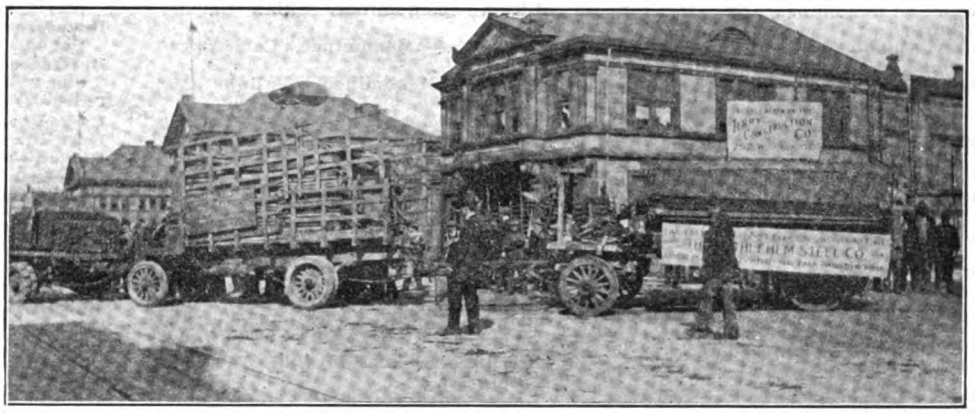
Motor & Accessories Adjustment Company, Chicago, Ill.; $10,000; to deal in motors and accessories for automobiles; S. R. Barr, Nathan Haffenberg, A. Lavin.

United Auto Supply Company, Birmingham, Ala.; $10,000; to deal in automobile supplies; S. W. Wexler, N. Altmont, W. B. Stokes.

Woods Garland Petroleum Company, Nowata, Okla.; $25,000; to deal in gasoline; A. T. Woods, E. G. Woods, A. Buchana.

Johnson Company, Detroit, Mich.; $30,000; to manufacture automobile accessories; Walter R. Johnson, Chester T. Johnson, Irvin Long.

Forber Rubber Company, Freeport, N. Y.; $10,000; to deal in tires, rubber goods, etc.; Thomas F. C. Forbes, Jr., George V. Sloat, Anna S. Sloat.



Hydraulic and Sampson Five-Ton Trucks Hauling a 40-Ton Bank Vault Door Frame on a Nine-Ton Wagon in New York City.

Kellogg Turbine Muffler Company, Moline, Ill.; $15,000; to manufacture automobile accessories, also automobiles and motorcycles.

Moore Libby Specialties Company, New York City; $50,000; to manufacture and deal in automobile accessories and supplies; B. Parker and others.

Western Tire Company of America, Albany, N. Y.; $5000; to deal in tires. F. H. Cross, J. Jacobs, L. W. Lissberger.

Comfort Shock Absorber Company, Hempstead, N. Y.; $500; to deal in shock absorbers. G. G. Bouthinson, I. Bowdren, G. P. Bowdren.

New York Steam Auto Tire Works, New York City; $10,000; J. J. Foley, M. Beck, A. Callahan.

Atlas Tire & Rubber Company, Cleveland, O.; $5000; to deal in automobile accessories and tires. J. H. Bernstein, E. E. Gross, E. J. Boker, F. Allen, J. M. Ulmer.

MISCELLANEOUS.

J. A. Crowley Automobile Company, Utica, N. Y; to conduct an automobile and livery business.

Secondary Combustion Process Company, Kittery, Me.; $100,000; G. H. Gray, F. W. Manson, H. Mitchell.

Chicago Motor Delivery Company, Chicago, Ill.; $10,000; to conduct a motor delivery business.

The Atlas Automobile Jack Corporation, New York City; $25,000; E. M. Raynor, J. F. A. Comstedt, C. Presbrey.

Twombley Taxicab Company, New York City; $500,000; W. I. Twombley.

Cook Taxicab Company, Elyria, O.; $2000; C. B. Cook, H. W. Ingersoll, F. M. Stetson, R. F. Vandernark, Frank Beebee.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Athens—Maxwell, Miller Ice & Lumber Co.
Birmingham—Chandler, Birmingham Garage.
Cullman—King, John F. Stutterer.
Opp—Maxwell, A. T. Dean.
Thomasville—Maxwell, Thomasville Mill & Storage Co.

ARIZONA.

Holbrook—Buick, M. L. Fish.
Phoenix—Haynes, G. W. Campbell.
Jeffery, McArthur Bros.

ARKANSAS.

Berryville—Maxwell, R. E. Morris.
Fulton—King, J. H. Furr.
Harrison—Maxwell, Frew Saddlery Co.
Portland—Chandler, Bain Adams Co.

CALIFORNIA.

Arbuckle—*Menominee, A. J. Atran.
Bishop—*Menominee, Leece & Watterson.
Byron—*Menominee, Byron Garage.
Chico—*Menominee, W. H. Pillsbury.
Cloverdale—*Menominee, G. F. Warren.
Concord—*Menominee, Joseph Boyd.
Cottonwood—Maxwell, Butterway & Dilley.
Eureka—*Menominee, R. H. Nutting.
Exeter—*Menominee, Schmidt Bros.
Fort Bragg—*Menominee, Scott & Conway.
Fortuna—*Menominee, Leach & Smith.
Fresno—*Menominee, E. E. Bradley.
Fullerton—Jackson, Sitton's Garage.
Guadalupe—Case, Guadalupe Garage Co.
Hanford—*Menominee, Buckner & Schellabarger.
Healdsburg—*Menominee, N. A. Seiprl.
Howan—*Menominee, Simon Newman Co.
Ione—Maxwell, Woolsey & Gowett.
King City—*Menominee, L. B. Ulrey.
Kingsburg—Maxwell, Robert Gustafson.
Las Animas—Maxwell, T. H. Marshall.
Long Beach—Maxwell, White & Judson.
*Menominee, F. A. McKenzie.
Los Angeles—*Menominee, F. M. Sinsabaugh.
‡Glide, Mission Motor Car Co.
Los Banos—*Menominee, Los Banos Garage.
Loveland—Maxwell, L. K. Alsbury.
Madera—*Menominee, J. C. Walling.
Merced—*Menominee, Launsburg & Co.
Modesto—*Menominee, Mires & Sacharias.
Montague—*Menominee, Mt. Shasta Milling Co.
Napa—*Menominee, G. D. Reynolds.
Ontario—*Menominee, C. L. Lampkin.
Orland—*Menominee, Scribner & Allen.
Orville—*Menominee, Terrell & Francis.
Pacific Grove—*Menominee, T. A. Work.
Paskenta—*Menominee, Warmouth & Kerling.
Petaluma—*Menominee, J. H. Madison.
Red Bluff—Maxwell, A. A. Curtis.
Redding—*Menominee, J. Witherow.
Riverside—Jackson, Rieckhoff's Garage.
Maxwell, A. N. Barber.
Sacramento—*Menominee, Richards & Christie.
San Bernardino—Maxwell, Firth Crossland.
San Diego—Jackson, Gaers Garage Co.
San Francisco—*Menominee, C. N. Weaver Co.
San Jose—*Menominee, San Jose Imp. Co.
San Luis Obispo—*Menominee, Tognazzi & Righetti.
San Rafael—*Menominee, Frank Riedel.
Santa Ana—Jackson, Thielan Machine Shop and Garage.
Santa Barbara—Maxwell, E. J. Boescke, Jr.
Santa Cruz—*Menominee, J. O. Cedar.
Santa Rosa—*Menominee, G. C. Schelling.
Stockton—*Menominee, Whyels Auto Co.
Taft—Maxwell, Krull & Jones.
Tracy—*Menominee, Fabian-Grunauer Co.
Ukiah—*Menominee, Ukiah Garage Co.
Vacaville—*Menominee, Carl Crystal.
Vallejo—*Menominee, Vallejo Car Works.
Visalia—*Menominee, Coats Bros.
Willows—*Menominee, O. A. Klemmer.

COLORADO.

Boulder—*Hercules, Boulder Auto. Co.
Brush—*Hercules, O. B. Fawcett & Son.
Burlington—Maxwell, Scofield & Hoskin.
Cripple Creek—Maxwell, W. D. Shideler.
Denver—Havers, Auto Livery Co.
*Hercules, Timpte Bros.
Florence—*Hercules, H. M. Fox.
Fort Collins—Maxwell, Howard E. Smith.
*Hercules, George Campbell.
Fort Morgan—*Hercules, O. H. McGrew.
Frase—Maxwell, W. E. Fenstermacher.
Grand Junction—*Hercules, William Murr.
Greely—Maxwell, Greely Garage.
*Hercules, Van Seckle & Co.
Holyoke—*Hercules, J. A. Patterson.
Loveland—Maxwell, L. K. Alsbury.
*Hercules, J. A. Benson.
Mead—*Hercules, Kitts & Ballinger.
Rocky Ford—*Hercules, C. J. Lackey.

CONNECTICUT.

New Haven—Case, Paul Nlizo.
King, W. R. Moore.
Saxon, Redfield Auto Sales Co.
New Milford—Maxwell, Arcade Mch. Works.
Thompsonville—King, Douglas & Barley.

DELAWARE.

Wilmington—Saxon, A. D. MacMillan, Jr.
*Menominee, Hansen Auto. Co.

FLORIDA.

Arcadia—Chandler, S. J. Simmons.

GEORGIA.

Athens—Hupmobile, Smith & Rhodes.
Gradyville—King, Dr. W. H. Bryan.
La Grange—Maxwell, Childs & Callaway.
Manchester—Maxwell, Davis & Crawley.
Monticello—Maxwell, J. E. Hecht.
Orchard Hill—Maxwell, Oscar Atkinson.
Savannah—Maxwell, N. H. Gilsdorf.
Shellman—Maxwell, S. Shelfield.
Sylvania—Maxwell, Parker & Huff.
Woodland—Maxwell, U. B. Jordan.

IDAHO.

Boise—*Menominee, Adelman Bros.
Culdesac—Maxwell, James E. Hope.
Georgetown—Maxwell, C. W. Hess.
Idaho Falls—Haynes, Clay Automobile Co.
New Plymouth—*Hercules, A. Meyer.

ILLINOIS.

American Falls—*Hercules, A. W. Davis.
Beardstown—Chandler, John E. Parks.
Belvidere—Maxwell, J. W. Fox & Son.
Cairo—Overland, Auto Sales Co.
East Peoria—Case, J. J. Ansler.
East St. Louis—Case, R. B. Logan.
Emden—Case, McCormick Auto. Co.
Flanagan—Case, Fred T. Heeren.
Forest City—Maxwell, J. H. White.
Franklin Grove—Haynes, W. L. Sheap.
Kankakee—*Menominee, G. A. Fortin.
Macomb—Maxwell, A. E. Dowell.
Martinsville—Maxwell, Grover Decker.
Palestine—Maxwell, G. B. Mullen.
Pontiac—Haynes, J. P. Cook & Co.
Richfield—Chandler, G. E. Brubaker.
Shelbyville—Maxwell, M. O. Finks.
Springfield—Chandler, Van Buyn & Mathys.
Verona—Franklin, John F. Stitt.
Waynesville—Maxwell, J. & E. L. Dagley.
Westfield—Maxwell, Floyd Barbee.

INDIANA.

Clarksville—Maxwell, McKinney & Mugg Auto. Co.
Colesburg—Maxwell, Pech & Kocher.
Dublin—*Hercules, John Newbold.
Earlville—Maxwell, Charles H. Sellers.
Farmersburg—Maxwell, W. D. Bollinger Co.
Fort Wayne—Chandler, H. G. Raymond & Co.
King, Ohnhaus Automobile Co.
Gary—Chandler, John A. Brennon.
Kokomo—King, George W. Dickey.
Logansport—*Menominee, H. C. Metzger.
Mishawaka—*Menominee, G. F. Eberhart.
New Albany—Saxon, W. W. Humbert.
Richfield—Chandler, G. E. Brubaker.
Robinson—Moon, George F. Allison.
Rockport—*Hercules, Richards & Agnew.
Sprucer—Maxwell, A. C. Williams.

IOWA.

Birmingham—King, Charles Glotfelty.

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Cedar Rapids—King, A. M. Reynolds.
Charles City—King, Riley & Russell.
Corydon—King, Wayne Auto. Co.
Eldon—King, Flint & Knight.
Elkader—Franklin, Dr. W. A. Miller.
Elkhart—King, J. M. Fredericks.
Farnhamville—Maxwell, Johnson Auto. Co.
Fenton—King, Stighman & Langeman.
Flidden—King, E. O. Potter.
Fort Dodge—King, L. N. Ashford.
Humboldt—King, E. Bauman.
Jefferson—Maxwell, W. R. Adrian.
Jesup—King, Miller Bros.
Jolley—King, E. C. Clark.
Kirkman—Maxwell, Edgar Larson.
Ladora—King, York & Taylor.
Laurens—King, Johnson Imp. Co.
Lorimer—Maxwell, O. R. Bailey.
Malcolm—King, Malcolm Garage.
Marble Rock—*Hercules, L. M. Smith.
Market—Maxwell, Moneyhaun & Swan.
Maxwell—Maxwell, Neil Auto. Co.
Mt. Ayr—King, S. F. Kater & Sons.
Nevada—King, Nevada Auto. Co.
Polk—King, C. A. Snow.
Radcliffe—King, Mason & Butler Co.
Sac City—Franklin, D. E. Hallett.
Sexton—King, Edwin Johnson.
State Center—King, Edward Eckhardt.
Waterloo—Herff-Brooks, Wagner-Wood Co.
West Union—King, Edwin G. Erler.

KANSAS.

Alma—Maxwell, G. A. Mueller.
Atwood—Maxwell, Youngblood Auto. Rep. Co.
Barnard—Maxwell, H. J. Hibler.
Burlington—Maxwell, Z. F. Grant & Son.
Canton—Maxwell, N. G. Aldritt.
Coffeyville—Franklin, Franklin Motor Car Co.
Hiawatha—Chandler, G. C. Willis.
Jewell—Maxwell, C. E. Ohlinger.
Kiowa—Maxwell, Benton & Ives.
Leavenworth—*Menominee, Hesse Motor Car Co.
Medicine Lodge—Maxwell, W. S. Benefiel Hdw. Co.
Meade—Maxwell, Meade Motor Co.
Narka—Maxwell, Holechek Bros.
Overbrook—Maxwell, Radcliff & Son.
Seneca—Maxwell, J. J. Buser & Co.
St. John—Maxwell, St. John Auto. Co.
Wichita—Chandler, Brown & Ellinger.
Maxwell, Rafferty & Rodda.
Wilson—Maxwell, Weber & Co.

KENTUCKY.

Barbourville—Krit, Walter Barner.
Bardstown—Saxon, Grigsby & Co.
Bowling Green—Saxon, Farnsworth Elec. Co.
*Koehler, Imperial Auto Co.
Danville—Saxon, L. E. Rue & Son.
Elizabethtown—Hupmobile, J. H. Iglehart.
Flemingsburg—Ford, Dudley Garage.
Glasgow—Ford, Bradford Bros.
Glencoe—Maxwell, C. P. Beatty.
Grant—*Hercules, G. S. Walrath.
Harrodsburg—Saxon, Ingram's Garage.
Hitchins—Saxon, Clayton S. Hitchins.
Hopkinsville—Ford, Ideal Motor Co.
Maxwell, Forbes Mfg. Co.
Lebanon—Hupmobile, Ivo L. Canary.
Lexington—Saxon, A. W. T. Davis.
Louisville—Haynes, Haynes Auto. Co.
Merz, Dr. J. R. Anderson.
Pathfinder, Pathfinder Motor Car Co.
Partin-Palmer, Louisville Auto. Exchange.
*Koehler, Stube's Garage.
*Vulcan, J. A. Viglini.
‡Dudley, George Fetter.
Maysville—Ford, Central Garage Co. Hupmobile, Kirk Bros.
Normandy—Maxwell, C. V. Stout.
Overbrook—Maxwell, Radcliffe & Son.
Paducah—Saxon, C. N. Baker.
Paola—Maxwell, Lehr & Gardner.
Pleasureville—Saxon, R. O. Bryant.
Shelbyville—Saxon, E. B. Graham.
Simpsonville—Maxwell, L. G. Baskett.
Winchester—National, W. Gardner Ridmon.

LOUISIANA.

Alexandria—Oldsmobile, W. Lennie Smith.
Lake Charles—Maxwell, A. M. Miller.
New Orleans—*Koehler, Acme Auto. Co.
Shreveport—Maxwell, Lawrence & Embry.
Williamsburg—King, H. A. Dunlap.

MAINE.

Auburn—*Koehler, Charles A. Kimball.
Camden—King, Guy Ware.
Cape Elizabeth—King, Cape Shore Garage.
Lake Charles—Maxwell, A. M. Miller.
North Jay—Maxwell, A. R. & E. N. Kyes.
South Elliott—King, Geo. Athorne.
Yorkville—*Menominee, R. S. Blaisdell.

MARYLAND.

Baltimore—King, Shaffer Mfg. Co.
*Velie, Little Giant Sales Co.
Easton—*Menominee, P. E. Cockran.
Salisbury—*Menominee, Peninsula Motor Co.

MASSACHUSETTS.

Athol—King, J. Edward Barrus.
Beverly—King, George S. Snelling.
Boston—Stevens-Duryea, J. M. Barry.
*Vulcan, Reed-Atherton.
Brockton—King, Merton L. S. McGrillis.
Collins—Franklin, J. C. Penn.
East Harwich—King, Walter Emery.
Falmouth—*Koehler, Crocker Garage.
Fitchburg—King, Fitchburg Hdw. Co.
Lowell—King, A. P. Sackley.
Melrose—King, F. H. Goss.
Oxford—King, E. A. Wheelock.
Springfield—Moon, Moon Motor Sales Co.
Worcester—King, Maynard Rubber Corp.
Metz, S. N. Stevens.

MICHIGAN.

Battle Creek—Paige-Detroit, Harry Riggs.
Brown City—Maxwell, C. J. Buck.
Cadillac—Maxwell, H. N. Reinberg.
Clare—Maxwell, A. Roe.
Conem—Maxwell, F. B. Raymond.
Detroit—Car-Nation, Liniger-McHugh Co.
Keeton, Liniger-McHugh Co.
Harbor Beach—Maxwell, Dell McMann.
Houghton—*Menominee, Northern Garage & Supply Co.
Kalamazoo—Maxwell, Frank Lems.
Menominee—Hudson, Auto. Service Co.
Mt. Pleasant—King, A. Z. Campbell.
Millington—Maxwell, D. J. Evans.
Pinconning—King, Laurence & Naumes.

MINNESOTA.

Albert Lea—Maxwell, Hellie Auto. Co.
Reo, Hellie Auto. Co.
*International, Hellie Auto. Co.
Belle Plaine—Maxwell, Joseph Neubeiser.
Chatfield—Maxwell, J. B. Ellis.
Frazee—*Hercules, Frazee Imp. Co.
Hibbing—*Menominee, Merchants Warehouse Co.
Lesueur—*Hercules, Laure Marx.
Minneapolis—R-C-H, Choate Auto. Co.
*Dart, Minndakota Cycle Co.
*Menominee, Menominee Motor Truck Co.
*Vim, Motor Truck Sales Co.
‡Zip, Martin Motor Sales Co.
Norway Lake—Maxwell, B. Halvorson.
Paynesville—*Hercules, Witt Auto. Co.
St. Paul—Grant, The Como Garage.
*Menominee, Bergstedt Bros.
Stewartville—Maxwell, F. L. Hodgson.

MISSISSIPPI.

Brookville—Maxwell, Madison Hambrick Auto. Co.
Columbus—Maxwell, T. W. Townsend.
Hathisburg—Maxwell, Hunter's Auto. Rep. Works.
Meridian—Maxwell, Payne & Stevens.
Saxon, W. H. Florentine Gar. Co.
*Koehler, E. S. Curtice.
St. Louis—Lexington-Howard, Edrus Auto Co.
Oldsmobile, De Luxe Auto. Co.
Perthshire—Chandler, S. D. Knowlton.
Tupelo—Maxwell, Tupelo Implement Co.

MISSOURI.

Cape Girardeau—*Hercules, Joseph Lane.
Centralia—Maxwell, Roberts Bros. & Green.
Chilhowee—Maxwell, Strawsburg & Bugard.
Lexington—Moon, E. F. Cox.
Silex—Maxwell, Silex Grain Co.
St. Charles—Maxwell, St. Charles Garage.
St. Genevieve—Maxwell, F. X. & A. J. Siebert.
St. Joseph—*Menominee, J. M. Nichols.
St. Louis—Oldsmobile, De Luxe Auto. Co.
*Menominee, American Weld. & Auto. Rep. Co.
*Universal, Pathfinder Motor Car Co.
Tarkio—Maxwell, Tarkio Auto. Co.

MONTANA.

Anaconda—*Hercules, F. M. Osbourne.
Big Timber—*Hercules, Baily & Severance.
Billings—*Hercules, James L. Markham.
Bridger—*Hercules, W. E. Pinkney.
Chinook—*Hercules, J. C. Duff.
Deer Lodge—*Hercules, Cockrell Commercial Co.
Dillon—*Hercules, T. J. Mulany.
Fort Benton—*Hercules, McGinley & Allen.
Forsyth—*Hercules, L. W. Robinson.
Glendive—*Hercules, W. B. Smalling.
Havre—*Hercules, Havre Auto. Co.
Helena—*Hercules, C. H. Fortman.
Kalispell—Hupmobile, Chapman & Michel.
Lavina—*Hercules, Phillips & Krueger.
Miles City—*Hercules, Kitts & Ballinger.
Plains—*Hercules, C. C. Willis.
Red Lodge—*Hercules, Edward Olcott.
Three Forks—*Hercules, E. C. Waddell.

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NEBRASKA.

Alliance—*Hercules, Lowry & Henry.
Alma—*Hercules, Frank R. Furse.
Burwell—Maxwell, G. R. Key.
Fulton—†Glide, Ashley Garage.
Gordon—Maxwell, H. B. De Wolf.
Omaha—Haynes, Haynes Auto Sales Co.
Palmer—Maxwell, Nicholas Bros.
Reynolds—Maxwell, R. A. Bothwell.
Scotia—Maxwell, Earl W. Daily.
Shickley—Maxwell, Elmer Johnson.

NEVADA.

Reno—*Menominee, Strinheimer Bros.
Tonopah—Maxwell, Kelly & Campbell.

NEW HAMPSHIRE.

Derry—King, Joseph W. Dinsmore.
Epping—King, Frank L. Pollard.
Keene—King, Geo. H. Eames & Son.
Manchester—King, O. L. Hazelton.

NEW JERSEY.

Clinton—*Koehler, Frederick Neuhaus.
Hackensack—Maxwell, Hackensack Auto Co.
Jersey City—Maxwell, J. Jacob Wacker.
Mendham—Westcott, Freeman Bros.
Newark—Westcott, Van Deman & Wainwright.
Plainfield—Chandler, E. & C. Auto. Co.
Red Bank—Westcott, Fred Van Doren.
Summit—*Koehler, E. F. Anderson.
Trenton—Lozier, Cubberly & Moore.
Westfield—Chandler, H. L. Fink.
West Hoboken—Westcott, Decker & Keynton.

NEW MEXICO.

Roswell—Maxwell, Cummins Garage.

NEW YORK.

Binghamton—*Menominee, Binghamton M. C. Co.
Brooklyn—King, Cumberland Garage.
Buffalo—*Menominee, L. G. Schoepflin Co.
Jamestown—*Menominee, Slawson & Lansbury.
Lockport—*Menominee, B. N. Laffer.
Newark—*Menominee, Walter Schuman.
New York—Westcott, C. B. Derby & Co.
Willys-Knight, C. T. Silver.
Niagara Falls—*Menominee, Peter Lammerts.
Ogdensburg—Franklin, Lytle & Murton.
Olean—*Menominee, F. W. Fornes, Jr.
Palmyra—Maxwell, Albert B. Reynolds.
Port Jervis—Maxwell, Rutan Auto. Co.
Port Richmond—Maxwell, I. A. Silvie, Jr.
Rochester—*Menominee, W. E. Davidson.
Spencerport—*Menominee, Walter Havens.
Summitville—Maxwell, F. C. Schindler.
Willsboro—King, Dr. L. G. Barton.

NORTH CAROLINA.

Ayden—Maxwell, T. C. Cannon.
Concord—Saxon, Cannon & Gibson.
Elizabeth City—Maxwell, Oliver F. Lane.
Rocky Mount—Maxwell, B. H. Johnson.
Scotland Neck—Maxwell, S. B. Kitchen, Jr.
Troy—Maxwell, G. W. Allen & Sons.

NORTH DAKOTA.

Arthur—Maxwell, Arthur Merc. Co.
Bottineau—*Hercules, Jacob Omhart.
Brantford—*Hercules, Pattee & Prall.
Buford—*Hercules, W. W. Corbett.
Carrington—*Hercules, G. C. Olsen.
Grand Forks—Maxwell, Hanson Bros. Auto. Co.
Regent—Maxwell, Show & Boe.
Rolette—Maxwell, I. S. Berg & Bro.

OHIO.

Alexandria—Empire, S. S. Anderson.
Canal Dover—Chevrolet, Willis Supply Co.
Canfield—Maxwell, Canfield Auto. & Sup. Co.
Canton—Oldsmobile, D. L. Tshantz. Saxon, A. Shem.
Chicago Junction—Overland, East Side Garage Co.
Cleveland—Grant, Grotty Co.
Jeffery, J. H. Greenwald.
Moon, Sixth City Motor Co.
Columbus—Detroiter, F. P. Corbett.
Inter-State, Twyman Motor Car Co.
Studebaker, Tesseyman Auto. Co.
‡Vim, Brasher Motor Car Co.
Fremont—Krit, John P. Smola.
Galion—Reo, Joseph E. Berger.
Lima—Lozier, Miller Garage Co.
Maxwell, Miller Garage Co.
Lorain—Overland, G. W. Williams.
Manchester—*Hercules, McCormick Auto Co.
Marietta—Chandler, Jacob Spindler.
Franklin, Anderson Bros.
Mt. Vernon—Car-Nation, G. E. Burkeyple.
New Philadelphia—Lewis, Herbert Urfer.
Roseville—McFarlan, Roseville Garage.
Springfield—*Koehler, Springfield Millwright Co.
Walbridge—Saxon, F. J. Schriber.
West Jefferson—Maxwell, Johnston & Pennybaker.
Youngstown—Premier, V. B. Motor Sales Co.
*Koehler, Regla Sales Co.

OKLAHOMA.

Gracemont—Maxwell, E. Firebaugh.
Lone Wolf—*Hercules, Warren & Jamison.
Oklahoma City—Franklin, John W. Lee.
Shawnee—Franklin, Auto. Sup. & Gar. Co.

OREGON.

Astoria—*Menominee, Earl Fisher.
Corvallis—*Menominee, M. A. Richard.
Eugene—*Menominee, J. A. Wetzel.
Grants Pass—*Menominee, J. H. Williams.
Marshfield—*Menominee, Geo. Goodrum.
Palisley—Maxwell, J. P. Cruzan.
Portland—Jeffery, Frank C. Riggs Co.
*Menominee, Gerlinger Motor Car Co.
‡Mercury, Van B. Redman.
Salem—*Menominee, B. G. Boedigheimer.
Thurston—*Menominee, Ross Mathews.

PENNSYLVANIA.

Allentown—Lozier, Ideal Motor Car Co.
Beaver Falls—Moon, Beaver Falls Motor Co.
Clark Summit—*Hercules, G. E. Secor.
Erie—*Menominee, F. P. Fleger.
Greenville—Chandler, Quinton J. Burnett.
Hazelton—Chandler, G. W. Wilmont.
Hickory—Moon, Ross Motor Car Co.
Jersey Shore—*Hercules, John C. Irvin.
Kutztown—Chandler, J. R. Augstadt.
*Hercules, J. H. Stump.
Lexington—Moon, E. F. Cox.
Lock Haven—*Hercules, E. Bagley.
Monessen—Moon, Monessen Plmb. & Elec. Co.
Peekville—*Hercules, Mid Valley Garage.
Perkasie—Maxwell, J. Samuel Bowen.
Pittsburg—Premier, Klinger Co.
Westcott, Pittsburg Motor Sales Co.
†Baker, Franklin Motor Car Co.
Point Marion—*Hercules, A. S. Maple.
Punxsutawney—Franklin, Whiteman Co.
Reading—Moon, Crawford Auto. Motor Co.
Scranton—Chandler, Bishop Bros.
Strattonville—*Hercules, M. M. Fairman & Son.
Sunbury—Franklin, H. O. Bateman & Co.
Washington—*Koehler, Standard Auto Co.
West Chester—*Menominee, Chester Garage Co.
West Newton—Maxwell, Adams & Robinson.

RHODE ISLAND.

Providence—King, Gilbert Williams.
Locomobile, Nelson A. Davis.

SOUTH CAROLINA.

Chester—Maxwell, R. R. Hafner.
Seneca—Maxwell, J. L. Lawery.
Spartanburg—Maxwell, W. J. Johnson.
*Koehler, T. G. Ladshaw.

SOUTH DAKOTA.

Howard—*Hercules, S. T. Radcliffe.
Humboldt—*Hercules, A. S. Olson.
Millbank—Maxwell, R. A. Berkner.
Mitchell—*Hercules, J. A. Naeve.
Scotland—Maxwell, William Catton.

TENNESSEE.

Brownsville—Maxwell, F. H. Voltermann.
Chattanooga—Buick, Chattanooga M. C. Co.
Chalmers, Chattanooga M. C. Co.
Hudson, Bill Jones Auto. Co.
Overland, Wallace Buggy Co.
Jackson—Chandler, William Glenn, Jr.
Knoxville—Cadillac, Cadillac Sales Co.
Hudson, Rodgers & Co.
Hupmobile, Rodgers & Co.
Lewisburg—Maxwell, Green Bros. & Chum.
Nashville—Stutz, Stutz Motor Car Co.
Paris—Maxwell, D. L. Burton.
Woodbury—Ford, Daisy Brown.

TEXAS.

Bracken—Chandler, Charles Rimshagen.
Dryer—Maxwell, B. F. Schumacher.
Galveston—*Koehler, J. Christensen & Co.
Grand Saline—Maxwell, H. P. Beard.
Henrietta—Maxwell, J. C. Stallings.
Mart—Maxwell, W. L. Lowry.
Mineola—Maxwell, C. M. Dozier.
Ozane—Chandler, S. E. Couch.
San Antonio—*Menominee, Fraser Auto. Supply Co.
Victoria—Maxwell, F. L. Sterne.
Waco—Haynes, M. M. Oden.
Wichita Falls—Chandler, Brown & Ellinger.

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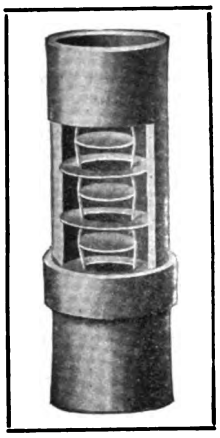
NEW AND ATTRACTIVE LINES.

THE CLEMMER VAPORIZER.

A Series of Baffle Plates Imparts a Whirling Motion to Carburetted Fuel, Making a Homogenous Mixture.

A device which is claimed by the maker to save from 20 to 30 per cent. fuel, to add greatly to the engine power and to make for easy starting, is the Clemmer patented vaporizer, manufactured by G. H. Clemmer, West Alexandria, O. As may be noted in the accompanying illustration, a series of baffle plates are utilized, every other one having an opening through which the mixture is drawn from the carburetor. When the mixture strikes the small baffle plates in the centre of the pipe it is deflected or spread outward, then driven inwardly and through the next baffle plate with an opening. This constant whirling and contact breaks any fuel into a fine spray, and the repeated mixing makes a highly explosive and economical mixture. The Clemmer vaporizer is placed in the intake manifold between the carburetor and the cylinders, and is adaptable to motorcycles, motor boats and stationary internal combustion engines. The manufacturer has an attractive proposition for the trade, the particulars of which will be forwarded free upon request addressed to the office of the manufacturer.



Clemmer Vaporizer.

CAMPBELL SEAT COVERS.

The Perkins-Campbell Company Is Producing a Complete Line for Standard Makes of Motor Cars.

The Perkins-Campbell Company, 603 Broadway, Cincinnati, O., specialist in water proof seat covers, has an interesting proposition for garages, repair shops and dealers which will be supplied upon the receipt of a postal or letter.

PARTS AND ACCESSORIES.

The Times Square Automobile Company Offers Many Attractive Bargains to the Trade in Its Catalogue.

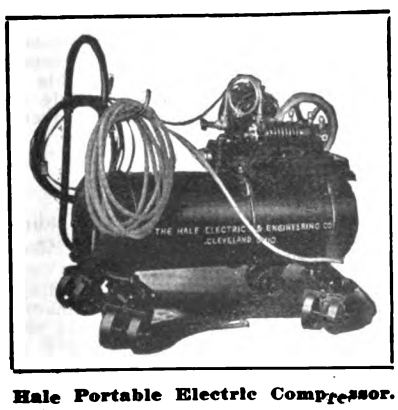
The Times Square Automobile Company, 56th street and Broadway, New York City, and 1210 Michigan avenue, Chicago, is issuing to the trade what it terms its price wrecker catalogue. In it are listed thousands of bargains in parts, material, supplies and accessories. The "price wrecker" will be mailed free upon request.

THE HALE COMPRESSOR.

A Portable Electric Unit, That Is a Practical Equipment for the Public and Private Garage.

The Hale Engineering & Manufacturing Company, 1232 East Third street, Cleveland, O., is producing the Hale portable electric air compressor shown in the accompanying illustration. This equipment is adaptable to the private as well as public garage and the maker calls particular attention to the selling proposition made to dealers.

The outfit is a unit and includes a steel tank for storing the air, electric motor, gauges, 12 feet of high grade flexible hose, and an electric cable and socket. The tank is subjected to rigid tests before installation and is built to endure a maximum pressure of 175 pounds. The capacity of the pump is 1½ cubic feet a minute. The Hale equipment can be operated from any lamp socket, and, being mounted on wheels, can be moved quickly about the garage. It is guaranteed to give good service for years and the material and workmanship are first class in every respect. Prices and details will be supplied at request.

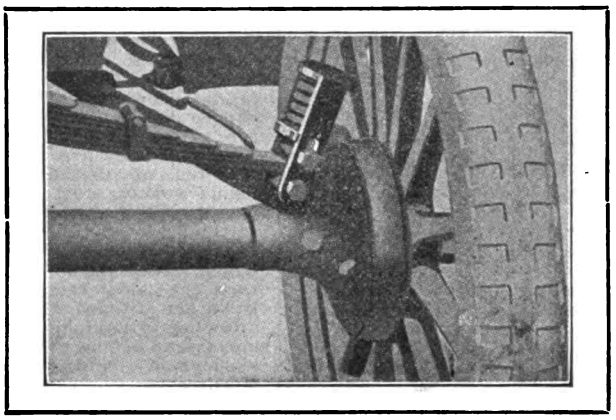


Hale Portable Electric Compressor.

WALLACE FORD SHOCK ABSORBERS.

This Device Replaces the Spring Shackles, Are Sold in Sets of Four and Are Moderately Priced.

The Bresler Wallace Sales Company, 1031 Dime Bank Building, Detroit, is producing Wallace shock absorbers for the model T Ford car. As may be noted in the accompanying illustration the Wallace absorber replaces the usual spring shackles and, being installed in direct line with the path of the shock impulse, and moving with it, transmits directly the slightest shock to the springs so that no stress is taken by moving parts resulting in friction and abnormal wear. The Wallace shock absorbers are sold in sets of four, and retail for $10 the set. The maker emphasizes the comfortable riding qualities with their use.



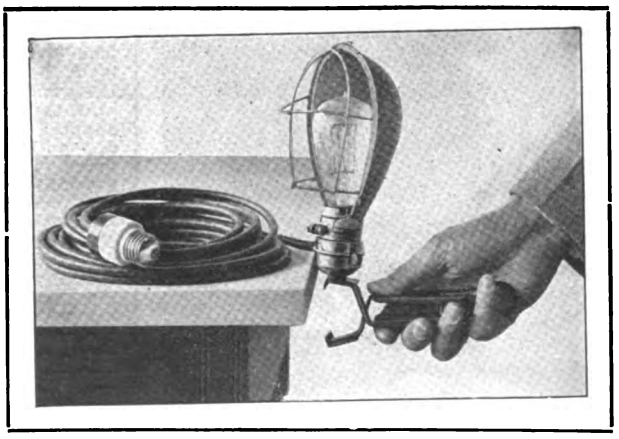
Wallace Ford Shock Absorber.

THE MUELLER CLAMP LAMP.

A Practical Light Having Adjustable Jaws for Clamping, Also a Hook.

A practical lamp such as is necessary in the repair shop, should have maximum illumination and be constructed to endure severe service. R. S. Mueller, 423-425 High avenue, Cleveland, O., is producing the Mueller clamp light, in which is combined a number of practical features. As may be noted from the accompanying illustration, the lamp is provided with the usual wire cage or guard and hook, and also a highly polished nickel plated reflector.

The guard is mounted on a clamp of special design, having jaws that may be spread 2⅛ inches, by which the lamp may be attached to a bench, machine or any part of the motor car. The socket is so mounted that it is insulated from the lamp proper and it contains a switch operated by a short hard fibre knob. The



Mueller Clamp Light, Having Adjustable Jaws, Polished Reflector and Ample Length of Cord.

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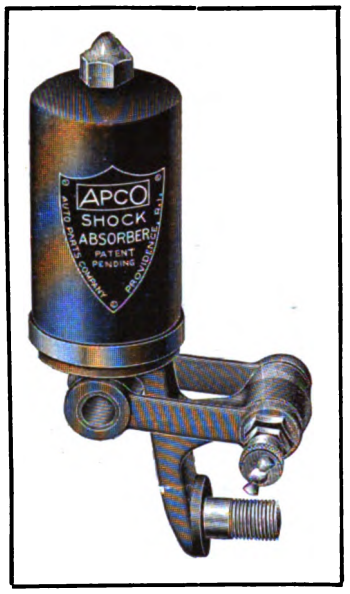
socket may be rotated to reflect the light as desired.

Twenty feet of cord and a lamp socket are included in each outfit. The Mueller clamp light retails for $3.

APCO SHOCK ABSORBERS.

The Auto Parts Company Announces New Type for Model T Ford Cars That Is Liberally Guaranteed.

After much experimentation with shock absorbers for model T Ford cars the Auto Parts Company, Providence, R. I., has adopted what is known as the Safety First shock absorbers. This construction is shown in an accompanying illustration and much stress is laid upon the material and workmanship, all parts being high grade carbon steel drop forgings. Each bolt is fitted with a grease cup and every bearing is of phosphor bronze. The springs are square in section and are ground square on the ends. They are constructed of the finest grade spring steel and are guaranteed not to settle or break during the life of the car on which they are attached. Cantilever side links are utilized, these allowing freedom of movement of the centre suspension and preventing side sway as well as skidding. The casing or shell is so fitted that it moves with the body of the car, a construction preventing contact with the mud guard brackets, etc. The shell is retained by a nut.



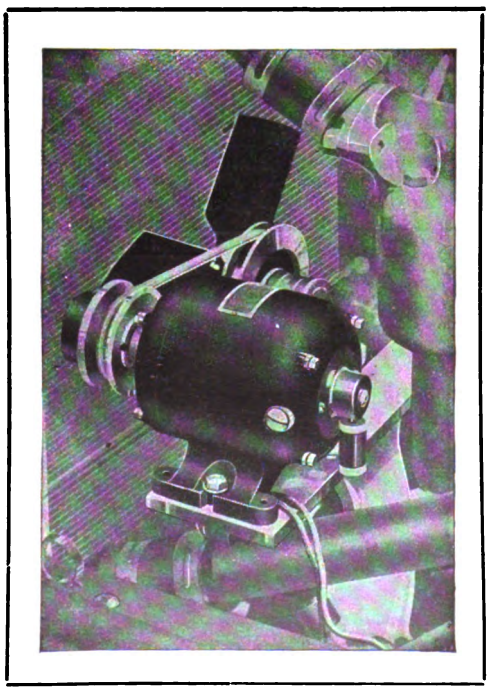
Apco "Safety First" Shock Absorber.

The Apco Safety First shock absorbers are sold on a 30 days' trial and are guaranteed for life. The company will replace free, including transportation charges and cost of making the change, any defective part.

NEW LIGHTING DYNAMO.

The Charles A. Jackson Company Marketing Equipment Adaptable to Ford and Other Makes.

The Charles A. Jackson Company, Motor Mart, Park Square, Boston, is marketing the Jackson generator, which is designed especially for used motor vehicles. The generator has an output of seven volts and eight amperes, at normal speed, and its dimensions are such that it may be easily installed. The drive is by belt, the generator being adapted to a pulley drive. The complete equipment lists for $27, and includes the dynamo, governor, automatic cut-out and meter. The governor is a special construction, entirely enclosed, and the maker states that the output of the dynamo may be varied instantly from one ampere to the the maximum capacity of the generator by turning a nut.



Jackson Generator Installed on Ford Motor.

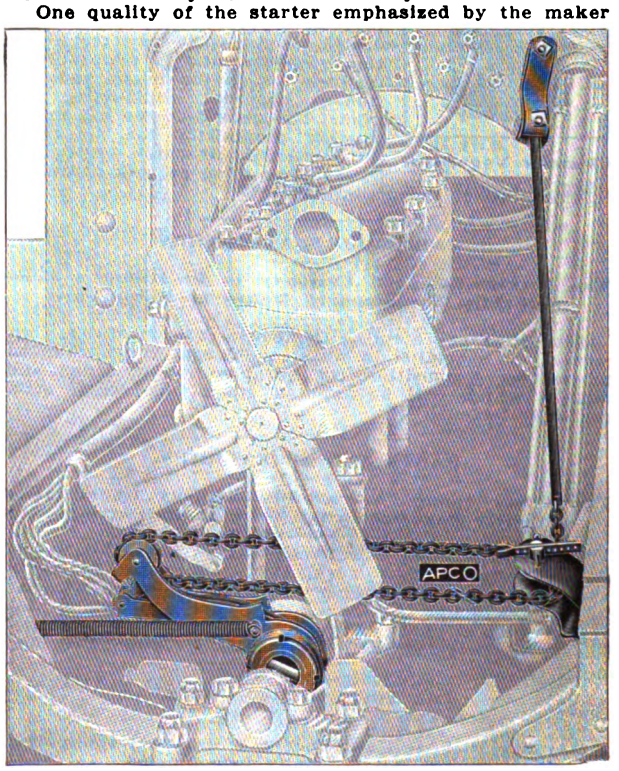
The Charles A. Jackson Company is prepared to supply installation fittings for nearly every make of car, and produces a special Ford attachment, consisting of a bracket, pulley, belt and special bolts. One of the qualities of the equipment is that it can be fitted to the Ford motor by the use of a screw driver and a wrench. The drive is taken from a pulley on the fan shaft as shown in the accompanying illustration. The No. 1 storage battery marketed by the company will fit under the seat of the Ford machine. Complete details and trade prices will be supplied at request.

THE APCO FORD STARTER.

Mechanical Type, Having Handle on Dash with Power That Will Spin Motor with Minimum Effort.

The Auto Parts Company, Providence, R. I., which is well known to the trade as the manufacturer of Apco Ford accessories and specialties, has begun the production of a starter for model T Ford car. The company experimented with a large number of starters and selected its design after subjecting it to exacting road tests. The price, $15, complete, is not prohibitive, and the Auto Parts Company anticipates a large demand for this extremely desirable accessory.

One quality of the starter emphasized by the maker is that it will spin the motor with a minimum of effort. As may be noted from accompanying illustration it is of the mechanical type. The crankshaft of the engine is rotated by operating a handle on the dash.



Apco Motor Starter for Ford Car, a Light, Mechanical Type, Easily Installed and Operated.

Statement is made that the starter can be installed in a short time, that the work is easily done and without alterations. The lightness of the starter is especially noticeable. When applied the only part visible is the starting handle on the dash. Provision is made to insure against damage to the mechanism in the event of a back fire.

NEW VALVE RESEATER.

The Fosnacht, Marketed by H. G. Paro, Is Now Supplied with Two Universal Chucks and Four Reamers.

H. G. Paro, suite 718-719 Michigan boulevard building, 30 North Michigan boulevard, announces that the Fosnacht valve reseater has been much improved and that the new model is sold with the same broad guarantee of accurate work as was the original. The Fosnacht is now supplied with two universal chucks that are adaptable to any size valve stem from 5-16 to 1-2 inch inclusive. Four improved reamers are also included in the equipment, these being for valves of from 1 1-2 to 2 3-8 inches. Special size reamers are supplied at order. The tools are packed in a neat hardwood box.

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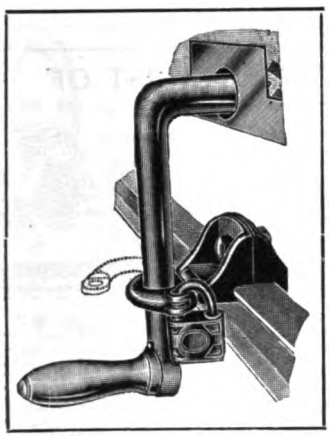
UNIVERSAL AUTO LOCK.

It Secures the Starting Handle, But Does Not Prevent the Machine from Being Moved by Hand.

The Universal Manufacturing Company, Racine, Wis., is producing a new form of lock for motor vehicles. One of its desirable qualities is that its utilization does not prevent the moving of the machine by hand when desired, as in case of fire, etc. As may be noted in the accompanying illustration the lock is attached to the front axle of the car and has a hinged member which encircles the starting crank.



Universal Auto Lock.

To use the lock, the starting crank is engaged as for cranking the motor, and the hinged arm slipped around the handle and secured by a padlock. This prevents any movement of the crank but the car can be moved by hand as above explained. The maker states that the Universal lock is constructed of malleable iron and that a sledge hammer must be used to break it. The lock is a high grade type. The Universal retails for $1.50.

GREENERD ARBOR PRESSES.

The Edwin E. Bartlett Company Is Now Producing Special Size Adapted to Motor Vehicle Work.

The Edwin E. Bartlett Company, 322 A street, Boston, maker of the well known Greenerd arbor presses, is manufacturing a size especially adaptable to motor vehicle work. With the No. 15 press a wide variety of work can be done and the maker states that it will earn its cost in a short time. The press is 36 inches between the uprights, has a 12-inch opening under the plate, is 26 inches over the plate and 48 inches over the lower or auxiliary plate. Being mounted on wheels the press can be moved easily about the shop. One man can exert a pressure of 10 tons and two men 16 tons. Complete details and prices will be supplied upon the receipt of a postal card or letter.

STEERING WHEEL SALE.

The Metalwood Manufacturing Company Offering Two Plain and Corrugated Types.

The Metalwood Manufacturing Company, Leib and Wight streets, Detroit, is offering for sale hard maple bent steering wheels, of 14, 15, 16, 17 and 18-inch diameters, made with a screwed on type of spider of brass or aluminum. The rims are plain and the finish is ebony. The spiders are ¾ inch plain bore and special machining is to be obtained at a slight extra cost.

The company is also offering a lot of 25 steering wheels of mahogany and black walnut, built with concealed, continuous rims and inserted spiders. These wheel rims are made both plain and corrugated. These sales afford the trade an excellent opportunity to obtain high grade wheels at prices considerably less than the regular figures.

SAUNDERS FUEL SAVER.

It Is Controlled from the Seat, and the Operation of Car May be Prevented by Locking a Lever.

The Powers Sales Company, 122 South Michigan boulevard, Chicago, is marketing the Saunders gasoline saver, made by the Leslie R. Saunders Company. The instrument is fitted to the intake manifold of the motor between the carburetor and the cylinders, and sprays air at high velocity into the carburetted fuel, insuring a homogenous mixture. It is easily installed.

Air enters the valve through four large holes, the volume being regulated by a taper plunger that is air tight when seated. The total movement of this plunger is but 9-16 inch, and to obtain the maximum opening the control lever, which is conveniently located, must be moved nearly two inches. The operation of the car may be prevented by moving the lever to the lowest position and securing it with a miniature padlock.

The maker states that the Saunders fuel saver will require no attention after installation, that it can be utilized as an air brake when descending hills, and that it will greatly increase the efficiency of the motor. A desirable quality is that the control is convenient to the driver. The valve is actuated by a bronze wire enclosed in a flexible seamless tube. The fuel saver is made in brass and nickel finish, and can be fitted to any car. It is stated that the fuel economy of the Saunders device will save its cost in a month.

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of June were as follows:

Pennsylvania dark	$1.75	Ragland	$ .70
Second sand	1.75	Illinois above 30°	1.12
Tiona	1.75	Illinois below 30°	1.40
Mercer black	1.30	Kan. & Okla.	.75
Cabell	1.35	Corsicana light	.75
New Castle	1.30	Corsicana heavy	.50
Corning	1.00	Electra	.75
Wooster	1.43	Henrietta	.75
North Lima	1.16	Caddo, La., 38°	1.00
South Lima	1.11	Caddo, La., heavy	.50
Indiana	1.11	Spindletop	1.06
Princeton	1.15	Canadian oil	1.56
Somerset 32°	1.05		

California.

21 to 23.9 grav.	45	29 to 30.9 grav.	60
24 to 26.9 grav.	50	31 to 32.9 grav.	70
27 to 28.9 grav.	55		

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76	33	32½	23½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

Stop the Blinding Headlight Glare!

The law says it must be done —blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street —the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Installed on the dash and operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on the dash of any car. The average car owner can do it himself in ten minutes. It can be operated by a slight kick of the foot, while both hands are on the wheel.

THE L. F. CHANEY CO., SPRINGFIELD, OHIO

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REDUCE THE HIGH COST OF RUNNING YOUR AUTOMOBILE

By Buying Supplies at Less Than Manufacturers' Prices From the Original "Price Wreckers".

WORLD'S LARGEST DEALERS

Every Item in This List a Bargain. Read every one carefully.

Following is a list of a few of our especially good values. It is not a complete list of our stock. Do not hesitate to call on us if you are in the market for anything not listed.

Schebler Carburetors, 1¼-in., model "D" and "L".....$7.90
Holley Carburetors..... 2.50
Rayfield Carburetors..... 6.50
Kingston Carburetors.....2.50 to 4.00
Side Oil Lamps, per pair..... 2.75
Electric headlights, regularly $25, our price.....per pair 8.00
4 and 6-cylinder Gianaoli imported magnetos, high-tension, regularly $100 to $150, our price.....15.00 and 20.00
Bosch low-tension magnetos.....5.00
Remy magnetos, model "S"..... 9.00
Splitdorf dual outfits, complete.....25.00
Magneto coils .....4.00 up
4 and 6-cylinder Connecticut coils....12.00
Storage batteries.....8.00 up
Steering columns complete with wheel.15.00
Stewart-Warner and Jones Speedometers from.....8.00 to 15.50
Velvet shock absorbers.....10.00
Mondex shock absorbers, per set of 4..20.00
$40 Disco starters..... 5.00
Racing seats, regularly $50 per pair, our price.....15.00 each
1914 Ford runabout bodies.....40.00
Roadster bodies.....each 30.00
Peerless 7-passenger bodies.....35.00
5-passenger fore-door bodies.....each 35.00
Axles complete, front and rear....40.00 up
Ford radiators, best quality.....17.00
Radiators—Cadillac, Pierce, Knox, Stevens-Duryea, Fiat, Warren, Olds and a hundred others.....17.00 to 35.00
Ball bearings, all sizes..Less than one-third
Round gasoline tanks..... 6.00
Square gasoline tanks..... 2.50
Prest-O tanks, Model "B"..13.50 complete
Continental rims 3.00
Dorian rims, all sizes.....2.50 and 3.00
Universal joints..... 5.00
Rear tire holders, 1 or 2 tires..... 1.75
Electric horns, complete with push button and wire.....1.95
$25.00 trunks..... 5.00
Tire covers.....0.75 and 1.00
$25.00 windshields.....9.50
Mohair dusters 3.50
Chauffeurs' dusters 1.00
Storm fronts and side curtains..... 1.00
Appleco Lighting System, complete....40.00
Brown-Lipe transmissions.....50.00
Top covers 2.50
Tire gauges 0.35
Reliners 1.75
Single, double and triple action pumps .....0.75 up

A 1 Tires and Tubes—

30x3	casings	6.65	Grey tube	2.35
30x3½	casings	9.55	Grey tube	2.95
32x3½	casings	9.65	Grey tube	3.20
34x4	casings	14.65	Grey tube	4.10
36x4	casings	14.85	Grey tube	4.40

Other Sizes in Proportion.

Truck tires, all sizes..$12.00 to $25.00 each
Springs, all sizes, at less than ½ factory prices.
Motor driven electric horns..... 7.50

We also have such goods as Klaxon horns, Weed chains, Spitfire Sootless spark plugs, and, in fact, everything for the automobile. Consult us before buying anything in the way of automobiles or supplies and send for our free price wrecker.

Steering Wheels, $2.50 to $8.50; Fenders, all sizes, $1.50 up; Tops, Runabouts and Touring, $15 up; Lavigne oilers, $5 to $7.50; Ford oilers, 5c.; Tool boxes, all sizes, $1.00 up; Jacks, 65c. up; Tool kits, $1.25 up; Goggles, 20c. up.

TIMES SQUARE AUTOMOBILE CO.

S. W. Cor. 56th St. and Broadway, New York
1210 Michigan Avenue, Chicago

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Automobile Registrations

ANY STATE COMPLETE

Ford owners $2.50 per thousand names—1914 Registration.

OWNERS AUTO LIST COMPANY
CAPITOL - ALBANY, N. Y.

A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $3 per M by states.
Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.
Garages—13,515—$25 or $3 per M by states.
Repairs—8,466—$15 or $3 per M by states.
Supplies—6,964—$12 or $3 per M by states.
Auto Mfrs., U. S. and Canada—626—$8.
544 Auto Dealers, second hand—$4.00.
14,000 Auto Truck Owners—$3.50 per M.
AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $3 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.

WRITE US YOUR NEEDS.

All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.

TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1183. Chicago, Ill.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

Ford Delivery Bodies

in stock. Send for circular.
"LEW" FALES, Providence, R. I.

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WANTED: AGENTS to handle the sales on commission of a desirable Garage Appliance. Box A, This Office.

The Motor Truck

A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . .

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Every man in the industry that has to do with pleasure or commercial cars should have this library of Automobile Mechanical Information. A full training school course.

10 Great Books—800 Pages of Text—1500 Illustrations

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Accessory and Garage Journal

Times Building, Pawtucket, R. I.

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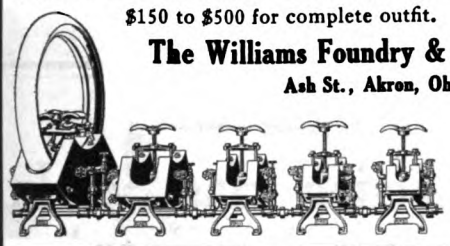
Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it.

$150 to $500 for complete outfit. Write us now.



The Williams Foundry & Machine Co.

Ash St., Akron, Ohio

The Waterhouse & Lester Co. San Francisco, exclusive California Distributors.

Clemmer's Patent Vaporizer

Vaporizer for Gasoline Engines

Saves From 20 to 30 Per Cent. Gasoline---Adds Greatly to Engine Power---Completely Vaporizes the Fuel.

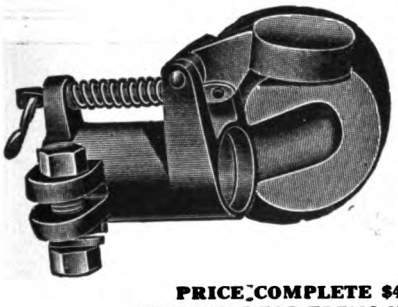
MOTORS HARD TO START; START EASILY WITH THE CLEMMER'S VAPORIZER.

THE PRINCIPLES ARE RIGHT

The Clemmer Vaporizer includes a series of baffle plates, every other one having an opening through which the mixture is drawn from the carburetor. When the mixture strikes the small baffle plates in the centre of the pipe it is deflected or spread outward, then driven inwardly and through the next baffle plate with an opening. This constant whirling and contact breaks up any fuel into a fine spray, and the repeated mixing makes a highly explosive and economical mixture. Makes the motor run sweet and smooth. **Clemmer's Patent Vaporizer** is placed in the intake pipe and is easily fitted to any make of car.

Dealers Who Want the Best Vaporizer Write for Trade Discounts and Particulars

G. H. CLEMMER, WEST ALEXANDRIA, O.



The Tremo Horn for Ford Cars

A perfect exhaust warning signal at all speeds. Easy to attach, no clogging and cannot get out of order.

PRICE COMPLETE $4.00

PRICE LIST FOR TREMO HORNS.

No. 1—16 to 25 H. P., $6.00 No. 3—40 to 50 H. P., $7.00

No. 2—25 to 40 H. P., $6.50 No. 4—50 H. P., and over, $7.50

Dealers, Write for Special Discounts.

D. HENRY BONNER Co., Makers, Cambridge, Mass.

MOTOR TRUCK

Is a business man's magazine and all who have to do with haulage should subscribe for it.

The best investment those in the buying and selling ends of the industry can make.

$2.00 THE YEAR

Times Building, Pawtucket, R. I.

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HAVOLINE OIL

"It Makes a Difference"

TO THE GARAGEMAN

because it is a meritorious oil, widely advertised and recommended, which has a strong following. These people stick to *Havoline* because of its uniform high-quality base crude. Its thorough life-preserving process of manufacture *leaves the molecules whole.* It is the most efficient lubricant for every make of car.

Our New Price Scale Policy

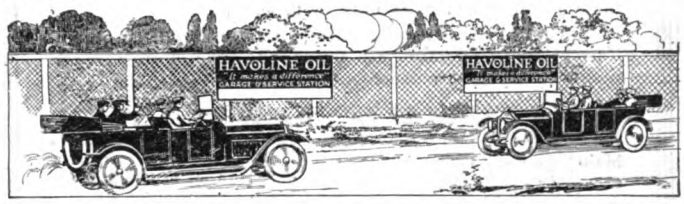
paves your way to a "clingy" trade—it actually *binds* your customers to you under contract. By thus keeping in closest touch with the motorist you improve your businesss in general, not only your sales of Havoline Oil. Write for it!

Free Subscription

upon request, to the "Sales-Oiler," a manual written especially for your use in increasing the scope of your business. Also ask for our booklet the "Lubrican" which you can distribute to your trade. It contains sound advice that will make the motorist rely upon you. Make your garage a true Service Station!

Write for copies of the "Lubrican" to distribute among your trade.

INDIAN REFINING CO. Dept. "M". NEW YORK



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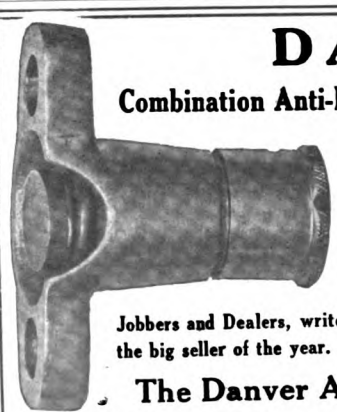
Learn the Number of Ford Machines in Your Territory. Then Write

AUTOMATIC APPLIANCE CO.

172 Columbus Avenue Boston, Mass.

DACO

Combination Anti-Rattler and Grease Cup.



It is not a grease cup fitted to an anti-rattler, but a part of it. Eliminates all lost motion in the steering gear. Spring acts as a cushion and absorbs all road shocks. All wear is taken up automatically by the spring. Made in bronze, will last a lifetime. Fitted in a minute.

Jobbers and Dealers, write for new discounts. This has been the big seller of the year. Our prices will interest the trade.

The Danver Accessory Company

Makers of the famous DACO Accessories and Motor Car Specialties.

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(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

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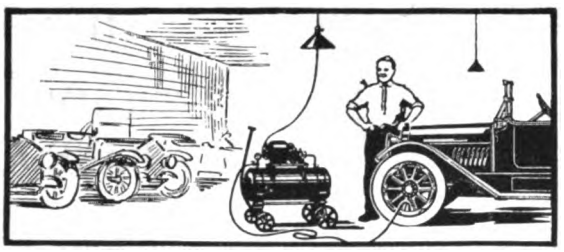

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Plenty of compressed air, always available, makes satisfied customers! You can have all you need at **mighty little expense** and **no trouble or worry** if you install one of our

BRUNNER AIR COMPRESSORS

Not a side-line, but our **sole product.** Made of the best materials money can buy and by specialist workmen who make nothing else.

Line so complete as to cover the needs of the smallest to the largest garages—from a Motor Driven Portable Outfit to the big Stationary, Automatic Equipment.

When you own a Brunner, uninterrupted, profitable "air" service is yours **all the time!** Write us for particulars and jobber's name.

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against complicated and overgrown lighting systems

HOLTZER-CABOT MAGNETO GENERATORS

do the work with far less trouble and expense.

Some Reasons For Their Success

Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Low power consumption.

For FORDS, and other small and medium cars they are unsurpassed. ***Send for Booklet A-1807.***

THE HOLTZER-CABOT ELECTRIC CO.

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6161-65 SO. STATE ST. CHICAGO — 101 PARK AVENUE, NEW YORK — 1003 UNION TRUST BLDG. BALTIMORE

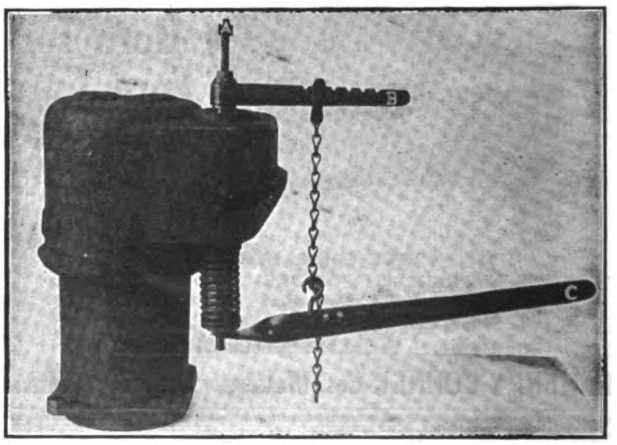
Dixon's Graphite Transmission and Differential Grease No. 677

The power used in overcoming friction in transmission and differential is wearing-out power destroying your car or truck. Use Dixon's 677—and the gliding of graphite on graphite is substituted for the grinding of metal on metal. Then most of the former wearing-out power becomes useful power, manifest in more speed and mileage, and lower repairs. "Lubricating The Motor", Booklet No. 49—have you sent for it?

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827



WINSOR PATENT ADJUSTABLE MOTOR VALVE REMOVER

TO USE: Remove spark plug, insert Barrel A and screw down spindle with fingers, which prevents valve from lifting. Attach adjustable chain to Lever B which revolves around the spindle A. Hook chain to adjustable Lever C. A slight depression, because of the enormous leverage obtained, will compress valve spring, permitting of easy removal of locking mechanism. Note the length of Barrel A and Lever B, accommodating every type of motor.

Made in sizes to fit all spark plug openings. In ordering, state size of spark plug.
LIST PRICE—Enameled black, each $1.50. Nickel plated, each $3.75
Extra barrels, each $1.20.

Dealers, Write Today for discounts. Manufactured by

Winsor Manufacturing Co., 55 Eddy St., Providence R. I.

The Motor Truck

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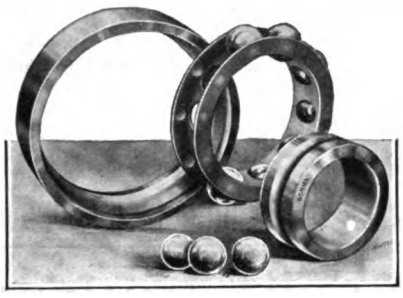
"NORMA"

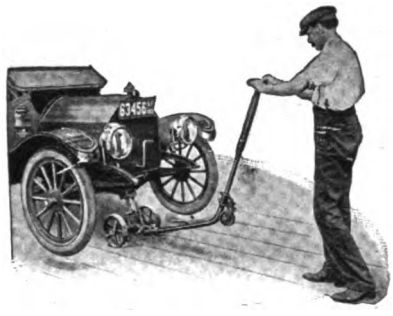
Ball Bearings



The reason why you'll find "NORMA" Ball Bearings in all the high-grade magnetos, lighting generators and starting motors, is that the makers of these machines have proved to themselves that "NORMA" Bearings are the best bearings for high-speed conditions. Don't substitute—don't permit substitutions. Insist upon "NORMA" Bearings.

THE NORMA COMPANY
OF AMERICA
1790 Broadway NEW YORK

"NORMA" *Ball, Roller, Thrust and Combination Bearings*



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AUTO TURN JACK
A GARAGE NECESSITY

"Better than a Turn Table"
Patented March 3, 1914

Weighs 100 lbs. Lifts the Largest Cars. Instant adjustment for all heights of axles. Length of handle, 5 ft. Height of wheels, 10 inches. It is almost a turn table, and a car can be moved around with it almost as quickly as we can tell it to you. By tipping up the Jack handle, it tips back and lowers the lifting post, ready to run under the axle. Then raise the adjustment up against the axle by one move of the small lever and pull down the long 5 ft. handle. The car is then ready to place in any position.

Write for Descriptive Literature and Price.
IF YOUR JOBBER WILL NOT SUPPLY YOU, WE WILL.

RUB-ON MAN'F'G CO., Inc.
VEHICLE SPECIALTIES
93 Brayton St. BUFFALO, N. Y.

Extraordinary Offer

We offer, subject to prior sale,

Hard Maple Bent Steering Wheels

as listed below, with screwed-on type Spider in Brass or Aluminum, as may be specified:

14 in. at $ .90 Each
15 in. at $1.00 Each
16 in. at $1.20 Each
17 in. at $1.35 Each
18 in. at $1.55 Each

Rims—Plain (None Corrugated) in Ebony Finish Only.

Spiders—3-4 in. Plain Bore. Special Machining to Dimensions, 20 Cents Additional (Enclose Sketch With Order).

In addition to the above we have 25 Steering Wheels in Genuine Mahogany and Black Walnut, concealed continuous Rim and inserted spider types, in both plain and corrugated, taken from our display room. We will sell these wheels at a uniform price of $3.50 each; specifications as to style, size of bore, etc., upon application.

Terms: F. O. B. Detroit, Cash With Order.

Metalwood Manufacturing Co.
Leib and Wight Streets
DETROIT MICHIGAN

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HYATT QUIET SERVICE

HY-FLEX-ROL

Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated

Hyatt Service Stations

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Fourth and Middlesex Sts., Harrison (Newark), N. J. Telephone—Harrison 2190
756 Woodward Ave., Detroit, Mich. Telephone—Grand 4130
1210 South Figueroa St., Los Angeles, Cal. Home Phone F 6383 Bell Phone Broadway 8053
169 Massachusetts Ave., Boston, Mass. Telephone—Back Bay 1015

Service Agents

Pence Automobile Co., 800 Hennepin Ave., Minneapolis, Minn.
Broom & Wade, High Wycombe, England.

HYATT ROLLER BEARING CO.

DETROIT, NEWARK, N. J. CHICAGO

Stevens Valves

Stevens Auto Tire Check Valve

Patents Issued

Actual Size Complete Valve — 1,043,224---1,050,942---1,078,347 and others Pending. — Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve Stem.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Tire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

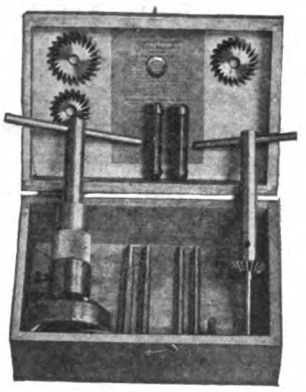
The Quickest Selling Accessory in the Market.

Agencies Wanted in All Unassigned Territory. Write for Terms and Discounts.

STEVENS MANUFACTURING & SUPPLY CO.
Fisher Building **Chicago, Ill.**

Fosnacht Improved Valve Reseater

Now furnished with Two Universal Chucks for any size valve stem from 5-16 to 1-2 inch inclusive, and four improved reamers for valves from 1 1-2 to 2 3-8 inches. Special Size Reamers to Order. Set is furnished in Hardwood Case.



Reseating is the only repair for worn engine valves. The Fosnacht Reseater will do work you can absolutely guarantee. Will save 75 per cent. time and labor. A Universal Garage and Repair Shop Necessity.

Every Tool Set Guaranteed and Sold For the Right Price. Exceptional Trade Information Sent at Request.

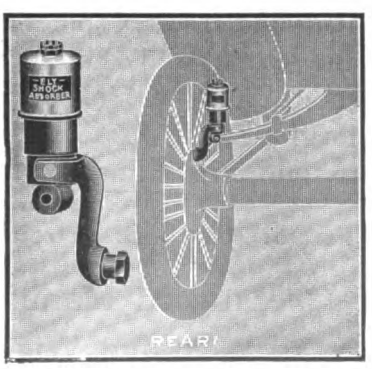
H. G. Paro

Suite 718-719
Michigan Boulevard Bldg.
30 North Michigan Boulevard
CHICAGO - - ILLINOIS

SPECIALLY DESIGNED

Ely Shock Absorber

For FORD Cars



Highly Efficient, Easily Installed, Enduring, and Guaranteed for One Year.

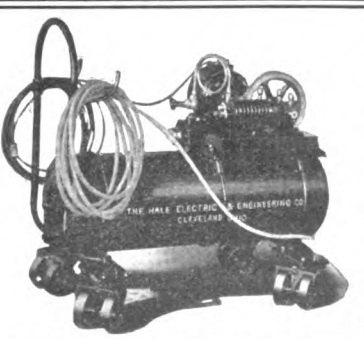
The Best Selling Accessory in the Market. Selling Price:

Set of Four $12.50
Set of Two $7.00

SPECIAL DEALERS' PROPOSITION—Write Today for Prices and Discounts.

DONNELLY MOTOR EQUIPMENT CO., 1785 Broadway New York City

HALE



Portable Electric Air Compressor

Ideal Equipment for the Public or Private Garage

An Outfit of Steel Tank, Motor, Compressor and Gauges, maximum pressure 175 lbs., pump capacity 1.5 cu. ft. free air per minute, 12 ft. hose and 12 feet of Cable. Can be operated from any lamp socket.

Constructed of High Class Materials and Will Give Good Service for Years. Splendid Selling Proposition for Dealers and Jobbers.

HALE ELECTRIC & ENGINEERING COMPANY
1232 East Third Street Cleveland, O.

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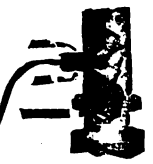
Saunders' Gasoline Saver

has proven positively that it will save from 25% to 50% gasoline —increase power and speed proportionately— give absolute control of fuel mixture under all conditions without readjusting carburetor.

Other good features described in booklet. Easy to operate. Consumes nothing but air Never gets out of order

Only one size. Fits any car.



Think Twice before you pass this by—it's a Money Maker—a Satisfaction Builder!

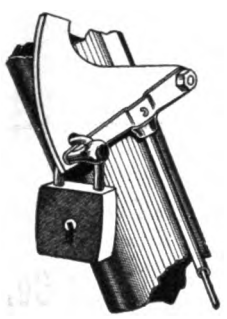
Every car owner in your community—every touring customer—is a logical buyer of this simple, practical device; and **every buyer is a booster** of the—

Saunders Gasoline Saver

the one gas saver that is **not** an experiment. Saunders Saver is a proven success—**thousands in use—a** sure seller and sure "repeater" (to enthusiastic car owners' friends) wherever shown.

A $5.00 device that will save $5.00 a month or more, to every car owner that does much driving. **25 per cent. to 50 per cent. More Mileage per Gallon**—enables the user to travel farther on his original supply and **come back to you for his gasoline!**

Easy to attach—a few minutes work and no special tools required. Adds a modest charge for putting on, to your liberal sales profit!



A Secure Motor Lock

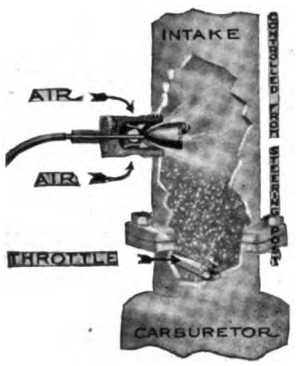
Not the least bit complicated—vital feature is the **patented valve principle. Scientifically correct**—no substitute or make-shift will do the work.

Operates by lever just under steering wheel—**action positive**—a touch of the finger does it!

Wonderful in many other ways besides fuel economy. Our **Free Booklet** explains.

Push this remarkable device and ADD SEVERAL HUNDRED DOLLARS TO YOUR SEASON'S PROFITS!

For full information, and list of wholesale distributors, write to—



The Powers Sales Company

GENERAL AGENTS

1212 People's Gas Building—122 So. Michigan Ave., Chicago, U. S. A.

HOUK

DETACHABLE

Wire Wheels

Made by the largest wire wheel manufacturer in America

GEO. W. HOUK CO.

1709 Elmwood Ave. BUFFALO, N. Y.

A GARAGE NECESSITY

"Velos" Portable Garage Compressor

A complete portable electric compressor mounted on a 3 wheel metal base, with long hose and wire connections, pressure gauge, and safety valve. Pumps a 3 inch tire, tight from the flat in 3 minutes.

SEND FOR CATALOGUE

PHILADELPHIA TIMER AND MACHINE CO.

51st and Lancaster Ave., Philadelphia, Pa.

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a ***smooth running engine*** and a ***saving in gasoline.***

Territorial rights open. Address Dept. A.

BOWLING GREEN SALES CO.

42 BROADWAY, NEW YORK, N. Y.

Sole Distributors for U. S. A. and Canada

Coxajusto

ADJUSTABLE TO ANY LOAD

Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today. Address Dept. M. Established 1872

COX BRASS MFG. CO., Albany, N. Y.

1777 Broadway, New York City; 2637 Michigan Ave., Chicago, Ill.; 899 Boylston St., Boston, Mass.; 870 Woodward Ave., Detroit, Mich.; 1216 Van Ness Ave., San Francisco, Cal. Export Representative, Auto Supplies Export Co., 1779 Broadway, New York City.

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ANNOUNCEMENT OF IMPORTANCE TO THE TRADE

International Cycle-Car and Accessories Company announces its organization as general distributors of cycle-cars, cycle-car parts, assemblies and accessories.

It announces the entering into an arrangement with **Woods Mobilette Company** for the general distribution of **Woods Mobilettes**—America's First Cycle-Car—and for the general distribution of such other cycle-car parts, as **Woods Mobilette Company** will manufacture for the trade.

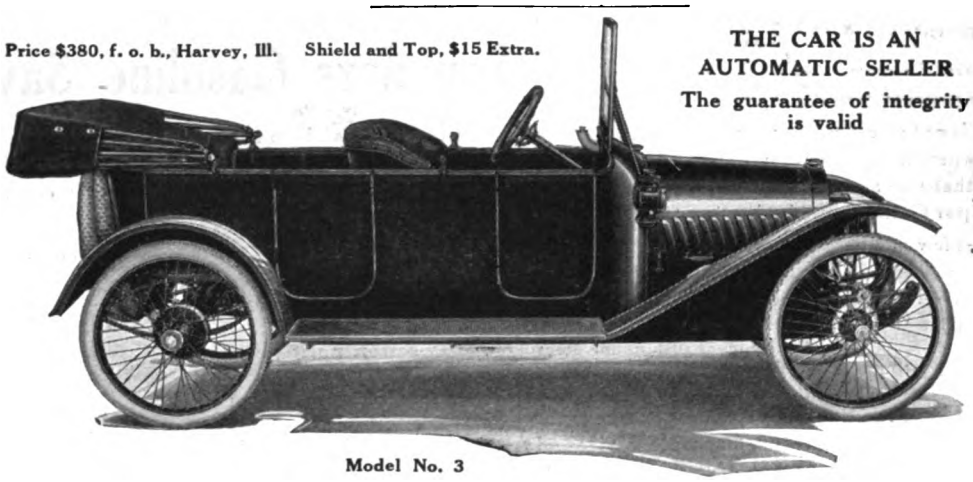
It will also handle cycle-car accessories and correspondence from manufacturers of same is invited.

The policy of **International Cycle-Car and Accessories Company** will be strictly one of dependable service. It will deal direct with each dealer, thus insuring to the manufacturers represented on the one hand and to the dealer and consumer on the other, a service that is at once economic, speedy, effective, direct, efficient and satisfactory.

Price $380, f. o. b., Harvey, Ill. Shield and Top, $15 Extra.

THE CAR IS AN AUTOMATIC SELLER

The guarantee of integrity is valid



Model No. 3

WOODS MOBILETTE "AMERICA'S FIRST CYCLE-CAR"

Wheel Base 102 in.; tread 56 in. Motor: Four cylinder, 12 h. p., water cooled. Transmission: Sliding gear type, two speeds forward and one reverse. Axles: Drop forged, 1550 lbs. capacity; rear axle full floating type. Every mechanical detail is of superior and proven worth.

International Cycle-Car and Accessories Co.

General Distributors,

Dealers' Applications Being Acted Upon in the Order Received

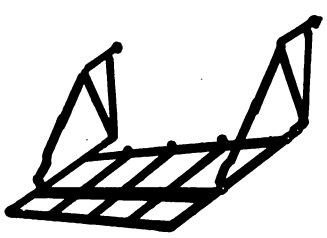
R-1109 Security Building CHICAGO, ILLINOIS, U. S. A.

"SPECIAL" 1914 Ford Trunk Rack and Number Bracket for Ford Cars

Also manufacturers of

TRUNK RACKS

For all makes of Automobiles



This Rack Will Fit Any 1914 Ford Car

1914 Ford Rack

Liberal discounts to Manufacturers and Jobbers buying in quantities.

Connecticut Steel & Wire Company

57-61 Allyn Street, Hartford, Conn.

A PROFITABLE DEALERS PROPOSITION

MORGANBRITE

THE

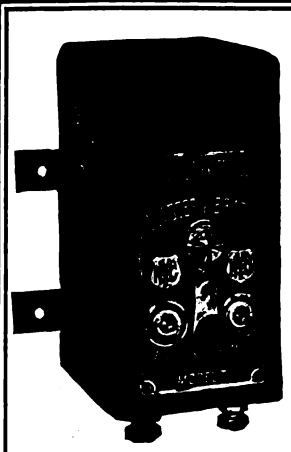
Brass and Metal Polish

WITH THE

6 Talking and Selling Points

1. Is quicker and more lasting than anything on the market.
2. Being yellow it is not as noticeable on brass when dry as others.
3. The Lithographed Cans are superior to any on the market, as regards design and color.
4. Cans are of our unique "Polisaver" type. Screw cap secured to body of can, with chain and swivel. Cannot be lost.
5. All cans sealed at the factory.
6. Profit is good.

MORGAN MFG. COMPANY, DEPT. F. NEWPORT, R. I.



The Famous Model "T" FORD SPECIAL

Master Vibrator

Price $10.00

THE BEST PROPOSITION FOR THE DEALER

NEW YORK COIL CO.

338 Pearl St., New York City, N. Y.

WESTERN BRANCH

1429 Michigan Ave., Chicago, Ill.

REACH COLORADO OWNERS AND DEALERS

Colorado has more automobiles by 3000 than the six western states of Wyoming, Utah, New Mexico, Arizona, Idaho and Nevada, and there are more cars per capita in Colorado than in Illinois or New York being one automobile to every 61 people.

This directory contains a complete list of the owners of automobiles licensed in Colorado for 1914. Also a classified Business Directory of the auto trade of the state.

A reliable mailing list for direct advertising, and the only one of the kind published. Price, $5.00, postpaid. Order now, and get early use of this valuable book. Advertising rates and sample page sent on request.

THE LIST PUBLISHING COMPANY, Dept. 2.
615 Denham Bldg. Denver, Col.

(When Writing, Please Mention The Accessory and Garage Journal.)

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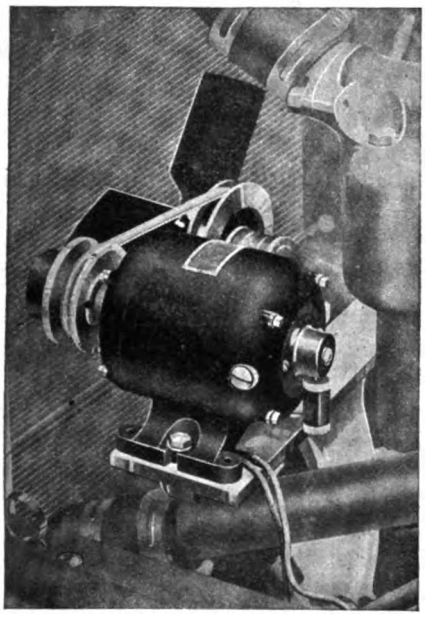
Electrify Your Car



With a

Jackson Generator

7 Volts
8 Amperes
Light
Efficient
Perfectly
Built
Guaranteed

AS INSTALLED ON FORD

Dynamo, Governor, Cutout and Meter, $27

We can furnish installation fittings for nearly all cars.

Special Ford Fittings, $5

Dealers, Write for Discounts

THE CHARLES A. JACKSON CO.
Motor Mart, Park Square BOSTON, MASS.

The Springfield Circle Cutter

FOR CUTTING
LAMP GLASS, SHEET COPPER and RUBBER GASKETS, FELT and FIBER WASHERS, ETC.

Capacity—any size circles from 0 to 14".

Positive measuring scale to determine sizes.

The equipment includes one steel-point glass cutting tool; one knife for square edge; one knife for bevel edge, and one wrench. Weight 12 lbs.

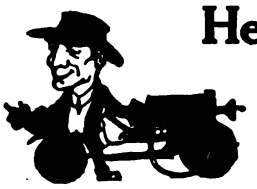
MANUFACTURED BY

THE SHAWVER MFG. CO., Springfield, Ohio

Shop and Garage Vulcanizers

For Catalogue, Address

VANDERPOOL CO.
SPRINGFIELD, O.



Here is Proof Positive Mr. Dealer

Over 49,000 Kellogg Air Pumps have been placed on cars through dealers and manufacturers, and they are saving tire bills for those car owners. You know what tire saving means in making the owner feel satisfied with the car you have sold him. You can afford to push the sale of

Engine Driven KELLOGG Air Pump

One, Two, Four, Six-Cylinder Models

With Attachments and Instructions, Ready to Install

The owner does not have to have misfit gears made. For 5 years we have been designing special attachments to go with the different designs of our pumps so that they would give maximum efficiency on every car. You cannot go wrong in installing the pump that is standard or special equipment for these cars:

Packard	Havers	Chandler
Peerless	Stearns	Howard
Stevens-Duryea	Imperial	Mitchell
Lozier	Jackson	Fiat
Franklin	Lexington	Speedwell
Winton		

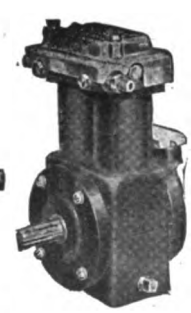
and made with special attachments that any dealer can install on the:

Chalmers 1914	Studebaker Six	Pierce
Hudson	Buick	Cadillac
Maxwell 6	Overland	Reo
Simplex	Abbott	Stutz
Henderson	Oakland	Cole

SEND NAMES OF OWNERS

There are probably quite as many old cars giving good service in your locality as there are 1913 and 1914 models. They ought to have the Kellogg pump. Send us the names of some of the owners and let us send literature and tell them about the Kellogg pump. Our arguments added to your own will induce more business. Do you look over the Kellogg News? It is an unpretentious sheet, but it has information for you and we send it each month. Ask for it if you do not see it.

The 4-Cylinder Pump with attachments for above named cars... $30



2-Cylinder Pump with attachments for
Buick 25, 26, 37
Mitchell 4 and 6
Overland 59, 69, 79
Reo 5
Stutz 4 and 6
Complete cost... $26

KELLOGG MANUFACTURING CO.

128 Circle Street, Rochester, N. Y.

NEW YORK SAN FRANCISCO DETROIT CHICAGO

Special Pumps and Air-Starting Units Made in Quantity for Manufacturers

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NEW DEPARTURE BALL BEARINGS

Quality Plus — *American Made for American Trade*

Distribution centers for New Departure ball bearings have been established in all parts of the country where stocks of Single Row and Radax type particularly are carried. These are absolutely interchangeable with other standard makes.

Send your order to the house nearest you and it will have immediate attention. This service will bring an important advantage to you and enable you to so satisfactorily serve your customer that his car need not be out of commission more than a few hours.

The following is a list of New Departure distributors:

ALBANY, Albany Hardware and Iron Co.
ATLANTA, Elyea-Austell Co.
BOSTON, Ahlberg Bearing Co., 93 Massachusetts Ave.
BOSTON (Hyde Park), Pruyn & Bilodeau, 1550 River St.
BUFFALO, Iroquois Rubber Co., 279-283 Washington St.
CINCINNATI, Herman Bumiller Co., 432 Main St.
CHICAGO, Ahlberg Bearing Co., 2636 Michigan Ave.
CHICAGO, Chicago Pulley & Shafting Co., 32-36 S. Clinton St.
CLEVELAND, Cray Brothers, 1111 West 11th St.
DENVER, Denver Auto Goods Co., 1600 Broadway.
DENVER, Fry & McGill, 1532 Broadway.
DENVER, M. L. Foss, 1729 California St.
DES MOINES, Herring Motor Supply Co., 912-14 Locust St.
INDIANAPOLIS, Hearsey-Willis Co.
KANSAS CITY, MO., Motor and Machinists Supply Co., 1519 Grand Ave.
LOS ANGELES, Western Rubber and Supply Co., 1011 S. Olive St.
MINNEAPOLIS, Pence Automobile Co., 800 Hennepin Ave.
NEW YORK CITY, Ahlberg Bearing Co., 1790 Broadway.
NEW YORK CITY, Jos. C. Gorey & Co., 352 W. 50th St.
NEW YORK CITY, The Gwilliam Co., Broadway and 58th St.
NEW YORK CITY, Pruyn & Bilodeau, 1876 B'way, Cor. W. 62nd St.
NORFOLK, Chemi Company, 438 Granby St.
OMAHA, The Lininger Implement Co., 1101 Sixth St.
PASADENA, Western Rubber and Supply Co., 66 S. Fair Oaks Ave.
PHILADELPHIA, The Gwilliam Co., 1314 Arch St.
PITTSBURGH, Machinists Supply Co.
PORTLAND, ME., James Bailey Co., 18 Free St.
PORTLAND, ORE., Ballou & Wright, Broadway and Oak St.
RICHMOND, VA., Chemi Company, 629 E. Main St.
ROCHESTER, Rochester Rubber Co., 24 Exchange St.
SACRAMENTO, Kimball-Upson Co., 609-11 K St., 608-15 Oak Ave.
SAINT LOUIS, Fred Campbell, 1109 Locust St.
SALT LAKE CITY, Bertram Motor Supply Co., 251 South State St.
SAN DIEGO, Western Rubber and Supply Co., 1364 Fifth St.
SAN FRANCISCO, J. W. Leavitt & Co., 301 Golden Gate Ave.
SAN FRANCISCO, Irvin Silverberg & Co., 541 Van Ness Ave.
SEATTLE, Ballou & Wright, 817 E. Pike St.
SPOKANE, Child, Day & Churchill Co., 1215 First Ave.
SYRACUSE, Syracuse Rubber Co., 212 S. Clinton St.
TACOMA, Automobile Supply Co., 755 South C St.
TAMPA, American Supply Co., 610-20 Tampa St.

Universal Test Clips

Time savers for charging automobile storage batteries—made of copper—indestructible—may be used over and over again—will carry 15 Amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

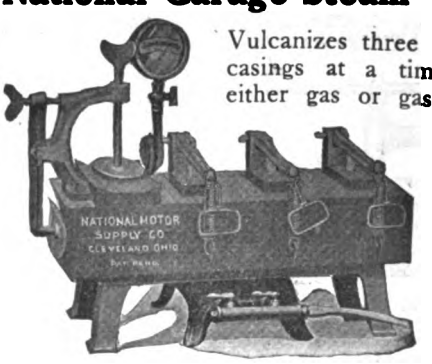
Write for a free sample, using your company's letter head. No attention paid to postals.

Single Lots - Each 15c.
Lots of 10 - - Each 12½c.
Lots of 100 - - Each 10c.

R. S. MUELLER & CO.

431 High Ave., S. E., Cleveland, Ohio

National Garage Steam Vulcanizer

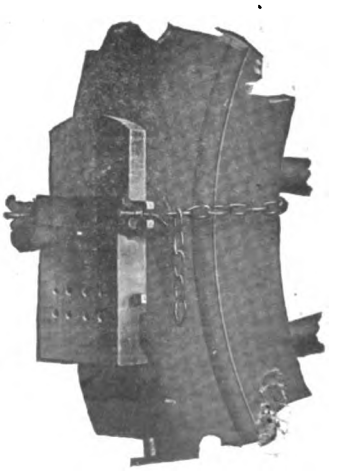


Vulcanizes three tubes and two casings at a time. Heated by either gas or gasoline. Fourth year on the market, and thousands of satisfied customers.

GARAGE MEN

Write at once for our special selling plan, where you pay for vulcanizer after it has earned its cost.

Wizard Automatic Steam Vulcanizer



For both tubes and casings of any size. Vulcanizing face 6"x3". Burns gasoline or alcohol. Heat control entirely automatic. Nicely nickel plated. Guaranteed to do the work of any other portable vulcanizer costing up to $15. Full instructions and supplies packed in neat wooden box. The biggest bargain ever offered. If you do not find it so, will gladly refund your money. List price **$5.00.** Dealers price **$3.00.** Send money order today.

MANUFACTURED BY

THE NATIONAL MOTOR SUPPLY CO.

5604 Euclid Ave., Cleveland, O.

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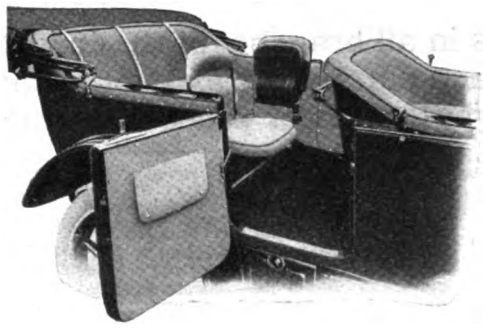
CAMPBELL
ESTABLISHED 1879

Guaranteed Motor Car Accessories

Dealers:

Looks sell the car—

Campbell Seat Covers furnish the looks.



Car Owners:

Campbell Seat Covers are cool and comfortable this hot weather.

Nothing adds to the looks and comfort of a car like Campbell Seat Covers. They "tone it up" and add the finishing touch of class; they are cool and comfortable; make touring a pleasure.

CAMPBELL WATER PROOF SEAT COVERS

Clean Dirty Tops and Seat Covers with
Percama
Trade Mark Registered
Made by Campbell
Write for folder on the wonderful new cleaner.
Qt. 25c. 1-2 Gal. 40c. Gal. 60c.

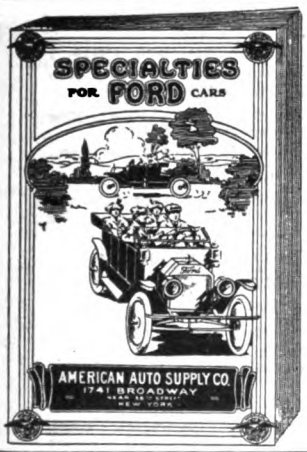
are the best that money can buy. They are waterproof and can be easily cleaned with Percama. Every set is guaranteed to fit like a good custom tailored suit would fit you; and Campbell Seat Covers will not stretch out of shape or fade like so many cheaper imitations. Insist on Campbell Seat Covers. Remember we guarantee satisfaction. Three grades: Water-proof Jeans, Genuine Mohair, Clean-Ezy. Write for samples and prices.

Write for catalog of other Campbell Accessories.

THE PERKINS-CAMPBELL COMPANY
603 Broadway **Cincinnati, Ohio**

Have you seen our Ford Line?

"Campbell makes sure you're satisfied"



Just off the Press—

Write today for the **Most Complete Catalog** of Auto Supplies Ever Published.

Contains the **biggest, brightest and best** line of Ford and Overland Specialties ever placed on the market.

FREE ON REQUEST

American Auto Supply Co.

1741 Broadway NEW YORK | Write to Nearest Branch | 1408 Michigan Ave. CHICAGO

"PASS THEM ALL"

Knox
BEST BY TEST
MOTOR CARS

Send for Pleasure or Commercial Catalogue.

KNOX MOTORS CO., Springfield, Mass.

"LAX-FAL"

Guaranteed Tubes

Red or Grey
An excellent Para rubber inner tube fully guaranteed at

40% Off Standard List

Are you interested?
Territory open for responsible agents
Write Now

LAX-FAL RUBBER CO.
77 Chambers Street Dept. S New York City

(When Writing to Advertisers, Please Mention The Accessory and Garage Journal.)

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.
Auto Parts Co., Providence, R. I.
Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.
Denver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston: 818 No. Broad St., Philadelphia: Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Times Square Auto Co., 56th St., at Broadway, New York City.
Waite Auto Supply Co., 81 Exchange place, Providence, R. I.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)
Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1790 Broadway, New York; City; 805 Woodward Ave., Detroit.
Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
Norma Co. of America, 1790 Broadway, New York City. (Norma.)
R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Edison Storage Battery Co., 137 Lakeside Ave., Orange, N. J. (Edison.)
Geissler Bros. Storage Batttery Co., 514 W. 57th St., New York.
Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn. (Raybestos.)
Russell Mfg. Co., Middletown, Conn. (Russco.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. E. Sparks, 1480 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.
Thermoid Rubber Co., Trenton, N. J. (Thermoid Hydraulic Compressed.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)
Branches: 1140 Michigan Ave., Chicago; 1211 Woodward Ave., Detroit; 1902 Broadway, New York City.
Zenith Carburetor Co., Detroit. (Zenith.)

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Haynes Automobile Co., 166 Main St., Kokomo, Ind. (Haynes.)
Knox Motors Co., Springfield, Mass. (Knox.)
Lexington-Howard Co., 131 Main St., Connersville, Ind. (Lexington and Howard.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Metz Co., Waltham, Mass. (Metz.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
National Motor Vehicle Co., 1033 22d St., Indianapolis. (National.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Premier Motor Mfg. Co., Indianapolis. (Premier.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
Willys-Overland Co., Toledo, O. (Overland.)
Winton Motor Car Co., 131 Berea Road, Cleveland, O. (Winton.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Alma Motor Truck Co., Detroit. (Republic.) *Factory*: Alma, Mich.
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Dart Manufacturing Co., Waterloo, Ia. (Dart.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Knox Motors Co., Springfield, Mass. (Knox and Martin Tractor.)
Motokart Co., 1790 Broadway, New York City. (MotoKart.) Factories, Peekskill and Tarrytown, N. Y.
Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Signal Motor Truck Co., Detroit. (Signal.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.
General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.
Knox Motors Co., Springfield, Mass. (Knox and Martin Tractor.)
Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Northwestern Chemical Co., The, Marietta O. (Se-ment-ol Radiator.)
Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

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BUYERS' GUIDE---Continued

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 80 Flatbush Ave., Brooklyn, N. Y. (Ball Carbon Remover.)

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

FORD AUTOMOBILE SPECIALTIES.

Denver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GASKETS AND GASKET CUTTERS.

Shawver Co., Springfield, O.

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHT DIMMERS.

Chaney Co., L. F., Springfield, O. (Chaney.)

HORNS.

Bonner, D. Henry, Co., Cambridge, Mass. (Tremo.)

Gerford Mfg. Co., Elyria, O. (Tuto.)

JACKS, ETC.

Shawver Co., Springfield, O.

LAMPS, TAIL. (See Tail Lights.)

LEATHER GOODS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTING SYSTEMS, ELECTRIC.

Garford Mfg. Co., Elyria, O. (Dynalux.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Continental Asbestos Corp., Worcester, Mass. (Spedolene.)

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Hawe, Geo. A., 148 Front St., New York. (Panhard.)

Branch: 899 Boylston St., Boston.

Indian Refining Co., 17 Battery Place, New York City. (Havoline.)

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MeToRol, Non-Fluid, Kejex.)

Northwestern Chemical Co., Marietta, O. (Gear-Silence.)

Platt & Washburn Refining Co., 1 Broadway, New York City. (Veedol.)

Standard Oil Co., New York. (Polarine.)

Branches: In all cities.

Vacuum Oil Co., Rochester, N. Y. (Gargoyle Mobiloil.)

Branches: 49 Federal St., Boston; 61 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; 321 Free Press Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.

Eisemann Magneto Co., 32 33d St., Brooklyn, N. Y. (Eisemann.)

Branches: 123 W. 52d St., New York City; 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.

Heinze Electric Co., Lowell, Mass. (Heco.)

Holtzer-Cabot Co., Brookline, Mass.

Branches: 101 Park Ave., New York City; 161-65 So. State St., Chicago; 1005 Union Trust Bldg., Baltimore, Md.

Marburg Bros., 1790 Broadway, New York. (Mea.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1823 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LIST.

Owners' Auto List Co., Albany, N. Y.

MASTER VIBRATORS.

New York Coil Co., 338 Pearl St., New York City.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PATCHES, TIRE.

Brender Rubber & Tire Co., Rutherford, N. J. (Cementless.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

International Metal Polish Co., Quill St. and Belt. R. R., Indianapolis, Ind. (Blue Ribbon.)

Morgan Mfg. Co., Dept. F, Newport, R. I. (MorganBrite.)

Northwestern Chemical Co., Marietta, O.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

PUBLICATIONS, AUTOMOBILE.

The Automobile Journal, 24 issues, $1.00 the year.

The Motor Truck (Commercial Car), Monthly, $2.00 the year.

The Accessory and Garage Journal, monthly, $2.00 the year.

Motor Truck Construction, Operation, Care and Repair.....$1.00

The A B C of Aerial Navigation....$1.00

The A B C of Motor Car Operation.. 50

Overhauling, Rebuilding and Equipping the Motor Car..... .50

Lighting the Motor Car by Electricity.. .50

The A B C of Internal Combustion Engine, Maintenance and Repair..... .35

The A B C of Carburetor Construction, Maintenance and Repair..... .35

The A B C of Magneto Systems..... .35

The A B C of Battery Ignition Systems .35

The Motorcycle, Maintenance, Repair and Construction ..... .35

The A B C of Motor Car Chassis Maintenance and Repair..... .25

Maintenance and Repair of Motor Car Tires ..... .25

Sent Postpaid to any address in United States upon receipt of price. Address all communications to The Automobile Journal, Pawtucket, R. I.

PUMPS, OILS AND GREASE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

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BUYERS' GUIDE---Continued

PUMPS, TIRE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Green & Swett Co., 737 Boylston St., Boston. (Tri-Phoon Car and Garage.)

Shawver Co., Springfield, O.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)

United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)
Branches: New York, Chicago, San Francisco.

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)
Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, Birmingham, Ala.; London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

ROLLER BEARINGS.

Hyatt Roller Bearing Co., Detroit. (Hyatt.)
Norma Co. of America, 1790 Broadway, New York City. (Norma.)

SEAT COVERS.

Perkins-Campbell Co., 22 Broadway, Cincinnati, O.

SELF-STARTERS. (See Motor Starters.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.

Breslau Wallace Sales Co., 1031 Dime Bank Bldg., Detroit. (Wallace.)

Donnelly Motor Equipment Co., 1785 Broadway, N. Y. City. (Ely.)

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Colgate & Co., 199 Fulton St., New York City. (Moto-Gloss and Mechanics' Soap Paste.)

Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUG CASES.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Bosch Magneto Co., 223-225 W. 46th St., New York.
Branches: See Magnetos and Magneto Supplies.

Heinze Electric Co., Lowell, Mass. (Heco Priming.)

Mosler, A. R. & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)

Silvex Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.
Branches: See Magnetos and Magneto Supplies.

SPEEDOMETERS, RECORDERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TAIL LIGHT DETECTORS.

Harding Specialties Co., Inc., 755 Boylston St., Boston. (Boston.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Lite.)
Branches: See Cylinder Cleaning Compound.

TANKS, TIRE INFLATING.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Baby Tire Filler, The Emancipator.)
Branches: See Cylinder Cleaning Compound.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACESSORIES.

Braender Rubber & Tire Co., Rutherford, N. J.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)

Shawver Co., Springfield, O. (Tools.)

Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens Valves.)

TIRE CHAIN GRIPS. (See Chains)

TIRE PRESERVATIVES AND PROTECTORS.

Braender Rubber & Tire Co., Rutherford, N. J.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)

Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.

Lax-Fal Rubber Co., Dept. S, 77 Chambers St., New York City. (Lax-Fal Guaranteed.)

Motz Tire & Rubber Co., Akron, O.

United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)
Branches: See Rims—Removable and Detachable.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)
Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

Goodrich Co., B. F., Akron, O. (Goodrich.)

United States Tire Co., Broadway and 58th St., New York.
Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

TRUNK RACKS.

Connecticut Steel & Wire Co., Hartford, Conn.

VALVE LIFTERS.

Paro, H. G., Suite 718-719 Michigan Blvd. Bldg., 80 No. Michigan Blvd., Chicago.

Winsor Mfg. Co., Providence, R. I.

VARNISHES, ETC.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VENTILATORS.

Wattles, C. E., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VIBRATORS. (See Master Vibrators.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

National Motor Car Supply Co., 5604 Euclid Ave., Cleveland. (National Garage Steam and Wizard Automatic.)

Vanderpool Co., Springfield, O.

Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Welder.)
Branches: See Cylinder Cleaning Compound.

WHEELS, WIRE.

Houk Co., Geo. W., 1709 Elmwood Ave., Buffalo, N. Y. (Houk Detachable.)

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.

Mossberg Co., Frank, Attleboro, Mass.

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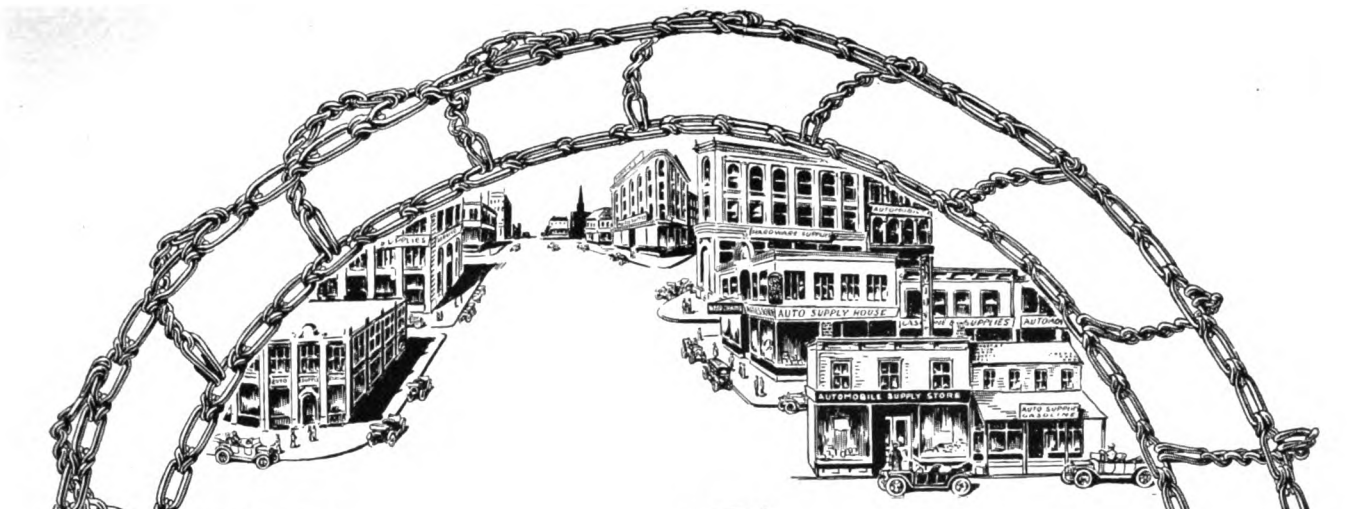

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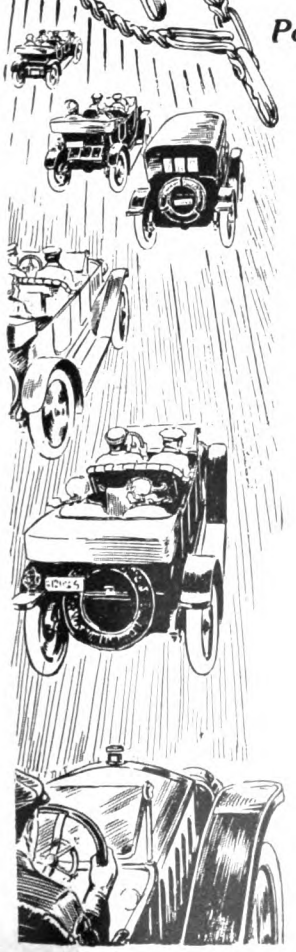
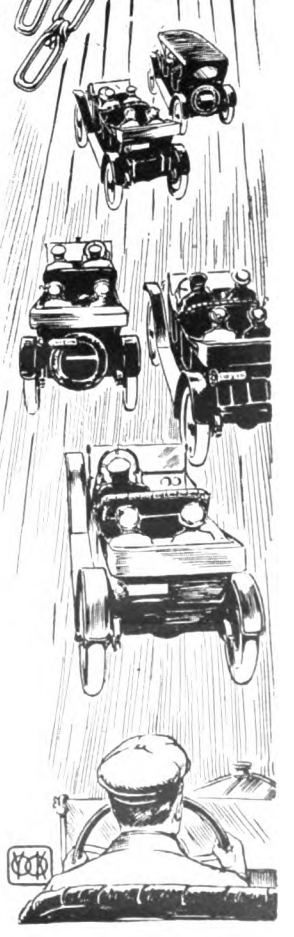
The Magnet
that draws profitable trade.

DISPLAY WEED CHAINS IN YOUR WINDOWS AND SALES ROOMS AND YOU DISPLAY GOOD SOUND BUSINESS JUDGMENT AS WELL. You will attract all types of cars to your doors—they all must use Weed Chains for safety's sake.

Post mortems are never held over Weed Chains—they never make dead stock. Even when roads and pavements are dry the experienced motorist will buy—*"In time of sunshine he prepares for rains, stops at his dealer's and buys Weed Chains."*

Don't forget to order a stock of Weed Cross Chains, too. We will send you an attractive board on which you can display our Cross Chains to the best advantage if you will but write for it. Now's the time. Write for it now.





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Bridgeport, Connecticut

Manufactured for Canada by

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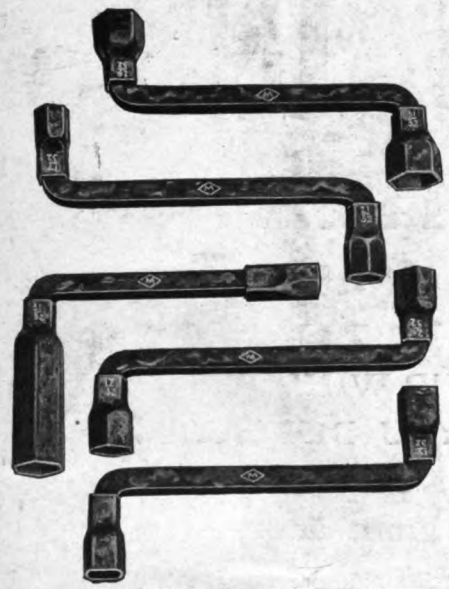
MOSSBERG GUARANTEED TOOLS For FORD Cars

Sold with the Mossberg Sales Policy "Finest Tools at Lowest Price." The Standards for Motor Car Equipment.



Ford Socket Wrench Set No. 17

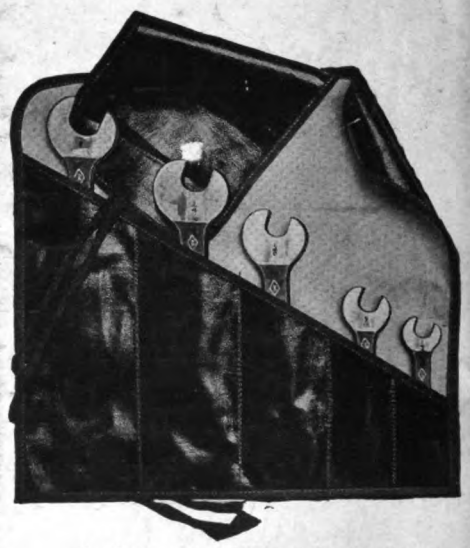
Equally Useful in the Tool Box or on the Shop Bench. Handy to Use and Big Time Economizers.

MOSSBERG WRENCHES

Meet the requirements of tool efficiency.

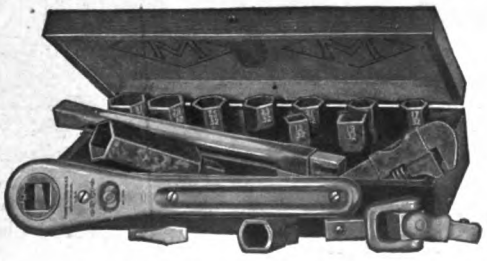
They fit instantly and exactly, saving time and parts, can be operated in smallest space, are made to endure service, and the sockets are made of heaviest pressed steel, thoroughly hardened. They cost no more than the "cheap" wrenches, and are guaranteed to give the best results in the hands of either expert or novice.

They are the highest quality of hand tools.



Ford Open End Wrench Set No. 10
Convenient, Always Ready and a Great Addition to the Tool Box.

No. 630 Triple End Cylinder Head and Housing Wrench



Mossberg Socket Wrench Set No. 15 A

The Ideal Wrenches for Garage or Shop Uses. A Full Utility Kit. Positively Will Fit All Adjustments on All Ford Automobiles.

Ford Valve Grinder No. 600 — **Diamond Plyers**

Send for Complete Catalogue, No. 16 A.

Insure Accuracy, Save Labor and Make Satisfactory Jobs.

Ford Valve Grinder, No. 605

FRANK MOSSBERG CO.
ATTLEBORO MASS.

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GUARANTEED TO REACH ALL TRADE INTERESTS

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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., AUGUST, 1914. NO

PANHARD OIL

OIL IS OIL, BUT PANHARD OIL IS THE OIL OF QUALITY!

The Motor Vehicle Manufacturer uses the most carefully constructed bearing to minimize friction. He increases the efficiency of a motor car to a maximum by the highest scientific engineering. But this efficiency is lost without sufficient lubrication.

PANHARD OIL has been as carefully developed and by expert scientists, to realize the fullest value of perfected bearings. It is oil, but it is an OIL OF KNOWN QUALITY—a quality established by use for 11 years by the motoring world.

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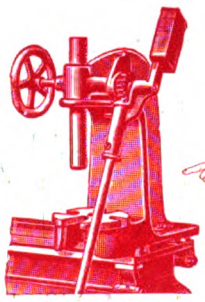

No. 3 1-2 Press.

Standard Type Greenerd Presses.

FOUR THOUSAND

No. 4 Press.

Greenerd Arbor Presses of the standard type i. e. No's. 3, 3 1-2, 4, & 5, are in use in Automobile Repair shops. While these presses are very handy, they are too limited for automobile repair work.

The "Extra Capacity" Presses for the automobile machinist has advantages over the "Standard" type which was designed for machine shops doing regular machine work.

How much pressure?

No. 15 one man 10, two men 16 tons

No. 17 one man 20, two men 30 tons

Some time you will have a

GREENERD ARBOR PRESS

Edwin E. Bartlett.

326 A Street, Boston, U. S. A.

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Free Trial Offer

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.

The Original Welding Outfit Costs Less Than Imitations---Sold on Terms to Prove Its Value.

$42

NO DULL TIMES IF YOU OWN A

Waterhouse Welder

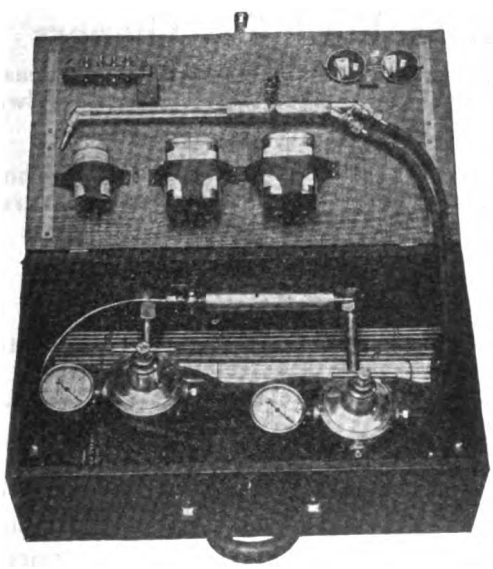
U. S. PATENTS
Nos. 1,039,036 and 1,075,818

$42

Protect Yourself!

Buy the Right Apparatus

Positively Non-Flashable
Lowest in Operating Cost
Built by the Pioneers



If you already have a regulator for carbon burning, the oxygen regulator with the equipment is unnecessary and you can deduct it ($10.25) from the whole amount.

$42

What You Get.

1 B Welding Torch with 5 tips	**$17.00**
1 Oxygen Reducing Valve with 50 lb. line pressure gauge . .	**10.25**
1 Acetylene Reducing Valve with 50 lb. line pressure gauge .	**11.00**
1 Set of Special Welding Hose (20 ft.)	**3.00**
1 Pair of Welding Glasses . .	**.75**
1 Carbon Burning Torch . .	**Free**
1 Set Instructions	**Free**
	$42.00

Terms: 5% discount cash with order or C. O. D. *or* $12 cash with order, balance in 3 payments of $10 each, 30, 60 and 90 days *after receipt of outfit by you.*

If supplies are desired as well, we sell for $4.50 additional the following, making you ready for any auto welding:

1 Bottle Aluminum Flux.
1 Can Cast Iron Flux.
1 Can of Copper and Brass Flux.
2 pounds Brass Welding Rods.
5 pounds Cast Iron Welding Rods.
2 pounds Aluminum Welding Rods.
2 pounds of Steel Welding Rods.

Waterhouse Welding Company

3 PELHAM STREET, BOSTON, MASS.

Established 1908 **Welding and Cutting Equipments Exclusively**

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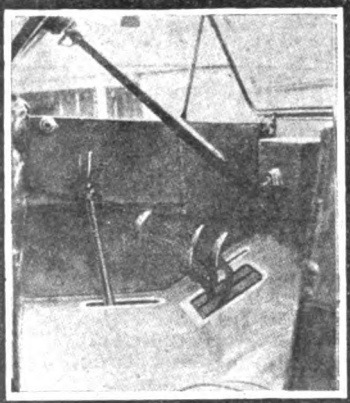
NO CHINESE PUZZLE

Century Installed

Starting



Century Starter

CENTURY STARTER

Practical Reliable **FOR FORD CARS** Positive Enduring

An ideal mechanical system, which so compounds the pressure of the foot on a pedal that the engine may be rotated as many times as may be desired, with the greatest ease. A girl can operate it.

So simply constructed any owner can install it, so well made that it will endure a lifetime, thoroughly standardized and interchangeable, the CENTURY STARTER

Sells at Sight to Ford Car Owners

One push of the pedal throws over your motor. A releasing device insures against "back-firing". Always ready. Always effective. Cannot fail.

It adds but little weight to the car, is installed beneath the hood, and does not involve complications. Does not interfere with crank starting.

Sold With a Positive Guarantee for Material, Workmanship and Service

It affords the comfort and pleasure of the highest priced installation and converts a car into a vehicle of extreme satisfaction.

JOBBERS and DEALERS

We are developing a national selling organization and desire representation in every commercial center We are making an extremely liberal agency proposition Write TODAY for prices and discounts.

Every Owner of a Ford Car Is a Prospective Purchaser of a Century.

Century Starters sell the year round. They are always worth the market price and bring certain patronage and constant profits.

CENTURY FOUNDRY CO., INC.

1624 N. Salina Street **Syracuse, N. Y.**

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$15.00 A WEEK

WIZARD WASHERS

The Most Practical Garage Facility Known

TIME
LABOR
VARNISH **SAVE** EXPENSE
ATTENTION
APPEARANCE

Sells at Sight to the Owner of Any Automobile

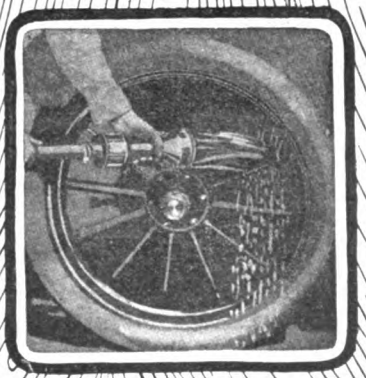
An absolute necessity, it is good for a lifetime, it cannot deteriorate, no matter if used for a lifetime, and a child can operate it.

Its use eliminates the need of **buckets, sponges, soaps** and **other destructives** of **paint** and **varnish.**

With a WIZARD washer every part of a car can be cleaned. Rotating brushes, driven and flooded by a stream of water, applies to the surfaces, obviate abrasion and remove all accumulations.

WIZARD WASHERS sell every day of the year. They are LIVE STOCK, always in demand, and do not shrink in value.

WIZARD WASHERS are sold with a guarantee of complete satisfaction. The outfit includes a nozzle containing a turbine motor, one conical and one straight-sided brush, and a 12-inch extension for reaching beneath a car.



Sales Agency Proposition

The WIZARD WASHER selling policy is extremely liberal and an agency can be made constantly profitable. At request we will explain it in detail, supplying prices, discounts, etc. It will cost you nothing to learn how you can greatly increase your business. Write for this information TODAY.

Agency applications considered in the order they are received.

Century Foundry Company, Inc.

1624 N. Salina Street, Syracuse, N. Y.

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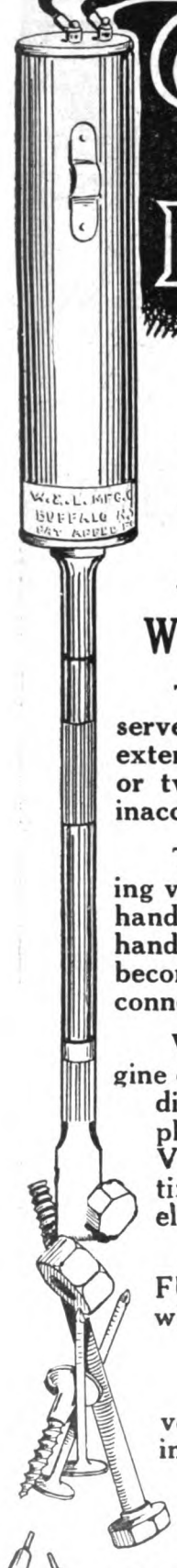


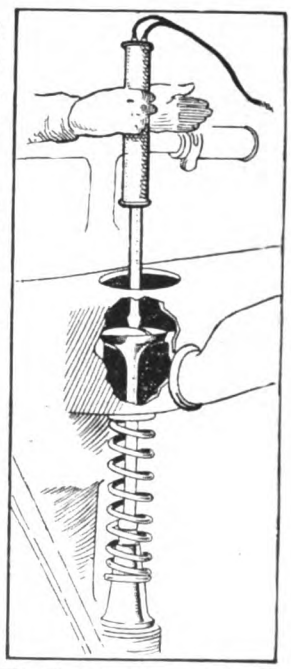
W & L MAGNETIC Lifter Tool and Valve Grinder

GARAGE AND REPAIR SHOP LABOR ECONOMIZER

A TOOL WITH 100 REAL UTILITIES

Will Save Its Cost in Men's Time in Any Shop in a Single Day

THE W. & L. MAGNETIC TOOL consists of a case that serves as a handle from which a steel extension projects. This extension is drilled and threaded for the coupling of either one or two sections, the middle section being used for reaching inaccessible places.



The W. & L. Magnetic Tool

The tool is particularly useful as a screwdriver, for grinding valves, either with or without magnetic influence, the large handle and great length affording unusual power. When the handle is connected with a battery the extension and shank become strongly magnetized, this continuing until the battery connection is broken.

When magnetized the tool may be introduced into the engine case, cylinders, timing gear case, oil reservoir, gearset case, differential housing, dust pan, or any other inaccessible place. to remove nuts, bolts, tools, or any metallic part. Valves can be ground without removing the springs. Cuttings can be removed from tapped holes, metal particles eliminated from oil.

The W. & L. MAGNETIC TOOL HAS ALWAYS FULL LIFTING STRENGTH. It is saleable to every man who owns a car and to every shop where economy is a factor. It will always be in demand.

We want to establish selling agencies in every town and city where motor vehicles are used. We have a dealers' proposition that is very liberal. Full information will be sent at request.

The W. & L. MAGNETIC TOOL is sold at retail for $3.00, postage prepaid. Liberal discount to the trade

W. & L. MANUFACTURING CO., Inc.

BUFFALO, N. Y.

(When Writing, Please Mention The Accessory and Garage Journal.)

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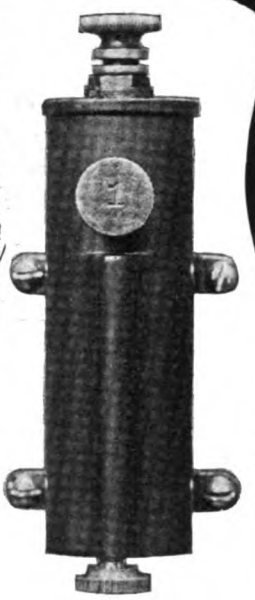
Insure your Ignition System

Coil~Magneto~Battery



The W. & L. Protector

The W & L COIL AND BATTERY PROTECTOR

Will Safeguard the Magneto, Battery and Coil Against Short Circuits and Will Afford the Fullest Efficiency of the Car's Ignition Equipment. It Will Effectively Protect the Magneto Points and Insure Full Power Production.

The W. & L. Protector is so constructed that the heating of the resistance coil will melt a sealing composition at the spring, so that the spring separates from the adjusting screw and the circuit is broken.

With the breaking of the circuit the sealing compound hardens and the protector may be used again, and the service may be repeated indefinitely.

The W. & L. Protector is the only device of the kind in the market. It is compact, can be easily installed, is sightly in appearance, and insures to the owner the highest protection satisfaction, and economy.

The W. & L. Protector is a useful equipment on every type of car and sells at sight to every experienced motorist. It is intensely practical and will endure as long as the car. It is an article that sells the entire year.

The W. & L. Protector is sold with a guarantee of entire satisfaction. It is scientifically constructed, of the best of material and is an ornament to any car. It sells for $4.00. postage prepaid.

We Have a Liberal Selling Proposition and Want Selling Agencies in Every Commercial Center. Full Information on Request.

W. & L. MANUFACTURING CO., Inc.

BUFFALO, N. Y.

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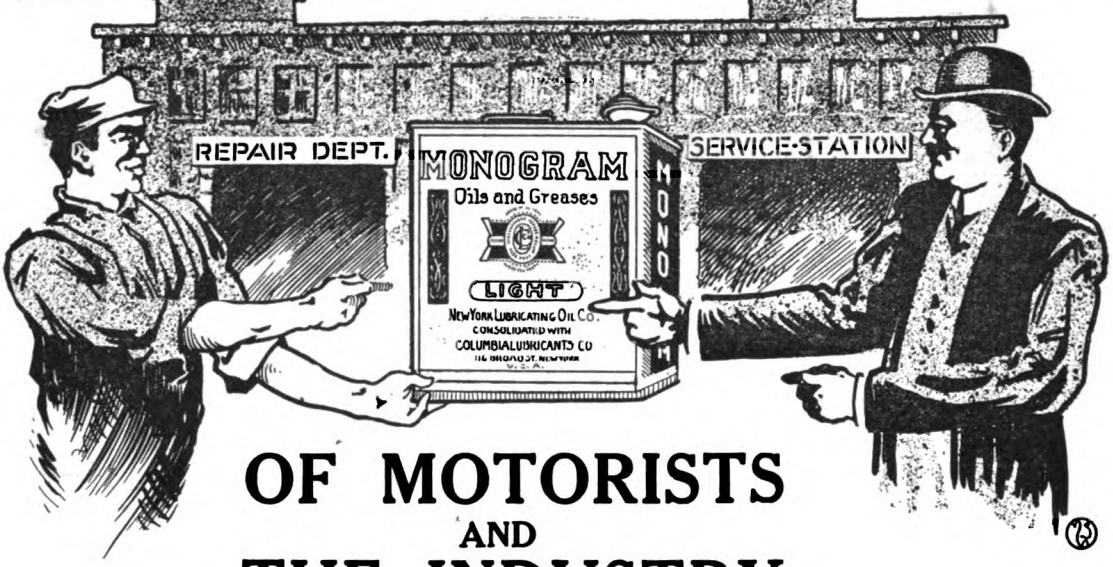
PUBLIC OPINION



OF MOTORISTS AND THE INDUSTRY

HAS ESTABLISHED MONOGRAM OILS

PUBLIC OPINION is based on the knowledge of products that are the highest grades that are offered to the people.

MONOGRAM OILS, the lubricants of QUALITY, have always been manufactured, prepared, distributed to the trade and delivered to the consumers in such form that their quality is known and assured to the purchasers.

The SELLING POLICY IS COOPERATION of the manufacturer and the agencies, to meet every demand, to maintain the quality, and to afford means for the motorists obtaining MONOGRAM OILS and GREASES wherever motor vehicles are used.

A MONOGRAM OIL AGENCY means a business established on public opinion,—a business that is developed by years of advertising and maintaining MONOGRAM QUALITY,—a source of constantly increasing revenue. A grade of oils and greases for every purpose.

A MONOGRAM OIL AGENCY, either distinct from or as a department of a business, has a substantial value and a certain profit.

The MONOGRAM OIL SELLING POLICY is to meet the demand, in every City and Town. The sales proposition will interest every dealer. We solicit correspondence from the trade. Write us TODAY.

NEW YORK LUBRICATING OIL COMPANY

Consolidated with the COLUMBIA LUBRICANTS CO. OF NEW YORK
116 BROAD STREET, NEW YORK CITY

Branches at Newark Boston Chicago Cleveland Philadelphia San Francisco Los Angeles
Portland London, England Johannesburg, South Africa. Distributing stations in all principal cities

(When Writing, Please Mention The Accessory and Garage Journal.)

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., AUGUST, 1914. No. 4

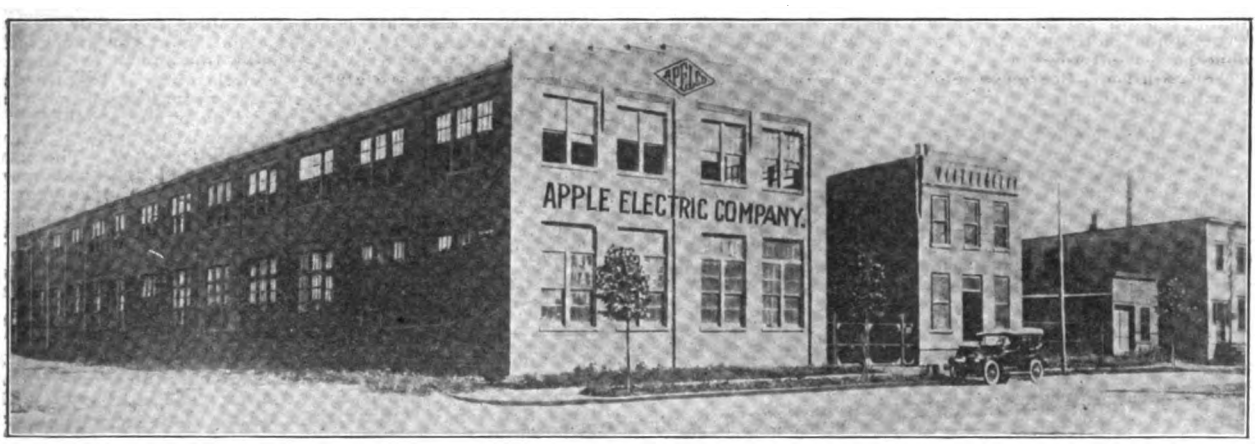
GENERAL NEWS OF THE INDUSTRY.

Apple Electric Company to Remove to Newark, N. J., and Plans Minimum Daily Output of 200 Lighting and Starting Systems, Also Storage Batteries.

ANNOUNCEMENT is made of the purchase of five acres of land, and buildings providing 70,000 square feet of floor space, exclusive of an office building, by the Apple Electric Company, Dayton, O., which concern is preparing to move its headquarters from that city to Newark, N. J. The company will, however, continue to manufacture automobile and motor boat starting and lighting systems and batteries at Dayton until the Newark plant will have demonstrated its efficiency to turn out the work in sufficient volume and up to the Apple standard of quality in every respect. This plan was decided upon to prevent any opportunity of delay in filling orders, and was made possible by the elaborate preparations for an increased product, together with ample financial resources, as well as modern manufacturing facilities.

This important move follows the consolidation of the manufacturing and selling policies of the Splitdorf Electrical Company with those of the Apple interests, and the controlling of the Apple output by the dominant Splitdorf sales organization. The Splitdorf executive offices and manufacturing plant have been located in Newark for two years, and, with mutual interests at stake, a greater degree of co-operation from this closer association is anticipated.

The new Apple factory will comprise the buildings formerly occupied by the Lansden Electric Company, and the surrounding land purchased by the Apple company gives ample room for almost unlimited extension, should occasion arise. Located on Frelinghuysen avenue, a broad thoroughfare outside the congested territory, the property backs on the main line of the Pennsylvania railroad, and a spur, with sidings to the several factory doors, insures the prompt and economical handling of the incoming raw material and the outgoing finished product.



New Factory of the Apple Electric Company at Newark, N. J., Which Will Have a Minimum Daily Capacity of 200 Electric Lighting and Starting Systems.

Work is now being rushed with the installation of banks of new up-to-date machinery, including special boring mills, turret lathes, multiple-spindle drills, high-speed milling machines; in fact, every modern device, saving time and labor without impairing quality, is being installed. It is expected that the Apple line will include its well known marine and motor car

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storage batteries, which will be produced in the new plant in October, and the minimum daily output of the starting and lighting systems is figured at 200.

APCO PATENT SUSTAINED.

Auto Parts Company Secures Permanent Injunction Against Seller of Its Valve Stem Adjusters.

According to a decision handed down by Judge Arthur L. Brown in the United States district court at Providence, R. I., Thomas F. Wilson, doing business as the Auto Parts Company, has been granted a permanent injunction against George H. Flint, who was adjudged to be an infringer on patents held by the Auto Parts Company. Mr. Flint must also pay the costs of the suit, and render an accounting, through a master, of all profits.

The case was entered in the equity session of the federal court several months ago. A degree pro confesso was entered by counsel for Mr. Flint on June 10, and the final decree was entered before Judge Brown on Aug. 12. The patents involved were those covering the Apco valve stem adjusters, which have been marketed by the Auto Parts Company for some time. They comprise hardened steel cap and thin steel discs and are fitted to the end of the valve stem to compensate for wear. Mr. Flint conducts a supply house and specializes in accessories, etc., for Ford cars.

PROVIDENCE DEALERS OUTING.

Guests from New York and Boston Make Total of 150 Present at Accessory Dealers' Affair.

The annual outing of the Rhode Island Auto Accessory Dealers' Association was held Aug. 21 at the Pomham club. There were a total of 150 present, including guests from Boston, New York and other cities. Over 50 automobiles were in the line, and many of the 1915 models were seen on the streets of Providence for the first time.

A complete programme of sports was the main feature of the day, and after luncheon was served the card of sports was run off. This included a ball game between the Providence and Boston dealers, the former winning, 4-3; a shoe race, a tug-of-war, lucky event, tire rolling contest and 100-yard dash. First and second prizes were awarded in every event, donated by accessory manufacturers from all over the country.

Exasperated by the defeat by the Providence ball team, Boston returned strong and literally walked the Providence men over the line in the tug-of-war. The shoe race went to Richmond Bullock of Providence, with Percy Ford of Boston a close second. J. McWard of Boston won the tire rolling event, and Richmond Bullock became a two-time winner when he crossed the tape first in the 100-yard dash event.

Thomas Wilson of Auto Parts Company, Providence, R. I., won the novel contest where lettered squares of paper were thrown about the grounds, each contestant endeavoring to find the letters that spelled "Klaxon". The genial Apco man was successful in finding the required letters and won the horn as a reward for his efforts.

At the post-prandial exercises Frank Kellogg acted as toastmaster, and the principal address was made by President William Rankin.

NEW FACTORY BRANCH.

Auto Parts Company of Providence, R. I., Takes Over Philadelphia Specialty House.

Announcement is made by the Auto Parts Company of Providence, R. I., that it has taken over the John V. Wilson Company, located at 1424 Vine street, Philadelphia, Penn. The establishment is now a direct factory branch. The rapid increase in business in Apco specialties, which were exclusively handled by the Wilson company, decided the Auto Parts Company to make the change in the interest of better service to the dealer.

The branch will be known as the Wilson Ford Shop, and will continue to be under the management of Walter M. McLoon, with the same sales force as before the change.

TRUCK CONVENTION IN DETROIT.

To Be Held Oct. 7-10 at the Cadillac Hotel—Owners Are Especially Invited to Attend.

The Motor Truck Club of America will hold a national convention in Detroit on Oct. 7, 8, 9 and 10, which 10 other commercial vehicle associations have been invited to attend. The meetings will be held in the convention hall of the Cadillac hotel, which has a seating capacity of 1000. There will be no admission fee and no exhibits. Owners are especially invited to attend. The first day of the convention will be Manufacturers' day; the second, Dealers' day, and the third and fourth, Get-Together days. At a meeting of the trade, held recently, the following committee chairmen were appointed: C. R. Norton, Packard, general committee; M. L. Pulcher, Federal, finance committee; E. D. Anderson, Anderson, electric truck committee; R. B. Spencer, Denby, publicity committee. The programme is in the hands of the regular club committee.

GIVING AWAY GARAGE CLOCK.

Handsome Eight-Day Timekeeper Free with Each Case of Non-Fluid Oil Ordered by Garages.

The New York & New Jersey Lubricant Company, 165 Broadway, New York City, maker of the well known Non-Fluid oil, announces a novel premium offer. The company will give absolutely free a handsome, standard eight-day jeweller's regulator, of the type utilized by watchmakers and jewellers. The clock is 38½ inches high; it has a 12-inch dial, and runs eight days with one winding. It is incased in solid oak, nicely finished, and will keep accurate time.

It is shipped with one case of Non-Fluid oil, a lubricant that is easily stocked and sold, as it is recommended by a large number of car makers. The New York & New Jersey Lubricant Company is mailing an illustrated circular which gives the details of the proposition, and also includes a coupon. Complete details of the free garage clock will be supplied upon addressing the company.

CUT IN GASOLINE IN KANSAS CITY.

Fuel Selling at 10.3 Cents a Gallon, Lowest in Four Years —Distributing Facilities Increased.

Gasoline is selling in Kansas City, Mo., at 10.3 cents a gallon, the lowest price in four years. There is strong competition between the Standard Oil Company of Indiana and minor producers in the local market, and as a result prices have been forced down from 15.5 cents last April to the present level. About a month ago the Cudahy Oil Company, which entered the field three months ago, announced its intention of allowing the members of the Kansas City Automobile Club a half cent on every gallon of gasoline sold at its stations for the good roads fund. A little later W. E. Judd, manager of the Standard Oil Company of Indiana, followed this up with an announcement that his company would give four of the leading Kansas City charities a half cent for every gallon of gasoline sold by it during the month of August.

Some refiners are already complaining of inability to earn a profit from gasoline at the prevailing prices, but still lower prices are predicted. The minor producers, it seems, have been most active in cutting prices, being desirous of gaining a foothold in that section. The gasoline distributing facilities have been increased more than 50 per cent. in Kansas City during the past year.

FORD REPEATS ORDER.

Buys Akron-Williams Tire Repair Vulcanizing Outfits for 14 Distributing Plants.

Announcement is made by the Williams Foundry & Machine Company, Cleveland, O., that the Ford Motor Company has given a repeat order for the Akron-Williams tire repair vulcanizing outfit. The Ford company ordered 14 of these machines, after careful comparison and tests, and the service obtained was so satisfactory that the second order for 14 outfits was placed, making a total of 28. The apparatus is utilized by the 14 distributing plants of the Ford company. The Akron-Williams equipment is noticeable for its separate unit feature and localized steam chamber.

DEVOTES PAGE TO HIGHWAY.

E. J. Day & Co., California Supply House, Gives Space in Catalogue to Lincoln Highway.

That those interested in the automobile industry are co-operating with the officials of the Lincoln Highway Association is noted in the new catalogue issued by E. J. Day & Co., an Oakland, Cal., jobbers' supply house. This concern has given the inside cover of its book to "boosting" the Lincoln highway. The donor of the page suggests that other concerns give space for a similar purpose in their forthcoming catalogues.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, for purposes of comparison. A rise from 70 cents to $1.20 is to be noted in fine up-river Para rubber, which is, of course, the result of the rubber supply being cut off by the European war. Slight changes are registered in steel, iron and copper, and antimony climbed from its steady level of 5¼ cents to 18 cents per pound.

Owing to the fact that the New York stock exchange, the Consolidated exchange and other exchanges throughout the country were closed on July 31, owing to disturbed financial conditions and the heavy liquidation forced by the European situation, it is impossible to give the customary quotations on automobile securities in this issue. They will be resumed following the opening of the exchanges.

	July 13		July 20		July 27		Aug. 3			
	High	Low	High	Low	High	Low	High	Low	July 13	Aug.15
Antimony	5¾	5¼	5¼	5¼	5¼	5¼	18	5¼	5¾	18
Iron, Fdy., S., ton	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.25	10.00
Iron, Fdy., N., ton	12.50	12.50	12.50	12.50	12.50	12.50	13.00	12.50	12.75	12.75
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.90
Steel, Bessemer, ton	19.00	19.00	19.00	19.00	19.00	19.00	19.50	19.00	19.00	20.00
Steel, open hearth, ton	19.00	19.00	19.00	19.00	19.00	19.00	19.50	19.00	19.00	20.00
Beams and chan., 100 lbs	1.26	1.26	1.31	1.26	1.31	1.31	1.31	1.31	1.26	1.31
Copper, elec., 100 lbs	13.62½	13.55	13.50	13.25	13.25	12.62½	12.50	12.25	13.87½	13.87½
Copper, lake, 100 lbs	13.67½	13.75	13.62½	13.50	13.25	12.75	12.62½	12.50	14.00	12.50
Lead, 100 lbs	3.90	3.90	3.90	3.90	3.87½	3.72½	3.87½	3.85	3.90	3.85
Tin, 100 lbs	32.25	31.50	32.12½	30.50	36.00	30.25	65.00	48.00	30.85	65.00
Petroleum, Kan., cr., bbl	75	75	75	75	75	75	75	75	75	75
Petroleum, Penn., cr., bbl	1.75	1.70	1.70	1.70	1.70	1.65	1.65	1.60	1.80	1.60
Linseed oil, raw	55	55	58	55	60	58	60	60	54	60
Rapeseed oil, refined	59	59	59	59	59	59	59	59	59	63
Lard oil, prime	93	93	93	93	93	93	93	93	93	93
Fish oil, Menhaden, br	40	40	40	40	40	40	40	40	40	40
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	17	17	17	17	17	17	17	17	17	17
Cottonseed oil, bbl	7.30	7.10	7.70	7.10	7.01	6.50	....	....	7.35	....
Sea Island cotton	23½	....	....	....	....	....	....	....	23½	....
Silk, raw, Japan	4.52½	4.37½	4.50	4.37½	4.45	4.45	3.25	....	4.60	....
Silk, raw, Italy	4.90	4.75	4.90	4.75	4.90	4.90	4.90	....	5.10	....
Rubber, fine up-river Para	71	70	73	71	73	70	1.15	70	70	1.20
Tire, scrap	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾	4¾

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of August were as follows:

Pennsylvania dark	$1.55	Ragland	.67
Second hand	1.55	Illinois above 30°	1.02
Tiona	1.55	Illinois below 30°	1.40
Mercer black	1.12	Kan. & Okla.	.75
Cabell	1.15	Corsicana light	.75
New Castle	1.12	Corsicana heavy	.50
Corning	.90	Electra	.75
Wooster	1.28	Henrietta	.75
North Lima	1.06	Caddo, La., 38°	.85
South Lima	1.01	Caddo, La., heavy	.40
Indiana	1.01	Spindletop	1.06
Princeton	1.02	Canadian oil	1.46
Somerset 32°	.90		

California.

21 to 23.9 grav.	40	29 to 30.9 grav.	55
24 to 26.9 grav.	42½	31 to 32.9 grav.	60
27 to 28.9 grav.	45		

Naphtha.

	10-gallon drums		*100-gal. drums
	Under 100 cases	100 cases and over	
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	23½

*Drums extra, $8.50.

	In cans and cases		
	Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon		a	15
Refined, barrels	12	a	13
Tank wagon delivery		a	9
Fuel, 31°	8	a	..
Fuel, 34°	9	a	..

Naphtha.

Auto in wood		a	17
Auto in garages, steel bbls		a	13
V. M. & P. deod., in steel		a	10
V. M. & P. deod., in wood		a	12

Gasoline.

86°		a	26
74-76°		a	25
67-70°		a	22

AUTO TURN JACK.

Replaces Turntable, Is Capable of Lifting the Heaviest Car and Is Instantly Adjustable.

The Rub-On Manufacturing Company, 93 Brayton street, Buffalo, N. Y., is producing the Auto Turn jack, which is a valuable addition to the garage equipment. The maker states that it is better than a turntable, as it may be utilized where the latter is not convenient. One of the qualities of the Auto Turn jack is that a car may be lifted quickly and moved to any desired position even when the room is limited. It has a quick adjustment, making it adaptable to every size of machine, and the maker states that it will raise the largest cars with ease. The control of the adjustment of height is on the handle and the jack may be operated without stooping. The Rub-On Manufacturing Company will forward descriptive matter and prices upon request.

CHANEY HEADLIGHT DIMMER.

Controls the Light from the Seat, Is Practical and Dependable, and Is Easily Fitted.

The L. F. Chaney Company, Springfield, O., is manufacturing the Chaney headlight dimmer, an inexpensive dash device for eliminating the glare of the headlights. It enables the driver to graduate the intensity of the light as desired, by a simple movement of the lever member. The dimmer can be operated by the foot if desired. There is nothing complicated about the Chaney device, and the average owner can attach it in a few minutes. Details and prices will be supplied upon request.

SPRINGFIELD CIRCLE CUTTER.

Shawver Manufacturing Company Marketing a Practical and Efficient Tool.

Making gaskets by hand or cutting glasses for lamps by hand not only takes considerable time, but the result is not always satisfactory. The Shawver Manufacturing Company, Springfield, O., is producing the Springfield circle cutter for cutting lamp glass, sheet copper, rubber gaskets, felt and fibre washers, etc. The tool has a capacity for circles up to 14 inches and is provided with a positive measuring scale to determine sizes. The equipment includes one steel-point glass cutting tool, one knife for square and one for bevel edges. Prices will be supplied upon request.

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THE ACCESSORY AND GARAGE JOURNAL

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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

SATISFIED CUSTOMERS.

It is not an uncommon occurrence for the repair shop to experience difficulty in collecting its bills from a certain class of motorists. Among the excuses offered by the delinquents is that the work was not satisfactorily performed, and generally the repairman, after making a generous allowance or deduction, is unable to collect his due. If forced to resort to the courts, much capital is made of the deduction, and after all expenses are paid the repairman discovers he has lost money.

The method utilized by a repairman, one long in the business, is worthy of consideration: After completing overhaul of a machine or other mechanical repairs, the owner of the car is notified that the job is finished, and is asked to call. The customer is taken out and requested to operate the car, and if satisfactory is requested to sign a slip to this effect. The advantage is obvious.

CYCLECAR AND ACCESSORY SHOW.

The first light car, cyclecar, small delivery car and accessory show will be held at Boston, Oct. 10-17. Manufacturers all over the country will be represented, and the exhibits will afford the trade an excellent opportunity to note the progress made in this latest addition to the automobile industry. The event is to be conducted under the auspices of the Manufacturers' and Dealers' Cyclecar Association, under sanction of the Cyclecar Association of America. That the show will receive the support of the trade is evidenced by the large number of applicants for space. New England can be relied upon to contribute her share in making the first big show of the season a success.

ANTICIPATING DEMANDS.

With the close of the summer season, the live dealer, garageman and repairman plan their fall and winter selling campaign. The selection of the supplies, material and equipment demanded by the trade requires careful consideration. Those who are progressive and experienced keep their fingers upon the pulse of the public and anticipate its demands. By carefully studying conditions the requirements of the customer are fulfilled. In these days of keen competition no dealer, garage or repair shop can afford to lose a sale. It behooves every trade interest to investigate those lines which would appeal to them.

DO DISCOUNTS PAY?

Does deducting from the repair bill to obtain a cash settlement pay? The practise of some shops, especially when hard pressed on Saturday to obtain sufficient cash to meet the pay roll, of offering to make a substantial reduction in the bill rendered, is apt to give the customer the impression that the profits must be large to offer such an inducement. Consequently, the customer is inclined to recall the discount when rendered another bill, and will proffer cash, less what he thinks is a fair discount. A precedent has been established, one of which advantage will invariably be taken by the customer.

DEVELOPMENTS.

Every dealer, garageman and repairman should keep in touch with the developments in the automobile industry and allied trades. The Accessory and Garage Journal is the one publication that should be subscribed for, as latest developments in machinery, tools and equipment are fully described and illustrated each issue. This, coupled with the listing of the latest accessories, completes a valuable book of reference for the trade. Last, but not least, is the Trade Information Exchange. The information published is the basis for records, mailing lists, trade directories, news bureaus and other sources of industrial information.

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SYSTEM FOR A SMALL REPAIR SHOP.

A Simple Time Card to Prevent Leaks in Time, Material and Supplies—Its Benefits to the Shop and Customers.

THERE is a growing tendency among garage men, especially the smaller garages, to standardize their methods and place the work on a thoroughly systematic basis. There is and always will be a demand for repair shops employing skilled workmen, and in this respect it may be stated that the small shop, when properly equipped, may compete successfully with the larger and more established concerns. Many of the latter began in a small way and through diligence and practical methods built up a profitable business.

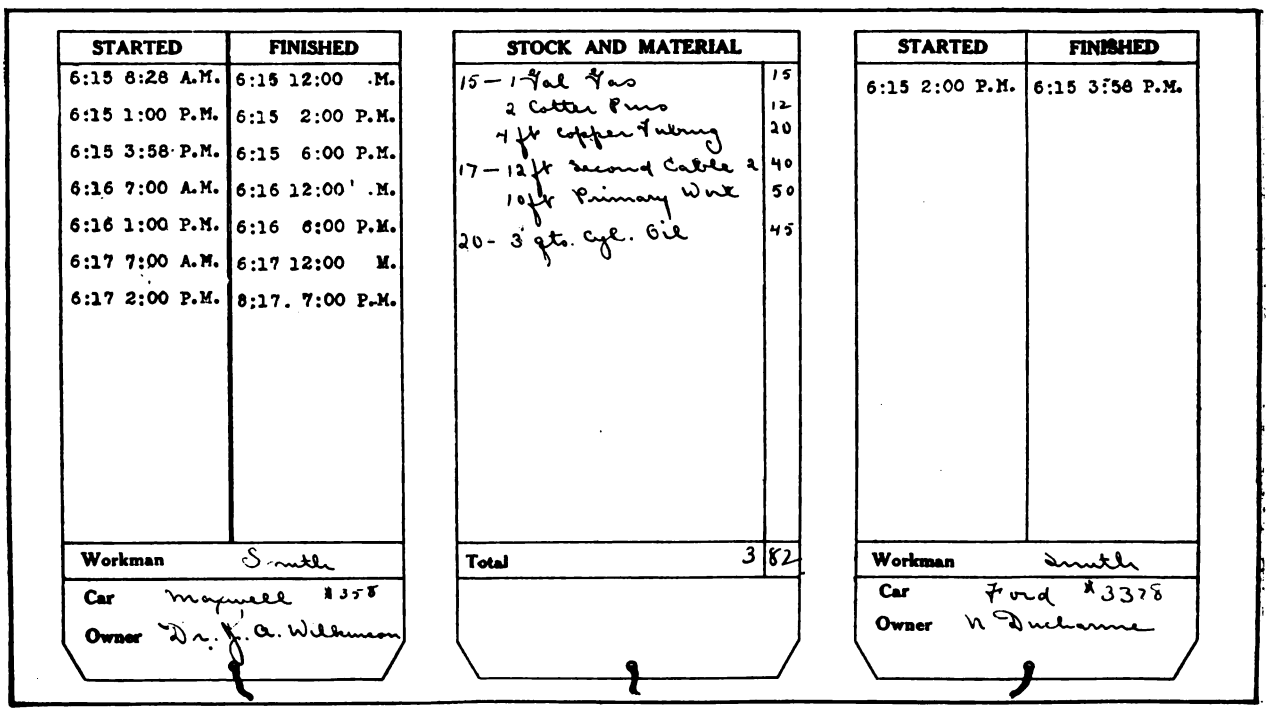
However, it should be pointed out that many competent workmen, thoroughly familiar with the motor car and it needs, have endeavored to establish a business of their own, and while their work was satisfactory to the trade as employees, yet they have failed to attain success in their own business because of lack of executive ability.

Assume that three expert repairmen form a partnership in the repair business. They are all specialists, one being particularly efficient upon motors, the second is a master of the components of the chassis and is a skilled machinist. The third is a general all-around man, clever at locating motor car troubles, as well as proficient with ignition and carburetion.

It is only natural to assume that the nucleus of the new trade will consist of those owners who have followed the workmen from their former place of employment. Personal solicitation and friendship also prove a valuable asset in securing a large clientele, and in a short time the new firm appears to be established upon a sound basis and its members are working overtime, including Sundays.

Leaks That Are Costly.

The bookkeeper is dispensed with to reduce overhead expense. This position is now taken by one of the firm, and the only salary is paid to an apprentice, who runs errands, cleans the cars and acts as an assistant to each workman. From the beginning, although having a good equipment of tools, the company has been obliged to secure supplies and material, which cuts deeply into the capital. At the end of the month the firm proceeds to take an account of its financial standing, and although the books show that the business for the month has been all that could be desired, there appears to be a shortage of ready cash, in spite of this favorable showing.



Depicting Time and Labor Checking System, Showing Start and Finish of Work, Reverse Side of Card for Material, and Tag for Workman Called Off to Attend Another Customer—It Will Be Noted That Each Minute Is Accounted for by the Time Stamp.

At this stage of the game, one member of the company, or possibly all, begins to compare his financial standing with that of the past when on Saturday he received his envelope with its regular sum of money and its contents frequently swelled by reason of overtime. At the end of the second month another discussion takes place. Although they have been working overtime to turn out the work for new customers secured, yet after paying the lighting, power, telephone and supply bills, it may develop that the amount of cash available when divided into three parts, proves to be a small salary and particularly dis-

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couraging when the overtime labor is considered.

The books show a handsome profit, but many of the outstanding accounts are hard to collect and several are discovered to be almost worthless. As a result the clerical member of the firm takes an account of supplies and goes through the books and begins to check up material and compare that on hand with that charged. He is apt to discover that there are many leaks, and that these leaks are costly. The books show that during the month 500 gallons of gasoline were purchased and 200 were charged up. The tank now contains 250 gallons, leaving 50 gallons unaccounted for.

Lack of System.

The oil question is next looked into and a similar discrepancy discovered. Other supplies show a balance on the wrong side of the ledger, small amounts in most cases, but when figured on an annual basis they total a considerable sum. The bookkeeper decides to check up stock at the close of each day. It has been customary for each workman to make up his time slip and material account at night, relying upon his memory for details. Taking each slip, the bookkeeper compares the charges with stock of fuel and oil and discovers a shortage of five gallons of gasoline. One member of the concern then recalls that Mr. Jones had his tank filled to that extent. Another refilled the crank case of a motor and told the boy to enter it at the office. Another sold a gallon and put the change in his overalls. Consequently, each member resolves to remedy the faults, but errors occur frequently, eating into the profits. The new concern also learns that considerable diplomacy is required in handling customers. Some trade is going to other shops, the result of work on one job being completed ahead of another customer whose car should have been turned out first.

Management Badly Needed.

Further complications set in, as work promised is not delivered on time, and general dissatisfaction is created among the customers. This, like numerous other difficulties encountered, could have been avoided if the firm in its anxiety to please had been more conservative in its estimates of time and labor. Operating under these conditions, a small concern will not be successful, unless one member possesses executive ability. Even that is useless unless the other members agree to conform to his orders implicitly. It is conceded by those familiar with the operating conditions of the repair shop employing two or more workmen, that more or less difficulty is experienced by the proprietor in keeping an accurate account of the time and material utilized by the employees. This, of course, applies to the shop not equipped with a system.

Clocking System.

Most shops hesitate to install a system because of the expense and clerical labor involved. With small garages, employing three or four men, the proprietor may keep the books and attend to many small details usually looked after by a bookkeeper. With such a concern the system should be as simple as possible, yet provide accurate means for checking up the labor and material. In the sketch is outlined a system which would not be expensive to install and, in addition to keeping an accurate account of the time spent on each job, would serve also to check up the time of the workmen; that is, denoting the time they began and finished each day. It requires a form of time clock, which provides for stamping the month, day, hours and minutes, a device employed by many firms to register the time orders or letters are received and answered. This clock is located in or near the office and is fitted with a rack for each workman, also another holder containing blank cards.

We will assume that Dr. Wilkinson makes arrangements to have his motor overhauled. The proprietor instructs Smith to start on the job the next morning. Smith is given a copy of the orders entered on the order book and, upon arrival next morning, takes a blank card and stamps it in the clock device. Smith was late that morning, and the "started" side of the card shows he began work at 8:28. At noon he stops, stamps his card and leaves it in his rack, restamping it upon his return.

At 2 o'clock he is called off by the foreman to do a little work on Mr. Dutcharme's car, who has just driven in. Smith goes to the time clock, stamps his card, places it in its holder, takes a new card and stamps it at two, entering Mr. Dutcharme's name, the type of car and its number. At 3:58 he completes his task, stamps his card, denoting that the work was finished at that time. He also stamps the card bearing Dr. Wilkinson's name at 3:58 and resumes work on that job, leaving Mr. Dutcharme's card in the rack. At the completion of the day's work at six o'clock the card is again stamped and left in the rack for the bookkeeper, entered on the day book and replaced on the clock.

How It Works Out.

The reverse side of the time card is utilized for entering the stock and material used, the prices of these being carried out and added up by the bookkeeper, and entered in the day book or ledger. The total time is figured easily, as well as that of the workman. Upon completion of the work the card is taken into the office, entered and filed away for reference. But, as a separate card is utilized for each job, whether it be 15 minutes or several days, the customer is assured that some other owner's car is not being repaired at his expense. In the event of a workman requiring the aid of another for an hour or fraction thereof, the time card will show the double time and how utilized. Should the customer desire an itemized bill of the labor, it is made up easily. One time card could be employed for a job taking several days, or a separate one utilized each day, if desired. The system could be made to fulfill a number of requirements, and to make it successful it would only be necessary to insist that each workman use a card in connection with the clock upon starting and completing each job, as well as for his working hours.

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GENERAL NEWS OF THE MANUFACTURERS.

The Bosch Magneto Company, New York City, has added to its already long list the following supply stations: Pollard Auto Company, Nashua, N. H.; Weeks Garage, Patchogue, N. Y.; Harnell Garage, Babylon, N. Y.; Reilly Bros. & Raub, Lancaster, Penn.; LeJeal Cycle & Mobile Works, Erie, Penn.; S. H. Heginbottom & Son, Saginaw, Mich.; Eric J. Gustafson, Rockford, Ill.; Lawrenceville Auto Company, Lawrenceville, Ill.; Cadillac Motor Car Company, Mobile, Ala.; Gibbes Machinery Company, Columbia, S. C.; J. F. Charley Auto Company, Evansville, Ind.; C. A. Gossard Auto Company, Washington Court House, O.; N. J. Auto & Supply Company, Camden, N. J.; Central Auto & Supply Company, Jackson, Mich; Shrive Incorporated, Yonkers, N. Y.; Mattoon Motor Car Company, Mattoon, Ill.; Ward's Vulcanizing Works, Concord, N. H.; W. A. Hanford, South Norwalk, Conn.; Rippowan Garage, Stamford, Conn.

The Automobile Body & Repair Company, St. Louis, designer and builder of automobile bodies, has opened quarters at 3444 Lindell boulevard. Oliver A. Morood and Frank J. Cafferata are the owners.

The Harley-Davidson Motor Company, Milwaukee, Wis., recently installed a large gasoline still for refining gasoline used for cleaning purposes. By this method the gasoline is used over and over, with a resultant saving of 90 per cent.

The Haynes Automobile Company, Kokomo, Ind., has established an office at Louisville, Ky., at Fourth avenue and York street. D. Williams is the factory representative in charge.

The Hood Rubber Company, Boston, Mass., has filed its financial statement with the Massachusetts secretary of state. The assets of the company increased by more than $750,000 during the past year. The figure for 1912 was $5,526,530, and for 1913 it was $6,237,478.

The Fedders Manufacturing Company, Buffalo, N. Y., is manufacturing 200 radiators a day and expects to increase its production to 60,000 this year. It built 4000 radiators in 1913.

The Houk Manufacturing Company, Buffalo, N. Y., manufactures 1000 wire wheels a day of 10 hours, but its facilities for manufacturing inner hubs are not equal to this capacity. Hub making is one of the slowest processes of wire wheel production.

The Dyneto Electric Company, Syracuse, N. Y., has confined its activities to manufacturing the Dyneto motor-generator, built to the Entz principles, for Franklin cars. A. E. Doman, vice president and engineer of the company, has completed the development and testing of three new combined motor-generators for motor car use. These machines are entirely different from the present Dyneto construction and weigh but one-half as much.

The Ford Motor Company, Detroit, has been authorized by a government decree of March 18 to establish a branch or agency in the Argentine Republic.

The B. F. Goodrich Company, Akron, O., is producing an average of 10,000 tires a day, which is at the rate of 3,000,000 a year. The plant is running night and day.

The Standard Aluminum Company, Two Rivers, Wis., is installing another annealing oven. A rolling mill was recently completed.

The Maxwell Manufacturing Company, Indianapolis, is to improve its plant by the installation of mechanical equipment to cost $120,000 and addition of a building 60 by 100 feet. This property was acquired by Walter E. Flanders of Detroit and associates more than a year ago, and is now devoted to the manufacture of automobile parts and repairs. W. B. Jameson is in charge.

The Pierce-Arrow Motor Car Company, Buffalo, N. Y., in announcing its 1915 production, states that there will be no change in prices and that as before there will be three models. The bodies of the new cars are of entirely new design.

The Marathon Tire & Rubber Company, Cuyahoga Falls, O., plans to erect new buildings which will increase the capacity of the plant 100 per cent. Doubling the output of Marathon tires was most urgent. Twice previously the Marathon plant has been doubled in its production department.

The Hail Cyclecar Manufacturing Company, Waco, Tex., will erect a new building and equip it with new machinery to produce the machines now ordered.

The Ingram Hatch Motor Corporation, New York City, has leased a one-story factory building at Risebank, S. I.

The Middletown Car Company, Middletown, Penn., is to make improvements to its plant at a cost of $500,000. When these are completed the company will employ 700 additional men.

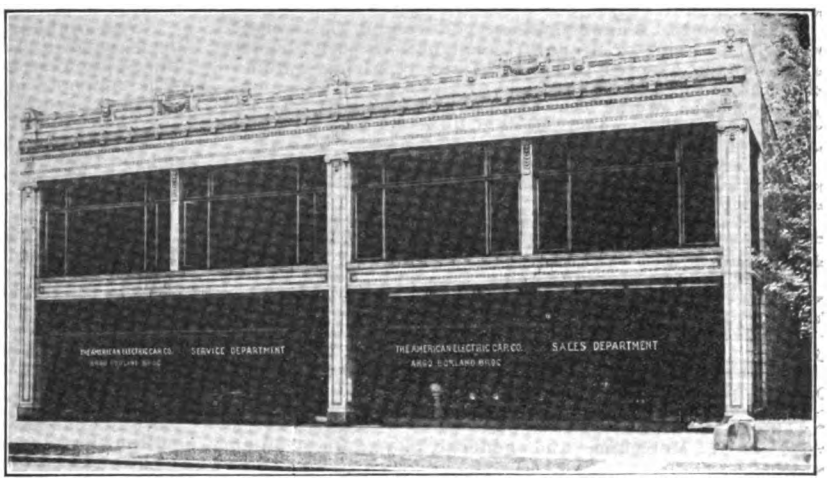
The Studebaker Corporation, Detroit, Mich., has added to its factories the big structure formerly occupied by the American Harrow Company. This building will be known as Plant No. 2 and will be used as a parts repository and a receiving station.

The General Motors Truck Company, Pontiac, Mich., announces through its sales manager, W. H. Chilcott, that the company has broken all records for April, May and June in selling motor vehicles. He says that the unfilled orders on hand for July delivery were 34 per cent. greater than the total sales in July, 1913.

The United States Tire Company, New York City, a subsidiary of the United States Rubber Company, has filed with the Massachusetts secretary of state a financial statement required by law. The assets of the tire company totalled $11,759,462, as compared with $13,919,655 of last year. The reserve fund in 1914 was $100,484, as compared with $494,143 last year.

The Driggs-Seabury Ordnance Corporation, Sharon, Penn., is 400 per cent. ahead on orders at the present time as compared with last year, according to Secretary S. B. Pratt. The plant shows an increase of 20 per cent. both in the monthly pay roll and in the number of hands employed. The company now has contracts for 4000 light, two-passenger cyclecars.

The Westinghouse Electric & Manufacturing Company, Pittsburg, Penn., announces that the Standard Steel Car Company of Butler, Penn., and the Dorris Motor Car Company, St. Louis, Mo., will use Westinghouse electric equipment on their 1915 cars. The former company will use the starting and lighting equipment, while the Dorris cars will have the Westinghouse electric starting, lighting and ignition devices.



New Sales and Service Branch of American Electric Car Company at Chicago.

The Lozier Motor Company, Detroit, Mich., which this year worked to full capacity a month longer than usual, is of the opinion that the fall activities will be begun earlier than ever. Lozier salesmen are making many contracts with dealers for the 1915 season. According to President Gilbert, 1200 cars have been marketed since March.

The American Electric Car Company, Detroit, Mich., has opened a large and well appointed sales and service station at 2634-2636 Michigan avenue, Chicago. The front portion of the north half of the building is devoted to the display of electric vehicles. The general office, and that of the manager, are at the rear of the salesroom.

The Grant Motor Company, Findlay, O., is now building cars in tents erected near its factory. Plans are making to add to the plant and building will shortly commence. The factory has been producing 35 cars daily and it is believed possible to increase this output to 45 cars a day.

The Patterson Rubber Company, Lowell, Mass., has passed to a new company headed by Walter N. Macdonald and John L. Morse, formerly with the company, the former as factory manager and the latter as treasurer. The company manufactures automobile tires and tubes exclusively. The plant is working full time, with an output of 200 tires a day.

The Rochester Motors Company, Inc., Rochester, N. Y., now has ready for the market a twin-cylinder cyclecar motor, either air or water-cooled. The cylinders are at an angle of 45 degrees with bore of 3⅜ and stroke of four inches. Efficient cooling in the air-cooled model is insured by a two-blade fan operated by belt from the crankshaft. In another type there is an enclosed case and a flywheel exhaust fan.

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The American Electric Starter Company, Detroit, a new corporation, has taken over the former Disco Starter Company. At present the company is turning out a double-deck device which is used by three car manufacturers, and it is said the company has received an order for 1000 front-of-the-car starters for Packard cars. Thirty starters a day are now produced.

The G. A. Shaler Company, Waupun, Wis., maker of Shaler vulcanizers, received an order recently for a stock of Shaler vulcanizers for every branch of the Goodyear Tire & Rubber Company in the United States. The Goodyear Company decided that a car owner could obtain the best possible service from his tires only by taking care that the small cuts are sealed before sand, dirt and water can disintegrate the fabric.

The Cricket Cyclecar Company, Detroit, Mich., is in its new plant at the corner of Walker and Woodbridge streets and production of cars is under way.

The B. F. Goodrich Company, Akron, O., in its "Safety First" campaign, has required in its factories the use of a drinking cup which is collapsible and fits in a metal case. On the cover are the words "Safety First" and the Goodrich trade mark.

The Columbus Buggy Company, Columbus, O., recently purchased by Charles A. Finnegan and Eugene D. Hofeller of Buffalo, N. Y., is now operated with a fairly large force of men. The company is manufacturing both electric and gasoline automobiles, as well as all kinds of horse drawn vehicles.

The Waverley Company, Indianapolis, Ind., announces model 109 for the coming season. The main changes will be found in the interior and exterior body design.

The Victor Auto Parts Company, Cincinnati, O., is erecting a factory building 60 by 158 feet, of reinforced concrete construction and four stories high.

The Standard Motor Car Company, Warren, O., is making an addition to its plant at a cost of $15,000. The company manufactures the Standard motor trucks.

The Schaefer Wagon Company, Cleveland, O., is erecting a large plant of fireproof construction. One department will be devoted to painting and repairing automobiles and motor trucks.

The Enger Motor Car Company, Cincinnati, O., has completed its 1915 model. It is a light six car, with six-passenger streamline body.

The Ford Motor Company, Detroit, Mich., has commenced work on its assembling plant at Atlanta, Ga., which will cost approximately $300,000.

The Carburetor Manufacturing Company, Livingston, Ill., has finished its factory, installed a number of machines and is now ready for business.

Xenia Rubber Manufacturing Company, Xenia, O. recently incorporated with capital of $40,000, is to erect a factory at Dayton, O. The company manufactures mechanical rubber goods, but will later make automobile tires.

The National Tire & Rubber Company, East Liverpool, O., is now located in its new plant. The building is of reinforced concrete. The officers of the company are: President, C. J. Davis; treasurer, R. F. Taggart; secretary, T. R. McKenna, and general manager, William Smith.

The Reo Motor Car Company, Lansing, Mich., is to increase its factory so that it can produce 12,000 cars for 1915. The company built 8000 cars for 1913-1914.

The Ford Motor Company, Detroit, Mich., announces that the automobile factory in which a machine can be constructed in 38 minutes is to be doubled in size, at an approximate cost of $5,000,000. Seven new buildings, 60 by 900 feet, of six stories, costing $500,000 each, and a power plant 150 by 240 feet, which will house the largest gas engine in the world and will cost about $1,500,000, will be constructed. When the additions are completed the plant will cover 85 acres. In the busy season the works now employ 20,000, but with the improvements that number will be doubled.

The F. B. Stearns Company, Cleveland, maker of the Stearns-Knight cars, will soon add to its factory an addition of approximately 250,000 square feet. It is intended to erect a five-story fireproof brick building with the most advanced methods of lighting, heating and ventilating.

The Reo Motor Car Company, Lansing, Mich., the Paige-Detroit Motor Company, the Fisher Body Company and the Metal Products Company, all of Detroit, Mich., contributed $250 each to the fund for the construction of a Michigan building at the Panama Exposition. These were the first large contributions received.

The New Departure Manufacturing Company, Bristol, Conn., now has a well-equipped fire brigade of its own. The apparatus is housed in the company's old office building.

The Richard Automobile Company, Cleveland, O., is erecting a factory which will be enclosed in glass. It is on property owned by F. M. Brady, who is associated with Francois Richard, a French motor car engineer.

The Stevens-Duryea Company, Chicopee Falls, Mass., is equipping its cars with an attractive and durable top combined with a handsome type of body, so built that the body completely conceals the top when not in use. The top is supported by rigid joints, which cause it to follow always a certain path when in folding into and when being withdrawn from the body. The top is self-supporting and when raised requires no braces of any kind, being rigidly fastened in front to the windshield supports. When the top is folded the compartment containing it is completely covered by upholstery.

The Verges Manufacturing Company, Milwaukee, Wis., is manufacturing a pneumatic clutch for automobiles patented by Henry A. Verges. The device, which is claimed to be fool proof, is operated by an air cock mounted on the steering wheel. The clutch proper is a leather-faced cone, not unlike the ordinary clutch in appearance. Engagement is made by emptying, and disengagement by filling an air chamber.

The Kennen Motor Truck Company, Los Angeles, Cal., manufacturer of gasoline and distillate motor trucks, is building a plant at Broadway and Water street, Long Beach, which will cost approximately $15,000.

Dodge Bros., Detroit, is having completed an 876-foot car assembling building. In the factory machinery is being overhauled, furnaces renovated and new tools and dies made. The sales organization is being rapidly shaped by Sales Manager Philp.

The National Acme Manufacturing Company, Montreal, Can., is to take over the manufacture of the Bigsby spark plug in Canada. The Bigsby plug is made by the Bigsby Manufacturing Company of Cleveland, O. P. F. Mellinger is the manager of the new Canadian plant.

The Mianus Manufacturing Company, Cos Cob, Conn., manufacturer of carriage and automobile robes, etc., will establish a branch factory at Norwalk, Conn., in the old Bishop mills.

Prather Bros., Georgetown, Ky., is planning the establishment of a factory in that city or Cincinnati, O., to manufacture a demountable wheel for use on Ford automobiles.

The W. S. Seaman Company, Milwaukee, Wis., builder of automobile bodies, has added departments for repainting and refinishing cars, and for building special closed bodies to order.

The Oldberg Manufacturing Company, Detroit, Mich., is to move to a new plant on Forest avenue, a fireproof, three-story structure, covering an area of 60 by 120 feet. The company manufactures mufflers, and now has orders for more work than at this time last year.

The Moline Automobile Company, East Moline, Ill., is to build Knight sleeve-valve motors for sale to the motor trade. The company will continue the manufacture of cars. The motor department of the company has built gasoline engines for many years and last season marketed over 18,000 of different types.

The Sphinx Motor Car Company, York, Penn., is considering the erection of a new plant. The company manufactures the Sphinx cars.

The Firestone Tire & Rubber Company, Akron, O., recently installed an industrial library in its plant. If any person employed by the company is interested in any line of instructive reading, the chief librarian, when informed, will provide the best books, articles or digests on the subject. Books are loaned to employees for home reading as in the regular public library systems, and correspondence courses are open for the benefit of ambitious employees.

The Chevrolet Motor Company, Flint, Mich., has purchased the old Maxwell-Briscoe factory at Tarrytown, N. Y. The buildings, most of which are brick, afford a floor space of 205,000 square feet. The plant will be in operation at an early date, with a daily capacity of 50 cars.

The Detroit Auto Specialty Company, Detroit, has completed a large addition to its factory and has also added large special presses for making crown fenders and seamless fuel tanks.

The Santo Rubber Company, Pittsburg, Penn., has plans for the erection of a building at Niagara Falls, N. Y., to cost $60,000, for manufacturing automobile tires.

The Goodyear Tire & Rubber Company, Akron, O., for the first four months of 1914 produced 699,342 pneumatic shoes for automobiles and motorcycles. In April the company reached the highest mark, producing 186,491 automobile casings and 29,565 motorcycle covers.

The Ward Motor Vehicle Company will erect a factory on South Fulton avenue, Mount Vernon, N. Y. The company is now located in the Bronx, New York City.

The Carter Carburetor Company, St. Louis, Mo., has purchased a three-story building in North Spring avenue, that city.

The American Manufacturing Company, Ecorse, Mich., has moved to the plant formerly occupied by the Staver Buggy Company, Chicago, Ill. The company manufactures automobile parts.

The Briscoe Motor Company, Jackson, Mich., has been elected a member of the National Automobile Chamber of Commerce. The company makes the Briscoe car.

The Ford Motor Company will open its Dallas, Tex., assembly plant next month. The new building has every convenience, with rest and reading rooms on the second floor. The plant will have capacity of 10,000 cars yearly. The building has a total floor space of 140,000 square feet and will cost about $225,000.

The Nordyke & Marmon Company, Indianapolis, Ind., is establishing at 16-24 West 61st street, New York City, one of the best service departments in the Metropolis. It will include a fully equipped machine shop. Frank G. Carrie is manager.

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NEW CONCERNS AND BUSINESS CHANGES.

GARAGES AND REPAIR SHOPS.

Lee Forest, Great Falls, Mont., conducts a first-class garage and repair shop. On entering the building to the right is the vulcanizing department, and on the left is

Garage and Repair Shop Conducted by Lee Forest at Great Falls, Mont.

the office and accessory room. The stockroom is directly beneath the office and entrance must be gained by going through it. Parts and tires are kept in this room. In the rear is the workroom, where all cars are repaired. The company specializes in the storage of cars and handles the Ford exclusively.

C. J. Kraus, Hoboken, N. J., has opened an up-to-date garage and repair shop at 813 John street.

A. D. Burt and H. E. Coman, Jr., Worcester, Mass., have opened an up-to-date garage.

Harris A. Zeim, Charlotte, N. C., has opened an up-to-date repair shop at 203 South Church street.

Biggs Bros., Wakefield, Mass., has opened a first-class repair shop at 5 Byron street.

Tucker & Berkley, St. Louis, has opened a repair shop and garage at 4384 Olive street.

Louis Enarson, Villisca, Ia., has purchased the interest of H. E. Hendrickson in the Marrick & Hendrickson Garage Company.

H. Schmidt, St. Louis, has opened a garage at 1045 North Grand avenue. He is general manager of the Olive Cycle Company.

Frank Schemerhorn, Grand Rapids, Mich., has leased a new building on Division avenue and will conduct a garage. The two-story structure is of brick and concrete. Special provision has been made for the storage of automobiles and trucks.

Myer Bros. has opened a garage and repair shop at 8-10 Harkness street, Providence, R. I., and an accompanying illustration shows a section of the repair shop. Although this is a young concern, it is building up a nice clientele, and is constantly adding to its corps of expert workmen. The company carries a complete line of oils, grease, supplies and accessories. The machine shop is unusually well equipped, including as it does lathes, drill presses, grinders, etc., and the latest labor and time saving devices are utilized. James Myer was formerly in charge of the service department of Pugh Bros., Providence, and is one of the pioneer automobile repairmen of Providence. He has also had an extensive factory experience.

Walter Baker and Matt Hannan, Kanawa, Ia., have formed a partnership and opened a garage.

Fred D. Vandervoort, Marion, Mich., has opened a garage. It is modern throughout.

Ewald & Oliver, Washington, D. C., has opened a general automobile repair shop at 1111 10th street, rear.

B. Y. Hill, Amarillo, Tex., has opened a garage and repair shop at 1345-1347 Broad street. He has installed new machinery and a compressed air system.

McLeod & Company, Blytheville, Ark., has established a garage. The company will stock all kinds of repair machinery, specializing in repair work on automobiles and other vehicles.

R. E. Valentine and H. L. Wilson, Cumberland, Md., have formed a partnership to operate a garage and repair shop. The company is located on George street.

The Sarns-Snyder Company, Mt. Clemens, Mich., has engaged in the general machine shop business, specializing in repairing automobiles and motor boats.

The Moon Motor Sales Company, Springfield, Mass., is to open a new garage about Sept. 1.

Paul Condit, Champagne, Ill., has opened a garage in the Knox building.

H. Coleman & Company, Andover, Mass., has opened a garage on Main street.

The Bakeman Motor & Supply Company, Holdingford, Minn., has opened an automobile repair shop.

Harry Seeman, Darien, Conn., has opened a garage on Center street. He was formerly with the Darien Garage Company.

The Sears Auto Repair Shop, Indianapolis, has opened for business in a new modern fireproof garage at 2132 East Washington street. The company handles the Westcott cars.

W. F. Boyle and Sid Purdy, Grand Rapids, Mich., have opened a garage and repair shop at 1206 Front avenue. It is modern throughout.

The Satterlee Motor Company, Minneapolis, Minn., has established a repair shop at a cost of $7500. John Nilsson is in charge.

Walter Howard and Simon J. Kohl, Waterloo, Ind., have formed a partnership and will conduct a garage and repair shop. The company purposes to erect a cement garage building.

GARAGE TRANSFERS.

William Coughlin, Cambridge, Mass., former owner of the Prospect Garage Company, has sold his interest in the business to Warren Allen. The garage is to be remodelled.

The Topton Garage Company, Topton, Penn., has been dissolved. Ira Desch, a member of the company, will now take charge of the business and operate it personally.

The Square Deal Garage & Welding Company, Youngstown, O., has taken over the business of the Barclay Street Garage. The new company will also handle the Rit cyclecar.

The Queen City Automobile Company, Rochester, Minn., has purchased the garage operated by C. D. Brown. G. E. Cavanaugh is manager.

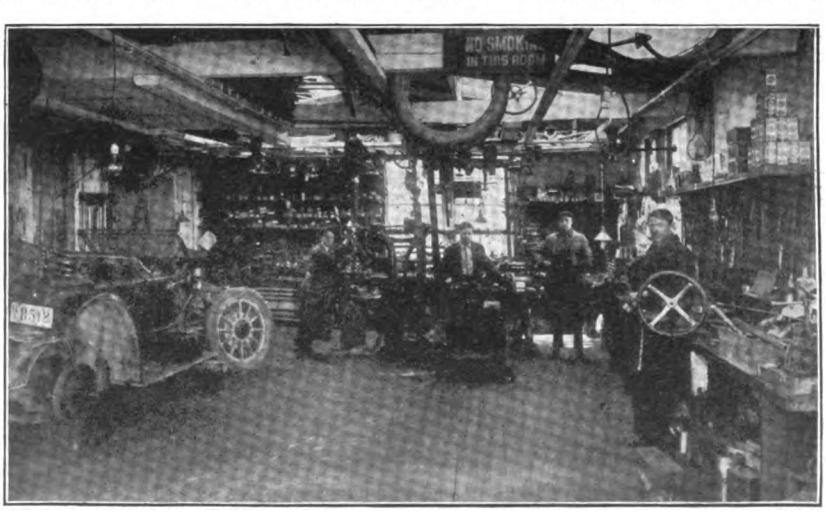
The Frank P. Oswald Company, Grand Rapids, Mich., has succeeded to the motor car business of the Oswald-Hess Company, 21 Campau avenue.

Moore & Pauline, Victoria, B. C., has been sold and will hereafter be known as the Pauline Motor Sales Company. F. C. Pauline is manager.

F. W. Williams, Iron River, Mich., has purchased the interest of Mr. Singler in the garage and repair shop of Thonin & Singler.

Herbert Johnson, Webster, Mass., has purchased the Joslin House Garage and will operate it.

The Livingston Garage, Bayonne, N. J., has purchased the Bayonne Garage & Equipment Company at the Boulevard and 30th street. Hupmobile cars are handled.



Section of Repair Shop of Myer Bros., Providence, R. I.—It Contains the Most Modern Machinery and Tool Equipment.

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CONTEMPLATED NEW BUILDING OPERATIONS.

ADDITIONS AND IMPROVEMENTS.

Link Bryon, Lemoure, Cal., has remodelled his garage on Front street.

The Thames Garage, Norwich, Conn., is being extensively improved.

R. Francis Wood, Wayne, Penn., is making exensive improvements to his garage.

The Dorris Garage Company, Fresno, Cal., is to enlarge its service department.

The Duncombe Automobile Company, Fort Dodge, Ia., is making a large addition to its garage.

The Kendall Automobile Company, Pasadena, Cal., is making extensive improvements to its building. The company is located on Union street.

The Stahl Ford Agency, Johnstown, Penn., is enlarging its building. W. Richardson is the manager.

The Bemb-Robinson Company, Detroit, local distributor of Hudson cars, has enlarged its building at 286 Jefferson avenue.

The Prince Motor Car Company, Urbana, O., has installed a vulcanizing plant in its garage on East Court street.

J. Murphy, New York City, is making alterations to his garage at 161 West 132nd street at a cost of $20,000. The present building is four stories high.

The Bekins-Speers Motor Company, San Francisco, Cal., has moved to more commodious quarters on Van Ness street. The company is agent for Lozier cars.

Burwell & Snodgrass, Parkersburg, W. Va., is improving the garage at Eighth and Avery streets.

The Essex Garage, Lynn, Mass., is making improvements to its garage at 170 Broad street. John Honors is owner.

The Stoeckle Brewing Company, Wilmington, Del., is making a large addition to its garage.

The Mercer-Way Garage, Eureka, Cal., is extensively improving its garage. A. W. Way is owner.

The Buckeye Garage Company, Youngstown, O., is enlarging its garage on East Front street to connect with the main garage on South Champion street. The new section will house 35 more cars.

The Santa Ana Motor Supply Company, Santa Ana, Cal., has enlarged its garage at Fourth and French streets. The company is agent for the Lozier and Cartercar.

Andy Laustbaum, Long Branch, N. J., is enlarging his garage by the erection of a fireproof addition. He also has opened the Brighton Garage, West End.

Ralph McCook, Lewiston, Penn., agent for Indian motorcycles, will erect a building at 251 South Main street.

Nablett & Bettys Company, Rochester, N. Y., is greatly improving its garage at 254 Court street.

The Police Department, Springfield, Mass., will construct an addition to its garage on Pynchon street; bids are being received for the work.

J. Ralph Seidner, Youngstown, O., is making a large addition to his garage. He handles Chandler and King cars.

Everybody's Garage, Wheeling, W. Va., is being extensively improved. John Hummel is the proprietor.

The Toledo Rubber Company, Toledo, has remodelled its city salesroom, gaining 1500 square feet of floor space, or double the area formerly occupied. The company distributes Torco automobile accessories and supplies. Exclusive lines are handled by the company, among which are the National telescope spark plug pump, Ely-Ford shock absorbers, Wizard vulcanizers and G & J tires.

The Oakland Motor Company, Philadelphia, has leased a four-story building at 221-223 North Watts street, in the rear of the company's garage. It has been remodelled and will be used for storage purposes.

PLANS AND SPECIFICATIONS.

C. P. Boardman, Wilmette, Ill., one-story garage, 30x25.

C. S. Reed, Ottawa, Ill.; two-story garage, 24x36.

W. L. Straight, 23 Wall street, New York City; three-story garage and stable, 24x36.

Robert Wahl, 816 Albany street, Schenectady, N. Y.; two-story garage, 30x88, $3500.

Samuel Epstein, 307 Park street, Holyoke, Mass.; one-story garage, 25x25.

Ellen Dow, Lynn, Mass.; one-story garage, 20x30.

Cincinnati & Suburban Bell Telephone Company, Cincinnati, O.; two-story garage, 60x100, $15,000.

Bryce Bakery Company, 16 East South street, Indianapolis, Ind.; four-story garage and bakery plant, 98x246, $100,000.

Waukesha Moir Bath Company, Waukesha, Wis.; two-story garage and living room, $6000.

Y. M. C. A. Auto School, 1101 Harmon place, Minneapolis, Minn.; two-story auto school, 150x80.

Furness, Evans & Co., Providence building, Philadelphia, Penn.; one-story stone garage, 22x26.

Mrs. Charles R. Snowden, Bryn Mawr, Penn.; one-story garage, 19x24.

John Blumes, 535 East 75th street, New York City; one-story garage, 25x55, $5000.

F. W. Schenbert, 4350 North Robey street, Chicago, Ill.; one-story garage, 20x28.

Samuel Silverman, 257 Stone avenue, Brooklyn, N. Y.; one-story garage, 30x100, $6000.

George Berger, Cincinnati, O.; 62.4x74.11, $10,000.

R. L. Wilson & Co., 500 North Second street, Reading, Penn.; one-story garage, 12.6x18.

Phillip Bock, Cincinnati, O.; one-story garage, 50x100, $7500.

P. A. Myers, Ashland, Penn.; garage and sleeping quarters.

J. R. Cantiwell, 16 East Wilson street, Madison, Wis.; one-story garage, 20x22, $1000.

Jacob & Gustave, 376 Kent avenue, Brooklyn, N. Y.; one-story garage, 12x19.

Robert Johnson, 2456 Bedford avenue, Brooklyn, N. Y.; one-story garage, 37x37, $5000.

Maurice Finn, 27 Washington street, Boston, Mass.; one-story garage, $2000.

Edwin Bears, Prudential building, Newark, N. J.; two-story garage, $2000.

Percy L. Bickneil, South Weymouth, Mass.; one-story garage, 90x40.

Standard Oil Company of New York, 50 Congress street, Boston, Mass.; two-story garage, 45x90.

H. H. Hunt, Melrose, Mass.; 2½-story garage and stable, 49x65, $9000.

M. K. Howe, 728 Post building, Battle Creek, Mich.; two-story garage and apartment, 25x50, $3000.

Nelson Shunk, East Mansfield street, Bucyrus, O.; one-story garage, 20x30.

Garage Building Company, 609 Keyser building, Baltimore, Md.; one-story garage, $40,000.

W. H. Best, 37 North New street, South Bethlehem, Penn.; one-story garage, 30x40, $3000.

E. U. Ehrhart, Tennyson street, Pittsburg, Penn.; two-story garage, 28x35.

Petroleum Products Company, 33rd street, Pittsburg, Penn.; two-story garage, office and warehouse, 22x60.

D. I. Oliver, Pontiac, Mich.; one-story garage, 30x100.

L. D. Driggs, Lansing, Mich.; two-story garage, 43x48.

A. Clarke, Hastings, Neb.; two-story garage, 22x30, $2000.

CONTRACTS AWARDED.

Frank Kinney, 903 West Onondaga avenue, Syracuse, N. Y.; one-story garage, 24x30, $2000, for W. A. Davis.

Simpson Bros. Corporation, 166 Devonshire street, Boston, Mass.; two-story garage, 65x170, at Chestnut Hill, Mass., for Mumford Garage Company.

D. DeHart, Reading, Penn.; one-story garage, 10x14, for Jeremiah Fritz.

Nels Bruce, New York Life building, Minneapolis, Minn.; one-story garage, 46x126, $8350, for Yale Auto Co.

Charles Brown, Richmond, Va.; one-story garage, 24x61, $4000, for D. G. Wagner.

Marin Rock Company, San Anselmo, Cal.; one-story garage, $4000, for W. C. Wessele.

Struchen & Nelson Construction Company, Capital Bank building, St. Paul, Minn.; garage, 34x48, $10,000, for George Thompson.

Edwin T. Siefrit, 359 North Front street, Reading, Penn.; two-story garage, 18x22, for H. Grant.

Essex Construction Company, 83 Academy street, Newark, N. J.; one-story garage, 73x106, $7000, for King, Marsac Company.

D. J. Barry, 64 East Manning street, Providence, R. I.; one-story garage, 25x40, for Mrs. Helen M. Farrell, Warwick Neck, R. I.

Griffith & Pierce, Utica, N. Y.; two-story garage and stable, 75x75, $10,000, for John C. Gregory.

McDermitt & Hanigan, 103 Park avenue, New York City; three-story garage, 50x115, for F. G. Bowine.

J. N. Stout, 770 Walnut street, Pottsville, Penn.; two-story garage, 20x40, $2000, for Louis Ulmer.

S. J. Kelly, 19 Western avenue, Cambridge, Mass.; one-story garage, 20x25, at Watertown, Mass., for George Durkee.

Felix Baptist, Utica, N. Y.; two-story garage, 32x69, $8000, for Durr Packing Company.

McLennon Construction Company, 30 North Michigan avenue, Chicago, Ill.; one-story garage, $12,000, for Marshall Field Company.

Long Construction Company, Kansas City, Mo.; two-story garage and business building, 33x110, $20,000, for Dr. H. Twieman.

S. Sykes & Sons, 318 Larck street, Scranton, Penn.; 2½-story garage and residence, 45x65, $25,000, for O. M. Kramer.

R. E. Jones, 46 Sanbourne street, Wilkesbarre, Penn.; two-story garage, 40x70, $3600, for D. F. Meehan.

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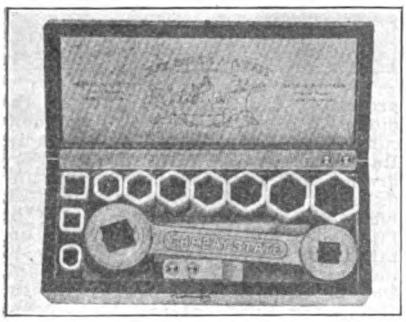
ACCESSORIES, SUPPLIES AND FITTINGS.

BAY STATE AUTOKIT NO. 3.

Complete Wrench Set for the Model T Ford Automobile.

George A. Cutter, sales agent, Taunton, Mass., maker of the well known Bay State autokits, is placing



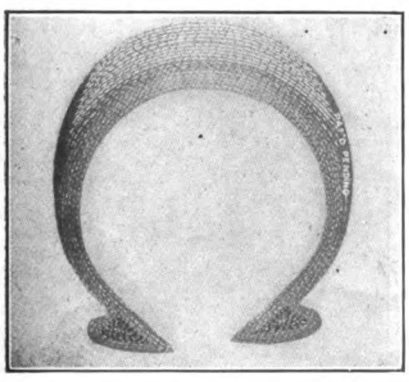
on the market the Bay State autokit No. 3, which is a special set for for the model T Ford machine. It is a high-grade socket wrench set, and includes a quick acting, double-ended ratchet wrench and 11 heavy gauge pressed steel sockets, case-hardened and nickel plated. A heavy screw driver and a seven-inch extension steel shank are also furnished. The sockets include a special long one for removing the spark plugs and a design for removing and replacing nuts on the crankshaft bearing. The set is packed in a substantial box with heavy outside hinges. Trade discounts will be supplied upon request.

CANVAS TREAD TIRE.

Is Constructed of Layers of Cotton Duck and Rubber.

A tire that is stated to be puncture proof and non-skidding is the Canvas Tread, manufactured by the Canvas Tread Tire Company, Woolworth building, New York City. As may be noted by the accompanying illustration, the tread differs from conventional design in that it is of canvas, and the maker states that it is practically impossible for a nail, tack, or similar object to penetrate to the inner tube. It is also claimed that the material is so tough that blisters, stone bruises, etc., are prevented.

The Canvas Tread casing is constructed of layers of pure Para rubber and long fibre Sea Island cotton duck. The duck is woven of 11-ply yarn, 23 by 23 both ways, and is stated to have a tensile strength of 420 pounds to the inch either way. Between each layer of duck is a cushion of rubber which is forced into the fabric in such manner as to rigidly secure the plies. From 12 to 20 layers of fabric are utilized.

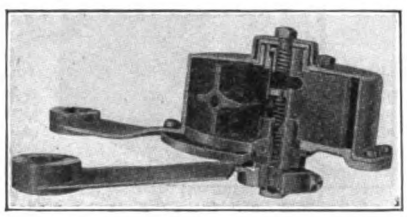


The surface of the tread formed by the little squares of mesh like webbing picks up sand, grit and dirt, which the maker states imbeds itself in such a way as to form a glazed surface, preventing wear as well as providing traction. It is stated that non-skidding devices are not required with the Canvas Tread shoe, which is guaranteed for 3500 miles. It is also claimed that the casing will not rim-cut, as the bead is constructed of fabric. Prices will be supplied upon request.

PETELER SHOCK ABSORBER.

Operates on Hydraulic Principle and Is Adjustable.

The Peteler hydraulic shock absorber, manufactured by the Peteler Shock Absorber Corporation, 1997 Broadway, New York City, operates on the hydraulic principle and is adjustable to the requirements of the car by turning an indicator on a dial. The cup shaped member, shown in the accompanying cross sectional

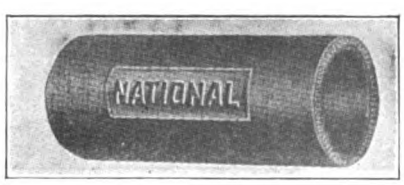


view, is filled with oil and is divided into four chambers by two fixed abutments and the two wings of the spindle. On the downward motion of the car body, the ports are open, and the oil flows freely from chamber to chamber. On the rebound, however, two of the ports are closed to a greater or less extent by an adjusting device which regulates the resistance. The Peteler is adaptable to the front and rear springs of the car. It retails for $75 the set.

NATIONAL RADIATOR HOSE.

Made Especially for Circulation System of Motor Car.

One of the most common causes of a motor heating is due to impeded

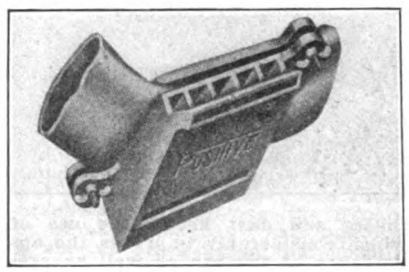


circulation. Rubber tubing or hose is utilized to connect the radiator with the cylinders, etc., and unless constructed especially for the work the layers of fabric separate and restrict the flow of the cooling fluid. The Staybestos Manufacturing Company, Lena and Armat streets, Germantown, Philadelphia, is marketing the National radiator hose which is guaranteed for durability and quality. The tube, cover and friction are of tested compounds, made especially to withstand the action of oil, hot or cold water, anti-freezing solutions, heat, etc. The interior of the tube is seamless and perfectly smooth. The National is made in different sizes, two and three-ply, and is guaranteed not to crack, harden, soften or collapse. The National radiator hose is made regularly in 50-foot lengths, but shorter will be furnished, in multiples of five feet, on order.

NEW STEAM VULCANIZER.

Positive Supply Company Manufacturing Small Portable Vulcanizers.

The Positive Supply Company, Davenport, Iowa, manufacturer of portable steam vulcanizers and kero-



sene garage heaters, is producing a steam tire tube vulcanizer for use in private garages and small repair shops. It is stated that this equipment is the only one made expressly for repairing tire tubes that utilizes steam for vulcanizing.

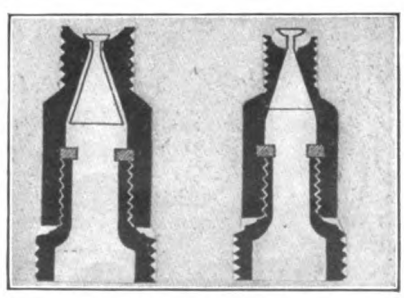
The maker states that the outfit can be carried in the tool box of an automobile. It consists of a metal body, with one compartment for water and another for fuel. The water section is between the tube and the flame, where it equalizes the heat generated. A tube is vulcanized, says the manufacturer, so that the patch becomes a part of the tube, without danger of burning or scorching. It can be mounted on any bench or post. The weight is three pounds. A surface of 12 square inches can be vulcanized with one setting. Prices will be forwarded upon request.

DAY TIRE VALVE.

Atlas Auto Supply Company Adds Springless Valve to Its Product.

The Atlas Auto Supply Company, Chicago, Ill., manufacturer of Tire-Doh and Tire-Doh products, is marketing a new tire accessory known as the Day tire valve. This valve consists of three parts only, and no springs are used.

The Day valve is made of brass. It is screwed into the tube valve stem after the old valve has been removed. It is stated that the absence of springs gives longer life to the valve. Another quality is that tires can be pumped with greatly reduced effort, and fewer number of strokes, because there is no back pressure caused by spring resistance. This, of course, is due to the fact that the valve has no springs, and to the greater size of the passage for air. In the accompanying diagram the figure at the left shows the valve open, and in the other it is in a closed position. Day valves are supplied in sets of five, this number being sufficient to equip the four tires in use and also providing a spare tube.



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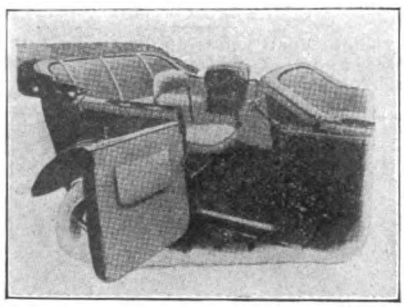
CAMPBELL SEAT OVERS.

Come Complete with Material Necessary for Application.

The Perkins-Campbell Company, 603 Broadway, Cincinnati, O., is marketing the Campbell water proof seat



covers and dust hoods, the use of which considerably improves the appearance of the car as well as preserves the upholstery. The seat covers are made of the best material, neatly bound with muleskin and are reinforced on the arms with the same material.

It is stated by the maker that the binding will not crack in cold weather or blister. The covers are secured with glove fasteners. Each set comes complete with all material necessary for applying, and full instructions. All colors are guaranteed fast and the workmanship is first-class in every respect. Samples of material and prices supplied upon request.

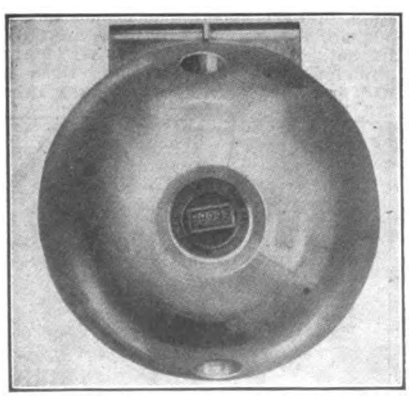
THE TRANSIMETER.

Records Mileage of Car and Is Made in Several Types.

A record of the mileage of the motor vehicle is of value when having adjustments made on tires, computing operating costs, etc. The Transimeters Company, New York City, for which the American Taximeter Company, 735 Seventh avenue, New York City, is selling agent, is marketing the Transimeter, which is made for pleasure and commercial motor vehicles.

One of the qualities of the device which replaces the usual hub cap is that the recording mechanism is protected from injury by a special, substantial casing. That utilized for commercial cars is constructed to withstand severe usage.

The recording mechanism is the product of experience in counting appliances and is not affected by vibration. It registers by tenths up to 10,000 miles and repeats, and every turn of the wheel, backward or forward, is recorded. The maker states that the Transimeter can be quickly and accurately read as the figures are always right side up and visible through a central window. Special attention is called to the coupling utilized. It is a hardened pin fitting a hole in the axle and is pressed outward by a non-corrodible spring



which automatically drops into a slotted plate at the back of the counter. The counter is thus held against turning with the wheel. The Transimeter is dust and weather proof, cannot be tampered with, and is held to be unusually durable and accurate.

NO-SPILL BATTERY.

Electrolyte Is Stated to Be Non-Freezing and Non-Spilling.

The Premier Electric Company, 4031 Ravenswood avenue, Chicago, maker of the Hi-Lo horn for the Ford car, is introducing a storage battery which may be utilized for ignition, lighting, operating a horn, etc.

The electrolyte is stated to be non-freezing, as well as non-spilling, special emphasis being laid upon this feature, which makes for convenience when handling the cell and cleanliness of the battery compartment. The efficiency of the battery is stated to be equal to conventional types.

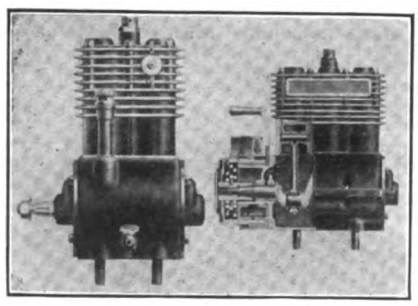
The case containing the cells is

finished with rubberoid paint and is supplied with antimony binding posts, which are held to be non-corroding. The Non-Spill storage battery comes in six-volt, 60 ampere-hour and 80 ampere-hour capacities and is moderately priced.

THE AERO PUMP.

Several Types Marketed by Advance Machinery Company.

The Advance Machinery Company, Toledo, O., is producing the Aero



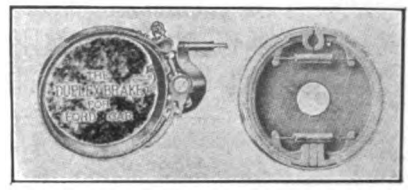
pump, in one, two and three cylinder models, which are motor driven. These are designed for regular and special equipment of new cars, and for installation in motor cars already in service. One feature of Aero pumps is the automatic blow-off valve. This can be set for any pressure desired and automatically exhausts when it is reached. In the illustration the two-cylinder pump without gear shift is shown at the left, and the three cylinder pump with eccentric gear shift is at the right. The cylinder and crankcase parts are gray iron castings, sand-blasted, double-coated with baked black enamel. The trimmings are nickel finished. The crankshaft and connecting rods are drop forged. The bore of the cylinder is 1⅜ inches and the stroke is 1⅝ inches.

The intake valves of Aero pumps are carefully screened to keep out foreign matter.

DUPLEX FORD BRAKES.

External and Internal Designs Faced with Raybestos Material.

The Royal Equipment Company, Bridgeport, Conn., maker of the well known Raybestos brake lining, is



producing the Duplex brake for the model T Ford car. The equipment consists of two contracting members, Raybestos lined, which fit the Ford drums, and includes two supporting fixtures, pull rods, clips, etc. The dimensions of the brakes are 8¼ by 1¼ inches, and the braking effect obtained is such that the car may be instantly stopped on a steep grade. The company is also marketing the Raybestos lined internal cam brake which is installed in place of the original members. One of the qualities of the Raybestos friction material is that it does not disintegrate under the action of oil, gasoline or water. It is constructed of carefully selected long fibre asbestos and is backed by a substantial guarantee.

The external type retails for $10, the internal for $2.

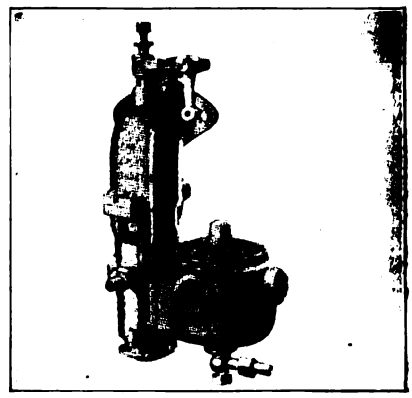
SENRAB CARBURETOR.

Uses Kerosene as a Fuel and Is of Novel Construction.

The Senrab carburetor, manufactured by the Senrab Carburetor Company, Inc., Sea Cliff, Long Island, N. Y., is constructed to utilize kerosene and is so arranged that the adjustment of the fuel supply, primary and auxiliary air is obtained by a single member. A venturi tube is used as a passage for the main air supply. It has a central moving member carrying a tubular fuel supply with radial orifices through which the heated fuel passes under the control of a taper needle.

To provide for atmospheric conditions, the auxiliary valve may be adjusted by revolving the centre stem, and the needle may be independently adjusted for varying qualities of fuel. The control lever is on the top of the carburetor and is adjustable to a number of positions.

The heat of the exhaust is utilized to raise the temperature of the fuel, the gases by-passing through a jacketed float chamber, and acting upon a small quantity of the fuel in the form of a film between the heated wall of the float chamber and the float. Means for starting with gasoline are provided, and it is stated that the supply may be cut off and kerosene utilized in a very short time. The prices vary according to sizes.



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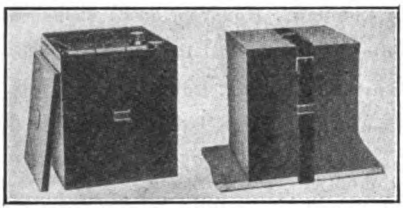
DOVER TOURIST KIT.

Steel Container with Two Cans for Oil and Gasoline.

The Dover Stamping & Manufacturing Company, Cambridge, Mass., is producing the Dover tourist oil and



gasoline kit, a patented construction for carrying oil and fuel when touring. One of the qualities of the device is that it is dust proof. It is compact, quickly attached and removed, and is retained by a strap. Two views are shown herewith, that at the left depicting the container open while that at the right shows it strapped to the running board of the car.

The outside box is of extra heavy steel and the bottom is double seamed.

The cover is heavily wired and all strap lugs are riveted. It retails for $4. The inside cans have double seamed bottoms and rest upon heavy felt pads, preventing chafing and rattling. The outside case is enamelled.

BETHLEHEM SPARK PLUG.

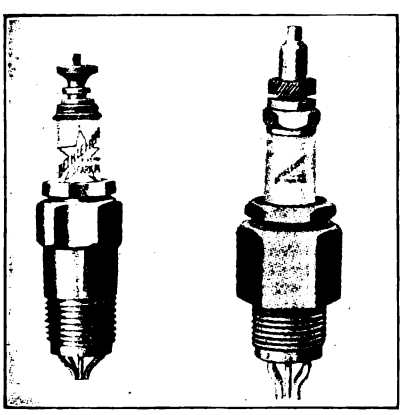
Four of the Five Points Employed for Sparking.

The Silvex Company, 60 Wall street, New York City, is marketing the Bethlehem spark plug which presents interesting as well as practical features. It differs radically from the conventional design in that multiple sparking points are provided, a construction that is held by the maker to prevent short circuiting by soot or carbon.

The Bethlehem is termed a five-point plug and its electrodes extend from the shell or base as may be noted by the accompanying illustrations which show two types. These electrodes encircle the centre member, and as the gap of each is the same, four sparks are simultaneously obtained. This is practically equivalent to four plugs. If, for any reason, one of the gaps becomes sooted, the high-tension current will bridge the other gaps.

The maker lays great stress upon the efficiency of the multiple electrodes, stating that, being extended below the plug chamber, a powerful cleaning and scavenging effect is obtained by the action of the piston.

The Bethlehem plugs are constructed of a high-grade, glazed porcelain insulator which is subjected to heat tests, the temperature of which is greatly in excess of that met with

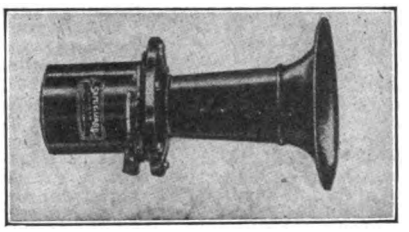


in service. The shell of the plug is of steel which is heat treated, and the maker states that it prevents it warping and cracking the porcelains. The Silvex Company manufactures a wide variety of plugs to meet the requirements of all motors and produces a special design for the model T Ford motor. This plug has a long base, facilitating its removal and replacement. The company issues a booklet on spark plugs which will be mailed free upon request. The Bethlehem plugs retail for $1.25.

MOTOR DRIVEN AUTO HORN.

New Construction of Ball and Rotor Said to Eliminate Friction.

The Duplex Electric Manufacturing Company, Pittsburg, Penn., is marketing the Safeguard motor driven auto horn, which it is maintained, causes extremely light wear on the



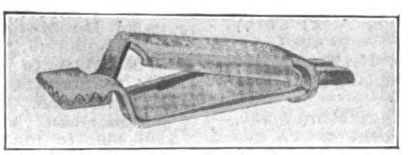
motor bearing. The Safeguard horn is a ball and rotor construction, and it is claimed that it is economical of current and that friction is entirely eliminated.

The horn is made in two models, A and B, both identical, save that the latter is three inches longer and sounds a deeper and more powerful tone. A smaller horn to be driven by three dry cells is made for use on motorcycles. The makers state the Safeguard horn was tested for nearly two years before it was placed on the market, and they have types that are efficient and durable. The Safeguard motor driven horn comes complete for attachment and is guaranteed. Trade prices will be supplied upon request.

UNIVERSAL TEST CLIP.

Makes Possible Rapid and Positive Electrical Connections.

R. S. Mueller & Co., 425 High avenue, Cleveland, O., is manufacturing the Universal test clip, which is constructed plain and with an insula-



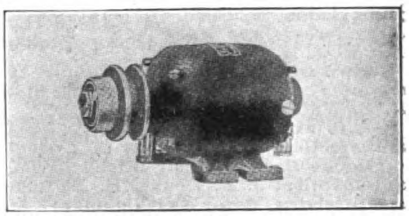
ting nipple. It is adaptable to electrical apparatus and is especially suited for testing ignition systems, connecting batteries, etc., and where quick and positive connections are desired.

It is constructed of cold rolled steel or a special hard alloy copper, and the tension of the steel spring utilized is such that the bite of the jaws is positive. The maker states that it can be attached quickly, that it will not sag and that the contact is positive. The teeth of the jaws mesh both at front and on the sides, and the clip is provided with means for attaching the wire or cable. The insulated design comes with black and red covers for indicating polarity when charging batteries. The Universal clips are inexpensive and come in lots of 10 or 100. Single members are marketed. R. S. Mueller & Co. will supply details and prices on request.

JACKSON DYNAMO.

Adaptable to Standard Cars and System Comes Complete.

The Charles A. Jackson Company, Motor Mart, Park square, Boston, is marketing an electric lighting sys-



tem for motor vehicles and motor boats. The complete outfit includes the Jackson generator, governor, automatic cut-out, ammeter and storage battery. The maker can supply brackets for mounting the dynamo on standard makes of cars and lists a special bracket for the model T Ford car for which the system is particularly adapted.

The generator charges a battery and has an output of eight amperes at normal speed. Six-volt lamps are employed, and the maker states that the output is sufficient to meet all requirements. The dynamo is very compact, all parts are enclosed in a dust proof casing, and the gross weight is but 9½ pounds. The normal speed is 1800 revolutions a minute.

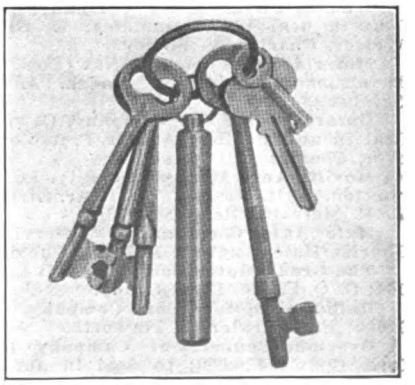
The governor utilized to control the output is a special design, and it is stated that the output may be varied instantly by turning a nut. This governor is supplied in place of a grooved pulley if desired, as where the speed of the engine is constant. The automatic cut-out is an electrical type and is provided with double contacts. It automatically connects and disconnects the generator to the battery. It is mounted on the dash and is dust proof. An ammeter indicates the proper operations of the dynamo.

S. & B. TUBE.

Novel Device for Storing License and Certificate.

The S. & B. Manufacturng Company, Worcester, Mass., is marketing the S. & B. tube, an ingenious device for carrying the operator's license and registration certificate. It comprises a compact, hollow cylinder, about the same length and weight as an ordinary key, and it is attached to the key ring. The capacity of the tube is such that it will accommodate the license and certificate which are rolled up.

The device will appeal to motorists who frequently change their clothes and who might neglect to place their certificates in the new apparel. Being attached to the key ring, it is pointed out that one is less liable to forget it when changing. The S. & B. tube retails for 25 cents.



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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Interstate Sales Company of Philadelphia, Philadelphia, Penn.; $25,000; to manufacture automobiles, motorcycles, power boats, etc.; W. C. Arnold, H. C. Lansinger, J. M. Satterfield.

Stockwell Motors, Ltd., Montreal, Can.; $100,000; to manufacture motor trucks; F. B. Stockwell, E. E. Leger, H. E. Walker.

J. C. Stoops, New York City; $15,000; to manufacture automobiles; J. M. Palmer, L. C. Goetting, J. C. Stoops.

Dodge Bros., Detroit, Mich., $5,000,000; to manufacture automobiles; J. F. Dodge, H. E. Dodge, A. McMeans.

Pittsburg Motor Car Company, Dover, Del.; $100,000; to manufacture automobiles; J. M. Frere, H. J. Davis, G. Shearer.

Aetna Motor Truck Company, Lansing, Mich.; $100,000; to manufacture trucks.

Detroit Tractor Company, Lafayette, Ind.; $100,000; to manufacture machinery and tractors; George J. Baker, Frank E. Baker, Cecil G. Fowler and others.

Vulcan Carriage Company, Painesville, O.; $1,000,000; to manufacture and deal in motor vehicles; E. D. Heartwell, E. E. Lawrence, F. H. Murray, H. E. Hammar, J.

AUTOMOBILE DEALERS.

Atlantic Motors Company, Savannah, Ga.; $5000; R. H. Richards, A. G. Benfield, John E. Finney.

Palace Automobile Company, Alexandria, Va.; $15,000; to deal in automobiles; John S. Goodrich, Milton S. Fairfax.

Motor Car Sales Company, Chicago, Ill.; $50,000; to deal in automobiles and motor trucks; E. O. Best, L. E. Bowen, R. M. Cornell.

Halleman Motor Livery Company, Chicago, Ill.; to deal in automobiles; G. W. Halleman, Joseph Dulson, Harry De Coudres and others.

Tesseyman Automobile Company, Columbus, O.; $20,000; to deal in automobiles; J. E. Tesseyman, I. A. Tesseyman, F. N. Boyd, J. F. Galloway, Matilda Heinrich.

Trenton Motor Sales Company, Cleveland, O.; $5000; to deal in automobiles and supplies; W. K. Stanley, J. R. Jewett, P. C. Stoller, Samuel Horwitz, I. A. Skinner.

Overland Motor Company, Richmond, Va.; $20,000; O. G. Granger.

Fort Wayne Overland Automobile Company, Fort Wayne, Ind.; $15,000; to deal in automobiles.

Rockland County Sales Company, Nyack, N. Y.; $5000; R. J. Heisler, T. A. S. Beatty, W. Beattie.

Chalmers Motor Company of Massachusetts, Boston, Mass.; $100,000; John J. Murray, Joseph L. Hermanson, Emma Leitiger.

The Oulford Company, Boston, Mass.; $50,000; Walter Stafford, Daniel I. Oulford, Sylvanus T. LeBaron.

Mohawk Motor Car Company, Boston, Mass.; $40,000; to deal in automobiles; C. E. Bosworth, H. E. Fullman.

George Grow Automobile Company, Boston, Mass.; $50,000; to deal in automobiles; George Grow, Samuel Grow, Ralph Grow.

Sanders-Wilson-Barnaby Company, Eddysville, N. Y.; $25,000; to deal in automobiles; K. T. Barnaby and others.

Whitefield Motor Car Company, New York City; $175,000; to deal in automobiles; M. J. O'Brien, A. J. Corey, D. Dilworth.

High Rock Motor Company, Philmont, N. Y.; $25,000; to deal in automobiles; William H. Oliver, Orle R. Morer, Lewis F. Harder.

Range Motor Service Company, Gibbing, Minn.; $50,000; motor car business; S. R. Kirby and others.

Middle West Automobile Company, Chicago, Ill.; $1000; to deal in automobiles ;William H. Oliver, Orle R. Morril, August Beltzner.

United Auto Brokers, Springfield, Ill.; $2000; C. G. Blankenship, Frank Carbon, James Bundo.

Hudson-Oliver Motor Company, Buffalo, N. Y.; $15,000; to deal in automobiles; E. G. Oliver, George B. Welsey, Charles W. Pooley.

Motor Credit Company, New York City; $1000; to deal in automobiles; Arthur Enock, Adolph Morris, David Grinberg.

Ontario Motor Car Company, Oswego, N. Y.; $5000; to deal in automobiles; Arthur P. Wolever, Frank C. Wolever, Charles A. Peterson.

Moville Auto Mart, Sioux City, Ia.; $10,000; F. E. Carrington, S. R. France, E. M. Armstrong, W. H. Rawson, E. E. Metcalf, Glenn Metcalf.

Hale Auto Corporation, Waterville, N. Y.; $500; J. Charles Hale, Augusta M. Hale, Charles Hale.

The Grady Motor Company, Salt Lake City, Utah; $25,000; G. Q. Smith, E. M. Grady.

Reliance Motor Car Company, Ellensburg, Wash.; $2000; F. G. Prater, H. Haworth.

Overland-Connecticut Company of Hartford, Hartford, Conn.; $20,000; to deal in automobiles; Albert C. Hine, Henry C. Hine, Ernest N. Humphrey.

Swinehart Sales Agency, Newark, N. J.; $10,000; to deal in automobiles; Charles H. Kingsbury, Edward H. Coley.

Overland-Houston Company, Houston, Tex.; $5000; G. W. Graham, Hugh Petter, Wallace Tyler.

National Automobile Company, Fall River, Mass.; $20,000; to deal in automobiles; H. Laurens.

W. & L. Manufacturing Company, Buffalo, N. Y.; $50,000; to deal in automobiles.

Princess Motor Company, Detroit, Mich.; $100,000; to deal in automobiles; C. D. Smith.

Smith-Trew Motor Company, Washington, D. C.; $3000; to deal in automobiles; W. W. Trew.

M. C. Motor Company, Bedford, Ind.; $10,000; to deal in automobiles; W. M. Mathews, L. Cobb, E. L. Morris.

Kuhn-Adler Company, Buffalo, N. Y.; $5000; E. E. Denniston, E. E. Adler, E. G. Kuhn.

Patterson Auto Carriage Company, Cleveland, O.; $10,000; to deal in automobiles; E. M. Patterson, L. M. Westropp, R. J. Moriarity, C. O. McMobon, H. C. Patterson.

Kalmer Southworth Company, Jersey City, N. J.; $100,000; E. A. Kalmer, A. R. Southworth, A. E. Letts.

Smildsin Automobile Company, New York City; $5000; to deal in automobiles; G. Smildsin, S. L. Wise, B. Naumberg.

Hudson Motor Car Company, Cleveland, O.; $1000; E. S. Steese, S. S. Toback, W. W. Griffith.

Fuller-Ashley Company, Syracuse, N. Y.; $1500; to conduct a general automobile business; W. A. Ashley, Arthur A. Sweeney.

Aetna Motor Truck Sales Company, Detroit, Mich.; $5000; to deal in motor trucks.

United States Motor Truck Company, Chicago, Ill.; $250,000; to deal in motor trucks; R. C. Stewart, B. Bramlage, M. H. McLean.

Simplex Distributing Company, Cleveland, O.; $10,000; F. S. McGowan and others.

Overland-South Bend Company, South Bend, Ind.; $5000; to deal in automobiles; Ernest A. Bennett, Walter Stewart, James E. Kepperly.

Waterloo Overland Company, Waterloo, Ia.; $10,000; to deal in automobiles; J. D. Hadley, John Hanson and others.

Brownell Auto Company, Birmingham, Ala.; $10,000; to deal in automobiles; E. W. Brownell, C. W. Richardson, Blaine Brownell.

Regal Motor Car Company, Minneapolis, Minn.; $25,000; to deal in automobiles; R. C. Smith, A. P. Heaney, L. E. Smith, J. Costella.

PARTS AND FITTINGS.

Rupp-Skeldon Motor Company, Toledo, O.: $50,000; to manufacture all kinds of motors; Robert G. Young, James Nye, James Greenwald, Bess Young, B. W. Johnson.

Cooper Flexible Transmission Company, Brooklyn, N. Y.; $160,000; to manufacture transmission appliances; B. C. Holt, M. Howe, S. C. Yeomans.

The Braun-Hoff Electric Company, Canal Dover, O.; $18,000; to manufacture electric motors.

P. F. Henn Company, Cleveland, O.; $10,000; to deal in motors; P. F. Henn, A. D. Henn, R. W. Bond, A. C. Bond, A. S. Mann.

No Ro Motor Works Company, Boston, Mass.; $10,000; Thomas J. Colbert and others.

Metal Auto Parts Company, Indianapolis, Ind.: $50,000; to manufacture automobile parts; B. E. Thompson, W. B. Austed, George H. Scott.

American Aut-Tractor Company, Wilmington, Del.; $300,000; to manufacture automobile engines, motor ve-

International Wheel Company, Nashville, Tenn.; $100,000; to manufacture and deal in wheels for vehicles of all kinds; J. E. Fisher, Thomas A. Andrews.

Summers Bros., Glasgow, Ky.: to manufacture hydraulic transmissions for automobiles; Otto Summers, E. A. Summers and others.

Carney Axle Valve Company, New York City; $500,000; A. L. Marilley, T. J. Curran, C. S. Woodman.

Macnish Electric Company, Augusta, Me.; $500,000; to manufacture ignition systems for automobiles, motor boats, etc.; E. M. Leavitt and others.

Adrian Carburetor Company, Adrian, Mich.; $50,000.

Rieba Ball Bearing Company, New York City; $20,000; to manufacture ball bearings; J. Hover, E. M. Lowy, L. I. Lowy.

Ellis-Ward Company, Boston, Mass.; $100,000; W. A. Ellis, E. G. Moorehead, C. S. Ward.

International Motor Wheel Company, Wilmington, Del.; $1,000,000; to manufacture wheels for automobiles and motor trucks; H. E. Latter, W. J. Mahoney, O. J. Reichard.

Wallace Shock Absorber Company, Detroit, Mich.; $5000; John E. Wallace, William J. Wallace, George C. McDonald.

General Machine Company, Indianapolis, Ind.; $3000;

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to manufacture automobile parts; Harry F. Smenner, C. W. Shane, Dick M. Vesey.

Simplex Engine Company, Detroit, Mich.; $40,000; H. Fraser, William G. Taylor, F. Smallridge.

The Dunkirk Corporation, Dunkirk, N. Y.; $30,000; to manufacture mufflers, motors, etc.; E. De H. Caldwell, E. K. Buttolph, R. J. Gross.

The East Wheel Automobile Company, Duluth, Minn.; $100,000; N. J. Upham and others.

American Motors Utilities Company, New York City; $500,000.

Over-All Roller Bearing Company, Los Angeles, Cal.; $500,000; to manufacture roller bearings; T. W. Starr and others.

Haines Transmission Gear Company, New York City; $5000; to manufacture transmissions; G. F. Haines, A. Bergen, G. H. Bruce.

P. F. Henri Company, Cleveland, O.; $10,000; to manufacture motors.

Auto Sprinkler Equipment Company, Pittsburg, Penn.; $25,000; H. A. Logue, H. C. Fry, Jr., J. E. Stone.

GARAGES AND REPAIR SHOPS.

Porter Station Garage, Cambridge, Mass.; $15,000; to conduct a garage and service station; C. G. Pimer, William J. Beglin, G. A. Jule.

Jumel Garage Corporation, New York City; $10,000; to conduct a garage; W. P. Powell, J. J. Jansen, Jr., T. S. Buckingham.

Buick Auto Repair Company, New York City; $5000; to conduct a repair shop; William F. Fane, G. Macpherson, J. D. Kelly.

Howard Garage & Repair Shop, San Francisco, Cal.; $125,000; garage and repair shop; F. H. Howard and others.

Sweeney Storage & Truck Company, Lima, O.; $10,000; Robert E. Sweeney, Franklin C. Lyon, Lillian F. Sweeney.

Deicher & Arndt Company, Plymouth, Wis.; $50,000; to conduct a garage and automobile business; Adam Deicher, C. C. Arndt, W. A. Herr, Edwin Blanke.

J. Dolton & Company, New York City; $900; to conduct a repair shop; J. Dolton, J. C. Dolton, W. N. Plein.

Avon Garage, Avon, N. Y.; $6000; to conduct a garage; F. W. Isham, A. Russell, L. P. Tabor.

L. K. Hausen's Sons Garage, Brooklyn, N. Y.; $5000; to conduct a garage; H. J. David, J. Hausen, R. Hausen.

Kimbaugh Auto Company, Greenwood, Miss.; $50,000; to operate a garage and repair shop.

Windemere-Euclid Garage Company, Cleveland, O.; $10,000; to conduct a garage; V. M. Harris.

William S. Campbell Garage Company, Brooklyn, N. Y.; $1000; to conduct a garage; William S. Campbell, H. Hyams, Jr., P. H. Sheridan.

Emmert Machine & Auto Company, Houston, Tex.; $5000; C. G. Watson and others.

Allen Garage, Greenwich, Conn.; $50,000; garage and automobile business; Frederick H. Allen, Harold W. Allen, Frank J. Holmes.

National Garage Company, Chicago, Ill.; $5000; garage and automobile business; H. P. Keller, Paul T. Diener, Edward A. Fairbrother, Harry Bierma.

Grand Concourse Garage Company, New York City; $5000; garage; John M. Ireland, Mary A. Ireland, Caroline Haffen.

Classon Garage, Brooklyn, N. Y.; $3000; garage; P. H. Mulrear, E. H. Mulrear, A. W. Mulrear.

Kruger Bros., Brooklyn, N. Y.; $4000; repair shop; J. Kruger, J. C. Kruger.

Capital Motor Car Company, Columbus, O.; $10,000; garage; E. P. Kelly, C. A. Hayes, I. P. Madden, R. P. Atkinson, W. H. Eberst.

S. S. Garage Company, New York City; $5000; garage; Charles Evans, J. F. Staiber, H. B. Stowell.

Fourteenth Street Garage, Indianapolis, Ind.; $2000; garage; H. R. Littman, W. T. Clore, Arthur Littman.

Wilmette Garage, Wilmette, Ill.; $2500; garage; George C. Orr, Girard A. Ellington, Edith Tufty.

Electric Garage Company, Louisville, Ky.; $25,000; garage; G. Bader, F. S. Ouerbacker, J. W. Button.

Hollywood Garage Company, New York City; $30,000; garage; J. J. Pheelan, G. A. Grant, M. Frieder.

ACCESSORIES AND SUPPLIES.

Lamb Manufacturing Company, Winsted, Conn.; to manufacture automobile supplies. J. P. Lamb.

Uneeda Tire Filler Company of New York, New York City; $100,000; to manufacture automobile accessories; M. E. Rosenthal, J. Golden, T. Bligh.

Puncture Seal Company, New York City; $5000; to manufacture compounds for mending inner tubes; Henry D. Bahn, Frank S. Murray, Frank Eber.

Sanbo Starter Company, Rock Island, Ill.; $10,000; to manufacture engine starters; H. W. Denniman, A. G. Arp, A. I. Sanbo.

Harris Tire Company, Savannah, Ga.; $40,000; to manufacture automobile tires; S. N. Harris, H. M. Garmany, C. S. Eichardson, L. B. Rith, M. B. Brabham, J. E. Mosher, E. DeLoach, J. L. Sellers.

Fred S. Phinney, Brooklyn, N. Y.; $5000; to deal in automobile accessories; A. S. Phinney, F. S. Phinney, A. N. Phinney.

Otto Gutzmann, New York City; $12,000; to deal in accessories; R. Gutzmann, P. Gutzmann, M. Beickert.

Windshield Clear Company, Akron, O.; to manufacture liquid for keeping glass clear; William J. Boer and others.

Lawndale Tire & Vulcanizing Company, Springfield, Ill.; $2500; P. F. Dreffein and others.

League Tire Company, South Bend, Ind.; $250,000; to manufacture automobile accessories; William P. Turey, Ross J. Miller, M. Brunk.

Crown Tire & Supply Company, Philadelphia, Penn.; $100,000; to manufacture automobiles and accessories; F. W. Thompson, B. S. Edwards, J. M. Frere.

H. L. Haden Company, Milwaukee, Wis.; $15,000; to deal in motor car accessories and supplies; E. G. Haden, N. M. Kent, E. J. Kappleman, H. L. Haden.

Kinton & Company, Rochester, N. Y.; $10,000; to deal in rubber articles; F. C. Kinton, W. E. Kinney, C. E. Graves.

Thomas Motive Power Company, Westchester, Penn.; $125,000; to manufacture a single stage air compressor for automobiles; Theodore Pennock, J. H. Thomas and others.

American Carbon & Battery Company, Chicago, Ill.; $250,000; to manufacture carbon products; H. Wrape, H. J. Wrape, W. C. Schramm.

Advance Tire Sales Company, New York City; $5000; Grace A. Burnette, George L. Lewis, Charles H. Stanton.

Napa Tire & Rubber Company, Dover, Del.; $100,000; to deal in automobile tires, etc.; M. L. Hirschbein, A. Hirschbein, W. I. N. Lofland.

Bart S. Adams Tire Company, St. Louis, Mo.; $50,000; to conduct an automobile accessory business; Bart S. Adams, Webster Groves, W. T. Flynn, E. M. Dierker, H. P. Lindley, W. S. Grant, J. P. Henry.

The Delaware Tire & Supply Company, Wilmington, Del.; $25,000; to manufacture and deal in tires.

Danville Auto Supply Company, Danville, Ill.; $2000; to deal in automobiles, supplies, etc.; F. A. Baumgart, E. W. Seanwright, Ira Molt, Pierce Burroughs.

Twaits Manufacturing Company, Worcester, Mass.; $10,000; to deal in lubricating specialties for automobiles; Daniel E. Twaits and others.

Seneca Motor Supplies Company, Chicago, Ill.; $10,000; to deal in automobile supplies; A. W. Senz, J. C. Garriott, Jr., H. M. King.

The Simons Sales Company, Saginaw, Mich.; $30,000; G. O. Simons, H. A. Faust, F. O. Van Doren.

Columbia Tire Company, Los Angeles, Cal.; $500,000; to deal in automobile tires; Edward Troan, W. B. Lee, H. W. Griswold, P. L. Huse.

Lacelde Automobile & Supply Company, St. Louis, Mo.; $50,000; to deal in automobiles and supplies; C. S. Chickiner, L. F. Curtin, J. J. Miltenberger.

Vehicle Safeguard Instrument Company, New York City; $25,000; J. J. Howe, F. G. Howe, J. A. Howe.

Justus & Parker Company, Columbus, O.; $15,000; to deal in automobile supplies and accessories; E. E. Parker, C. E. Justus, H. M. Parker, Bernard Smith, J. A. Justus.

King Tire Protector Company, Augusta, Me.; $500,000; to manufacture tire protectors; F. L. Farrington, M. L. Stoke.

Lighthouse Tire Company, New York City; $5000; to manufacture and deal in rubber tires; J. McLaren, F. B. Knowlton, S. V. Dowling.

Motor Fuel & Lubricating Company, Portsmouth, O.; $5000; to deal in accessories and supplies.

Filts Auto Supply Company, Los Angeles, Cal.; $5000; J. Crick, August Scheiffele, Sr., H. C. Hansen, Jr.

Rogers Manufacturing Company, Chicago, Ill.; $1500; to manufacture automobile accessories; William Harold Fox and others.

Universal Automobile Equipment Company, Brooklyn, N. Y.; $1000; E. Birkle, Jr., A. Moeller, P. Moeller.

Davis Automobile Accessories Company, Chicago, Ill.; $25,000; to deal in accessories and supplies; E. M. Gilbert, A. S. Kedzie, H. Garrett.

Cuyahoga Tire & Supply Company, Cleveland, O.; $10,000; to deal in tires and supplies; L. Abrams, M. M. Gleichman, M. Abrams, M. Eckstein, N. B. Gordon.

Seaton Pneumatic & Cushion Tire Company, Nashville, Tenn.; $25,000; R. B. Lees and others.

Auto Supplies Sales Company, Wilkesbarre, Penn.; $25,000; to manufacture automobiles and supplies; J. W. Williams, W. H. Turrell, M. E. Dean.

Indestructible Tire Company, Wilmington, Del.; $1,000,000; to manufacture automobile and other tires; J. McLarin, F. B. Knowleton, S. V. Dowling.

MISCELLANEOUS.

New York Central Transportation Company, New York City; $45,000; J. S. Sherman, L. M. Mestaniz, J. Mover.

Universal Advertising Autocar Company, New York City; $25,000; A. DeGiorgio, G. J. Lusardi, G. Manara.

Automobile Fire Association, Troy, O.; J. C. Fullerton, Jr.; G. W. Conrad, A. C. McClung, S. B. Fergus, J. H. Fulkerson, G. V. Schnell, W. B. Thompson, A. O. Nichol, J. S. Shinn, T. G. McKnight, H. Gabriel, F. C. Shroyer.

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PERSONAL NEWS OF THE INDUSTRY.

Joseph Fields, formerly a western branch manager for the Chalmers Motor Company, Detroit, has been made assistant sales manager of that concern.

F. D. Norman, Chicago, previously in charge of the Bosch Magneto Company's Toronto office, has become manager of the branch in the former city.

James Couzens, of the Ford Motor Company, Detroit, makes a specialty of dairying as an avocation. He is erecting a barn, which when completed will represent a large fortune. It will be a model dairy and for completeness and size it will be one of the most modern in the country. The exterior will be of stucco and it is of English design.

H. P. Sigwalt, formerly of the Geuder, Paeschke & Frey Co., Milwaukee, Wis., and the Fort Wayne Corrugated Paper Company, Fort Wayne, Ind., has entered the sales and advertising departments of the Federal Motor Truck Company, Detroit.

J. H. Ficken, New York City, has been appointed sales representative for the Kelly-Springfield Tire Company. He was formerly connected with the United States Tire Company in the same capacity.

A. H. D. Altree, New York City, former branch manager of the Bosch Magneto Company at Chicago, has been appointed to the office of vice president and will be located at the main offices of that company in New York City.

Charles A. Paine, Providence, R. I., has been made manager of the automobile department of Belcher & Loomis Hardware Company, succeeding Henry Paquin, resigned.

J. B. Coy, Milwaukee, has been appointed salesman for the local branch of the Buick Motor Company. He formerly travelled for the International Harvester Company.

W. C. Sille, Boston, has been appointed sales manager of the Chevrolet Motor Car Company. His headquarters will be in New York City.

Frank Laster, Minneapolis, has been made sales agent for the W. A. Paterson Company, Flint, Mich. His territory will consist of Minnesota, North and South Dakota, Montana, Nebraska, Wyoming, Idaho and Iowa.

G. O. Wildhack, Indianapolis, for four years manager of the branch of the Oakland Motor Car Company, has been appointed general travelling representative for that company.

George Edwards, Jr., Detroit, has become identified with Dodge Bros., well known automobile manufacturer of that city.

E. L. Baker, Syracuse, N. Y., has been appointed head of the service department of the H. H. Franklin Manufacturing Company of that city. He succeeds Ralph Murphy, who is now chief engineer. Mr. Baker has been identified with the Franklin engineering department for several years.

Woodrow Reese, Philadelphia, has been appointed manager of the Goodyear Tire & Rubber Company in that city.

H. J. Vogler, Philadelphia, has become associated with the Maxwell Motor Company, Detroit, Mich.

W. Robinson, Detroit, a former Canadian newspaper man has been appointed sales manager with the Wagenhals Motor Car Company.

L. I. Barnes, Detroit, has joined the sales force of the Federal Motor Truck Company, and will have charge of sales development in the South.

R. C. Hook, Trenton, N. J., has become identified with the Mercer Automobile Company.

Capt. W. H. Gray, Portland, Ore., who has been manager of the Northwest Automobile Company for the past two years, has resigned.

William Bloomfield has been appointed special representative for the states of Alabama, Louisiana and Mississippi by the Monarch Motor Car Company, Detroit. His headquarters will be at Birmingham, Ala.

Julian Case, Detroit, is now with the advertising department of the Paige-Detroit Motor Car Company of that city. He was formerly associated with the Regal Motor Car Company and the Abbott Motor Company.

George N. Jordan, Boston, has accepted a position as assistant manager of the wholesale branch of the Studebaker Corporation under Henry Myers. Mr. Jordan will travel the New England states.

C. B. Voorhis, Pontiac, Mich., has become assistant sales manager of the Oakland Motor Car Company of that city. He was formerly connected with the Kingman Plow Company of Peoria, Ill.

W. R. Chandler, New York City, has been appointed factory representative of the A. & J. Manufacturing Company, with offices in the United States Tire building.

Hoover Holton, Detroit, has been appointed general sales manager of the Monarch Motor Car Company. He was formerly connected with the Empire Automobile Company and the American Motors Company of Indianapolis.

E. A. Moore, Beloit, Wis., has been appointed general manager of the gas engine department of the Fairbanks-Morse Manufacturing Company, to succeed F. E. Greene, who resigned recently.

R. K. Roberts, San Francisco, Cal., has been appointed assistant general sales manager of the Oakland Motor Car Company of Pontiac, Mich. He will have entire charge of the company's interests on the Pacific coast, including the Hawaiian Islands.

C. R. Jones, Dallas, Tex., has been appointed district representative of the Lippard-Stewart Motor Car Company of Buffalo, N. Y.

D. E. Evans, Detroit, has become identified with the Goodyear Tire & Rubber Company. He was formerly connected with the General Motors Truck Company of St. Louis.

Frederick E. Hole, St. Louis, has been appointed manager of the local branch of the Wilcox Motor Car Company. He succeeds J. P. Gertsen, who resigned on account of ill health.

F. A. Greene, Des Moines, Ia., has become manager of the Cole Motor Car Company in that city. He succeeds Frank Weldon.

J. W. Burke and W. S. Porter, Boston, are two recent additions to the sales staff of the New England branch of the Locomobile Company.

A. I. Butler, New York City, has become identified with the Batavia Rubber Company as special representative. He will look after northern New York territory.

Roy E. Marcotte, Detroit, for the past two years manager of the advertising department of the Canadian branch of the Studebaker Corporation, is now located at the company's headquarters in Detroit and will continue to take care of the Canadian publicity from that office.

N. E. McKenney, Detroit, is now with the Federal Motor Truck Company. He was formerly connected with the American Steel & Wire Company and a number of other prominent firms.

F. J. Mooney, Detroit, advertising expert of the Hupp Motor Car Company, has been appointed sales manager in addition to his position as head of the advertising department.

Dave Williams, Kokomo, Ind., has been appointed manager of the newly made agency of the Haynes Automobile Company at Fourth avenue and York street.

R. Ward Macey, Jr., has severed his connection with the Premier Motor Manufacturing Company, Indianapolis, but retains his interest in the company as a stockholder.

R. H. Spear, Detroit, has been appointed general manager of the Scripps-Booth Company, maker of the Scripps-Booth cyclecar.

Dr. Norman R. New, Chicago, who was sales manager of the branch of the Mitchell Automobile Company in Milwaukee, Wis., has become identified with the home office in the former city. He took care of the Milwaukee interests for over two years.

F. G. Sudrow has been appointed southern district sales manager by the King Motor Car Company, Detroit. He was formerly connected with the Stoddard-Dayton Motor Car Company and the Marion Motor Car Company.

R. C. Smith, Minneapolis, is now president of the newly formed Regal Motor Car Company of that city. A. P. Heaney is general sales manager.

Clarence O. Sacks, Boston, who recently became connected with Gray & Davis, Inc., has been appointed to the board of directors.

George Toole, Detroit, has succeeded I. D. Rocap as superintendent of the Lincoln Motor Car Company.

H. H. Howe, Detroit, has been made district efficiency manager of the Maxwell Motor Company of that city. He was formerly district manager for that company at Indianapolis.

E. E. Hazelgrove, Richmond, Va., has become associated with the Alsop Motor Company as travelling salesman. He was formerly connected with the Eastern Motor Sales Corporation.

J. B. Childe, Canton, O., has been appointed general manager of the Cleveland Axle Manufacturing Company and the Cleveland-Canton Spring Company.

Professor Benjamin F. Bailey, Detroit, has joined the engineering staff of the American Electric Starter Company. He was formerly professor of engineering at the University of Michigan. Professor Bailey will devote his time at present to perfecting an electric starter for cyclecars.

Frank Welch, Pontiac, Mich., has become associated with the Pontiac Motor Supply Company. He will have entire charge of its vulcanizing and repair departments. He was formerly connected with the Detroit Tire Repair Company.

Albert E. Reblin, Lansing, Mich., for more than 12 years purchasing agent of the Olds Motor Works, died recently after a long illness.

W. C. Du Comb, New York City, has become a part of the organization of Barthel & Daly, sole importer of Schafer ball bearings. He will act in the capacity of mechanical engineer.

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L. S. Sheup, Indianapolis, has been appointed sales manager of the Oakland Motor Car Company in that city.

Z. C. Elkin, Chicago, has been appointed manager of the local branch of the General Motors Truck Company of Pontiac, Mich.

T. E. Byrne, Indianapolis, has joined the sales force of the Premier Motor Manufacturing Company. Formerly he was connected with the Cole Motor Car Company.

A. F. Masury, New York City, has been made chief engineer of the International Motor Company. He was formerly service manager for that company.

L. B. Moore, Cleveland, has been appointed manager of the Sixth City Motor Company. He was formerly district salesman for the Moon Motor Car Company.

Herbert Higginbottom, Indianapolis, has become identified with the Nordyke & Marmon Company of that city. He was formerly connected with the Abbott Motor Company.

Frank L. Brown, New Haven, Conn., now has charge of the distribution of Stutz cars in that territory. He was formerly with the Alvan T. Fuller Company, Boston.

F. G. Benson, New York City, has been appointed wholesale manager of Partridge, Clark & Kerrigan, Inc. He has been identified with the automobile industry for the past nine years and is well known to the trade.

F. C. Kent, Cincinnati, is now with the Shipley Machine Tool Company as works manager. He was formerly connected with the Pierce-Arrow Motor Car Company, Buffalo, N. Y.

W. S. Reed, Chicago, has accepted a position with the Cowles-MacDowel Engineering Company as chief engineer. He was formerly connected with the Norwalk Motor Car Company, Martinsburg, W. Va., in the same capacity.

K. R. Montgomery, Detroit, has become manager of the local branch of the Krit Motor Car Company, located at 1225 Woodward avenue.

John Primrose, Flint, Mich., well known in motor car manufacturing centres and formerly factory manager of the Marion Motor Car Company, died recently.

James S. McNally, Waltham, Mass., publicity manager of the Metz Automobile Company, recently dropped dead at his home in Dorchester.

Burton Parker, Jackson, Mich., has been appointed assistant to Benjamin Briscoe of the Briscoe Motor Company. He was formerly advertising manager of the Overland Motor Car Company, Toledo, O.

E. B. Center, Wichita, Kan., has accepted a position as electrician with the Wichita Automobile Company. George H. Schollenberger of that company states that his firm is recognized by the battery and electrical equipment manufacturers as being the best equipped station in the southwest.

Jacob Alpert, Detroit, has accepted a position with the Maxwell Motor Company.

Donald Anthony, Baltimore, has been appointed local resident manager of branch maintained on West Mount Royal avenue by the Locomobile Company of America, Bridgeport, Conn. He succeeds T. W. Wilson, Jr., resigned.

John J. Ryan, Detroit, who was formerly manager of the local branch of the Wheeler & Schebler Company, Indianapolis, is now travelling in the interests of the Hupp Motor Car Company.

L. A. Van Patten, New York City, who is the representative of the Saxon Motor Car Company, has been given additional territory, including five of the northern counties of New Jersey.

A. E. Hart, Lansing, Mich., who is the representative of the Olds Motor Works, is touring in Illinois with A. M. Zerweck, president of the De Luxe Automobile Company. He is appointing agents throughout that state.

R. E. Campbell, manager of the St. Louis automobile accessories department of the H. W. Johns-Manville Company, has received word from Edward A. Cassidy, New York manager of the company, that his branch has sold more Carter carburetors than any other of the company's branches. The Carter carburetor is made in St. Louis.

George Tandy, St. Louis, has joined the sales force of the Cyclecar Sales Company.

Charles S. Henshaw, Boston, who represents the Packard Motor Car Company, is confined to the Corey Hill hospital. He underwent an operation for appendicitis. Mr. Henshaw expects to return to his desk within the next month.

Homer F. Himes, Dayton, has accepted a position as tool designer with the Dayton Engineering Laboratories Company, maker of the well known Delco lighting and starting system.

H. A. Rasely has sailed for Australia in the interests of the General Motors Company, Detroit. His headquarters will be Sydney, N. S. W., as service manager, and he will have charge of all service and repair work both in the Commonwealth of Australia and the Dominion of New Zealand.

Allen L. McCormick, Louisville, Ky., formerly vice president of the Southern Motors Company, has invented a new windshield device which prevents rain from entering between the two panes of glass. It is a weatherstrip and may be easily removed or left in position as suits the driver. The vision is not interfered with in the least, as the strip is less than an inch wide.

OPPORTUNITIES FOR THE DEALER AND GARAGE.

TREMO HORN.

Operated by Exhaust Gases and Is Made for Ford and All Makes of Gasoline Cars.

The D. Henry Bonner Company, Cambridge, Mass., is manufacturing the Tremo horn, which is operated by the exhaust gases of the motor. It is a perfect signal at all speeds of the motor, is easy to attach and will not clog. One of its features is the clamp utilized in the Ford design, it slipping over the tail or end of the muffler pipe. The Ford type retails for $4 and is guaranteed. The Tremo horn is also made in four other sizes, the Nos. 1, 2, 3 and 4, being adaptable for motors of horsepower ranging from 16 to 50. Special discounts are offered the trade and these will be supplied upon writing.

BALL CARBON REMOVER.

Displaces Carbon from Cylinders Without Dismantling the Motor—Comes in Tablet Form.

The Bowling Green Sales Company, 42 Broadway, New York City, is marketing the Ball carbon remover, a chemical compound, which comes in convenient tablet form. It is stated by the maker that these tablets will quickly destroy the carbon in cylinders and provide a film of lubricant on the walls. Teritorial rights are open. Particulars will be supplied by addressing Dept. A.

MORGANBRITE.

A Brass and Metal Polish Free from Deposits Placed in Practical and Economical Container.

The Morgan Manufacturing Company, Newport, R. I., maker of specialties, tools, etc., is marketing MorganBrite, a brass and metal polish which is stated to be free from elements that leave a deposit on the work. It is also stated that the lustre imparted is very lasting. MorganBrite comes in cans of the "Polisaver" type, a container making for economy of the polish. The screw cap is retained to the body of the can by a chain and a swivel. All cans are sealed at the factory. The company has a profitable dealers' proposition, the details of which will be supplied upon request.

MILLER'S TOP DRESSING.

Is Adaptable for Tops of Mohair, Pantasote and Similar Material, and Obtains a Velvety, Soft Surface.

The Frank Miller Company, 351 West 26th street, New York City, is manufacturing the Miller top dressing, which is especially adaptable to tops of mohair, pantasote and similar material. One of the desirable qualities of the dressing is that it imparts a new velvety finish without hardening the surface. The dressing is guaranteed and is inexpensive.

BOSTON STARTER OFFER.

Automatic Appliance Company Has Attractive Proposition for Dealers in Ford Territory.

The Automatic Appliance Company, 172 Columbus avenue, has an attractive selling plan for dealers, the details of which will be forwarded upon request. The company produces the well known Boston starter for the model T Ford car, and the practicability and efficiency of this starter is demonstrated by the large number in service. The Boston starter is easily attached and the discount given to the trade is an attractive one.

FORD DELIVERY BODIES.

The practicability of the model T Ford for commercial purposes has been demonstrated. It is being used for a variety of work, and "Lew" Fales, Providence, R. I., carries a large number of these in stock and is prepared to supply the trade at short notice. He issues a circular giving dimensions, styles, prices, etc., which will be sent free upon request.

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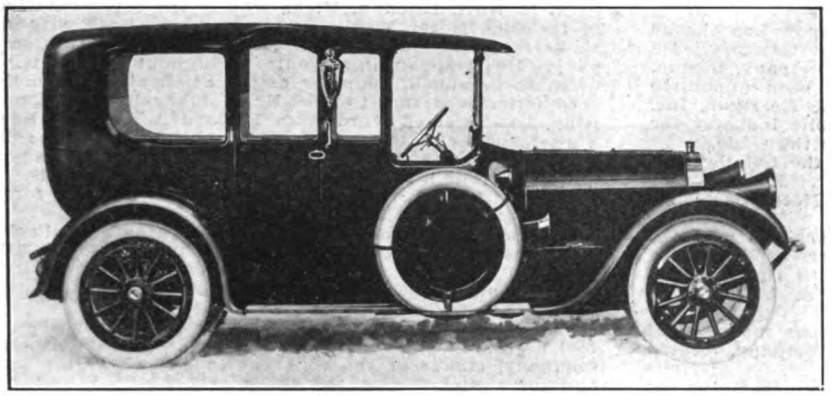
ALL 1915 MAKERS ADOPT STREAMLINE BODY.

PIERCE-ARROW MODELS.

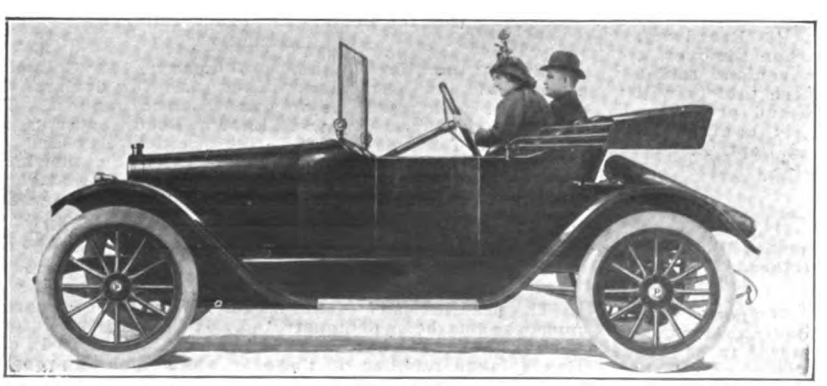
Series Three Cars Are Radically Different in Appearance.

The 1915 product of the Pierce-Arrow Motor Car Company, Buffalo, N. Y., is known as the Series Three cars, which will sell at the same prices as the former Series Two. The new line is built in three sizes. The price of the 66-horsepower chassis, known as the 66 A-3, will be $5850 for the two-passenger runabout and the four-passenger touring car; $6000 for seven-passenger touring car; $7100 for suburban and landau; $7300 for vestibule suburban and vestibule landau; $6800 for the brougham and landaulet; $7000 for the vestibule brougham and the vestibule landaulet. The 48-horsepower model will be designated as the 48 B-3, and the price of the two-passenger roadster and four-passenger touring car will be $4850, and all other prices for the various types of the 48 will be exactly $1000 less than the 66, as quoted above. The last model, the 38-horsepower, will be called the 38 C-3, and the touring, torpedo and roadster will cost $4300; the coupe $5000, limousine $5300, landaulet $5400 and the Berline limousine $5500.



One of the New Types of Enclosed Bodies, Having Simple Lines.

In general appearance the new series differ radically from the former models. Without reducing the road clearance it has been found possible to lower the bodies and running boards of all models by increasing the drop of the central portion of the frame. This change has made it necessary to abandon the gravity fuel feed to the engine and to substitute a pressure feed with the gasoline tank at rear of chassis. This has made it possible to place the carburetor higher, thereby increasing its accessibility. All three engines are six-cylinder, four-cycle, water-cooled units. The bore and stroke of the motors are as follows 66 A-3, five-inch bore, seven-inch stroke; 48 B-3, 4½-inch bore, 5½-inch stroke; 38 C-3, four-inch bore, 5½-inch stroke.



The Partin-Palmer "20", Showing the Streamline Body.

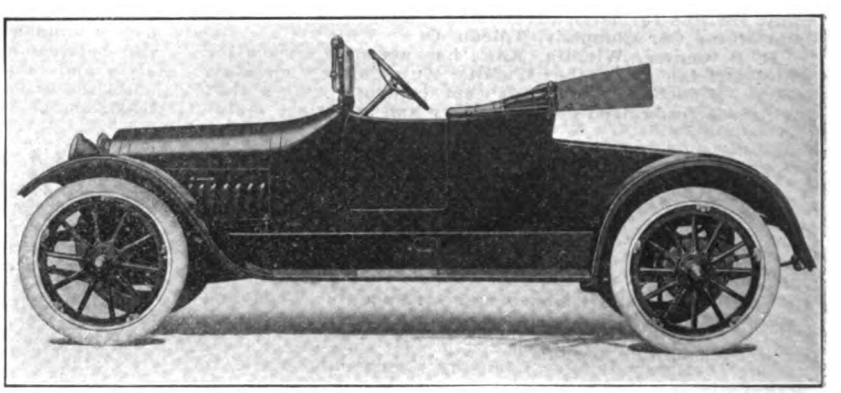
REGAL CUTS PRICE.

Underslung Type of Construction Is Abandoned in 1915 Designs.

For 1915 the Regal Motor Car Company, Detroit, Mich., will adopt a single-chassis model, which supersedes models T and C of last season. This new model eliminates the underslung effect, and the price of the touring car or roadster will be $1085 with complete appointments, as against $1125 for last season's underslung model and $1350 for the overhung type.

The new type, which is designated as model D when fitted with a touring body, and as model R as a roadster, has the conventional suspension, with frame over axles, as had the model C cars of last year. The touring car, with a five-passenger body, has a sloping cowl and hood, domed fenders and wide doors, and streamline effect, with long, graceful body curves, is shown.

The motor is block cast, with detachable cylinder head. The valves are on the left side in conventional L head form, and the manifolds are of simple construction. The bore of 3¾ inches is the same as last year's model, but the stroke has been increased from four to five inches, and the motor weighs 151 pounds less. The lubrication system is force feed and splash. The ignition is by the Atwater Kent system, automatic advance, which does away with a spark lever.



Regal Two-Passenger Roadster, Noticeable for Many Refinements.

One of the unique refinements is the removal of the radiator filler cap from the outside of the radiator.

PARTIN-PALMER 20.

Latest Light Car Is Equipped with Electric Lighting System.

The Partin-Palmer Manufacturing Company, Chicago, Ill., is presenting the Partin-Palmer 20, which is designed to sell at $495. The features of this car include a streamline body, full equipment, with the Gray & Davis electric lighting system, standard tread and 96-inch wheelbase, Atwater Kent ignition, irreversible steering gear, rear axle gearset, full floating rear axle, three-quarter elliptic rear springs, and sliding gear transmission.

An L head, block cast, four-cylinder motor with bore of 2¾ inches and a stroke of four inches, with a single casting combining the intake and exhaust manifolds, is mounted on a three-point suspension. The machine has a honeycomb radiator, provided with a water tank at the top, because of the thermo-syphon water circulation. The valves are on the left side, and their stems are fully enclosed. Lubrication is by splash in connection with a mechanical plunger pump.

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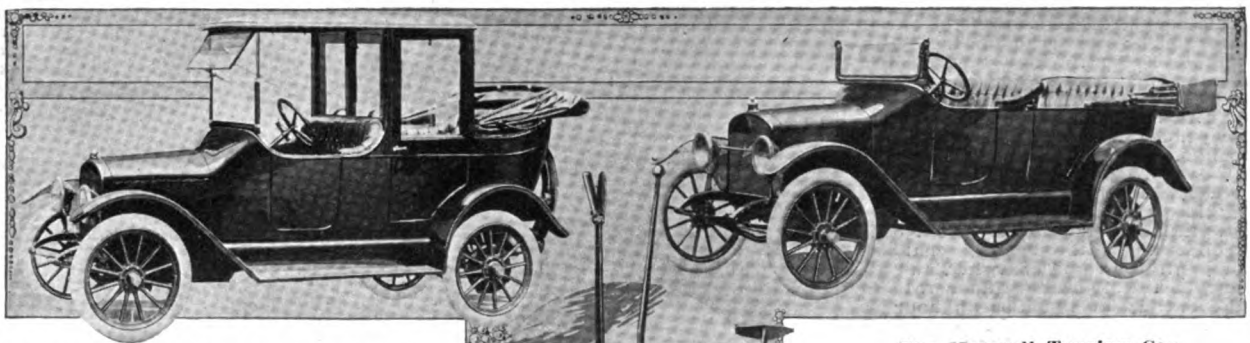
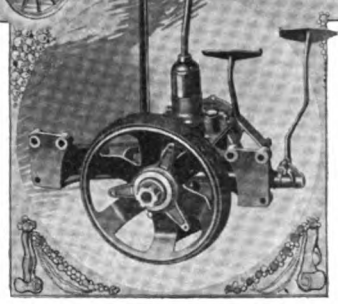
MAXWELL PRICE REDUCED.

Many New Refinements Added and Streamline Body Adopted.

Entering its second year with a streamline body and many additional refinements, the Maxwell 25, made by the Maxwell Motor Company, Detroit, Mich., has kept



Three-Quarter View of the Town Car.



Details of Centre Control.

The Maxwell Touring Car.

pace with the general trend of automobile construction. Likewise the price of the 1915 Maxwell has been reduced $50 on all types, the touring car now being $695, the roadster $670, the town car $920, and the cabriolet $840. These prices include the Prest-O-Lite gas tank for headlights. Gray & Davis two-unit cranking and lighting system and storage battery are made optional and cost, for any of the cars, $55 extra. Consequently, when completely equipped electrically, any of the body models cost exactly the same as they did last year without the electrical features.

Mechanically the chassis is the same as the 1914 model, although several refinements are added, including the replacing of the semi-elliptic rear springs, which connected the spring horns at their rear ends.

1915 HUDSON LIGHT SIX.

With 31 Additional Refinements Price of Car is Cut.

The Hudson Motor Car Company, Detroit, Mich., announces the 1915 light Hudson Six-40, price $1550, a reduction of $200. There are 31 additional refinements em-

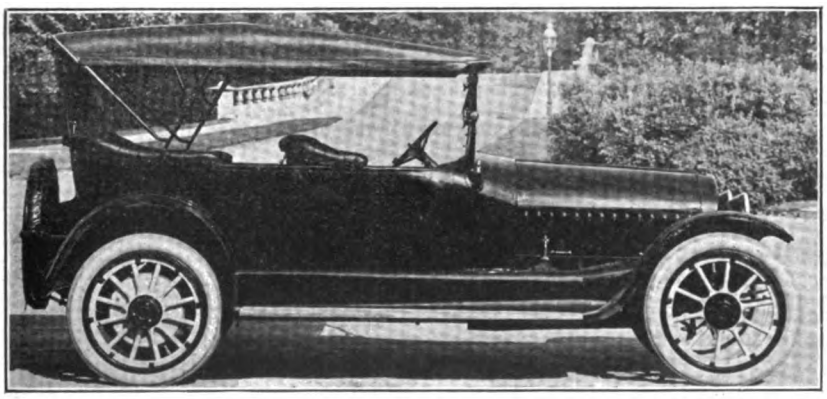
bodied in the new model. The Hudson-Delco electric starting and lighting system has been simplified, the wiring is run in rust proof tubes, the headlights are furnished with dimmers for city work, and the side lights are eliminated entirely. The extra tire is carried on the left side, forward, and is clear of the fore door, giving access to either side of the car; the gasoline tank is in the cowl dash; the streamline body has flush sides and concealed hinges, and there are no angles at the dash. The wheelbase is 123 inches and the tires are 34x4 inches.

The motor, six cylinders, is cast en bloc, and has a bore of 3½ inches and a stroke of five inches. The new Six-40 is supplied with phaeton, coupe, limousine, roadster or convertible roadster bodies, and the larger type, known as Six-54, is built with phaeton or limousine body.

MARMON CONTINUES LINE.

Little Six Is First Car to Adopt Complete Bosch Output.

The sheet steel body of the 1915 Marmon Six has a streamline effect with sloping hood, crowned fenders and rounded radiator. This car, made by the Nordyke & Marmon Company, Indianapolis, Ind., carries a full Bosch outfit, magneto, starter and generator, all in separate



Model 41 Marmon Six, with Streamline Body.

units, and in addition all the switches, wiring, lamps, bulbs, etc., have been bought from the same concern. In previous models the Marmon starter installation was by means of a chain drive contained in a separate housing in the rear of the motor.

The car has a six-cylinder L head motor, the cylinders cast three en bloc, and has a bore of 4¼ inches and a stroke of 5½ inches. The gasoline tank is of seamless steel having 25 gallons capacity. Price of seven-passenger is $3850, and of the other models, $3250.

OAKLAND SIX COSTS LESS.

One Chassis Model Discontinued, and Price of Larger Cut.

The 1915 announcement of the Oakland Motor Car Company, Pontiac, Mich., shows that it has cut its line down to two chassis models, a four and a six, discontinuing the larger four, and has reduced the price of the six to $1685, a decrease of $100. The price of the four remains unchanged, $1200.

The six remains practically unchanged, but the four is a much-altered continuation of the 1914 small four. Both machines carry full equipment, which includes the Delco electric lighting and starting system, top with cover and curtains, rain-vision ventilating windshield, electric horn, tools, jack and pump. The motor, a Northway, four or six cylinders, is an L head, cast en bloc, with a bore of 3½ inches and a stroke of five inches. The L head cylinders have a detachable one-piece head, and the valves, of a tungsten alloy, are completely enclosed in the usual way. The timing gears are spirally cut.

A change has been made in the gasoline feed system, the vacuum system being used this year to carry the fuel from low-down rearward gasoline tank to carburetor, instead of last season's pressure system. What amounts to a complete redesigning has brought about considerable improvement in the smaller model, not only in appearance, but also in its running capabilities. While retaining its original dimensions, the motor of the four has a marked increase of speed and power, so that the engine now belongs to the high-speed class, running up to 2500 or 2600 revolutions a minute. The lightening of the reciprocating parts, the increasing of the valve diameters and the redesigning and freeing of the gas passages are chief among the improvements noted.

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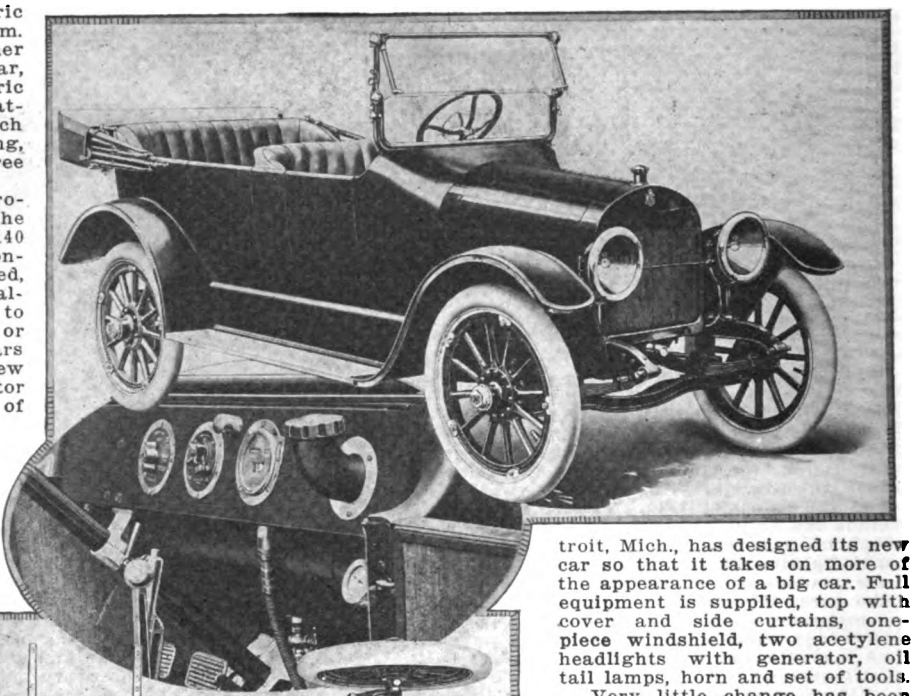
KING SHADES PRICE.

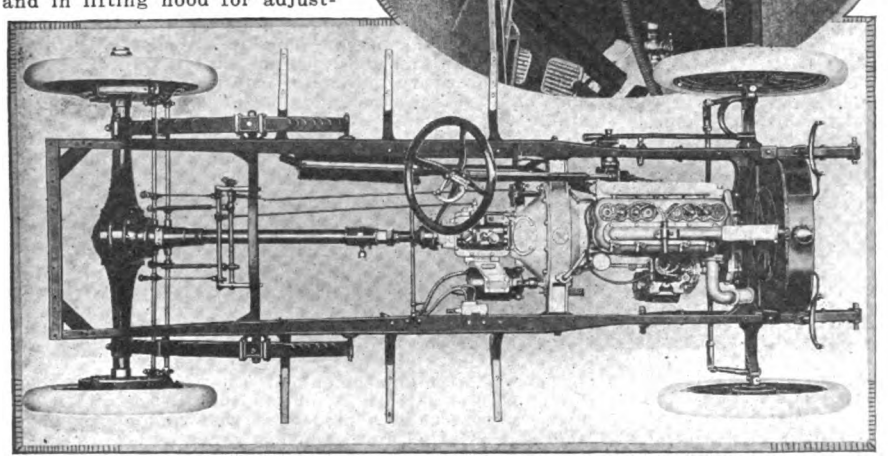
Decrease of $20 Is Made on the Car as Compared with 1914.

Numerous refinements have been made to the 1915 King, model C, made by the King Motor Car Company, Detroit, Mich. The price of the touring car and the roadster is $1075, with an additional cost of $90 for the Ward Leonard electric starting and generating system. This compares with $1095 for either the touring or roadster last year, and $100 extra for the electric equipment. The motor of the latest King, together with the clutch and transmission, is in one housing, suspended from the frame at three points.

A more powerful motor is provided which is designed to turn the engine over up to a rate of 140 revolutions a minute. A patent controller keeps the battery charged, prevents too rapid charging, and allows a full 10 ampere-hour rate to the battery at 10 miles an hour or over. One set of reduction gears has been eliminated through a new arrangement of the electric motor in connection with the flywheel of the engine.

A perfect streamline body effect is secured through the placing of the 12-gallon gasoline tank in the cowl. This allows the carburetor to be placed high on the intake manifold, with a view to insuring greater efficiency in its action, and in lifting hood for adjustment, or repair, the carburetor is in full sight. The motor, four cylinders, is cast en bloc, and has bore of 3 15/16 inches and a stroke of five inches.





Upper Illustration Is a Three-Quarter View of King Car; Centre Insert Shows the Instrument Board, and Lower Is a Top Plan View of Stripped Chassis.

1915 SAXON CHANGES.

Price Is Not Increased and Many Refinements Have Been Added.

The price of the new Saxon model remains at $395, despite the many improvements and refinements that have been added. The Saxon Motor Car Company, De-troit, Mich., has designed its new car so that it takes on more of the appearance of a big car. Full equipment is supplied, top with cover and side curtains, one-piece windshield, two acetylene headlights with generator, oil tail lamps, horn and set of tools.

Very little change has been made in the motor, which is a Continental, four-cylinder L head type, cast en bloc, with a bore of 2⅝ inches and a stroke of four inches. The crankshaft runs on two babbitt lined bronze bearings; the camshaft, which has integral cams, is one inch in diameter and is operated by helical timing gears. The valves have steel stems and cast iron heads.

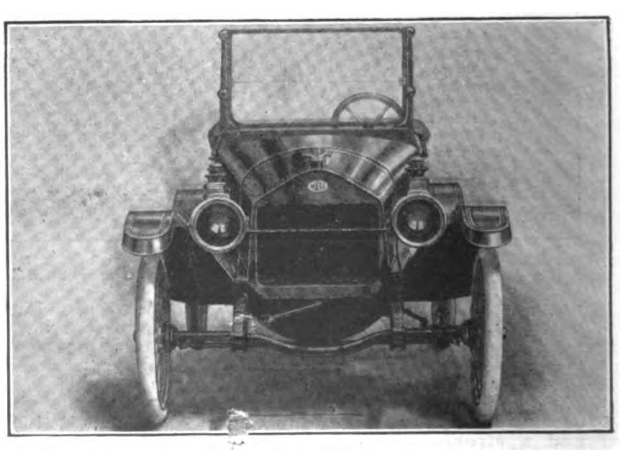
Lubrication is effected by vacuum feed, which maintains a constant level. The Atwater Kent ignition system takes current from a six-cell dry battery. Cooling is by thermo-syphon with tubular radiator and fan. The Mayer carburetor has its air and gasoline adjustments on the dash board and fuel is fed to it by gravity from a six-gallon tank under the cowl; the filler cap projects through the top of the cowl. The propeller shaft runs in a steel torque and has a single universal joint, and the steering gear is bevel with sector and pinion constructed of improved material.

NEW METZ FEATURES.

Latest Model Has Streamline Semi-Enclosed Body Design.

The 1915 model of the Metz "22", built by the Metz Company, Waltham, Mass., has a streamline body with a sloping bonnet and cowl dash, the gasoline tank being carried under the cowl. The price of the car, complete, is $495. The body design of the 1915 Metz is semi-enclosed, and is a modification of the fore door type. It is claimed for this arrangement that protection is furnished the passengers and at the same time the trouble of opening and closing the doors is eliminated.

The motor is a water-cooled, four-cylinder, L head, block cast type, rated at 22½ horsepower, the cylinders having 3¾-inch bore and four-inch stroke. The upper section of the crank case is cast with the cylinder block, and the cylinder heads are detachable. An automatic float feed carburetor, high-tension magneto ignition and a mechanical feed constant level lubricating system are included in the power plant. It has the friction type of transmission, which affords any number of speeds.



Front View of New Metz Fore Door Body.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ARIZONA.

Douglas—Lozier, Southern Arizona Auto Co.
Holbrook—Maxwell, Charles L. Rhoton.
Phoenix—Buick, M. L. Fish.
Haynes, G. D. Campbell.
Wilcox—Studebaker, Lee Adams.

ARKANSAS.

Harrison—Maxwell, Frew Saddlery Co.

CALIFORNIA.

Chico—Maxwell, J. I. Lewis.
Compton—Hupmobile, R. E. Hathorn.
Los Angeles—Diamond T, Evans & Dew.
Pomona—Maxwell, Frank A. Moore.
Redlands—Maxwell, R. M. Morrow.
Redondo Beach—Maxwell, B. E. Savage.
San Francisco—Monarch, Christensen M. C. Co.
Oakland, George Peak.
Vulcan, Hoffman Motor Co.
San Jose—Franklin, Normandin-Campen Co.
Hudson, Normandin-Campen Co.
Santa Ana—KisselKar, C. E. Isaacson & Son.
Sisson—Maxwell, P. H. Miller.
Tulare—KisselKar, W. A. Swall.

COLORADO.

Las Animas—Maxwell, T. H. Marshall.
Mead—Case, Jesse E. Kitts.

CONNECTICUT.

Hartford—Regal, Imperial Motor Car Co.
Mystic—Franklin, Mystic Auto Station.

FLORIDA.

Gainesville—Cole, Gainesville Motor Car Co.

GEORGIA.

Tippettville—Maxwell, A. B. Tippett Sons Co.
Vidalia—Maxwell, C. C. Thaxton.

IDAHO.

Hailey—Maxwell, Hailey Garage Co.
Orofino—Detroiter, Seven Seven Co.
Shoshone—Maxwell, Helman & Helman.

ILLINOIS.

Cerro Gordo—Maxwell, C. W. Adams & Co.
Emden—Case, McCormick Auto Co.
Forrest—Case, Smith & Grotevant.
Hampshire—Case, W. H. Bahe.
Joliet—Cole, H. B. Sahler.
Lamoille—KisselKar, Charles H. Wells.
Macomb—Maxwell, A. E. Dowell.
Robinson—Westcott, O. H. Wheeler.

INDIANA.

Bowling Green—Maxwell, K. X. Frump.
Centerville—Maxwell, J. M. Zea.
Clarkshill—Maxwell, McKinney & Mugg Auto Co.
Dana—Maxwell, Scott & Stanfield.
Evansville—Allen, E. H. Rasch & Co.
Indianapolis—Locomobile, Harry L. Archey.
Westcott, Sears Auto Repair Shop.
Martinsville—Cole, Martinsville Auto Co.
New Albany—Saxon, W. W. Humbert.
South Bend—Overland, Overland South Bend Auto Co.
Tocsin—Crow Elk-Hart, A. P. Kelley.

IOWA.

Bradyville—Maxwell, Wort, Friend & Andrews.
Clarinda—Maxwell, Night & Day Garage.
Clinton—KisselKar, C. A. Fay.
Council Bluffs—Cole, C. H. Robertson.
Des Moines—Franklin, Johnston Motors Co.
R-C-H, Holsman Sales Co.
Eldora—Cole, Emery Auto Co.
Muscatine—Cole, Denham & Smalley Motor Co.
New Hampton—Velie, John Achen and Everett Sewell.
Perry—Cole, W. J. Cole.
Prescott—Maxwell, C. R. Boyer.
Sioux City—Overland, Overland Sioux City Co.
Oldsmobile, H. E. Shoberg.

KANSAS.

Aulne—Maxwell, Aulne Auto Co.
Colby—Maxwell, J. T. Fitzgerald.
Goodland—Maxwell, R. A. Kent.
Great Bend—Maxwell, J. A. Pritchard.
Halls Summit—Cole, H. W. McFadden, Jr.
Halstead—Maxwell, R. E. Jones.
Hoxie—Maxwell, Frank A. McIvor.
Lyons—Maxwell, Lyons Auto Co.
Manhatten—Case, F. C. Richards.
McCracken—Maxwell, Hollis Motor Co.
Norton—Maxwell, Garrity & Mansfield.
Ottawa—Cole, Troup Bros.
Paola—Maxwell, Lehr & Gardner.
Sebatha—Cole, Mishler Bros.
Stockton—Maxwell, Geo. E. Taylor.
Wichita—Maxwell, Rafferty & Rodd.

KENTUCKY.

Ashland—Ford, Marting's Garage.
Overland, Wellman Motor Car Co.
Saxon, Wright Motor Car Co.
Beaver Dam—Saxon, M. D. Hudson Automobile Co.
Bowling Green—Hupmobile, Imperial Auto Co.
Studebaker, Imperial Auto Co.
Brandenburg—Ford, McIntire & Applegate.
Campbellsville—Ford, Buchana-Lyon Co.
Carrollton—Saxon, J. G. Howe.
Central City—Ford, Barnes Automobile Co.
Cynthiana—Saxon, Bryant McMurty.
Frankfort—Saxon, Nicols Bros.
Harrodsburg—Saxon, Ingram's Garage.
Hawesville—Ford, T. D. Hale.
Henderson—Saxon, J. V. Grasser.
Jacksonville—Briscoe, Southern Auto & Supply Co.
Leitchfield—Saxon, Paul Meridith.
Lexington—Briscoe, A. W. T. Davis.
McFarland, McFarland Six Sales Co.
Overland, S. E. Drake.
Paige, Bluegrass Auto Co.
Reo, Phoenix Motor Car Co.
Louisville—Partin-Palmer, Louisville Automobile Exchange.
Nashville—Stutz, Stutz Motor Car Co.
Owensboro—Saxon, J. R. Beck.
Poole—Maxwell, Poole Motor Sales Co.
Saxon, Crowley & Nelson.
Prospect—Maxwell, Gurnett S. Dick.
Simpsonville—Maxwell, J. L. Baskett.

MAINE.

Augusta—*Koehler, C. Floyd Smith.
Bangor—*Koehler, S. L. Crosby.
Calais—KisselKar, William Alexander.
Portland—KisselKar, E. F. Gellerson.

MARYLAND.

Baltimore—Partin-Palmer, Model Automobile Co.

MASSACHUSETTS.

Boston—Lozier, Leghorn Motor Car Co.
Partin-Palmer, Hudson Dolan Co.
Concord—KisselKar, Torry & Vialle.

MICHIGAN.

Grand Rapids—Briscoe, Wealthy Heights Garage Co.
Hudson, Reid Auto Co.
Kalamazoo—Studebaker, L. E. Kraft.
Ludington—Ford, Cartier Auto & Gar. Co.
Hupmobile, Cartier Auto & Gar. Co.
Jackson, Cartier Auto & Gar. Co.
Oldsmobile, D. MacVichie.
Pullman, Cartier Auto & Gar. Co.
Saginaw—Overland, Simons Sales Co.
Wolverine—Ford, George A. Graves.

MINNESOTA.

Lanesboro—KisselKar, Torger Elstad.
Mankato—Cole, Laurie Max.
Minneapolis—Dodge, A. C. Templeton.
Paterson, John P. Snyder Automobile Co.
Regal, Regal Motor Car Co.
Standard, Metropolitan Motor Co.
*Stewart, Twin City Fixture Exchange.
Nicolet—Case, Johannes Bros.
Ortonville—Case, Chester Olson.
Rochester—Cole, West & Postler.
St. Paul—Case, Eugene Osborn.
Waconia—Case, Max Weinmann.

MISSOURI.

Brookfield—Moon, Barbee Garage.
Eldon—Cole, E. C. Weeks.
Greenfield—Maxwell, M. L. Young.
Kahoka—Metz, Otho J. Case.
Kansas City—Howard, Young Motor Co.
Lexington, Young Motor Co.
Partin-Palmer, Standard Motor & Manufacturing Co.
Vulcan, Vulcan Motor Co.
*Republic, Republic Motor Sales Co.
Ozark—Maxwell, J. H. Gardner and P. R. Wagoner.
St. Charles—Maxwell, St. Charles Garage.
St. Joseph—Chandler, Burger-Grier Auto Co.
St. Louis—Abbott-Detroit, Colonial M. C. Co.

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Car-Nation, F. B. Ottofy.
Chandler, Lewis Automobile Co.
Stutz, Stutz Automobile Co.
Universal, Pathfinder Motor Car Co.
*Commerce, Federal Truck Co.

NEBRASKA.

Burwell—Maxwell, G. R. Key.
Danbury—Maxwell, J. W. Nutt.
Elkhorn—Maxwell, Herman J. Schneide.
Omaha—Dodge, C. H. Hurst.
KisselKar, Noyes Auto Co.
Lozier, Eric Nelson.
Overland, J. R. Jamison.

NEW JERSEY.

Elmer—Crow Elk-Hart, J. E. Smith & Co.
Hightstown—*Koehler, Thos. Peppler & Son.
New Durham—KisselKar, Arthur T. Bruce.
Passaic—KisselKar, Sheely Motor Co.
Trenton—Lewis, Barnes Street Garage.
White house—*Koehler, Burdette Bros.

NEW YORK.

Baldwinsville—Case, L. R. Failing.
Brooklyn—Westcott, Remson Auto Co.
Hempstead—Case, E. J. Christ.
Hudson Falls—Case, J. O. Klock.
Jamaica—KisselKar, Richard Van Siclen.
Larchmont—Case, C. O. Hamilton.
Middletown—KisselKar, Central Garage Co.
New York—S. G. V., S. G. V. Sales Co.
Nyack—Westcott, D. D. Kessler.
Syracuse—Case, G. W. Bennett.

NORTH DAKOTA.

Sentinel Butte—Maxwell, C. J. England.
Valley City—Maxwell, Frank Flora.

OHIO.

Akron—Cole, Summit Auto Co.
Athens—*Koehler, F. E. Goldsberry.
Attica—Detroiter, H. Fike.
Bryan—Detroiter, C. F. Yunck.
Cambridge—Detroiter, E. B. Shipley.
Carrollton—Saxon, C. A. Hess.
Cavett—Detroiter,, J. N. Borden.
Celina—Detroiter, Wagner Motor Sales Co.
Circleville—Allen, G. L. Schlear.
Cadillac, G. L. Schlear.
Hupmobile, G. L. Schlear.
Cleveland—Maxwell, W. H. Barger Co.
Mercer, Trenton Motor Sales Co.
Columbus—Patterson, Dean DeWitt.
Dayton—Cole, C. W. Hoffrit Sale Co.
Fayetteville—Detroiter, C. McGuillan.
Fredericktown—Detroiter, Leedy Farm Sup. Co.
Glenmont—Detroiter, G. L. Robinson.
Jamestown—Detroiter, W. F. Harper.
Lancaster—Detroiter, C. E. Cline.
Logan—Detroiter, Hocking Valley Auto Co.
Marietta—Detroiter, F. G. Henry.
Marion—Detroiter, A. D. Hill.
Minister—Detroiter, J. B. Piening & Son.
Newark—Detroiter, J. E. Sigler and C. Norris.
New Straitsville—Detroiter, D. Watkins.
Norwalk—Chevrolet, Big Garage.
Otway—Detroiter, J. R. Walsh.
Piqua—Detroiter, C. R. Alexander.
Sandusky—Cole, W. C. Waterfield.
Sebring—Cole, Sebring Auto & Rep. Co.
Sherwood—Detroiter, Sherwood Garage Co.
Springfield—Detroiter, W. E. Neer.
Sunbury—Detroiter, G. E. Murphy.
Tunnel Hill—Crow Elk-Hart, Sproul Bros.
Washington C. H.—Detroiter, Economy Sales Co.
Waterford—Ford, P. D. Pickering and P. L. Roberts.
West Chester—Detroiter, H. A. Gaeting.
West Manchester—Detroiter, H. A. Gaeting.

OKLAHOMA.

Alva—Maxwell, Doty & Adams.

OREGON.

Heppner—Maxwell, N. E. Winnard.
Portland—Briscoe, Francis & Kadderly.
Jeffery, F. C. Riggs Co.

PENNSYLVANIA.

Bethlehem—Westcott, O. C. Snyder.
Hackensack—KisselKar, Peoples Ex. & Trans. Co.
Philadelphia—Chandler, Selzer & McCowen.
Dodge, F. L. Jones.
Lozier, R. D. Willard.
Pittsburg—National, Eaton & Harper.
Sanitarium—*Koehler, W. L. Fourney.
Westbury—*Koehler, Michael J. Knipfing.
West Newton—*Koehler, McKennery & Britton.

RHODE ISLAND.

Newport—Ford, Dutee W. Flint.
Providence—Hudson, Robert W. Powers.
National, J. C. Tucker Co.
Paige-Detroit, J. C. Tucker Co.

SOUTH DAKOTA.

Aberdeen—Hudson, Elmer D. Rasamussen.
Hot Springs—Maxwell, Ward A. Stanley.

TENNESSEE.

Memphis—Buick, H. A. White Auto Co.
Nashville—Chandler, Capital Garage.
Saxon, Dixie Motor Car Co.

TEXAS.

Beaumont—KisselKar, Thos. Van-Auken Co.
Burton—Maxwell, Charles Jasten.
Corsicana—Maxwell, A. R. & M. J. Lewis.
Houston—*Koehler, Young & Davis.

UTAH.

Murray—Chandler, E. Carlson.
Vernal—Maxwell, Frank C. Griffin.

VERMONT.

Brattleboro—*Sheldon, Holden & Martin.
Enosburg Falls—King, E. A. Beatty.
Greensboro Bend—Studebaker, J. H. Pope.

VIRGINIA.

Cheriton—Chandler, R. A. Wise.
Lynchburg—Maxwell, William Carter.
Montrose—Maxwell, Montrose Motor Co.
Waverly—Chandler, V. C. Johnson.

WASHINGTON.

Aberdeen—*Menominee, F. & F. Garage.
Bellingham—*Menominee, Union Auto Co.
Chehalis—*Menominee, Twin City Auto Co.
Connell—‡Imp, E. G. Sohn.
Everett—*Menominee, Knowles & Co.
North Yakima—Grant, Bellingham Imp. Co.
Olympia—*Menominee, J. B. Eshom.
Reardan—Hudson, Harry Twitchell.
Seattle—*Menominee, Gerlinger Motor Car Co.
Spokane—Chandler, Stevens Garage.
Lewis, J. F. Stack.
Lozier, The Model Garage.
*Menominee, Hawkins Motor Car Co.
Tacoma—*Menominee, Pacific Car Co.
†Dudley, R. E. Breckenridge.

WEST VIRGINIA.

Berkley Springs—*Hercules, E. L. Johnson & Co.
Bluefields—Maxwell, H. H. Henderson.
Cameron—*Hercules, H. H. Pipes.
Shinaston—*Hercules, Richardson Bros. Garage.
Sisterville—Franklin, Diamond Garage.
*Hercules, Diamond Garage.

WISCONSIN.

Alma—Buick, F. A. Reiter.
Antigo—*Hercules, P. F. Kelly.
Auburndale—Maxwell, J. Berdan & Co.
Emerald—Maxwell, George D. Love.
Fond du Lac—*Menominee, E. W. Clark Motor Co.
Green Bay—Haynes, Conley-Judd Motor Co.
Hurley—Franklin, Twin City Iron Works.
Iola—Franklin, Swanson Bros. & Austin.
La Crosse—*Menominee, Elson & Phillips.
Madison—*Menominee, Frank Statz Garage.
Manitowoc—Haynes, Marcus J. Rappel.
Merrill—Haynes, Norman Chilson.
Milwaukee—Hudson, Jesse A. Smith Auto Co.
*Menominee, Auto Truck Service Co.
*Selden, Ralph Temple Auto. Co.
†Baker, Ralph Penn.
Morristown—Maxwell, Falck & Groth.
Oshkosh—Maxwell, A. E. Hemley.
*Menominee, F. S. Hoaglin Auto Co.
Racine—Grant, C. J. Nelson.
Maxwell, Spencer Hall.
Random Lake—Case, W. C. Merz.
Ford, W. C. Merz.
Reedsburg—Buick, Townsend & Kenney Co.
Ford, Townsend & Kenney Co.
Overland, Townsend & Kenney Co.
Studebaker, Townsend & Kenney Co.
Rhinelander—Maxwell, T. C. Wood Hdw. Co.
Stevens Point—*Menominee, Gullikson-Holte Co.
Sturgeon Bay—*Menominee, Moller's Garage.

WYOMING.

Casper—Maxwell, Casper Mch. Shop & Gar. Co.
*Hercules, Casper Mch. Shop & Gar. Co.
Cody—*Hercules, Cody Trading Co.
Evanston—Maxwell, J. L. Wicks.
Gurnsey—Maxwell, W. L. Diver.
Kemmerer—*Hercules, Up-to-Date Auto C
Lander—*Hercules, Cole & Co.
Laramie—Maxwell, Will Goodall.
Pine Bluff—*Hercules, C. E. Carlstrum.

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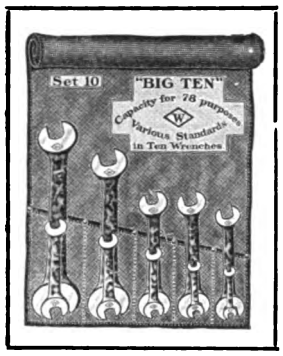
NEW MACHINERY AND TOOLS.

THE Williams "Big Ten" set, shown in the illustration, is the product of J. H. Williams & Co., Brooklyn, N. Y. It has a capacity for 78 sizes of most prominent nut, screw and set screw sizes in United States and other standard millings, and was designed to provide the maximum of service in the machine shop, etc. It is particularly adaptable to the garage and repair shop, as the wrenches fit A. L. A. M. and S. A. E. standard nuts and cap screws. The milled openings vary from .3125 inch to 1.4375 inches. The wrenches are constructed of the best material, and the roll shown comes at slightly extra cost.



"Big Ten" Wrench Set.

ARMSTRONG RATCHET DRILL.

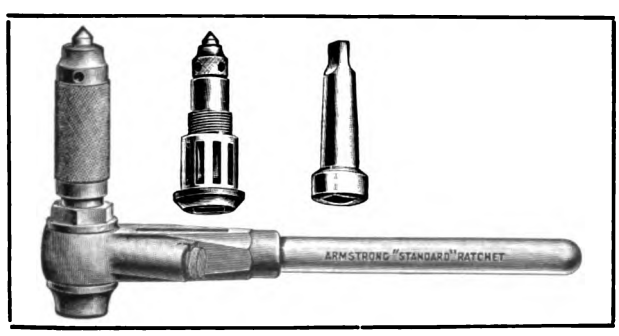
The Armstrong Bros. Tool Company, 357 North Francisco avenue, Chicago, Ill., is marketing a line of ratchet drills, one of which, the Standard combination, is shown in an accompanying illustration. The tool is designed for general service and for drilling or countersinking holes in material not easily accessible with ordinary tools.

The combination includes a sleeve ratchet for Morse taper shank drills, a square taper socket to fit the same and a short spindle with feed screw by which the ratchet can be converted to use square taper shank drills.

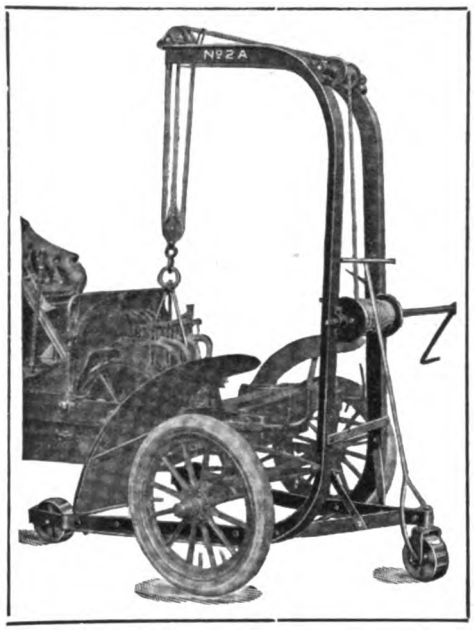
A quality of the Armstrong ratchets is that all parts are hardened. The Standard ratchet combination is made in five styles. The lengths are from nine to 22 inches. The company issues a complete catalogue, giving details and prices of its product, which will be supplied free upon request.

HERCULES PORTABLE CRANE.

William Shelton Nicholls, Hoosick Falls, N. Y., is manufacturing the Hercules portable crane hoist shown in the accompanying illustration and it is designed for service in the factory, garage and repair shop. It may be utilized in repairing and for a number of other purposes, saving time and labor. A feature of the Hercules is that it is constructed of steel throughout and has solid frame pieces, top to bottom. The base or bed is low, permitting of its use from all sides of the automobile. As will be noted by the illustration, an extra length overhang brings the centre of lift or hoist directly over the motor. The wheels have a wide face and are mounted on roller bearings of ample size. An extension piece for the crank handles, extending these out beyond the mud guards, is standard equipment. The Hercules is made in 1000, 2000 and 3000 pounds capacity and is moved easily about the building. The height overall is eight feet and the hoist has a capacity of six feet, 10 inches, sufficient to meet varied requirements.



Armstrong Standard Combination Ratchet Drill.



Hercules Portable Crane, Having Extra Length Over-hang and Extension for Handles.

WIZARD AUTOMOBILE WASHER.

A device which insures effective cleaning of the surface of the automobile and saves time in the work without requiring hardly any attention from the operator, is in the Wizard washer, made by the Century Foundry Company, Inc., 1624 North Salina street, Syracuse, N. Y. Wizard washers are simple, but are ruggedly constructed and consist of a nozzle which contains a turbine motor, one conical and one straight-sided brush and a 12-inch extension for reaching beneath the car. The rotating brush which is driven by and flooded with water, serves to thoroughly cleanse the car, without marring the finish. Each outfit is guaranteed to give absolute satisfaction.

The Nicholson File Company, Providence, R. I., well known to the automobile industry as maker of high-grade files, has compiled a book entitled "File Filosophy". It contains a wealth of information on the care, maintenance and use of files for motor car work. It is free for asking.

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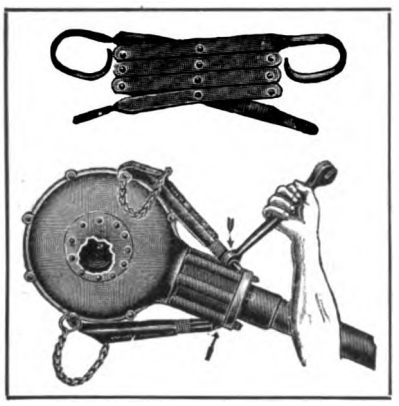
FORD HOUSING PULLER.

The Universal Manufacturing Company, Racine, Wis., is marketing a practical tool for garages and repair shops handling Ford cars. As may be noted in the accompanying illustration, the tool is designed to remove the propeller shaft housing from the differential. One of the qualities of the tool is that the housing can be removed without injuring its flanges. It is also stated that the device saves considerable time over the usual method of driving with a hammer. The Universal Ford housing puller is sold in sets of two and for a moderate price.



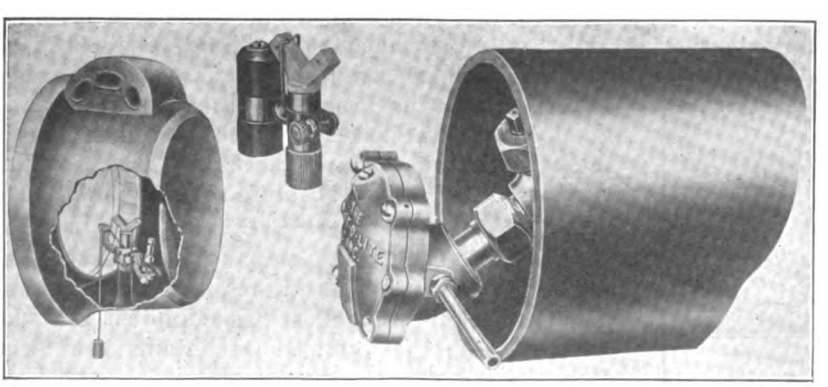
Universal Ford Housing Puller and Pliers.

The company also markets extension pliers for reaching and removing nuts, bolts, etc., from places not easily accessible by the hands or with ordinary tools. With the Universal pliers the workman can reach into the pan, transmission, etc. The pliers can be extended 21 inches, and when folded as shown in the illustration is seven inches long and about three inches wide. The maker states that this tool will save its cost in a brief period of service. It is also practical for the motorist who maintains his own car.

NEW PREST-O-LITE VALVE.

The Prest-O-Lite Company, Inc., Indianapolis, Ind., is now producing an automatic reducing valve for use with its motorcycle Prest-O-Lite gas tank. The construction is similar to that of the larger tanks in that there is automatic control of the gas pressure, which is maintained at two ounces even when nearly empty. The flame may be increased or diminished as desired.

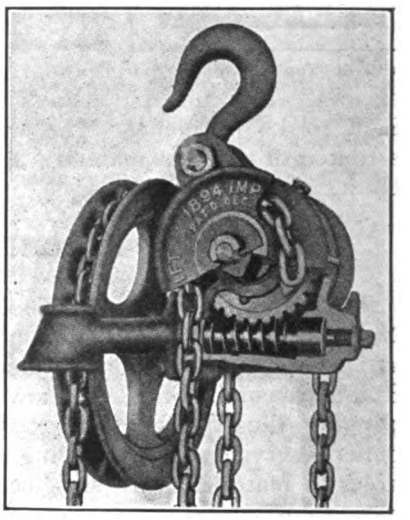
The maker states that the control makes for convenience, especially when the gas is ignited by an electric spark, as the rider can light the headlamp without dismounting. The company is marketing an insulating attachment for burners so that the rider may utilize the current from the magneto or a spark plug for igniting the gas. A friction lighter, shown in the accompanying illustration, which may also be fitted to a lamp, is being marketed. By pulling a pendant a spark is created at the lamp burner outlet.



Prest-O-Lite Automatic Reducing Valve for Motorcycle Gas Tanks, Maintaining Correct Pressure, and Friction Lighter.

HARRINGTON SCREW HOIST.

Hand operated chain hoists, because of the ease of operation and general utility, are standard equipment in large repair shops and service stations. Edwin Harrington, Son & Co., Inc., 17th and Callowhill streets, Philadelphia, manufactures a wide variety of chain hoists one of which, the improved screw hoist, is shown in an accompanying illustration.



Harrington Improved Screw Hoist.

It is designed to withstand severe service, and each component is subjected to rigid inspection before assembly. Each link of the chain is carefully tested. The maker states that it has been adopted by the United States government and is in use in a large number of industrial plants.

Features of Design.

The worm gear, formerly of iron, is now made of bronze with square hubs, and is driven by a steel worm. The load wheels have square holes fitting squared hubs on the worm gear instead of clutches, increasing the strength and avoiding the liability of breaking. They are also reversible.

The load is carried on two distinct chains, either of which is capable of lifting a load up to full rated capacity of hoist, thereby reducing opportunity of accident to minimum. A new hand chain guard is so placed that the operator can stand clear of load without wasting time in dragging the chain in the guard. The hoists are made in capacities ranging from 500 to 30,000 pounds, and having lifts of from eight to 12 feet, respectively. The company issues a most complete illustrated catalogue on its product, which will be mailed free upon request.

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NEW AND ATTRACTIVE LINES.

COXAJUSTO ABSORBERS.

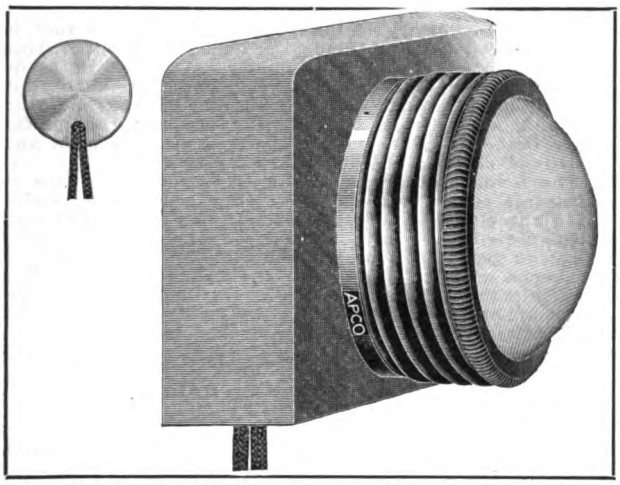
Are Adjustable to Any Load, Have Tapered Helical Spring and Are Easy to Attach.

The Cox Brass Manufacturing Company, Albany, N. Y., is marketing the Coxadjusto shock absorbers, which the maker states is the only spring type made, having an adjustment feature. The Coxadjusto absorbers are strong and durable, and have a tapered helical spring, made of the best imported Swedish steel. Other parts are of manganese bronze. One of the qualities of the Coxadjusto absorbers is that they are easy to attach. The company will mail free a folder describing their merits and application.

APCO LIGHTING OUTFIT.

Auto Parts Company Marketing Practical, Inexpensive Battery Lighting Equipment.

The Auto Parts Company, Providence, R. I., whose trade name "Apco" is well known, is manufacturing a battery lighting outfit which will appeal to owners of Ford cars using electric headlights. When the magneto current is used for the headlights this source of supply is not available when the motor is inoperative. This compels lighting the oil side lamps. The Apco battery lighting outfit consists of two lamps, one of which is shown in an accompanying illustration. They are operated in multiple with two dry cells and the maker states that the batteries will give 24 hours continuous service, sufficient to meet ordinary requirements. The lamps are neat and compact, and are easily installed by boring two small holes in the dash. They are practically of the flush type and, with the elimination of the usual oil lamps, add to the appearance of the car. The lamps come with red, green or frosted lenses, and the outfit includes two nickel plated members, two bulbs, switch and wire. They retail for $2.



Apco Battery Lighting Equipment, Comprising Two Dash Lamps, Bulbs, Wiring and Switch.

ELY SHOCK ABSORBER.

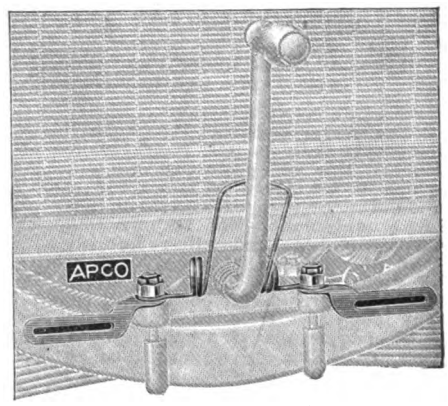
Specially Designed for Ford Cars, Is Easily Fitted and Guaranteed for One Year.

The Donnelly Motor Equipment Company, 1785 Broadway, New York City, is marketing the Ely shock absorbers for the model T Ford car and the design is held to be highly efficient and durable. They come in sets of two and four, retail for $7 and $12.50 respectively, and are guaranteed for one year. Dealers are invited to write for the particulars of a special proposition and discounts.

APCO CRANK HOLDER.

Auto Parts Brings Out Automatic Starting Crank Holder for Model T Ford Cars.

Among the new specialties for the model T Ford car is an automatic starting crank holder. The Auto Parts Company Providence, R. I., manufacturer of Apco specialties, has been experimenting for some time with holders for the starting handle of the Ford machine, and has perfected one that it is claimed does not interfere with the spinning of the handle, holds the crank out of the mud and prevents rattling. As may be noted from the accompanying illustration, the Apco design is made of a one-piece spring and, being positive in action, increases its efficiency. It is easily attached by removing the two nuts from the spring clips and fitting as shown in the illustration. After the motor is started the crank is lifted as shown, remaining in place. The Apco starting crank holder retails for 25 cents. The number plate holder shown can be used in combination with the starting crank device and retails for 25 cents.



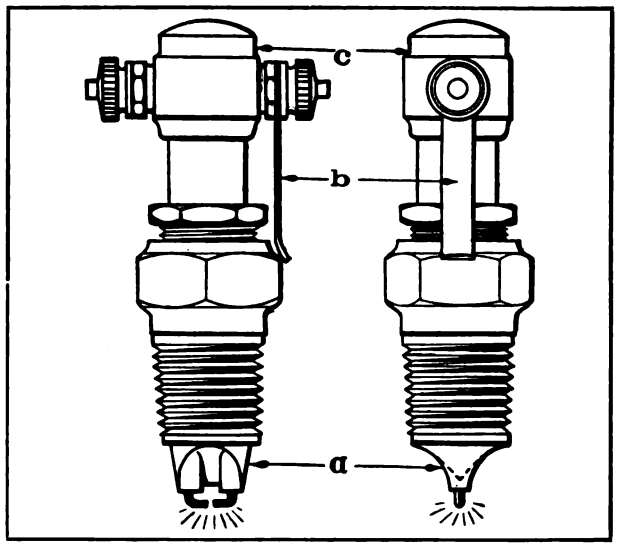
New Apco Automatic Starting Crank Holder.

DOUBLE IGNITION PLUG.

Provides Two Synchronized Sparks, and Electrodes and Points Are a Unit Construction.

The Power & Efficiency Company, 137 East State street, Trenton, N. J., is introducing the Double Ignition spark plug. One of its features is the nose or point A, which extends into the chamber of the cylinder. The insulation is shaped to form a double V, having concave sides, while the smaller V located in the centre terminates in a sharp point just above the spark gap. It is claimed that this construction is non-carbonizing, etc., as foreign elements are thrown off by contacting with the concave sides. It is also stated that each explosion of the mixture cleans the points.

The insulation is carried to a point very near the gap to prevent short circuits. The new plug is a two-pole type, the current entering by one side or terminal, and after bridging the gap passes out on the opposite side to ground. When a two-point ignition is desired the design is wired to a single plug. The top cap C is constructed of a special insulating material that is maintained to be heat and weather proof. The electrodes and sparking points are a unit and are of a high-grade imported meteor wire. The porcelain is fully guaranteed. The plugs will be sold for $1 each for a limited time. Trade prices will be supplied on request.



Double Ignition Spark Plug.

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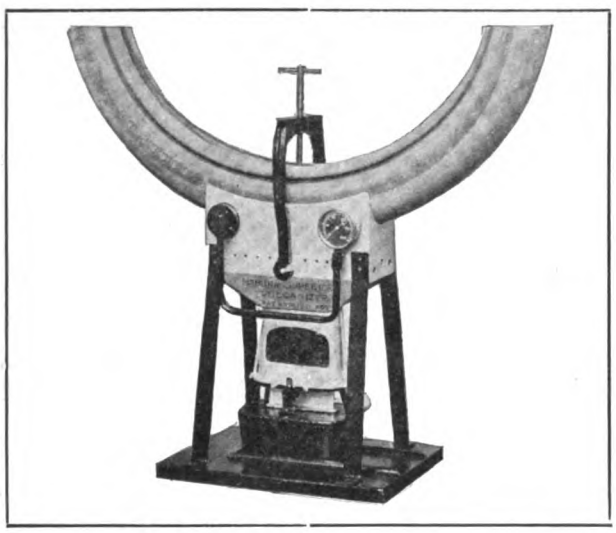
NEW GARAGE EQUIPMENT.

MABURN STEAM VULCANIZER.

Will Repair Tires Under Four Inches, Including Motorcycle Types, and Is Moderately Priced.

The Mapes & Burns Manufacturing Company, 19 Fulton avenue, Rochester, N. Y., maker of the well known Maburn line of specialties, announces a new vulcanizer which is especially adapted for the garage and repair shop, the owners of which do not care to invest in a large equipment. The Maburn Superior vulcanizer is of the steam type and will repair all kinds of tires under four inches, also motorcycle tires. It is adaptable to all vulcanizing from a stone bruise to a blow-out nine inches long, and can be used to repair tubes as well. As may be noted from the accompanying illustration, the vulcanizer is neat and compact. It is 24 inches over all, and provides a heating surface 10 inches long and six in diameter, ample for all kinds of work. The main casting is a combined steam boiler with a neat, reliable steam gauge and a vulcanizing mold. The side edges of the mold are so shaped as to permit repairs to be made easily to the bead.

Heat for making steam is supplied by a removable one-burner kerosene stove which is fitted into the bottom of the main casting, resting on the base of the machine. With this source of heat an even steam pressure is assured, as the size of the flame can be controlled. No air bags, etc., are utilized, there being substituted a bag of specially treated granulated silicon. This substance, when heated, radiates the heat evenly, forcing it downward, and cures efficiently. The Maburn bag is so constructed that, when pressure is applied by the screw clamp, it is evenly distributed. Light or heavy pressure is, therefore, obtainable. Each machine comes equipped with a clamp, pressure plate, two bags, a box of soapstone, one-half pint cement, one-half pound raw rubber, one 10-inch blow-out patch and one-quarter pound semi-cured rubber. Extra parts and raw material can be supplied. The price complete is $15. The maker invites correspondence from the trade on this vulcanizer, as well as the complete line.



Maburn Superior Steam Vulcanizer, an Efficient, Moderately Priced Equipment Capable of a Wide Variety of Work.

MOSSBERG WRENCHES.

Wide Variety of These and Other Tools Especially Adapted for Work on the Model T Ford Car.

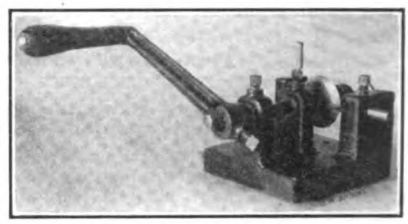
Those who have overhauled the model T Ford car, realize that considerable time and trouble can be saved by using tools adapted to the work. The Frank Mossberg Co., Attleboro, Mass., is manufacturing a line of wrenches which meet the requirements of tool efficiency. These fit instantly and exactly, saving time and parts, are made to endure service and the sockets are of the heaviest pressed steel, thoroughly hardened.

The Ford socket wrench set No. 17 is particularly useful in the tool box or on the shop bench. The Mossberg socket wrench set No. 15 A is ideal for garage or shop uses, and is a full utility kit. It will positively fit all adjustments on all Ford automobiles. Other specialties include the Ford valve grinders, cylinder head and housing wrenches. The catalogue issued is free for the asking.

BROOKS VALVE TOOLS.

Are of the Adjustable Type, Have Several Blades and Pilot Stems, and Are Time Savers.

Dealers looking for a desirable line, one that will appeal strongly to the garageman and repairman, will do well to investigate the merits of the Economic adjustable valve seating and refacing tools produced by the J. W. Brooks Manufacturing Company, Stamford, Conn. A practical valve reseating and facing tool is a necessity in the garage and repair shop and must be adapted to various types and sizes or motors.



Economic Valve Refacer.

One of the desirable qualities of the Brooks tool is that the four sets of blades provided will cut valves from 1⅛ to 2⅜ inches in diameter. Any size of blade will be furnished to specification. There are also four sizes of pilot stems. The Brooks tool can be operated by hand, a bit brace or a drill press, and the maker states that the blades can be changed in 30 seconds and sharpened perfectly. This makes for economy.

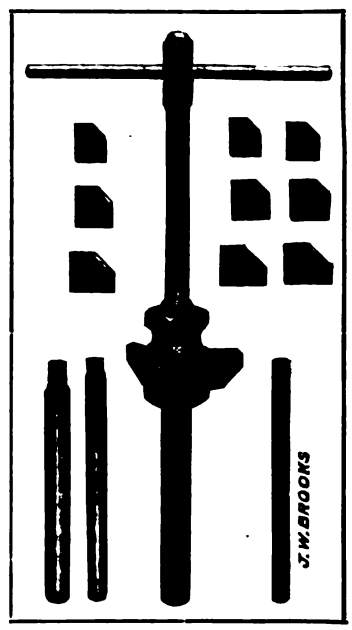
The Economic valve refacing tool shown herewith is adjustable to any size of valve stem and to any valve up to three inches in diameter. It has a double-ended cutter for either 45 or 60-degree valves. Valves refaced will come perfectly true and the tool can be retained by the bench vise or screwed to the bench or wall. The Economic tools are made of the best material and the workmanship is high grade. Descriptive matter and trade prices will be supplied upon request.

CANTON CRANES AND HOISTS.

Are of the Portable Type, Enabling One Man to Perform the Work of Several.

A portable floor crane and hoist is indispensible in the repair shop and garage, as with it one man can perform work usually requiring from three to six men. It enables a workman to remove a motor, transmission, etc., from the chassis, to remove bodies and to perform a wide variety of repairs.

The Canton Foundry & Machine Company, Canton, O., specializes in portable floor cranes and hoists, and produces a variety to meet the varying requirements of different shops. The Canton is built to endure, as the base casting, projecting arms and gears are of a mixture of the best cast iron and steel, a tough and strong combination. The housings are reinforced with a heavy wrought iron band, and the chain is guaranteed to be hand forged from the best of material. The hook, block, axle forks and yoke are all drop forgings. The wheels are tested roller bearings. The base is well reinforced. The Canton Foundry & Machine Company issues free a catalogue giving detailed information of its products.



Economic Valve Reseating Tools.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired.. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3010—Maryland Dealer wishes to secure an agency for pleasure cars selling from $350 to $400.

3013—California House is in the market to represent a line of pleasure cars selling from $500 up.

ELECTRIC PLEASURE CAR AGENCIES.

514—California House is in the market to secure the agency for electric pleasure cars selling from $1000 up.

COMMERCIAL CAR AGENCIES.

6124—California Firm wishes to hear from a line of reliable electric trucks ranging in price from $1000 up; also gasoline commercial vehicles selling from $500 up.

CYCLECAR AGENCIES.

1785—North Carolina Dealer wants information relative to cyclecars selling from $350 to $450.

1788—Montana House wants to hear from cyclecar manufacturers whose product sells from $300 to $500.

MOTORCYCLE AGENCIES.

112—North Carolina House is desirous of securing the agency for motorcycles selling from $150 to $350.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

491—Washington Dealer wants to acquire about $250 worth of Ford car parts. He is also interested in cylinder machines, platinum, carbon removers and shock absorbers. The goods are to be used for resale.

492—Nebraska House wants air pumps, autogenous welding equipment, belts, carburetors, coils, graphite, hoists, ignition, jacks, lathes, magnetos, reflectors and wrenches.

496—Massachusetts Dealer is in the market for air pumps, emblems, hoists, polishes, carbon removers, shims, soaps, steps, storage systems, strainers, tools, vises, vulcanizers and wrenches. The above products to be used in a garage and service station.

499—Iowa Concern wants information relative to air compressors, air pumps, anvils, batteries, bolts, cans, charging apparatus, drills, polishes, pumps, ratchet drills, tanks, tire accessories, tires, tools, vises and wrenches.

503—Maryland House is in the market for air pumps, asbestos, autogenous welding equipment, batteries, bearings, belts, bodies, bumpers, carbide, clips, dimmers, drills, engines, fire extinguishers, frames, gasoline, gears, graphite, headlights, horns, ignition, lamps, lathes, machinery, magnetos, mechanical starters, motors, pulleys, radiators, ratchet drills, reamers, shafting, springs, starters, steel, steering wheels, tire accessories, tires, tops and parts, tubing, vulcanizers, waste and windshields.

506—Illinois Company is anxious to secure air compressors, air pumps, anti-rattlers, batteries, belts, bodies, bolts, brushes, bulbs, bumpers, burners, cable, cans, carbide, carburetors, cases, celluloid, cements, chains, charging apparatus, chemical tanks, cloth, coils, commutators, connectors, controllers, cups, curtains, dimmers, doors, dynamometers, dynamos, fenders, gasoline, gauges, generators, glass, goggles, headlights, heaters, horns, hose, hydrometers, ignition, indicators, jacks, lamps, leather, locks, magnetos, maps, mechanical starters, meters (measuring instruments), motor controllers, motors, nuts, paints, patches, plugs, polishes, primers, pumps, purifiers, rectifiers, reflectors, regulators, carbon removers, rheostats, rubber, screws, seats, shock absorbers, solder, speedometers, springs, starters, steering wheels, storage systems, switches, terminals, testers, timers, tire accessories, tires, tools, tops and parts, vises, voltmeters, vulcanizers, waste, whistles and wrenches.

508—Michigan Dealer wants information pertaining to air compressors, batteries, bearings, bulbs, connectors, dimmers, gaskets, gauges, generators, goggles, headlights, horns, jacks, lamps, mechanical starters, plugs, searchlights, shock absorbers, starters, testers, tire accessories, tools, trunks, turntables and wheels. The above goods are to be used for general supply and garage equipment.

511—North Carolina Company is interested in air compressors, anti-rattlers, asbestos, axles, batteries, bodies, bolts, bumpers, cable, camshafts, carburetors, cements, chains, charging apparatus, clutches, coils, commutators, cranes, cylinder machines, cylinders, dimmers, discs, drills, drums, dynamos, elevators, engines, forgings, frames, gaskets, gauges, gear cutting machines, generators, gears, glass, grinders, headlights, hoists, horns, bulbs, ignition, jigs, lamps, lathes, machinery, magnetos, mechanical starters, packing, paints, patches, pinions, pins, pistons, platinum, plugs, purifiers, races, radiators, ratchet drills, reamers, carbon removers, rims, rods, rubber, scrapers, searchlights, seats, shafting, shapers, shims, shock absorbers, speedometers, springs, starters, steel, steering wheels, storage systems, timers, tire accessories, tools, tops and parts, transmissions, valves, vulcanizers, wheels, windshields and wrenches. The goods are to be used in a garage equipment and for stock.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

No. 13,392. Motors for Automobiles—A report from an American consul states that an automobile manufacturer who says that he is in a position to furnish the best references desires to obtain offers from American manufacturers of light motors for automobiles. Correspondence should be in English.

No. 13,487. Automobile Tires, Cushions and Accessories—An American consul reports that the largest firm of automobile dealers in his district desires to receive catalogue and price lists, in Spanish or French, from makers of automobile tires, cushions, curtains and accessories.

No. 13,394. Cyclecars—An American consul believes it is possible to introduce the new cyclecars into his consular district and desires catalogues, price lists and the necessary literature to study this machine. It is unknown at present. Communications should also be sent to a local business man, who desires to take the agency for the machine if, after having seen the catalogues, he believes he can sell the car.

No. 13,475. Motor Omnibuses—A company is experimenting a Canadian city with a motor omnibus service for the suburban districts and will put three 'busses in service in the near future. An American consul writes that if this experiment proves successful other motor omnibuses will be ordered for suburban districts and for parts of a city not well supplied by the present electric car lines. The name of the company referred to accompanied the report.

No. 13,483. Motor Cars and Trucks—A business man in Russia informs an American consulate that he desires to obtain an agency for American motor cars of the cheaper class, listed at $1000 to $2000, also motor trucks. He requests that catalogues with prices, discounts, shipping weights and measurements, and freight rates from American seaboard to Vladivostok be sent to him. Correspondence should be in Russian, if possible, but German is preferable to English.

No. 13,418. Motorcycles—A report from an American consular officer states that an officer in a European country is in the market for a high-grade motorcycle of American manufacture. Catalogues and printed matter, in German or French, should be forwarded directly to the officer in question. It is intended to use the machine in motorcycle contests, so that the prospects for additional sales would seem to be promising.

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REPORTED CHANGES IN ADDRESSES.

H. H. Boyce, Chicago, Ill., removed to 209 South Robey street.

Brush Runabout Agency, San Francisco, Cal., removed to 423 Market street.

Alco Motor Sales Company, San Diego, Cal., removed to Los Angeles, Cal.

Auto Radiator Works, San Francisco, Cal., from 379 Valencia street to 1586 Bush street.

Brooks Norton Motor Sales Company, Cleveland, O., from 2169 East Ninth street to 4407 Prospect street.

Cobb Bros., Detroit, Mich., from 288 Jefferson avenue to 126 Milwaukee avenue, west.

Fee-Bock Auto Company, Detroit, Mich., from 254 Jefferson avenue to 742 Woodward avenue.

B. K. Smith, Monticello, Ind., removed to Ellwood, Ind.

W. C. Moore Auto Company, Wilkesbarre, Penn., removed to Williamsport, Penn.

R. C. Manning, Trenton, N. J., from 20 South Broad street to 636 East State street.

Borough Motor Cab Company, Brooklyn, N. Y., from 658 Bergen street to 328 Grand avenue.

Motor Car Spring Company, New York City, from 257 William street to 243 Wight street.

E. T. Goodwin Motor Sales Company, Brooklyn, N. Y., from 1282 Bedford avenue to 1592 Bedford avenue.

C. A. Breitenstein, Brooklyn, N. Y., from 1070 Bedford avenue to 515 Greene avenue.

Burns Auto Company, Brooklyn, N. Y., from 1295 Bedford avenue to 57 New York avenue.

Central Motor Car Company, Brookyln, N. Y., from 1270 Bedford avenue to 34 South Portland avenue.

I. C. Kirkham, Brooklyn, N. Y., from 1060 Bedford avenue to 33 Grant square.

A. C. Foss, New York City, from 30 East 42nd street to 304 Madison avenue.

Barber Auto Garage, Brooklyn, N. Y., from 58 Schermerhorn street to 198 Willoughby avenue.

F. A. Ballou & Co., Buffalo, N. Y., from 879 Main street to 708 Iroquois building.

S. F. Boroser & Co., Inc., Buffalo, N. Y., from Ellicott square to 720 Main street.

Brooks Emerson, New York City, removed to 2 Clinton avenue, Montclair, N. J.

J. S. Harrington, Springfield, Mass., from 55 Virginia street to 30 Biltmore street.

Hub Cycle Company, Boston, Mass., from 285 Hanover street to 42 Portland street.

George Wilcox, Wollaston, Mass., removed to 68 West street, Braintree, Mass.

Bell Bros., Stamford, Conn., from West Park place to Bell street.

Temple Garage, Ogden, Utah, removed to Salt Lake City.

I. F. Kelly, Worthington, Minn., removed to Nutchell, S. D.

Martell Motor Company, Jamaica Plain, Mass., removed to 1928 Columbus avenue, Roxbury, Mass.

Firestone Tire & Rubber Company, Minneapolis, Minn., from 827 Hennepin avenue to 1635 Hennepin avenue.

John Spring, Clarinda, Ia., removed to Colorado Springs, Col.

O. P. T. Daenitz, Denver, Col., from 1327 Broadway to 822 Clarkson avenue.

D. L. Ormsby, Galveston, Tex., removed to 1608 Bryan street, Dallas, Tex.

Louisiana Motor Car Company, New Orleans, La., from 746 St. Charles street to 744 St. Charles street.

A. L. Ducote, New Orleans, La., from 827 Perdide street to 204 Whitney, B. B.

Goodyear Tire & Rubber Company, New Orleans, La., from 29 Perdide street to 536 Baronne street.

Ajax-Grieb Rubber Company, Kansas City, Mo., from 1600 Grand avenue to 1730 Grand avenue.

E. S. Cowie Company, Kansas City, Mo., from 1613 Grand avenue to 1517 Grand avenue.

Continental Equipment Company, St. Louis, Mo., from 3142 Locust street to 3974 Olive street.

Behen Faught Motor Car Engine Company, St. Louis, Mo., from 3961 Olive street to 1832 Locust street.

A. L. Bennet & Co., Kansas City, Mo., from 1900 East 15th street to 917 Benton street.

Akin Motor Car Company, Milwaukee, Wis., from 134-36 Oneida street to 793 Summit avenue.

W. W. Price Auto Company, Wheeling, W. Va., removed to Elm Grove, W. Va.

Greater Pittsburg Auto Company, McKees Rocks, Penn., moved to 748 Chartiers avenue.

S. M. & E. N. Painter, Vandergrift, Penn., removed to Tarentum, Penn.

Maple Grove Garage, Richmond Hill, N. Y., removed to Elmwood avenue, Woodlawn, N. Y.

The B. F. Goodrich Company, Hartford, Conn., removed to 1780 Broadway, New York City.

Feodor Burgman Company, New York City, from 5 Beekman street to 26 John street.

Brace Lamp Works, Detroit, Mich., from 52 Larned street to 54 Jefferson street, east.

Jiffy Auto Curtain Company, Detroit, Mich., from 513 Ford building to Dodge building.

Wagniere Clark Manufacturing Company, Los Angeles, Cal., from 1010 California building to 330 Van Nuys avenue.

A. J. Musselman, Chicago, Ill., from 1356 Wells street to room 418, 180 North Dearborn street.

Liquid Carbonic Company, Chicago, Ill., from Madison and Franklin street to 31st street and Kedzie avenue.

Powitzky & Collins Carriage Woodwork Company, St. Louis, Mo., moved to 3555 Longfellow building.

The Pillsbury Sales Company, Minneapolis, Minn., from 1020 Hennepin avenue to 1206 Hennepin avenue.

H. H. Alvord, Sulphur Springs, Tex., removed to Shreveport, La.

C. F. Tinnin, San Antonio, Tex., removed to Dilley, Tex.

R. F. Williams Steel Wire Company, New York City, removed to 3315 Clinton street, Chicago, Ill.

Graft & Hernandez, New York City, removed to Plansdone, L. I., N. Y.

Carlton Garage & Repair Company, Brooklyn, N. Y., from 225 St. Marks avenue to Prospect place.

W. A. Nolan, Oakland, Cal., from 3208 Boulevard Fruitvale to 452 66th street.

California Motor Cycle Company, Los Angeles, Cal., from 405 San Fernando building to 1419 Berendo street.

Phipps Electric Car Company, Detroit, Mich., moved to 210 Philadelphia avenue.

Goodyear Tire & Rubber Company, Oakland, Cal., from 1776 Broadway to 411 Webster street.

S. S. Hendricks Company, New York City, from 74 Lafayette street to West 13th street.

Willard Storage Battery Company, New York City, from 136 West 52nd street to 228 West 58th street.

Goodyear Tire & Rubber Company, Seattle, Wash., from 1532 Broadway, to 816 East Pike street.

Partin Manufacturing Company, Chicago, Ill., removed to 29 South LaSalle street.

Lymons Motor Car Company, Los Angeles, Cal., removed to 1822 Morgan place.

Auto Sales Company, San Francisco, Cal., from 311 Golden Gate avenue to Merchants Exchange building.

Whiting Chemical Company, Cleveland, O., from 915 Schofield street to 1221 Superior street, northeast.

National Manufacturing Company, Kalamazoo, Mich., from Edwards and Water streets to 227 Portage street.

H. F. Miller, East Orange, N. J., removed to 289 West Fall street, Seneca Falls, N. Y.

Weber Engineering Company, Kansas City, Mo., from 409 Southwest boulevard to 1818 Washington avenue.

Albert Kayers, Norfolk, Neb., removed to Fremont, Neb.

Stevens-Duryea Agency, Milwaukee, Wis., from 134 Oneida street to 375 Summit avenue.

Marshall Racine Rubber Company, Minneapolis, Minn., removed to 911 Marquette avenue.

Garden City Implement Company, San Jose, Cal., from 190 South Market street to box 1205.

Bingham Manufacturing Company, Cleveland, O., removed to West Park, O.

Hess-Bright Manufacturing Company, Philadelphia, Penn., from 2119 Fairmount avenue to Fort and Erie streets.

Powell Muffler & Timer Company, Utica, N. Y., from 42 Lafayette street to 327 Beecher street.

Isaac N. Cox, Manchester, N. H., from 63 North Adams street to 374 Walnut street.

Peter A. Frasse & Co., Philadelphia, Penn., removed to 419 Canal street, New York City.

E. Z. Rim Company, Boston, Mass., removed to 233 Middle street, Braintree, Mass.

S. Eckel Bay Ridge Garage, Brooklyn, N. Y., from 6950 Third avenue to 307 70th street.

William Wendelken, New York City, from 1107 Fox street to 960 Home street.

H. S. Rogers, New York City, from 561 Fordham road to 728 East 21st street.

R. P. Mahoney, New York City, from 147 West 83rd street to 518 West 57th street.

Munnich Garage, New York City, from 334 East 133rd street to 2561 Third avenue.

C. Griffiths, New York City, from 238 East 20th street to 238 East 37th street.

Motor Shop, Philadelphia, Penn., from 2317 North Waterloo street to 1828 Letterly street.

Krouse Motor Car Company, Philadelphia, Penn., from Broad and Cherry streets to 441 North Broad street.

J. M. Quimby & Company, Philadelphia, Penn., from 1200 Walnut street to 2011 Market street.

O. E. Houser, Chillicothe, O., from 97 North Mulberry street to 86 East Water street.

J. T. Rose, Dayton, O., from 830 Reibold building to 210 South Main street.

Specialty Sales Company, Cleveland, O., from 1510 Clifton boulevard to 1245 Andrews avenue.

G. W. Storck, Philadelphia, Penn., removed to 1700 Elmwood avenue, Buffalo, N. Y.

Frank Peter, New York City, from 402 East 147th street to 984 Tiffany street.

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SPEDOLENE.

Gear Lubricant for Pleasure and Commercial Cars Not Affected by Heat or Cold.

Spedolene, manufactured by the Continental Asbestos Corporation, Worcester, Mass., is the invention of Alexander Warrell, originator of asbestos lubricants. It is a high-grade and efficient lubricant for transmissions, differentials, timing gears, universal joints, bearings, etc., and embodies in lubricant form the heat, cold and friction resisting properties of asbestos; in fact, Spedolene is asbestos rendered into a semi-liquid condition.

It is stated that Spedolene is permanent in its lubricating qualities, that it will not thin or congeal, and is especially adaptable to worn and noisy gears, obtaining quiet operation. One of the qualities of the lubricant emphasized is that it will not pack away. It completely covers the parts subject to friction. Spedolene is unaffected by climatic changes, and is impregnable to heat, cold, water or steam. It will not gum and contains no acid or other ingredients injurious to the finest metal. It comes in an original package, in five, 10, 25 and 50-pound cans. Prices, etc., will be supplied upon request.

LEAK-PROOF PISTON RINGS.

McQuay-Norris Manufacturing Company Producing a Variety of Sizes to Meet Requirements.

Garagemen and repairmen, whose customers complain of a lack of compression in their motors or oil working past the rings, will be interested to learn that these and other troubles can be cured by the use of the Leak-Proof piston rings, made by the McQuay-Norris Manufacturing Company, St. Louis, Mo. The construction of these rings is such that the gas cannot escape from the combustion chamber, and they are especially adaptable to worn motors. The company issues a booklet on the subject of piston rings, motors, etc., and the data are of value both to the novice and experienced repairman. The book will be mailed free upon addressing Dept. D.

BRUNNER COMPRESSORS.

Are Produced in a Variety of Forms to Cover the Needs of the Smallest to the Largest Garage.

Plenty of compressed air, always available in the garage, is appreciated by the customers. The Brunner Manufacturing Company, Utica, N. Y., has specialized in compressors for years and is producing a variety of types to meet requirements. The line is so complete as to cover the needs of the smallest to the largest garage, from a motor driven portable outfit to a large stationary automatic equipment. Reliability, durability and efficiency are emphasized in the Brunner compressors. Particulars and catalogue will be supplied free upon request.

VELOS PORTABLE COMPRESSOR.

A Complete Electric Equipment Mounted on Three-Wheel Base and Having Long Hose and Connections.

The Philadelphia Timer & Machine Company, 51st street and Lancaster avenue, Philadelphia, is manufacturing the Velos portable garage compressor, which is a complete electrical equipment mounted on a three-wheel metal base. The maker states that the compressor will pump a three-inch tire from flat to the maximum pressure in three minutes. The equipment includes a long length of hose, connections, pressure and safety gauge. The catalogue illustrating and describing the products of the company will be mailed free upon request.

GREENERD ARBOR PRESSES.

Are Utilized by Scores of Practical Mechanics and Are Adaptable to a Variety of Work.

Edwin E. Bartlett, 326 A street, Boston, manufacturer of the noted Greenerd arbor presses, is the recipient of a number of unsolicited testimonials from users of this practical equipment. The No. 15 arbor press is particularly adapted to motor car work and, to obtain efficiency, the repair shop press should be up to date. The Greenerd product is constructed especially to endure, and complete details of its efficiency and adaptability, as well as prices, will be submitted by the maker upon the receipt of a postal card or letter.

SEAMLESS STEEL TUBING.

Edgar T. Ward's Sons Produces Tubing of Any Quality to Meet Individual Requirements.

Edgar T. Ward's Sons, 25 Purchase street, Boston, carries one of the largest, if not the largest, stocks of cold drawn seamless tubing of any concern in the country, having over 1500 sizes and 1,000,000 feet on hand. This enables the company to fill any and all orders promptly. A special analysis tubing is made for parts, jigs, bushings, dies, etc., where extreme durability and hardness is required. A trial piece will be mailed free upon request.

AUTOMOBILE DIRECTORY.

Contains List of Owners, Dealers, Garages, Etc., in Colorado, and Is a Valuable Mailing List.

The List Publishing Company, 615 Denham building, Denver, Col., is publishing the Colorado Automobile Directory, which contains a complete list of the owners of machines in that state, also of dealers, garages, repair shops, etc. It is a classified directory of the automobile trade of the state and is a reliable mailing list for direct advertising. The book is bound with a cloth cover, is nicely printed and moderately priced. A sample page will be mailed free upon request by addressing Dept. 2.

PANHARD OILS.

George A. Haws Has an Interesting Agency Proposition Open to Garages, Dealers, Etc.

The high-grade quality of Panhard oil as a lubricant is well known. Its quality means guaranteed satisfaction from a standard established by continued use in all conditions. George A. Haws, manufacturer, 148 Front street, New York City, has a new agency proposition, the details of which will be forwarded upon request.

RECENT PATENTS.

Carburetor, Gustav A. F. Ahlberg, Chicago, Ill.; No. 1,104,762. Filed Nov. 28, 1910.

Magneto, Ewald Hahnlen, Roxbury, Mass.; assignor to the Holtzer-Cabot Electric Company; No. 1,104,795. Filed Aug. 22, 1912.

Tire, Heinrich Hartmann, Etterbeek, Belgium; No. 1,104,797. Filed Feb. 18, 1913.

Dumping Body, William H. Hunt, New York, N. Y.; No. 1,104,801. Filed Sept. 19, 1913.

Hood, Robert C. Hupp, assignor to E. E. Hupp, Detroit, Mich.; No. 1,104,802. Filed Oct. 31, 1913.

Four-Cycle Engine, Thomas Spencer James, London, England; No. 1,104,804. Filed June 13, 1914.

Transmission Gear, Joseph Laviolette, Amsterdam, Netherlands; No. 1,104,809. Filed Nov. 3, 1913.

Tire, John J. A. Miller, Denver, Col.; No. 1,104,817. Filed Aug. 5, 1913.

Pneumatic Tire, Charles M. Papon, Philadelphia, Penn., assignor of one-half to Eugene Bleyer; No. 1,104,824. Filed Dec. 3, 1912.

Starting Crank, Wilfred Vallier, Pontiac, Mich.; No. 1,104,851. Filed Dec. 15, 1911.

Ignition Apparatus, George V. Ahara, Toronto, Can.; assignor to Fairbanks, Morse & Co.; No. 1,104,860. Filed June 5, 1913.

Motor Starter, Wesley W. Hodgson, Ontario, Can.; No. 1,104,894. Filed April 24, 1914.

Wheel, Tresham Fitz Edgar Hutchings, New York, N. Y.; No. 1,104,899. Filed May 26, 1913.

Relief Valves for Tires, Vigil O. Jarvis, Hanford, Cal.; No. 1,104,902. Filed June 9, 1913.

Traction Wheel, Edward Aloysis Rumely, Laporte, Ind.; assignor to M. Rumely Company; No. 1,104,934. Filed Sept. 28, 1912.

Hood, Bert E. Thompson, Indianapolis, Ind.; No. 1,104,942. Filed Oct. 26, 1912.

Engine, Noble E. Crothers, Chicago, Ill.; No. 1,104,968. Filed Dec. 23, 1912.

Carburetor, Charles Felske, Kokomo, Ind., assignor to Planhard Manufacturing Company; No. 1,104,975. Filed Oct. 12, 1910.

Carburetor, John A. Secor, Laporte, Ind.; assignor to M. Rumely Company; No. 1,105,003. Filed Sept. 7, 1911.

Light, Alden L. McMurtry, Sound Beach, Conn.; No. 1,105,035. Filed Aug. 31, 1912.

Inflating Device, Robert Barnfather, London, England; No. 1,105,057. Filed Sept. 2, 1913.

Spark Plug, Emory W. Cole, Wharton, Tex.; No. 1,105,064. Filed Sept. 30, 1913.

Demountable Wheel Hub, Charles W. Gerhart, Mount Holly Springs, Penn.; No. 1,105,073. Filed Dec. 10, 1912.

Convertible Tire, Robert Wright, Cleveland, O.; No. 1,105,121. Filed Jan. 27, 1911.

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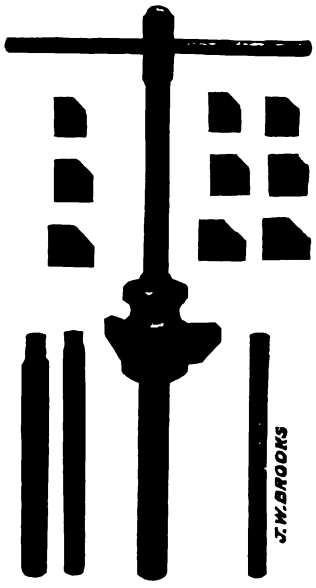
Adjustable Valve Seating and Facing Tools

Save 75 Per Cent. Time and Labor



Patent Applied For.
Economic Valve Seating Tool
Price of Set, $8.00

THE ECONOMIC VALVE SEATING TOOL, the Acme of Simplicity, can be operated by anyone and produce perfect work. Is the most used tool in a garage or repair shop. Will serve for years and save its cost on two jobs. The tool includes four sets of blades, will cut valves from 1 1-8 to 2 3-8 inches diameter. Any size blades will be furnished to specifications. There are four sizes of pilot stems. The tool can be operated by hand, a bit brace or a drill press. Blades can be changed in a half minute and sharpened perfectly. Equally practical for every make of motor.

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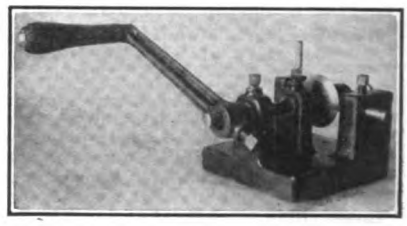

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Price, $7.00

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Stevens Valves

Stevens Auto Tire Check Valve

Actual Size Complete Valve

Patents Issued
1,043,224---1,050,942---1,078,847
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Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve Stem.

More Than 200,000 in Use.

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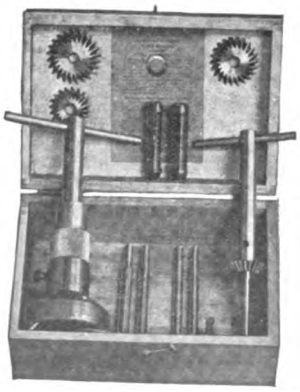

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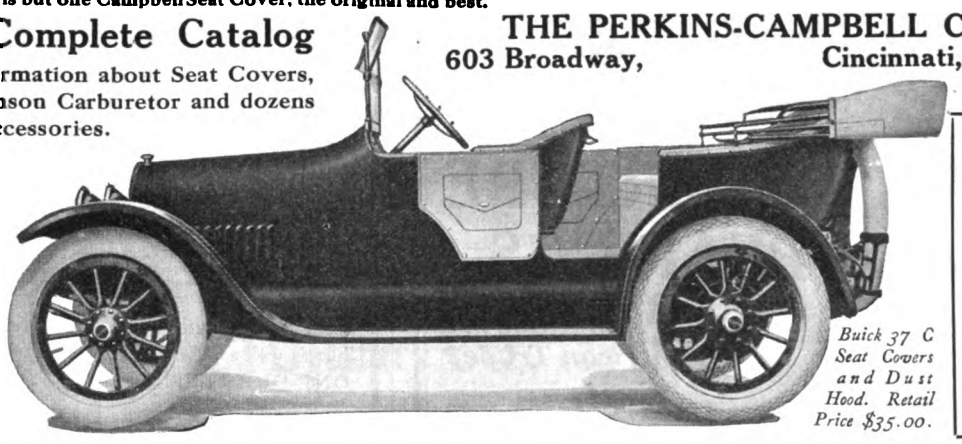

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Write for folder on this wonderful new cleaner. Qt. 25c. 1-2 Gal. 40c. Gal. 60c.

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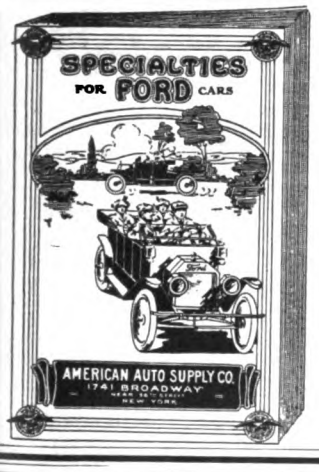

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BUFFALO, Iroquois Rubber Co., 279-283 Washington St.
CINCINNATI, Herman Bumiller Co., 432 Main St.
CHICAGO, Ahlberg Bearing Co., 2636 Michigan Ave.
CHICAGO, Chicago Pulley & Shafting Co., 32-36 S. Clinton St.
CLEVELAND, Cray Brothers, 1111 West 11th St.
DENVER, Denver Auto Goods Co., 1600 Broadway.
DENVER, Fry & McGill, 1582 Broadway.
DENVER, M. L. Foss, 1729 California St.
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KANSAS CITY, MO., Motor and Machinists Supply Co., 1519 Grand Ave.
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MINNEAPOLIS, Pence Automobile Co., 800 Hennepin Ave.
NEW YORK CITY, Ahlberg Bearing Co., 1790 Broadway.
NEW YORK CITY, Jos. C. Gorey & Co., 852 W. 50th St.
NEW YORK CITY, The Gwilliam Co., Broadway and 58th St.
NEW YORK CITY, Pruyn & Bilodeau, 1876 B'way, Cor. W. 62nd St.
NORFOLK, Chemi Company, 438 Granby St.
OMAHA, The Lininger Implement Co., 1101 Sixth St.
PASADENA, Western Rubber and Supply Co., 66 S. Fair Oaks Ave.
PHILADELPHIA, The Gwilliam Co., 1814 Arch St.
PITTSBURGH, Machinists Supply Co.
PORTLAND, ME., James Bailey Co., 18 Free St.
PORTLAND, ORE., Ballou & Wright, Broadway and Oak St.
RICHMOND, VA., Chemi Company, 629 E. Main St.
ROCHESTER, Rochester Rubber Co., 24 Exchange St.
SACRAMENTO, Kimball-Upson Co., 609-11 K St., 608-15 Oak Ave.
SAINT LOUIS, Fred Campbell, 1109 Locust St.
SALT LAKE CITY, Bertram Motor Supply Co., 251 South State St.
SAN DIEGO, Western Rubber and Supply Co., 1364 Fifth St.
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SAN FRANCISCO, Irvin Silverberg & Co., 541 Van Ness Ave.
SEATTLE, Ballou & Wright, 817 E. Pike St.
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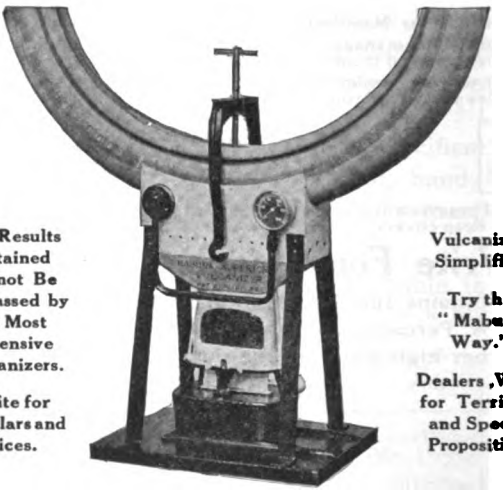

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Engine Driven KELLOGG Air Pump

One, Two, Four, Six Cylinder Models

Standard or Special Factory Equipment on this list of cars:

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Special Pumps and Air-Starting Units. ***Send for 1915 Ford Starter Literature.***

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The most complete, practical and useful set of tools ever produced for use on Ford cars. Guaranteed to give the highest degree of service and will save the entire cost in time and labor alone in one day's working time. $2.00 brings the set complete, express prepaid. Make your profits in time and labor saved.

A clean-cut, "heavy duty" socket wrench set for FORD automobiles. Five sturdy bars with guaranteed Mossberg steel sockets on each end, firmly affixed.

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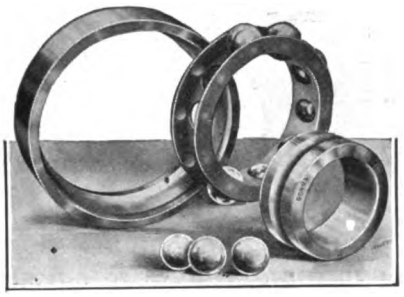
Ball Bearings



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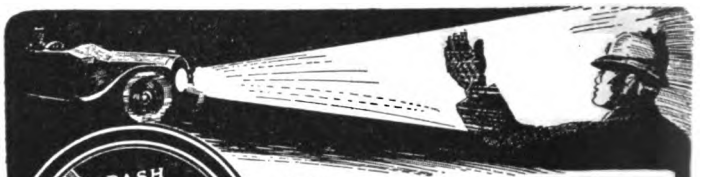

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The law says it must be done —blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street —the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Installed on the dash and operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on the dash of any car. The average car owner can do it himself in ten minutes. It can be operated by a slight kick of the foot, while both hands are on the wheel.

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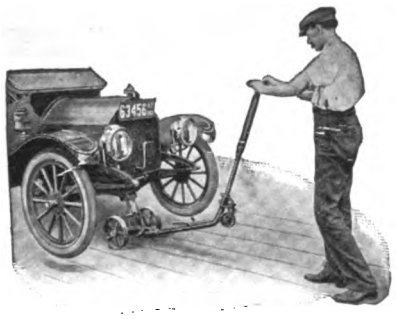

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"Better than a Turn Table"

Patented March 3, 1914

Weighs 100 lbs. Lifts the Largest Cars. Instant adjustment for all heights of axles. Length of handle, 5 ft. Height of wheels, 10 inches. It is almost a turn table, and a car can be moved around with it almost as quickly as we can tell it to you. By tipping up the Jack handle, it tips back and lowers the lifting post, ready to run under the axle. Then raise the adjustment up against the axle by one move of the small lever and pull down the long 5 ft. handle. The car is then ready to place in any position.

Write for Descriptive Literature and Price.

IF YOUR JOBBER WILL NOT SUPPLY YOU, WE WILL.

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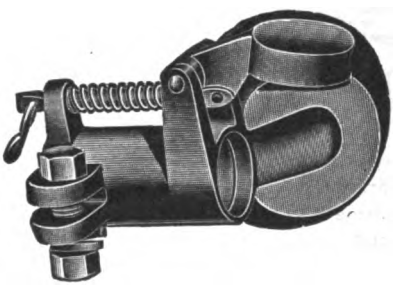

The Tremo Horn for Ford Cars

A perfect exhaust warning signal at all speeds. Easy to attach, no clogging and cannot get out of order.

PRICE COMPLETE $4.00
PRICE LIST FOR TREMO HORNS.
No. 1—16 to 25 H. P., $6.00 No. 3—40 to 50 H. P., $7.00
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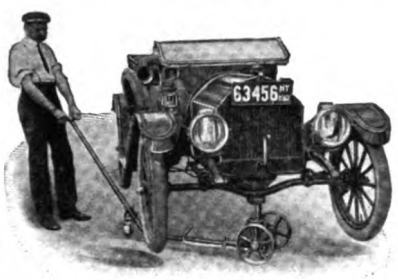
"Great little *profit-maker* for *Garages*"

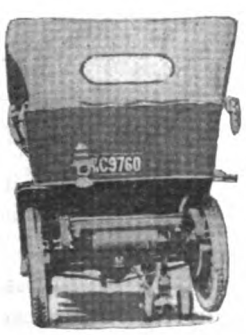
See It Work

Lift up the handle, push the jack under the front axle and pull down. LIFTS the whole front of the car two inches (Note the great leverage).

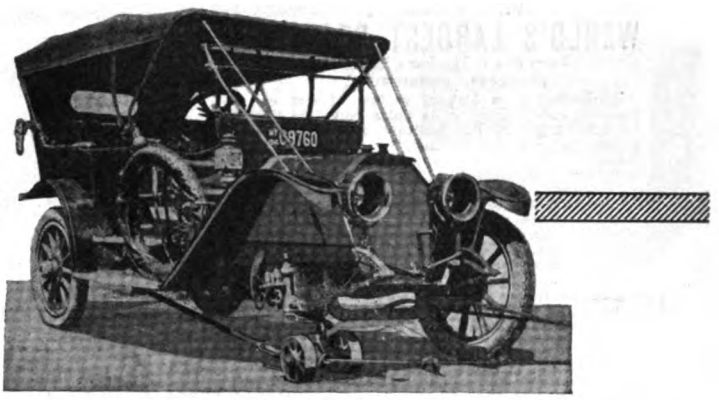


You are now ready to pull the car forward, right or left; in or out of the tightest places (See how handle passes under either wheel).

You can put it under the rear axle just as easy as the front. See how easily the whole car can be lifted, turned and handled.—"Better than a turntable"!



Combination Jack Clamped to rear axle of an extra large and heavy car. Note plenty of clearance between wheels and housing, and that brace rods do not interfere. See telescopic handle extended and rigidly braced to front axle.



HERE'S the best-paying, handiest garage device ever—not merely a wonderful time and labor-saver *in* the garage but, best of all, an actual business getter and profit producer for towing wrecks. It will pay for itself on the first few towing jobs, to say nothing of the repair work you'll get for extra profit. It is so genuinely good that 1700 are already in daily use all over the country.

THE COMBINATION

Auto Towing & Turn Jack

is a strong, compact device that will stand the rough pounding of concrete floors, cobblestone pavements and rutty country roads without failure. It runs surprisingly easy; the wheels have a 3-inch face and Hyatt Roller Bearings running on a case-hardened removable steel axle. Two interchangeable handles are furnished; the regular for inside work and the extra heavy telescopic for towing.

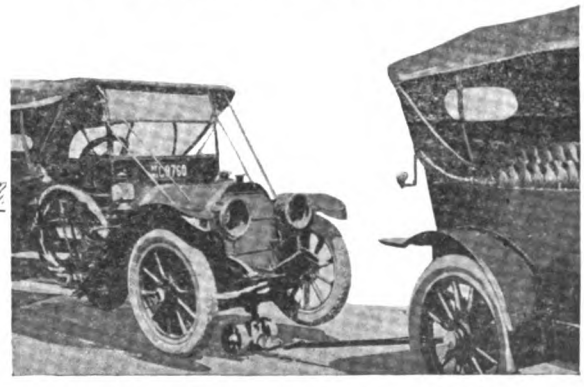
Inside the Garage: Powerful enough so that *one* man, with a single, simple motion, can raise and move about the heaviest cars as fast as we can tell you here. Gets them in and out of the tightest places —"better than a turntable".

For Towing: The most flexible towing jack you can imagine. Clamps anywhere on either axle of any make or size of car. Adaptable to any condition and will carry wrecks impossible to move in any other way.

"Gets the Money" is the title of a brief, pointed description of what this Combination Jack will mean for you in usefulness, in time and labor saved *and in business with profits.* It will show you new opportunities—a postcard request brings it free, together with full description of the complete device. Write NOW.

Rub-On Manufacturing Co., Inc.

93 Brayton Street, Buffalo, N. Y.



A wrecked car with the Auto Towing and Turn Jack clamped to the front axle with telescopic handle attached ready to be towed in for repairs. Here's a $5 or a $10 bill and the chance for enough profit on the repair job to pay for the Jack on the first job.

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REDUCE THE HIGH COST OF RUNNING YOUR AUTOMOBILE

By Buying Supplies at Less Than Manufacturers' Prices From the Original "Price Wreckers".

WORLD'S LARGEST DEALERS

Every Item in This List a Bargain. Read every one carefully.

Following is a list of a few of our especially good values. It is not a complete list of our stock. Do not hesitate to call on us if you are in the market for anything not listed.

Schebler Carburetors, 1¼-in., model "D" and "L".....$7.90
Holley Carburetors..... 2.50
Rayfield Carburetors..... 6.50
Kingston Carburetors.....2.50 to 4.00
Side Oil Lamps, per pair..... 2.75
Electric headlights, regularly $25, our price.....per pair 8.00
4 and 6-cylinder Gianaoli imported magnetos, high-tension, regularly $100 to $150, our price.....15.00 and 20.00
Bosch low-tension magnetos.....5.00
Remy magnetos, model "S"..... 9.00
Splitdorf dual outfits, complete.....25.00
Magneto coils .....4.00 up
4 and 6-cylinder Connecticut coils....12.00
Storage batteries.....8.00 up
Steering columns complete with wheel.15.00
Stewart-Warner and Jones Speedometers from.....8.00 to 15.50
Velvet shock absorbers.....10.00
Mondex shock absorbers, per set of 4..20.00
$40 Disco starters..... 5.00
Racing seats, regularly $50 per pair, our price.....15.00 each
1914 Ford runabout bodies.....40.00
Roadster bodies.....each 30.00
Peerless 7-passenger bodies.....35.00
5-passenger fore-door bodies.....each 35.00
Axles complete, front and rear....40.00 up
Ford radiators, best quality.....17.00
Radiators—Cadillac, Pierce, Knox, Stevens-Duryea, Fiat, Warren, Olds and a hundred others.....17.00 to 35.00
Ball bearings, all sizes..Less than one-third
Round gasoline tanks..... 6.00
Square gasoline tanks..... 2.50
Prest-O tanks, Model "B"..13.50 complete
Continental rims 3.00
Dorian rims, all sizes.....2.50 and 3.00
Universal joints..... 5.00
Rear tire holders, 1 or 2 tires..... 1.75
Electric horns, complete with push button and wire.....1.95
$25.00 trunks..... 5.00
Tire covers.....0.75 and 1.00
$25.00 windshields.....9.50
Mohair dusters 3.50
Chauffeurs' dusters 1.00
Storm fronts and side curtains..... 1.00
Appleco Lighting System, complete....40.00
Brown-Lipe transmissions.....50.00
Top covers 2.50
Tire gauges 0.35
Reliners 1.75
Single, double and triple action pumps .....0.75 up

A 1 Tires and Tubes—

30x3	casings 6.65	Grey tube	2.35
30x3½	casings 9.55	Grey tube	2.95
32x3½	casings 9.65	Grey tube	3.20
34x4	casings 14.65	Grey tube	4.10
36x4	casings 14.85	Grey tube	4.40

Other Sizes in Proportion.

Truck tires, all sizes..$12.00 to $25.00 each
Springs, all sizes, at less than ⅓ factory prices.
Motor driven electric horns..... 7.50

We also have such goods as Klaxon horns, Weed chains, Spitfire Sootless spark plugs, and, in fact, everything for the automobile. Consult us before buying anything in the way of automobiles or supplies and send for our free price wrecker.

Steering Wheels, $2.50 to $3.50; Fenders, all sizes, $1.50 up; Tops, Runabouts and Touring, $15 up; Lavigne oilers, $5 to $7.50; Ford oilers, 5c.; Tool boxes, all sizes, $1.00 up; Jacks, 65c. up; Tool kits, $1.25 up; Goggles, 20c. up.

TIMES SQUARE AUTOMOBILE CO.

S. W. Cor. 56th St. and Broadway, New York
1210 Michigan Avenue, Chicago

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Automobile Registrations

ANY STATE COMPLETE

Ford owners $2.50 per thousand names—1914 Registration.

OWNERS AUTO LIST COMPANY
CAPITOL - ALBANY, N. Y.

A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $8 per M by states.
Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.
Garages—13,515—$25 or $8 per M by states.
Repairs—8,466—$15 or $3 per M by states.
Supplies—6,964—$12 or $3 per M by states.
Auto Mfrs., U. S. and Canada—626—$3.
544 Auto Dealers, second hand—$4.00.
14,000 Auto Truck Owners—$8.50 per M.
AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $8 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.

WRITE US YOUR NEEDS.

All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.

TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1188. Chicago, Ill.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

THE AUTOMOBILE JOURNAL

$1.50 The Year 24 Issues

The Most Practical Magazine for Car Owners and Operators Issued.

Times Building Pawtucket, R. I.

The Motor Truck

12 ISSUES $2 THE YEAR

A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . .

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Send Money and Order Today

Every man in the industry that has to do with pleasure or commercial cars should have this library of Automobile Mechanical Information. A full training school course.

10 Great Books—800 Pages of Text—1500 Illustrations

All Indexed—Your Price $3.75 Delivered

Engine, 35c; Carburetor, 35c; Electric Lighting, 50c; Battery, 35c; Motor Car Tires, 25c; Chassis, 25c; Magneto, 35c; Car Operation, 50c; Overhauling, 50c; The Motorcycle, 35c.

Accessory and Garage Journal
Times Building, Pawtucket, R. I.

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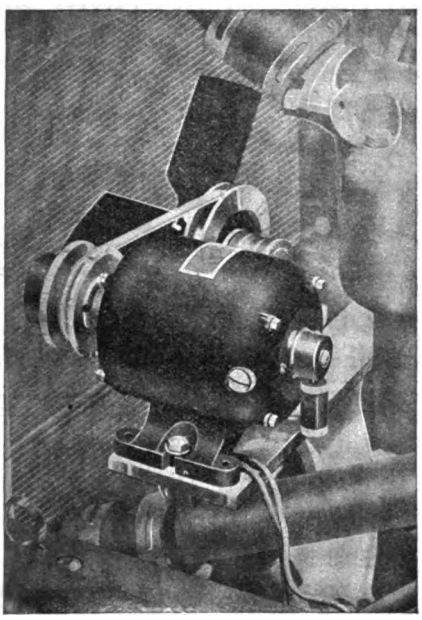
Electrify Your Car



With a

Jackson Generator

7 Volts
8 Amperes
Light
Efficient
Perfectly
Built
Guaranteed

AS INSTALLED ON FORD

Dynamo, Governor, Cutout and Meter, $27

We can furnish installation fittings for nearly all cars.

Special Ford Fittings, $5

Dealers, Write for Discounts

THE CHARLES A. JACKSON CO.
Motor Mart, Park Square BOSTON, MASS.

HAVOLINE OIL

A Smiling Trade—Your Best Advertisement

MOTORISTS KNOW that Havoline Oil greatly decreases frictional losses and enables the motor to generate its maximum power. The lubricating "cushion" which Havoline forms between the moving metals of the cylinders, has won the hearts of all automobile owners, because of its purity, uniformity, and clean burning qualities.

WE HELP YOU SELL Havoline Oil by means of our advertising "helps," including sales literature for distribution among your customers. Our House Organ "The Sales Oiler" explains them in detail. It's free to you if you want it.

Note: Our new Price-Scale policy enables you to make "Customers" where heretofore you had only "Sales." Ask us *How!* Write for the "Lubrican" a booklet on lubrication to give to your trade.

INDIAN REFINING CO., DEPT. "M" NEW YORK

DO TIRE REPAIRING

Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it.

$150 to $500 for complete outfit. Write us now.

The Williams Foundry & Machine Co.
Ash St., Akron, Ohio

The Waterhouse & Lester Co.
San Francisco,
Exclusive California Distributors.

TRADE NAMES
TRADE MAILING LIST
TRADE SERVICE

Cut your present cost 50%

PROOF AT REQUEST

Accessory and Garage Journal
Times Building, Pawtucket, R. I.

A PROFITABLE DEALERS PROPOSITION

MORGANBRITE

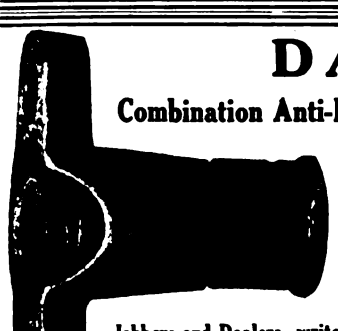
THE
Brass and Metal Polish
WITH THE
6 Talking and Selling Points

1. Is quicker and more lasting than anything on the market.
2. Being yellow it is not as noticeable on brass when dry as others.
3. The Lithographed Cans are superior to any on the market, as regards design and color.
4. Cans are of our unique "Polisaver" type. Screw cap secured to body of can, with chain and swivel. Cannot be lost.
5. All cans sealed at the factory.
6. Profit is good.

MORGAN MFG. COMPANY, DEPT. F. NEWPORT, R. I.

DACO

Combination Anti-Rattler and Grease Cup.



It is not a grease cup fitted to an anti-rattler, but a part of it. Eliminates all lost motion in the steering gear. Spring acts as a cushion and absorbs all road shocks. All wear is taken up automatically by the spring. Made in bronze, will last a lifetime. Fitted in a minute.

Jobbers and Dealers, write for new discounts. This has been the big seller of the year. Our prices will interest the trade.

The Danver Accessory Company
Makers of the famous DACO Accessories and Motor Car Specialties.
18 Broadway Pawtucket, R. I.

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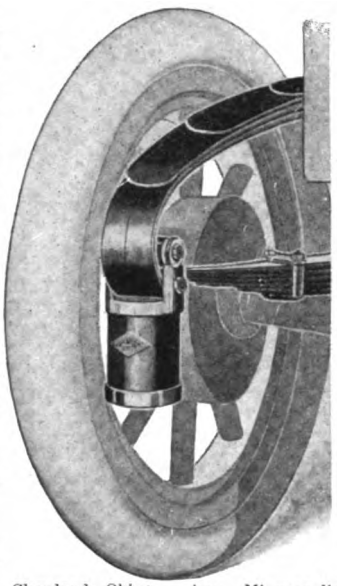
JOHNSON

SHOCK ABSORBER

List of Distributors on Johnson Shock Absorbers.



Vesta Storage Co., 1718 Broadway, New York, N. Y.; Roberts Garage, Ltd., Newberry & Hereford Streets, Boston, Mass.; Ross Automobile Co., 20 Water St., Auburn, N. Y.; George Chisholm, 1113 Chapel St., New Haven, Conn.; Auto Specialties Co., 301 Abbott Building, Philadelphia, Pa.; Cunningham & Donahue, 4th and Corcoran Streets, Washington, D. C.; City Auto Supply Co., 108 Market St., Harrisburg, Pa.; Auto Utilities Co., 5917 Baum Blvd., Pittsburgh, Pa.; Alexander-Seewald Co., 145 Edgewood Ave., Atlanta, Ga.; Johnson Shock Absorber Co., 1886 Euclid Ave., Cleveland, Ohio; Brant Bros. Chapman Co., 409 N. Capitol Ave., Indianapolis, Ind.; South Bend Rubber Co., South Bend, Ind.; Tennessee Auto Co., Nashville, Tenn.; Chas. Abresch Co., 4th & Poplar Sts., Milwaukee, Wis.; M. & F. Sales Co., 701 Wells St., Milwaukee, Wis.; Fitch Auto Supply Co., Peoria, Ill.; W. L. Schellabarger & Sons, Decatur, Ill.; J. B. Chambers & Son, Danville, Ill.; R. W. Jeter, Ashton, Ill.; M. J. Butterfield, Wheaton, Ill.; E. A. Ford, Algonquin, Ill.; Messenle & Crawford, Marseilles, Ill.; Johnston Auto, Wagon & Machine Co., 110-116 Harlem Ave., Oak Park, Ill.; Berwyn Auto Co., Berwyn, Ill.; Vehicle Top & Supply Co., 3414 Lindell Blvd., St. Louis, Mo.; Mr. E. Gartner, 905 N. 20th Street, St. Louis, Mo.; J. N. Johnson Co., 915 Nicolett Ave., Minneapolis, Minn.; Central Auto Supply Co., 1111 Locust St., Des Moines, Iowa; Rayfield Cycle Car Co., 109 W. 4th St., Davenport, Iowa; E. K. Mead, 1328 Broadway, Denver, Col.; A. Manton Chace, 1044 S. Olive St., Los Angeles, Cal.

Make Your Own Boulevards

JOHNSON SHOCK ABSORBERS do what others only claim to do.

It takes **two** competitive equipments to do what Johnsons do.

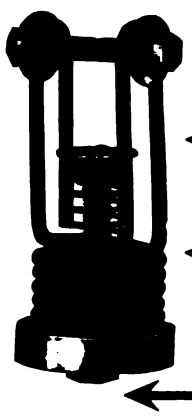
Big Profts and Fast Sales

IF JOHNSON SHOCK ABSORBERS ARE NOT SOLD OR REPRESENTED IN YOUR CITY WRITE **AT ONCE** FOR DISTRIBUTORS' PROPOSITION AND TERRITORY. WE ARE CLOSING NOW FOR 1915.

A shock absorber designed and manufactured by spring specialists of years' experience, who know from first hand the failure of leaf springs to give maximum ease of riding under all load and road conditions.

The **only** spring shock absorber with a **positive** recoil check, and which adjusts itself to load changes. Has the only **sure** adjustment for extreme load and road conditions without detracting from the results of the absorber.

Saves 25 to 50% in tire bills, minimizes spring breakage and prolongs the life of the car.



Two massive intercoiled spiral springs of the finest tempered alloy steel which carry the load and absorb the severest shocks.

Inside of these is a slightly lighter coil which takes the lighter shocks and eliminates the recoil.

At the bottom of the case is a nut by which an adjustment covering a radius of 1000 lbs. can be made in thirty seconds by two or three turns with a wrench or pliers.

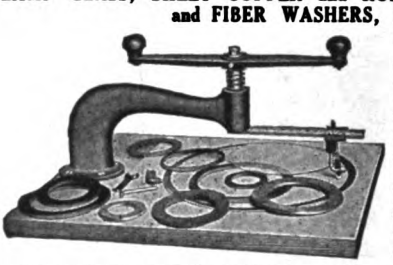
Triple Action Spring Co.

54-56-58 E. 28th St. CHICAGO.

The Springfield Circle Cutter

FOR CUTTING

LAMP GLASS, SHEET COPPER and RUBBER GASKETS, FELT and FIBER WASHERS, ETC.



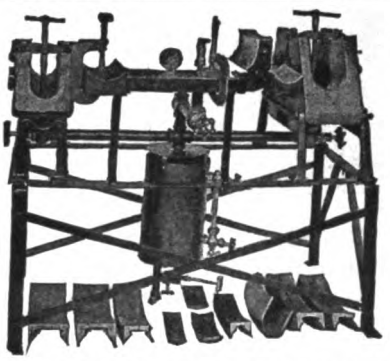
Capacity—any size circles from 0 to 14".

Positive measuring scale to determine sizes.

The equipment includes one steel-point glass cutting tool; one knife for square edge; one knife for bevel edge, and one wrench. Weight 12 lbs.

MANUFACTURED BY

THE SHAWVER MFG. CO., Springfield, Ohio



Shop and Garage Vulcanizers

For Catalogue, Address

VANDERPOOL CO.

SPRINGFIELD, O.

Coxajusto

ADJUSTABLE TO ANY LOAD

Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today Address Dept. M. Established 1872

COX BRASS MFG. CO., Albany, N. Y.

1777 Broadway, New York City; 2637 Michigan Ave., Chicago, Ill.; 899 Boylston St., Boston, Mass.; 870 Woodward Ave., Detroit, Mich.; 1216 Van Ness Ave., San Francisco, Cal. Export Representative, Auto Supplies Export Co., 1779 Broadway, New York City.

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a ***smooth running engine*** and a ***saving in gasoline.***

Territorial rights open. Address Dept. A.

BOWLING GREEN SALES CO.

42 BROADWAY, NEW YORK, N. Y.

Sole Distributors for U. S. A. and Canada

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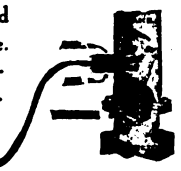
Saunders' Gasoline Saver

has proven positively that it will save from 25% to 50% gasoline —increase power and speed proportionately— give absolute control of fuel mixture under all conditions without readjusting carburetor.

Other good features described in booklet. Easy to operate. Consumes nothing but air Never gets out of order

Only one size. Fits any car.



Think Twice before you pass this by—it's a Money Maker—a Satisfaction Builder!

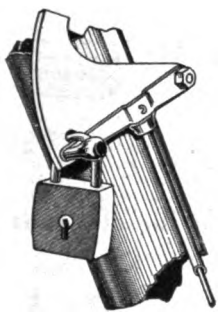
Every car owner in your community—every touring customer—is a logical buyer of this simple, practical device; and **every buyer is a booster** of the—

Saunders Gasoline Saver

the one gas saver that is **not** an experiment. Saunders Saver is a proven success—**thousands in use**—a sure seller and sure "repeater" (to enthusiastic car owners' friends) wherever shown.

A $5.00 device that will save $5.00 a month or more, to every car owner that does much driving. **25 per cent. to 50 per cent. More Mileage per Gallon**—enables the user to travel farther on his original supply and **come back to you for his gasoline!**

Easy to attach—a few minutes work and no special tools required. Adds a modest charge for putting on, to your liberal sales profit!



A Secure Motor Lock

Not the least bit complicated—vital feature is the **patented valve principle. Scientifically correct**—no substitute or make-shift will do the work.

Operates by lever just under steering wheel—**action positive**—a touch of the finger does it!

Wonderful in many other ways besides fuel economy. Our **Free Booklet** explains.

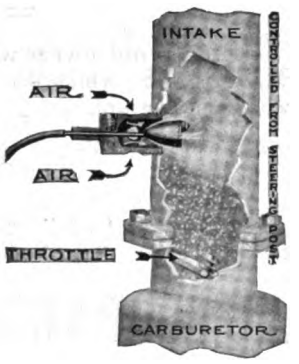
Push this remarkable device and ADD SEVERAL HUNDRED DOLLARS TO YOUR SEASON'S PROFITS!

For full information, and list of wholesale distributors, write to—

The Powers Sales Company

GENERAL AGENTS

1212 People's Gas Building—122 So. Michigan Ave., Chicago, U. S. A.



HYATT QUIET SERVICE

HY-FLEX-ROL

Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated

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756 Woodward Ave., Detroit, Mich. Telephone—Grand 4130
169 Massachusetts Ave., Boston, Mass. Telephone—Back Bay 1015
Fourth and Middlesex Sts., Harrison (Newark), N. J. Telephone—Harrison 2190
1210 South Figueroa St., Los Angeles, Cal. Home Phone F 6383 Bell Phone Broadway 8053

Service Agents

Pence Automobile Co., 800 Hennepin Ave., Minneapolis, Minn.
Broom & Wade, High Wycombe, England.

HYATT ROLLER BEARING CO.

DETROIT, NEWARK, N. J. CHICAGO

HOUK

DETACHABLE

Wire Wheels

Made by the largest wire wheel manufacturer in America

GEO. W. HOUK CO.

1709 Elmwood Ave. BUFFALO, N. Y.

A GARAGE NECESSITY

"Velos" Portable Garage Compressor

A complete portable electric compressor mounted on a 3 wheel metal base, with long hose and wire connections, pressure gauge, and safety valve. Pumps a 3 inch tire tight from the flat in 3 minutes.

SEND FOR CATALOGUE

PHILADELPHIA TIMER AND MACHINE CO.

51st and Lancaster Ave., Philadelphia, Pa.

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TRADE APCO MARK

ANTI-RATTLING SPINDLE ARM BOLTS

There has always been a demand for a device that would eliminate the up-and-down play of the Ford Steering Arm Connecting Rod and this is where half the rattle originates.

The original bolts that come on the car are soft and will last but a short time and when they wear slightly the rattle starts and it is impossible to eliminate it except by installing new bolts and bushings.

The APCO bolts are made from the highest grade steel obtainable, carefully machined, then hardened and ground. They are made 1-16 of an inch shorter from shoulder to under side of head as shown in cut, so that when wear does come, it can be adjusted by tightening bolt and locking with regular nut.

DEALERS

Every Ford owner who keeps his car with you will buy a set of these bolts and also the **BUSHINGS** which list at 10c each, and besides this, there is the labor of installing that also represents a profit.

Price 20c each. Bushings 10c each.
(Discount 25 Per Cent. to Dealers)

Send this "ad." with first order and deduct an extra discount of 10%, making the discount 25% and 10%. Overhauling time is coming, so send in your stock order now.

AUTO PARTS COMPANY - - Providence, R. I.

ALWAYS THE BEST RESULTS
ALWAYS THE BEST SELLER

The Dressing for Auto Tops That **Always** Satisfies. Better Handle It. A Quart Can for a Dollar, by Parcel Post.

THE FRANK MILLER CO.
349-351 W. 26th Street NEW YORK

SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

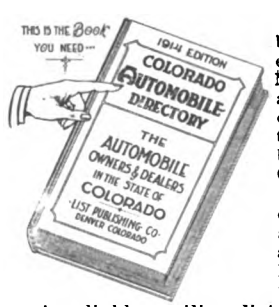
Our selling policy and proposition is the most liberal ever offered to the trade.

One Model, 3,000 Lbs. Capacity
Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
Rochester, New York

REACH COLORAOO OWNERS AND DEALERS



Colorado has more automobiles by 3000 than the six western states of Wyoming, Utah, New Mexico, Arizona, Idaho and Nevada, and there are more cars per capita in Colorado than in Illinois or New York, being one automobile to every 61 people.

This directory contains a complete list of the owners of automobiles licensed in Colorado for 1914. Also a classified Business Directory of the auto trade of the state.

A reliable mailing list for direct advertising, and the only one of the kind published. Price, $5.00, postpaid. Order now, and get early use of this valuable book. Advertising rates and sample page sent on request.

THE LIST PUBLISHING COMPANY, Dept. 2.
615 Denham Bldg. Denver, Col.

(When Writing, Please Mention The Accessory and Garage Journal.)

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HERE'S A BRUNNER
IT SOLVES THAT "AIR" PROBLEM

No. 52 PORTABLE COMPRESSOR
(Motor Driven)

Here's the machine with the maximum of service and quality right in it—not merely promised. It delivers the goods—always. It is not a makeshift—not a sideline product.

Skillfully built by specialists, for uninterrupted service—and it does it. Over 15,000 Brunners in use show an average repair cost record of less than 2c a year each, for a period of over 6½ years.

This is our No. 52 for larger garages and service stations. Tank, seamless drawn steel, 40-gallon capacity. Safe at 150 pounds pressure, but tested to 300 pounds. Motor ½ H. P. Air pump, twin cylinders—true as rifle barrels.

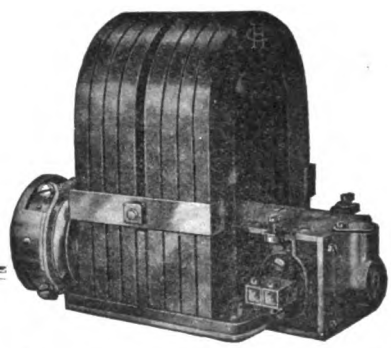
The whole machine is staunch and reliable and convenient. Attaches to any light socket.

There are many styles and sizes of "Brunners" for public or private garages. Write us for particulars and your jobber's name.

BRUNNER MFG. COMPANY

Main Office and Factory:
UTICA, N. Y.

New York Office
Hudson Terminal Bldg.,
30 Church St



The Reaction Has Set In
against complicated and overgrown lighting systems
HOLTZER-CABOT MAGNETO GENERATORS

do the work with far less trouble and expense.

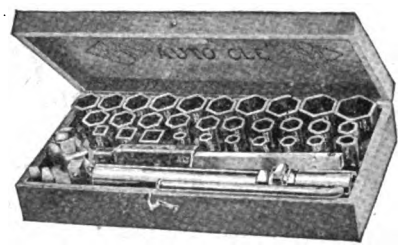
Some Reasons For Their Success

Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Low power consumption.

For FORDS, and other small and medium cars they are unsurpassed. *Send for Booklet A-1807.*

THE HOLTZER-CABOT ELECTRIC CO.
BROOKLINE, MASS.
6161-65 SO. STATE ST. CHICAGO
101 PARK AVENUE. NEW YORK
1005 UNION TRUST BLDG. BALTIMORE

Auto Clé



PRICE, $10

THE AUTO CLE SOCKET WRENCH has been marketed for eight years and is known to be the greatest selling ratchet socket wrench made.

A wonderful record and every sale made has been backed by the Mossberg Guarantee as to quality, workmanship and satisfactory work under all conditions.

THE AUTO CLE is accepted as the standard in pattern. It is mechanically perfect and practical.

THE AUTO CLE is one of the very few tools or devices introduced during the development of the automobile industry that has become standard and that is an honest value and of great benefit to mechanics.

THE AUTO CLE is a constant time and labor saver. It has a place in every garage and repair shop. It is sold by all jobbers and dealers.

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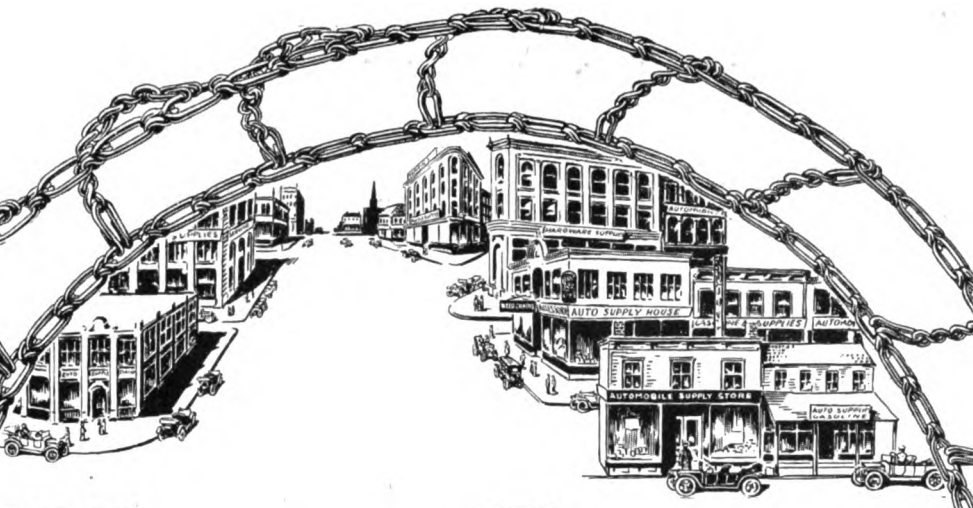

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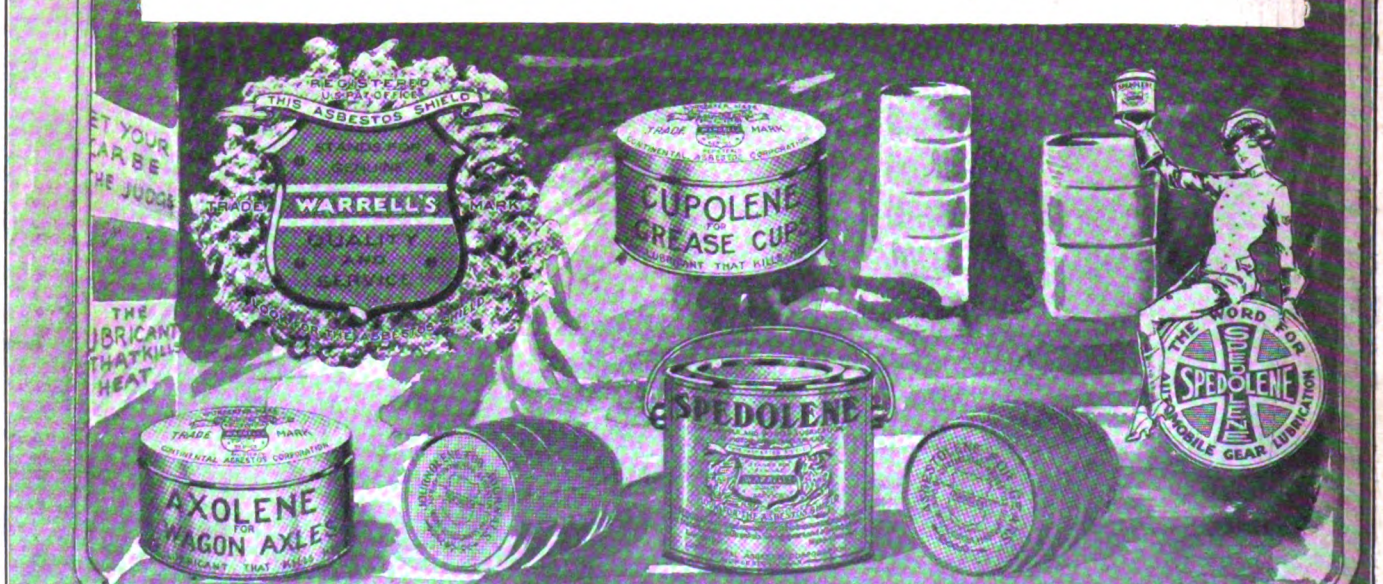

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NEXT ISSUE, OCTOBER 15: Complete Review of Boston Light Car and Accessory Show.—Contents of This Issue: United States Registration Statistics Page 7, Market Quotations 9, Practical Garage Accounting System 11, Manufacturers 14, New Buildings 16, New Accessories 19, New Concerns 22, New Models 24, 28, 36, Personals 25, New Agencies 29, New Machinery 31, Buyers' Guide 46-48.

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., SEPTEMBER, 1914. NO. 5

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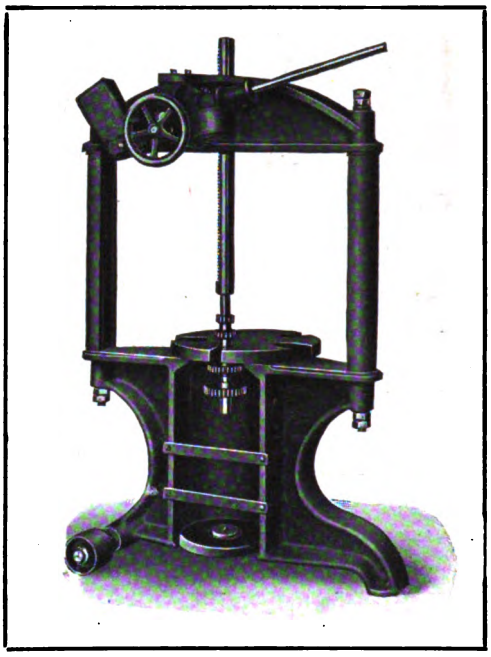

In the machine world Rhode Island stands pre-eminent. For years it has maintained its position as the premier state for mechanical productions.

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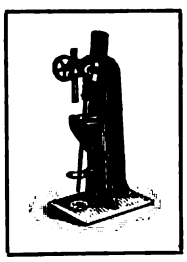

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And I left them gasping and floundering, a year and a half behind."

TRADE MARK Raybestos REG. U.S. PAT. OFF.

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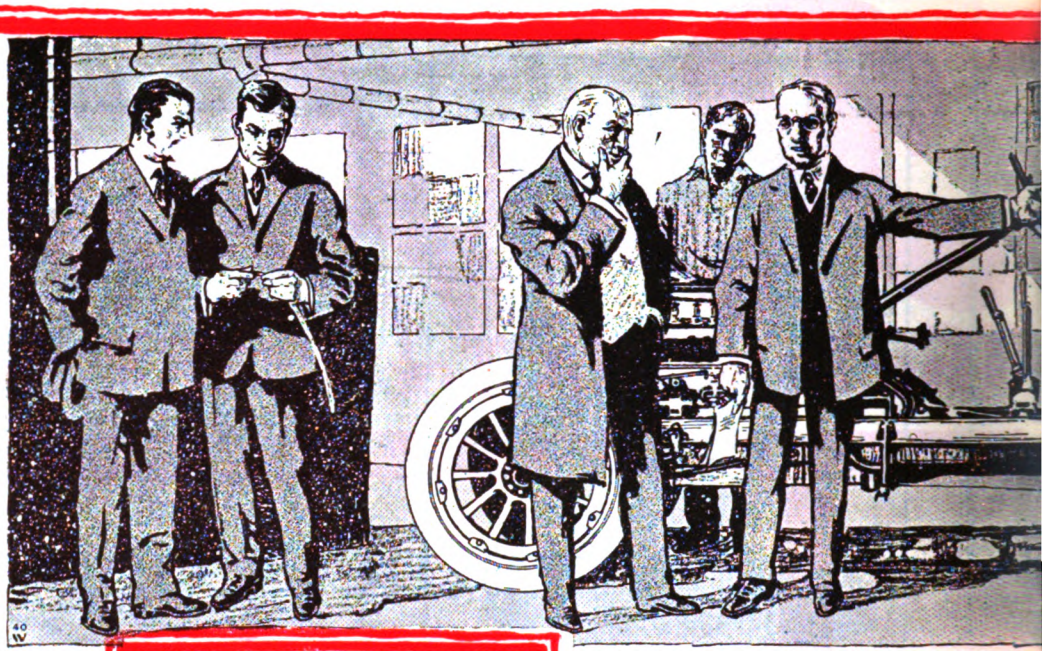

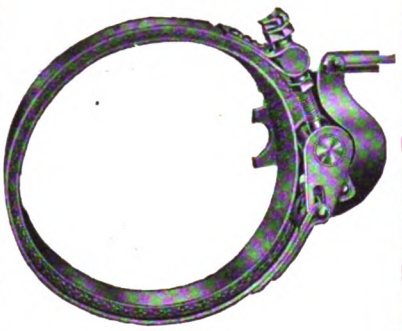

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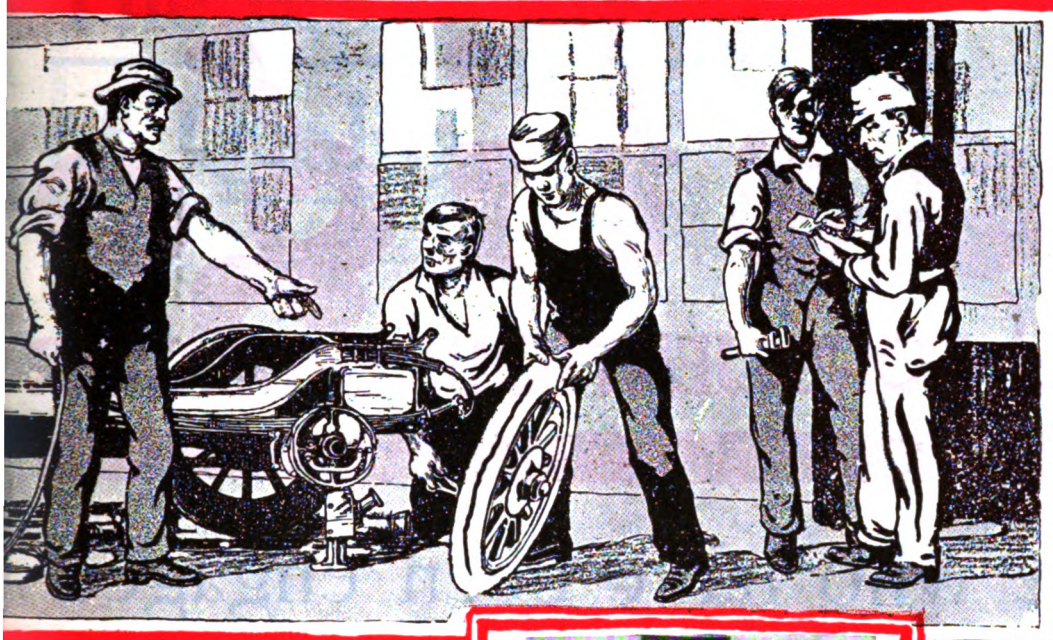

There have been many cases where we have made suggestions to automobile engineers—sometimes regarding design, sometimes regarding construction. In some cases these suggestions effect a saving in cost, and quite as often they effect an improvement in mechanical details.

Right here we want to make a point—and this point outlines our policy: when we are asked to manufacture a Brake equipment which we know to be faulty, and the suggestions we make as to its correction are turned down or overruled, we refuse the business. We find that it is preferable to lose a contract occasionally than to sacrifice our reputation.

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Think of this when you select the Brake Lining for the cars you overhaul, refit or repair.

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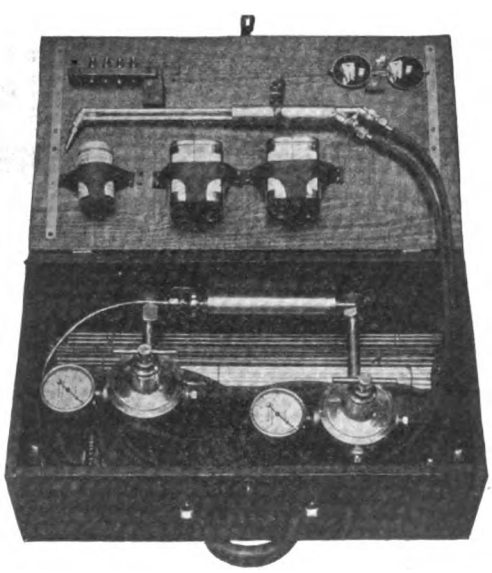

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1 Carbon Burning Torch . .	**Free**
1 Set Instructions	**Free**
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Terms: 5% discount cash with order or C. O. D. *or* $20 cash with order, balance in two payments, first of $12 in thirty days, $10 in sixty days *after receipt of outfit by you.*

If supplies are desired as well, we sell for $4.50 additional the following, making you ready for any auto welding:

1 Bottle Aluminum Flux.
1 Can Cast Iron Flux.
1 Can of Copper and Brass Flux.
2 pounds Brass Welding Rods.
5 pounds Cast Iron Welding Rods.
2 pounds Aluminum Welding Rods.
2 pounds of Steel Welding Rods.

If you already have a regulator for carbon burning, the oxygen regulator with the equipment is unnecessary and you can deduct it ($10.25) from the whole amount.

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THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

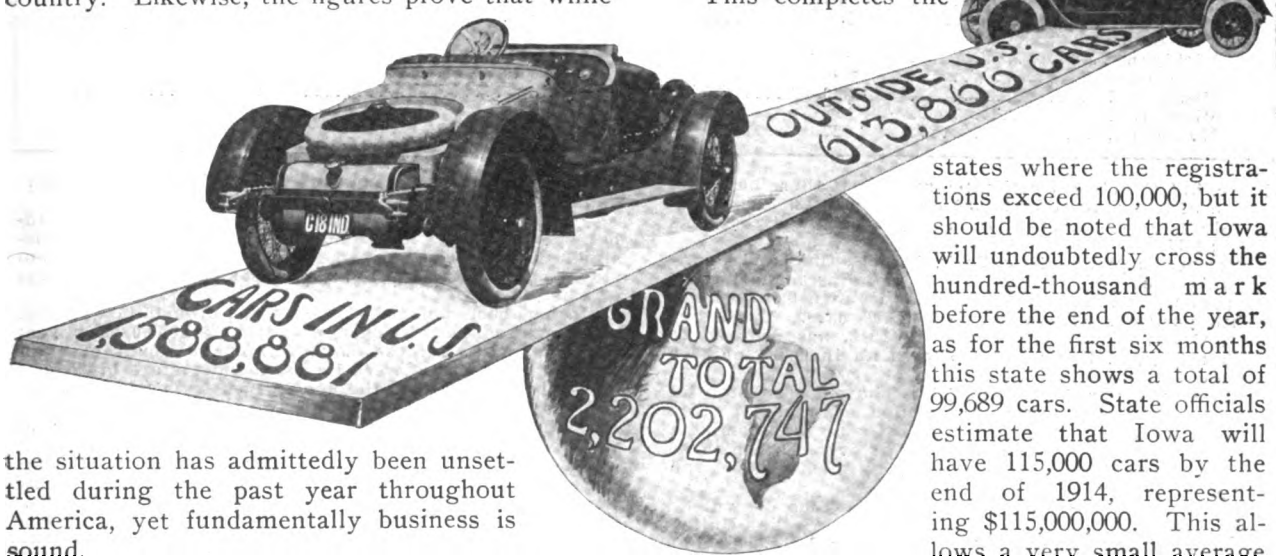
VOL. IV. PAWTUCKET, R. I., SEPTEMBER, 1914. No. 5

UNITED STATES REGISTERS 1,588,881 CARS.

All Records Are Broken for First Half of 1914—Show Wonderful Prosperity of the Automobile Industry—States Collect $8,183,830.

FOR the first half of 1914 all previous automobile records in the United States were broken when 1,588,881 cars were registered. In dollars and cents this means $8,183,830 was turned into the various state treasury departments.

These facts emphasize the wonderful prosperity of the automobile industry, and show that business conditions in the United States are as sound as they ever were in the history of the country. Likewise, the figures prove that while the situation has admittedly been unsettled during the past year throughout America, yet fundamentally business is sound.



Perhaps one of the most startling facts brought out in the new figures is that America has nearly three times as many cars as the rest of the world combined. There are 2,202,747 cars in the world, of which this country has 1,588,881, and the balance of the world, 613,866.

Owing to the fact that so many erroneous statements were being made regarding the number of cars in the United States, the Accessory and Garage Journal communicated with the various secretaries of state asking for automobile registration figures. The replies received are set forth herewith, and give the first accurate account of the number of cars registered from Jan. 1 to July 1, 1914.

As heretofore, New York leads, the figures this year being 147,186 cars. Illinois claims second honors with 120,740; Ohio third, with 109,887; California fourth, with 107,221, and Pennsylvania fifth, with 101,002.

This completes the states where the registrations exceed 100,000, but it should be noted that Iowa will undoubtedly cross the hundred-thousand mark before the end of the year, as for the first six months this state shows a total of 99,689 cars. State officials estimate that Iowa will have 115,000 cars by the end of 1914, representing $115,000,000. This allows a very small average of $1000 a car. Taking this same average, the total invested in automobiles in this country today is $1,588,881,000. However, this amount falls far short of the mark, as there would be many other things to be considered in arriving at an adequate estimate of the great amount invested in cars in the entire country.

The most encouraging sign in the statistics printed herewith is the substantial increase in the number of cars registered for the first six months of the current

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year over the full year of 1913, this increase amounting to 324,996 cars. The increase of 1913 over 1912 was 243,372, and the increase in registrations for the first six months of 1914 over the full year of 1911 is 1,111,881, there being only 677,000 registered that year.

The figures given in the accompanying tabulation do not exclude duplicate registration. It is impossible to figure accurately on such items, but an allowance of approximately 2000 would fully cover this in New York, and proportionately smaller figures should be allowed for other states. These duplications are inconsequential in figuring the totals of states, and do not in any way change the standings of these states. A brief summary showing the states having more than 50,000 automobiles and the figures of 1913, is shown elsewhere.

As can be seen from these figures, there have been some very large gains during the past year. The most notable increases are those of California and Texas, the former jumping from seventh place in 1913 to fourth place this year. In the case of California this big advance is not due so much to the number of new cars as to the fact that a new automobile law went into effect on Jan. 1 last, requiring registration of all cars. Heretofore California laws have called for one license only; i. e., the owner was only compelled to take out a single license, which remained good for all time. The new act requires that a license for each car be taken out every year.

It is impossible to give the amount of money turned into the California treasury since the first of the year as the result of automobile licenses, but the total paid over by California motorists to date is $1,250,000.

Texas registrations are made with the various county clerks and it is impossible to get an absolutely accurate figure, but the closest estimates state that there has been a gain of approximately 20,000 cars over 1913. This may be taken to be conservative, and places Texas registrations at 75,000.

Needless to state, New York, Illinois, Ohio and Pennsylvania continue to show the even gains made during the past few years. Michigan holds its own by retaining eighth position, with a gain of 12,000 cars. Massachusetts, which was in sixth place in 1913, has dropped to ninth this year, having only shown an increase of 3000 cars.

Minnesota, now in 10th position, showed a substantial increase of nearly 25,000 cars, which advanced it from 14th place. Indiana, Nebraska and New Jersey complete the list of states having 50,000 cars or over. These three states increased their registration by 13,000, 9000 and 3000 respectively.

Some very interesting conclusions may be drawn, by comparing the number of automobiles in the United States with the rest of world. For instance, it is seen that there are more cars in the states of New York, Illinois, Ohio, California, Pennsylvania and Iowa, than in the whole world outside of the United States. To be more definite, there are 685,725 cars in these states as against 613,866 cars in the world, exclusive of America.

With the single exception of Great Britain, which has 245,912 cars, there are more automobiles in any one of the above mentioned states than in any foreign country. Next to England, France ranks highest in number of cars in use, having 90,000 machines. This figure, however, is overshadowed by Iowa's 99,689, and more than outnumbered by any of the states having 100,000 cars or more. There are 11 states in America that have more cars individually than Germany, which, with 57,341 cars, follows France in third position among foreign nations. Canada stands fourth with 46,604 automobiles, and this is the last country in the world which now has more than 15,000 machines.

While the growth of the automobile industry is distancing any other business in the country in volume, yet the fact is to be deplored that it is harassed by conflicting laws and antiquated and inadequate acts to a greater extent than any other business. There are numerous plans afoot to secure uniform laws. The automobile long has been and still remains legally the most abused member of the country's industrial family.

Some effort has been made during the year to secure better conditions. California and Kentucky now have new laws in effect. Kentucky's automobile laws went in force on June 16 last. The Kentucky act is modelled generally after the motor laws in force in most states, but the registration fees have been classified, so that the charge for automobiles of 25 horsepower or under is $6, for cars of 25 to 50 horsepower, $11, and for all machines of greater power, $20. Non-resident owners are not required to take out a license.

The situation in Michigan has become more complicated than ever, owing to the fact that the automobile law in that state has been declared unconstitutional by the supreme court. Massachusetts and several other states are considering amendments to their present acts that may or may not help to straighten the situation out. However, until some concerted action is taken and some simple plan adopted in regard to fairly uniform laws in all states, a chaotic condition will be inevitable.

The District of Columbia began to register automobiles on July 1, 1907. The registrations run consecutively. Up to the close of last June 17,446 cars had been registered, but it is impossible to say whether or not they all exist at the present time. This method of continuous, or perennial, registration is not practised in many states today. In addition to the District of Columbia, Florida and Texas are still adhering to the perennial system.

In order to show additional variety, Minnesota adheres to its policy of triennial registration, and Mississippi, South Carolina and Louisiana are still without state registration, the individual counties having charge of this.

It has been pointed out by the Automobile Chamber of Commerce that funds aggregating $130,000,000 a year could be raised for the construction and repair of highways if all vehicles were licensed under state laws on a basis proportionate to the use derived from the wear and tear done to the roads. This, of course, provides that horse drawn vehicles pay their share for road upkeep as well as automobiles.

Of the total of $130,000,000 so provided, the 1,588,881 motor vehicles registered at fees from $10 to $25 would produce approximately $19,000,000; the estimated 14,600,000 horse drawn vehicles at $5 to $20 would produce $108,000,000, and the estimated 2,800,000 bicycles and motorcycles in use at $1 and $3, respectively, would bring $3,400,000.

	Total Registration	Total Fees.
Alabama	7,814	$101,968.75
Arizona	4,293	35,676.00
Arkansas	5,089	51,160.00
California	107,221	.....
Colorado	14,500	68,476.50
Connecticut	22,410	387,430.00
Delaware	2,769	30,648.00
District of Columbia	17,446	.....
Florida	1,085	2,208.00
Georgia	19,300	.....
Idaho	3,245	48,675.00
Illinois	120,740	595,367.06
Indiana	59,000	396,000.00
Iowa	99,689	200,000.00
Kansas	39,889	214,305.00
Kentucky	9,770	75,115.00
Louisiana	2,000	.....
Maine	13,000	163,200.00
Maryland	17,042	.....
Massachusetts	68,879	695,451.00
Michigan	69,026	200,000.00
Minnesota	61,700	107,460.00
Mississippi	1,800	.....
Missouri	49,018	213,098.00
Montana	3,027	10,000.00
Nebraska	57,000	.....
Nevada	1,350	4,039.24
New Hampshire	10,000	225,000.00
New Jersey	52,000	668,393.54
New Mexico	2,425	16,764.00
New York	147,186	1,352,000.00
North Carolina	12,500	75,000.00
North Dakota	13,065	41,739.00
Ohio	109,887	586,784.00
Oklahoma	12,000	.....
Oregon	15,325	72,646.00
Pennsylvania	101,002	1,113,510.00
Rhode Island	11,000	.....
South Carolina	13,000	3,000.00
South Dakota	16,200	.....
Tennessee	17,282	34,564.00
Texas	75,000	.....
Utah	5,662	3,108.00
Vermont	7,115	136,633.63
Virginia	12,776	111,000.00
Washington	21,000	42,500.00
West Virginia	6,158	60,174.00
Wisconsin	47,846	239,230.00
Wyoming	2,050	.....
Total	1,588,881	$8,183,330.72

United States	1,588,881	Dutch East Indies	7,000
Great Britain	245,912	India	7,000
France	90,000	New Zealand	8,000
Germany	57,341	Spain	8,000
Canada	46,604	Hungary	6,000
Australia	15,000	Algeria	5,850
Austria	13,000	Brazil	5,000
Italy	12,000	Sweden	5,514
Argentine	10,000	Switzerland	5,000
Russia	10,000	All other countries	39,597
Belgium	9,048		
Denmark	8,000	Total for world	2,202,747

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GENERAL MATERIAL MARKET QUOTATIONS.

During the past month the general commodities market adjusted itself somewhat to the conditions brought on by the European war. Fine up-river Para rubber declined from $1.20, its price on Aug. 15, to 68 cents on Sept. 15. No quotations are available on silk from Italy, as this supply has been cut off entirely by the existing conditions abroad. Prices of iron, steel, copper, etc., are normal again, but fluctuations are likely.

The New York Stock exchange, the Consolidated exchange and other exchanges still remain closed, being obliged to take this action on July 31, owing to the heavy liquidation forced by Europe. The tabulation given below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period, i. e., Aug. 15 and Sept. 15:

	Aug. 17		Aug. 24		Aug. 31		Sept. 7			
	High	Low	High	Low	High	Low	High	Low	Aug. 15	Sept. 15
Antimony	12	12	12	12	12	11¾	11¾	10	18	10
Iron, Fdy., S., ton	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Iron, Fdy., N., ton	12.75	12.75	13.00	12.75	13.00	13.00	13.00	13.00	12.75	13.00
Iron, Bessemer, ton	14.90	14.00	14.00	14.00	14.00	14.00	14.90	14.00	14.90	14.00
Steel, Bessemer, ton	19.00	19.00	20.50	20.00	20.50	20.50	20.50	20.50	20.00	20.50
Steel, open hearth, ton	19.00	19.00	20.50	20.00	20.50	20.50	20.50	20.50	20.00	20.50
Beams and chan., 100 lbs	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Copper, elec., 100 lbs	12.37½	12.20	12.35	12.25	12.30	12.30	12.27½	12.15	12.37½	12.12½
Copper, lake, 100 lbs	12.62½	12.37½	12.50	12.37½	12.50	12.40	12.40	12.37½	12.50	12.25
Lead, 100 lbs	3.85	3.85	3.87½	3.87½	3.87½	3.87½	3.85	3.85	3.85	3.85
Tin, 100 lbs	49.00	40.00	39.75	39.00	38.50	36.00	34.75	32.00	65.00	31.37½
Petroleum, Kan. cr., bbl	75	75	75	75	75	75	75	75	75	75
Petroleum, Penn. cr., bbl	1.75	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.60	1.45
Linseed oil, raw	60	60	60	60	60	60	60	60	60	60
Rapeseed oil, refined	82	82	82	82	82	82	82	82	63	82
Lard oil, prime	93	93	93	93	93	93	93	93	93	93
Fish oil, Menhaden, br	40	40	40	40	40	40	40	40	40	40
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	25	17	25	25	..	..	..	..	17	32
Cottonseed oil, bbl	6.70	6.40	7.20	6.80	6.80	6.00	6.00	5.75	..	5.85
Sea Island cotton	....	....	23	....	25	..	..	..	..	..
Silk, raw, Japan	4.55	4.55	4.50	4.40	4.50	4.00	4.30	4.30	..	..
Silk, raw, Italy	....	....	....	....	....	..	4.60	4.60	..	..
Rubber, fine up-Para	1.08	90	80	75	78	75	75	73	1.20	68
Tire, scrap	5	4¾	5	5	5	5	5	5	4¾	5

CRUDE OIL PRICES.

The price of crude petroleum at the wells during the middle of the month of August were as follows:

Pennsylvania dark	$1.45	Ragland	.65
Second Sand	1.45	Illinois above 30°	1.02
Tiona	1.45	Illinois below 30°	1.40
Cabell	1.05	Kan. & Okla	.75
Mercer black	1.02	Corsicana light	.75
New Castle	1.02	Corsicana heavy	.50
Corning	.85	Electra	.75
Wooster	1.23	Henrietta	.75
North Lima	1.01	Caddo, La., 38°	.80
South Lima	.96	Caddo, La., heavy	.45
Indiana	1.01	Spindletop	1.06
Princeton	1.02	Canadian oil	1.46
Somerset 32°	.85		

California.

21 to 23.9 grav	40	29 to 30.9 grav	55
24 to 26.9 grav	42½	31 to 32.9 grav	60
27 to 28.9 grav	45		

Naphtha.

	10-gallon drums		
	Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	23½

*Drums extra, $8.50.

	In cans and cases		
	Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	a	15
Refined, barrels	12 a	13
Tank wagon delivery	a	9
Fuel, 31°	8 a	..
Fuel, 34°	9 a	..

Naphtha.

Auto in wood	a	17
Auto in garages, steel bbls	a	13
V. M. & P. deod., in steel	a	9
V. M. & P. deod., in wood	a	11

Gasoline.

86°	a	26
74-76°	a	25
67-70°	a	22

FORD LIGHTING SYSTEM.

Charles A. Jackson Company Producing Electric Generator and Fittings for the Trade.

The Charles A. Jackson Company, Motor Mart, Park square, Boston, has brought out a new electric lighting equipment for the Ford motor which is moderately priced. The Jackson generator is a very compact, efficient dynamo, and with it comes a governor, cut-out and ammeter; in fact, everything required for installation. The generator has an output of eight amperes, and a desirable quality is a quick adjustment. The company makes a special fitting for the Ford car, which is easily and quickly attached. Installation equipment is carried in stock for nearly all standard types of cars. The Jackson lighting outfit is stated to be a good seller and the maker has an interesting proposition for the dealer.

VELOS COMPRESSOR.

A Complete Portable Electric Equipment Particularly Adapted for the Garage.

The Philadelphia Timer & Machine Company, 51st street and Lancaster avenue, Philadelphia, is manufacturing the Velos portable compressor, which was designed especially for the garage requiring a high-grade, efficient equipment at a moderate price.

The Velos is operated by electricity and the outfit includes an electric motor, compressor, pressure gauge, safety valve, long line of hose, socket, etc. The apparatus is mounted on a three-wheel metal base with convenient handle, and the maker calls attention to the efficiency of the pump, stating that it will inflate a three-inch tire from flat to the maximum in less than three minutes. Details and prices are given in the new catalogue issued by the company.

MONOGRAM OIL AGENCY.

New York Lubricating Oil Company Has Interesting Sales Proposition for the Dealer.

The New York Lubricating Oil Company, 116 Broad street, New York City, has a sales proposition that will interest every dealer. The Monogram oil selling policy is to meet the demand in every city and town, and the company solicits correspondence from the trade. Complete details will be supplied upon writing.

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. SEPTEMBER, 1914. NO. 5.

AUTOMOBILE JOURNAL PUBLISHING CO.
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William H. Black, Treasurer. D. O. Black, Jr. Secretary.
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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

SALES AND PROFITS.

The selection of a line of accessories and supplies requires careful consideration upon the part of the head of the purchasing department. Those who have made a success and move their goods rapidly from the stockroom and shelves, appreciate the selling value of quality goods. The day is past when the experienced customer will accept a substitute because it is cheaper, or can be influenced by the persuasive talk of the salesman. While it may be a comparatively easy matter for the garageman to sell an inferior article to an inexperienced customer, and to derive a large profit thereby, such a sale generally results in the loss of the motorist's subsequent custom. The stocking of quality, trade marked goods, means assured and continued profits.

OUTLOOK FOR 1915.

Particular attention is called to the leading article in this issue, and the statistics supplied by the automobile industry indicate that the year 1915 will be one of the most prosperous ever enjoyed by the trade. Despite unsettled business conditions, the registration figures show that over 300,000 more cars were registered for the first six months of this year than during the entire 12 months of 1913. Reports from the leading centres of the industry show that many concerns have been obliged to augment their equipment to meet the increasing demand, while other makers are planning additions. The garageman, repairman, dealer, and the trade generally, will share in the coming era of prosperity.

CURB FUEL STANDS.

The Detroit, Mich., commissioner of public works has notified all owners of gasoline stands or stations which have curb or sidewalk stands, that they will have to be removed by Oct. 16. The garage interests carried the case to the Supreme court, which decided in favor of the commissioner. Proprietors of garages in other cities contemplating the use of similar fuel distribution will do well to investigate the ordinances covering the subject of gasoline before installing a system. Over 100 of the curb and sidewalk stands were in service in Detroit.

THE BOSTON SHOW.

The Light Car, Cyclecar, Small Delivery Car and Accessory show to be held in Horticultural hall, Boston, Oct. 10-17, will afford the trade an excellent opportunity to inspect many machines which will be shown for the first time in public. The display of accessories will be of particular value to the dealer, while the repairman will find much to interest him in the mechanical details of this latest addition to the motor vehicle industry.

STOCKING FOR FALL TRADE.

Now is the time for the progressive dealer and garageman to give consideration to stocking for the fall and winter trade. Priming devices, heaters, robes, etc., will soon be in demand, and live supply and accessory concerns will anticipate the wants of their customers.

THE FAIR AND THE DEALER.

This is the season of the agricultural fair, and it is interesting to note that the dealers and their sub-agents are taking advantage of this opportunity to display motor vehicles. The reports indicate many sales, as well as numerous prospects.

REACHING THE TRADE.

No manufacturer can expect to successfully exploit his goods without advertising. Publicity attracts attention to his products, and consistent advertising is productive of results.

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PRACTICAL GARAGE ACCOUNTING.

System Utilized by the Fifth Avenue Garage of New York City to Prevent Losses and to Insure Efficiency of Employees.

CAN the garage be made to pay an equitable return upon the money invested, and why is it that some concerns are prosperous, while

Fig. 1

NAME No.
RESIDENCE
OFFICE ADDRESS
SEND BILLS TO
CAR
RATE
SPACE
CHAUFFEUR NAME
ADDRESS
LOCKER NO.

Fig. 2

LIVE STORAGE		DEAD STORAGE	
IN	OUT	IN	OUT

Fig. 1—Card Used by Fifth Avenue Garage to Enter Details of Contract for Storage, Etc.; Fig. 2, Reverse Side Showing Beginning and Expiration of Contract.

others just about pay the proprietor day's wages? Why is it that some entirely familiar with motor vehicles fail to make a success in conducting a garage? Eliminating, for the time being, the factor of suitable location, and dealing with the first question, it will generally be found that, when the garage is only paying a small return upon the investment, it is conducted without regard to the small details that involve losses. The proprietor may be thoroughly conversant with the requirements of his customers, his service may be all that could be desired, and his judgment in stocking excellent. But if he relies upon his ability to attend personally to the numerous details involved in the operation of a garage, he will most likely find that his accounts do not balance, that certain supplies and departments show very small returns when they should be profitable. Lack of system has and will be responsible for the failure of the garage to make good, and many establishments in the day's wages class can be made to pay a good return upon the investment by the adoption of a practical system and its enforcement.

The responsibility of the proprietor does not end with the adoption of a practical system. He may select one that is particularly adapted to his requirements but if, after spending a considerable sum for the tags, cards, indexes, etc., he fails to enforce a strict observance, compelling each and every employee to conform to the system, the benefits will be minimized. The adoption of a system requires careful consideration, and it may be that slight changes in a standard system will improve its efficiency.

A system that is held to eliminate losses prevalent with garages, and one that enables the proprietors to maintain an accurate check upon the time and labor of the employees, as well as stock and supplies, is that employed by the Fifth Avenue Garage, New York City, located at 57 East 88th street. This concern does not conduct a repair shop in connection with the garage, as it utilizes its entire space for storing, washing and polishing, and for providing those conveniences appreciated by owners and chauffeurs. The company supplies gasoline, oils, greases, etc., and the method utilized for accounting for sales and stock is one of the features of the system employed.

In constructing the building, careful consideration was given to the problem of storing a large number of vehicles without the use of elevators or other equipment, which would tend to result in a loss of time when a hurried call is received for a machine. The building is a one-story structure, well ventilated, lighted and heated. Large skylights provide ample light, as may be noted from the illustration at Fig. 3, which also depicts the wide aisles and spaces utilized for storage. The capacity of the building is 114 cars, and the space for each is indicated by numbers. The desirable quality of the spacing is the ease with which a machine can be swung into position, and practically no time is lost when its services are required.

The operation of the system is best explained by the progressive steps following the application

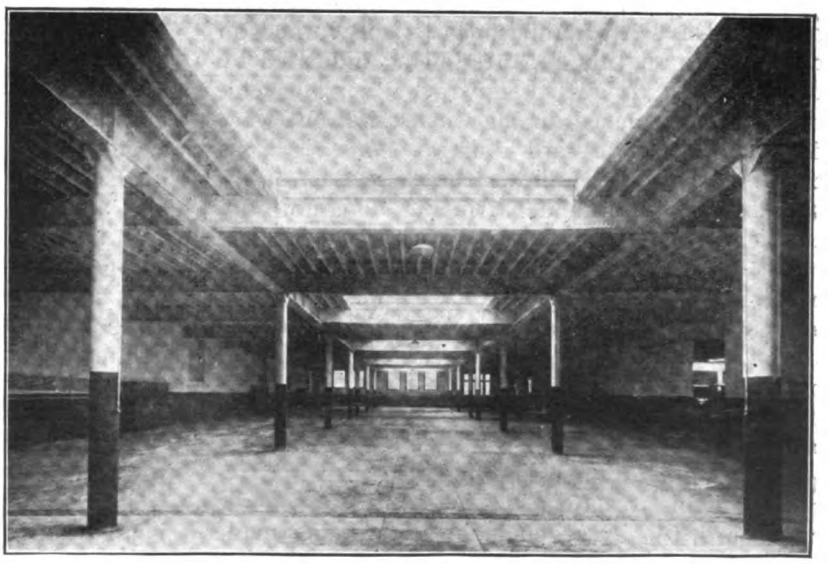

Fig. 3—Interior View of Fifth Avenue Garage, New York City, Showing Ample Storage Capacity, and Method of Lighting by Day.

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of an owner for space. When the new customer contracts for storage, the registry card, shown at Figs. 1 and 2, is utilized. It is of white manila cardboard, three by five inches, and on the side shown at Fig. 1 is inscribed the name of the owner of the machine, his business and home address, where the bills are to be sent, the number and make of machine, rate to be charged, space to be occupied, chauffeur's name and address and the number of the locker assigned him. In the upper right hand corner of this card is written the number of the brass tag, which corresponds with that of the space. This brass tag is affixed to the rear license bracket of the machine and all charges are made against this number, a simple method, one eliminating clerical labor in the office, as well as in the garage proper.

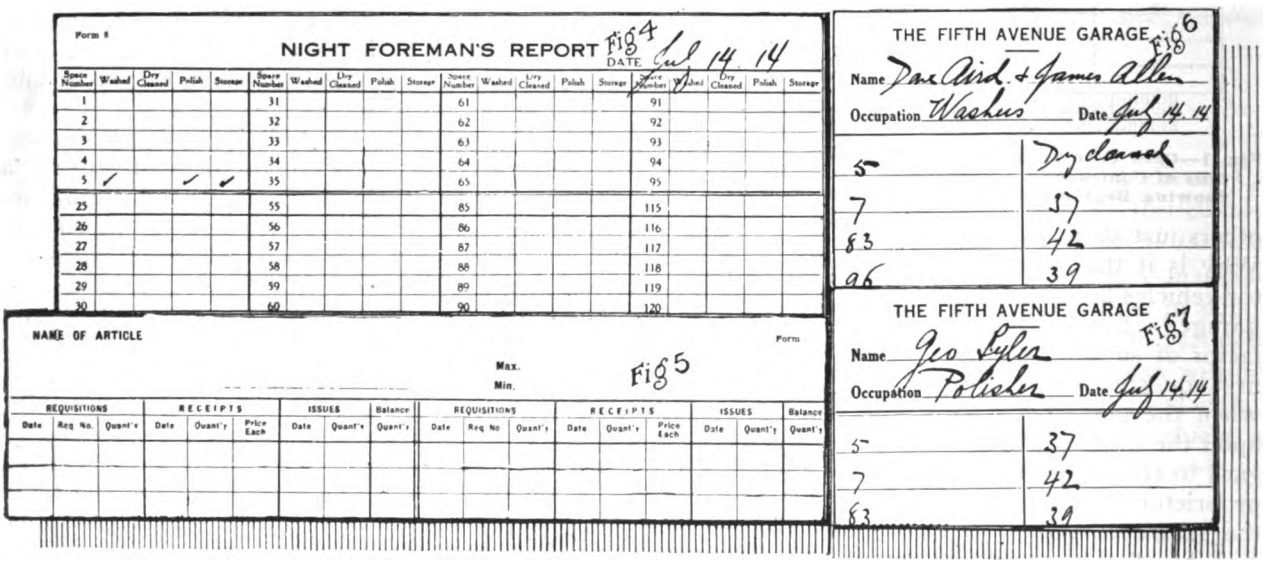
The reverse side of the card, shown at Fig. 2, enables the bookkeeper to note at a glance when the contract for storage began and ended, also to distinguish between live and dead storage.

Cards are utilized by the washers and polishers and the simplicity of the method is shown at Figs. 6 and 7. Fig. 6 shows that the employees, Dave Aird and James Allen, worked on certain cars on July 14, these being indicated by the numbers. It is also shown that certain vehicles were not placed on the washstand, but were dry cleaned. The card illustrated at Fig. 7 is the polisher's, and it shows the cars given attention on July 14 in his department. This not only enables the company to obtain data as to the capacity of the employees, but in the event a customer complains of the quality of the work, it is an easy matter to locate the fault. These cards, which are turned in to the office, are manila cardboard, seven by four inches. Their use economizes in time, as figures are utilized by the workmen.

The night foreman is obliged to turn in a report and this is shown at Fig. 4. It is a manila cardboard, 6½ by seven inches and, being made out each morning, is a complete report of the machines washed, dry cleaned, polished and stored. It also provides a check on each vehicle insofar as storage and work are concerned, and the number method, is, of course, utilized.

Of particular interest is the system for keeping accurate account of the supplies, especially the fuel, which generally is difficult to check up where employees are careless or where customers are allowed access to it. Although it would appear to be drawing a very fine line to refuse to allow an employee to draw enough gasoline for a customer who wishes to clean his hands, yet it is these practises that in the course of a year result in decided loss to the company.

The method of maintaining a record of the fuel, oil and kerosene is shown at Fig. 9. Heavy white paper, ruled as shown, is utilized for the gasoline record and the report is made daily. It enables the company to note at a glance the record of the fuel. The supply of gasoline is indicated in the first section, which shows that for the 24 hours ending at 9 in the morning on May 10, the dip indicated 1149 gallons. The fuel supply is measured by a graduated stick at the hour indicated.



Details of the System Used by the Fifth Avenue Garage: Fig. 4 Is the Night Foreman's Report; Fig. 5, Method of Maintaining Supplies, Etc.; Fig. 6, Washers' Card; Fig. 7, Polisher's Record.

The third column is utilized for the receipts, and a similar space is used for the oil and kerosene record, indicating the supply received by the garage from the wholesaler. The fourth column shows the total. For example: On May 11 the dip showed 796 gallons of fuel and the receipts 540, a total supply of 1336 gallons. The dip for the next day was 1071 gallons, a difference of 265 gallons, as indicated in the fifth column. Of this amount one-half a gallon was a cash sale, as shown, and 270 charged to customers. The last column of the card is used for differences, loss and gain. In the instance referred to a gain of 5½ gallons was made, which would not occur in practise unless a mistake was made in the supply received. If, however, the difference is a loss, it is investigated. The oil and kerosene record is maintained in a similar manner. The company also keeps a record of empty barrels, and this prevents any employee benefiting from a per-

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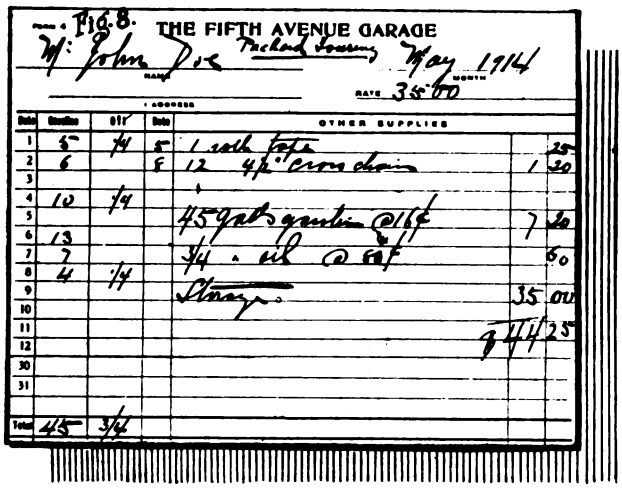
Fig. 8.

THE FIFTH AVENUE GARAGE

Mr. John Doe — Packard touring — May 1914

DATE 35.00

Date	Gallons	Oil	Date	OTHER SUPPLIES	
1	5	1/4	5	1 cloth fob	25
2	6		5	12 4p. cross chain	1 20
3					
4	10	1/4			
5				45 gal. gasoline @ 16¢	7 20
6	13				
7	7			1/4 - oil @ 60¢	60
8	4	1/4			
9				Storage	35 00
10					
11					44 25
12					
30					
31					
Total	45	3/4			

Fig. 8—Illustrating Itemized Bill Rendered Customer at Completion of Each Month.

sonal sale. The completion of the report requires but little time and is the means of preventing a continuance of leaks when once discovered.

The summary of the charges to the customer is indicated at Fig. 8. It will be seen that the dates and material are itemized and that the total number of gallons of fuel can be conveniently added. These charges are taken daily from the cards turned in at the office, and the bookkeeping is simplified.

The maintenance of the supplies is an important factor in the management of any garage, and it requires careful insight into the business, as well as familiarity with details. Standard supplies must be maintained, while other lines should not be overstocked.

The Fifth Avenue Garage utilizes a card five by eight inches, which is ruled and divided as shown at Fig. 5. On the left hand upper corner is printed "Name of Article", and at the right the sale price. Under this are the words "Max." and "Min."—maximum and minimum—which indicates to the employee in charge the quantity to be maintained and maximum to be stocked.

Under the head of "Requisitions" is the date, regular number and quantity, indicating when the goods were received, their number and quantity. The next section of the card, that marked "Receipts", is divided into three spaces, which are used for the supplies. The next section is reserved for issues recording the date the goods were sold, quantity and balance of supply on hand. This enables the company to maintain its stock, as well as know the rapidity with which certain lines are depleted.

Provision is made for the chauffeur who wishes to work on his car, and he is also given the use of a commodious locker for storing his clothing and personal effects. The company employs a barber and a bootblack, and the chauffeurs are given free service. Entertainment is provided in the form of a pool room with comfortable furnishings.

BRAKE EQUIPMENT.

Advantages Obtained by Use of Duplex Brakes, Raybestos Brake Lining, Etc.

The selection of brake equipment and friction facing requires careful consideration, for the customer judges from the results obtained in service. As the average motorist relies wholly upon the salesman, it is good business policy on the part of the trade to recommend the product of a concern established in the industry.

The Royal Equipment Company, Bridgeport, Conn., whose trade mark, Raybestos, is known throughout the automobile industry, has built up an enviable reputation as a specialist in brake equipment, lining and friction material, and its engineering department is frequently consulted by the car makers. This department is available to the trade and is prepared to solve brake problems at short notice, as well as to design special equipment.

The company calls attention to the fact that it manufactures but one quality, the best, and attributes its success in developing Raybestos to the adherence to this principle. The attention of the trade is called to the advertisement appearing elsewhere in this issue, as it contains pertinent facts on brake equipment. The company issues a booklet which should be in the hands of every garageman and repairman, as it gives valuable information on the fitting, care and adjustment of brakes, as well as practical knowledge on this important subject. The booklet will be mailed free to those interested by addressing Department 1380, the Royal Equipment Company, Bridgeport, Conn.

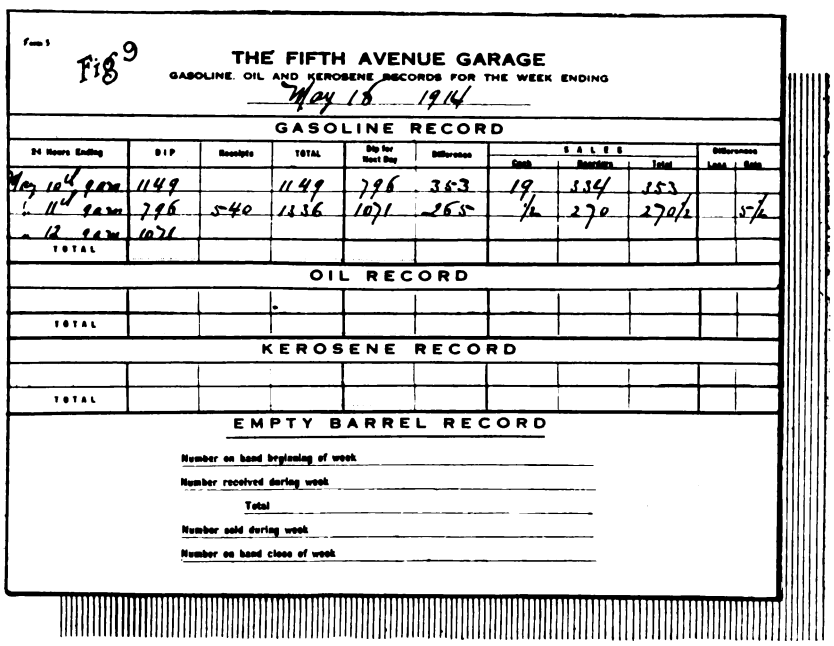
Fig 9

THE FIFTH AVENUE GARAGE

GASOLINE, OIL AND KEROSENE RECORDS FOR THE WEEK ENDING May 15 1914

GASOLINE RECORD

24 Hours Ending	B'ght	Receipts	TOTAL	Bls for Next Day	Difference	SALES			Difference	
						Cash	Accounts	Total	Loss	Gain
May 10th gals	1149		1149	796	353	19	334	353		
" 11th gals	796	540	1336	1071	265	1/2	270	270 1/2		5 1/2
" 12 gals	1071									
TOTAL										

OIL RECORD

TOTAL										

KEROSENE RECORD

TOTAL										

EMPTY BARREL RECORD

Number on hand beginning of week

Number received during week

Total

Number sold during week

Number on hand close of week

Fig. 9—The Fuel Supply Is Measured Daily and a Record Maintained of Oil and Kerosene, Also of Empty Barrels.

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GENERAL NEWS OF THE MANUFACTURERS.

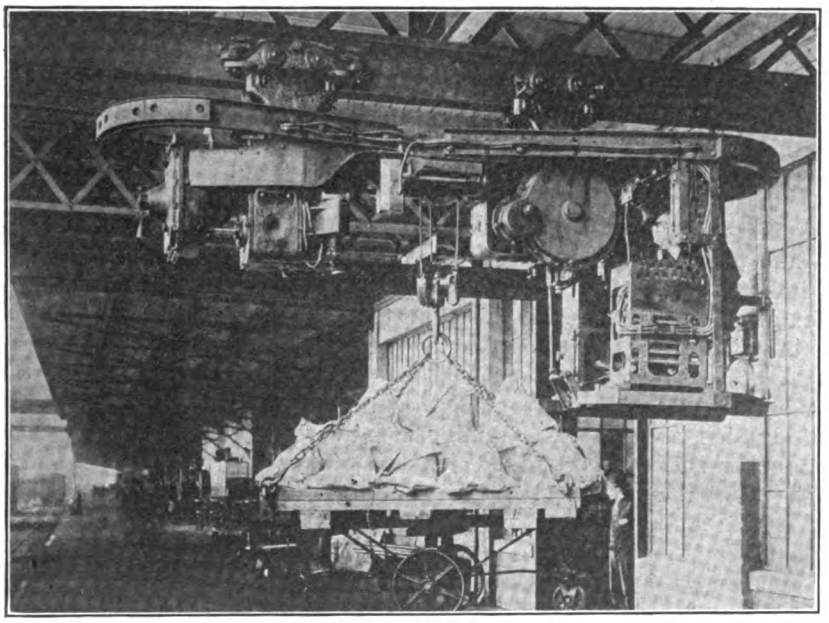
H. J. Koehler S. G. Company, New York City, announces that the following agencies have been placed: S. E. Kinent, Austin, Tex.; W. T. Keaton, Dallas, Tex.; Harry Searls, Belvidere, N. J., and C. H. Dean, San Antonio, Tex.

The Sphinx Motor Car Company, York, Penn., has purchased the building formerly owned and occupied by the Hart-Kraft Motor Car Company, and is manufacturing cars. Deliveries will be made Oct. 1. The style of the car will be a light touring, fully equipped, including electric lighting and starting systems. Herbert R. Averill and Ernest T. Gilliard will have the management of the factory.

The Benz Automobile Corporation, New York City, will handle KisselKars and KisselKar trucks in that city, and has taken over the salesrooms of the Kissel Motor Car Company, at 1696 Broadway. C. H. McCausland, who has conducted the Kissel retail, as well as the eastern wholesale business from that address, will continue as sales manager.

W. A. Sellon, manager of the Chevrolet Motor Company, Brooklyn, N. Y., has just completed his sales organization for 1915. He has selected men whose experience is of the highest value, and who have been connected with other Brooklyn companies. Mr. Sellon contemplates buying the building which he now leases and adding another story to it.

The Lamb Manufacturing Company, Inc., Winsted, Conn., which will make automobile accessories, has leased one-half of the factory building of the B. J. Harrison Son Company, and will begin manufacturing about Oct. 1.



Monorail Conveyor in the Dodge Brothers, Detroit, Mich., Plant.

The Chalmers Motor Company, Detroit, Mich., in a financial statement recently issued, showed assets of $8,147,958 as of June 30 last, compared with $7,514,146 for the previous year. The cash on hand amounts to $1,039,491, against $404,691 in 1913. Notes and accounts receivable are $939,703, compared to $693,617, and merchandise is valued at $3,473,162, in comparison with $3,938,674 previously. Current merchandise accounts of $560,860 are reported against $481,215, and a final surplus of $941,229, as compared with $379,820 the preceding year.

The Paul M. Marko Company, Brooklyn, N. Y., manufacturer of the Marko storage batteries, has leased the three-story building at 220 Clifton place, in that city, for use as a new battery factory. An additional floor has been added to the service station at 1191 Dedford avenue.

The New Process Gear Corporation, Syracuse, N. Y., when additions to the factory and machinery are completed, expects to be in a position to manufacture over 1,000,000 spur, spiral and bevel metal gears a year. Although the plant was doubled in capacity less than two years ago, an additional building is now being erected and the capacity of the case hardening and heat treating departments is again being doubled. A large order for additional equipment is being placed for fall delivery.

The Combination Rubber Manufacturing Company, Bloomfield, N. J., has taken over the Keeton Tire & Rubber Company.

The Covert Motor Vehicle Company, Lockport, N. Y., is planning for the erection of an addition to its plant to cost approximately $50,000. This, however, will depend on the action of the common council of Lockport, as this body has been petitioned to permit the Covert concern to have a railroad switch leading to its property. Without the switch, the company states, the new addition would not be as efficient as it desires.

The Blodgett Rubber Company, Warren, O., manufacturer of a non-puncture tire, will move to St. Joseph, Mich.

The Denby Motor Truck Company, Detroit, Mich., now has its entire organization located at the company's plant, Dubois and Franklin streets. The general offices were, up to the present time, in the Dime Bank building.

The Ford Tire Company is being organized in Toledo, O., to manufacture tires and tubes exclusively for Ford cars. It is said that the company will be financed on the co-operative plan by Ford owners.

The Hess-Bright Manufacturing Company, Philadelphia, Penn., announces that it will build an addition to its plant at Front street and Erie avenue. This is due to the fact that the war has rendered necessary an increased production of ball bearings in this country. It is said that plans have been made for the necessary addition and work will begin immediately. Automatic machinery will be employed to the largest extent possible.

Dodge Brothers, Detroit, Mich., is installing monorail conveyors in its big plant, and this is one of the many mechanical features being adopted by this concern. These monorail cars run on an overhead track, quickly moving heavily loaded trucks, from distant sections of the factory to the loading platforms. In the accompanying illustration the monorail is shown transporting one of these loaded trucks. Each car does the work of from 10 to 20 men.

The Robie Motor Car Company, which had temporary quarters with the Massnick-Phipps Manufacturing Company, Detroit, Mich., has moved to York, Penn., where it will manufacture a light car.

The Ford Motor Company, Detroit, Mich., has 9031 men of foreign birth employed in its factory. These include 22 nationalities, as follows: Poles, 2677; Russians, 2016; Roumanians, 750; Italians, 690; Germans, 606; Austrians, 388; English, 380; Syrians, 330; Hungarians, 269; Canadians, 226; Servians, 210; Irish, 148; Scotch, 133; Lithuanians, 73; French, 55; Hollanders or Dutch, 26; Danes, 21; Croatians, 13; Turks, 8; Belgians, 6; Japanese, 3; Australians, 3.

The No-Carbon Oil Company has been organized in Detroit, Mich., to manufacture No-Carbon and other lubricants used in gasoline, kerosene and gas motors. The capital stock is $100,000, of which $5000 has been subscribed and paid in in cash. Philip Coffrey and Albert L. Boston are the principal stockholders.

Dodge Brothers, Detroit, Mich., has appointed the Mandery Motor Car Company agent in Rochester, N. Y., A. C. Burton & Co., in Houston, Tex., and the Hutchinson Motor Car Company in Hutchinson, Kan.

The Flint Sheet Metal Company, Flint, Mich., has been formed to supply local automobile factories with sheet metal specialties. R. S. Gott, A. S. Allen and E. J. Vining comprise the company.

The United States Motor Truck Company has been incorporated under the laws of Kentucky, with a capitalization of $25,000, for the purpose of taking over the United States Truck Company of Detroit, Mich. The new company has located in Covington, Ky., where it is turning out United States trucks in two, three and four-ton sizes. A new 1½-ton model will be announced shortly.

The Bergdoll Automobile Company, Philadelphia, Penn., which recently secured a large plant at Trenton, N. J., will soon begin manufacturing a low-priced car, according to report.

Dodge Brothers, Detroit, Mich., has added Robert P. Lay to its staff. Mr. Lay was formerly assistant chief engineer of the H. H. Franklin Manufacturing Company, and resigned that position on Sept. 1.

The Hickman-Lauson-Diener Company, Milwaukee, Wis., state agent for the Ford Motor Company since the Detroit manufacturer brought out his popular-priced car, will discontinue business Oct. 1, and the Ford representation will be in the hands of the factory.

The Hupp Motor Car Company, Detroit, Mich., has started work on enlarging its general offices. When completed the present floor space will be doubled. One of the features will be a new and larger dining room, which the officials of the company find the greatest aid in effecting close co-operation among its employees.

The Toledo Tire & Supply Company, Toledo, will handle the Chaney headlight dimmers and Velvet shock absorbers for that territory.

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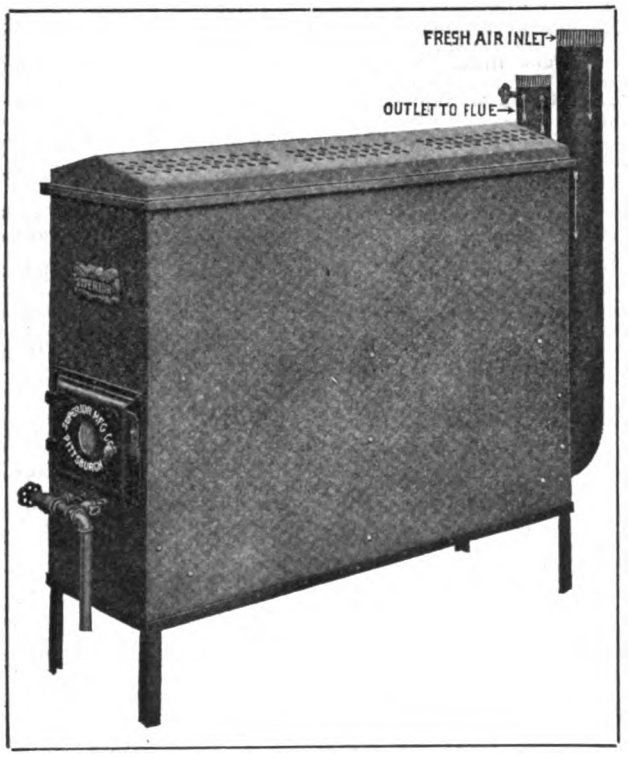
SUPERIOR GARAGE HEATER.

Is Easily Installed and Generates Sufficient Heat to Maintain Comfortable Temperature in Building.

The Superior Manufacturing Company, Pittsburg, Penn., is producing a heater for the garage which should appeal to small repair shops, etc., not equipped with heating apparatus, as well as to the trade dealing with motorists storing their machines in unheated buildings.

One of the desirable qualities of the Superior heater is the safety feature. No gases, such as gasoline vapor or air in the building, can possibly enter the heater, as it is equipped with a safety locking, gas proof door, which requires opening but once during the cold season to light the pilot. Also all air consumed is conveyed to the heater through an intake pipe from outside of the building. Control of the temperature is by a handle and an adjustable spud regulates the flame and gas pressure so that the heater will not require attention for a considerable period.

The heater is a small furnace, consisting of a combustion chamber and tubular radiator contained within a heavy metal casing. The dimensions are: Length, 40 inches; height, 33, and width, 12. The combustion chamber contains one of the Superior single-piece cast iron burners, a basket of patent English artificial fuel and a small pilot light. Perfect combustion occurs inside this chamber and every unit of heat is liberated before the products of combustion escape by the exit pipe. The



The Superior Garage Heater, Adaptable to the Private as Well as Public Garage, the Economy of Which in Operation Is Emphasized.

Superior heater retails, complete, for $25. The company issues an interesting circular explaining the operation of its product, and will forward the same upon request.

OPPORTUNITY FOR DEALERS.

Ten Body Types Offered with Koehler One-Ton Truck Retailing for $750.

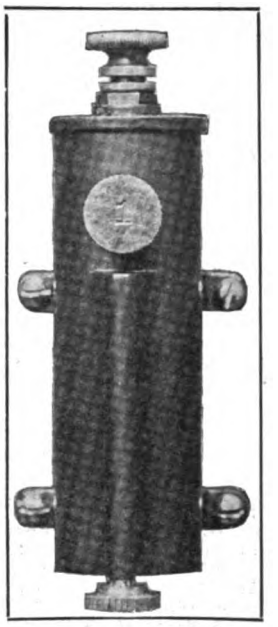
Featuring 10 different body types, these being adapted for a large number of uses, the one-ton truck marketed by the H. J. Koehler S. G. Company, 1709 Broadway, New York City, offers excellent opportunities for the dealer contemplating an agency for a commercial vehicle. The Koehler vehicle sells for $750, and is stated to be the lowest priced motor vehicle of its capacity on the market.

The mechanical construction involves principles indorsed by sound engineering practise, and the material and workmanship are first-class in every respect. The Koehler truck is being demonstrated by representatives of the company all over the country aiding in the selling campaign inaugurated, the details of which, as well as a catalogue, will be mailed upon request.

W. & L. PROTECTOR.

Safeguards Electrical Equipment of Car Against Damage Created by Short Circuits.

A novel as well as ingenious device, termed the W. & L. Protector, is being marketed by the W. & L. Manufacturing Company, Inc., Buffalo, N. Y. It will appeal to the owners of a motor vehicle, as it insures any ignition system against damage due to short circuits, thereby effecting economy. It retails for $4.



W. & L. Protector.

The device is shown in an accompanying illustration and is very compact and neatly designed. It is placed on the dash and the wiring is so simple that the most inexperienced may install it correctly. The protector is so constructed that the heating of a resistance coil will melt a sealing compound at the spring, so that the last-named member separates from the adjusting screw, breaking the circuit. The protector may be used indefinitely, as the sealing composition hardens automatically. The manufacturer has an interesting sales proposition for the trade, offers liberal discounts and will award territory.

The company is also marketing the W. & L. magnetic lifter and valve grinder. It consists of a case serving as a handle from which a steel extension projects. This extension is drilled and threaded for the coupling of either one or two sections, the middle member being utilized to reach places difficult of access with ordinary tools.

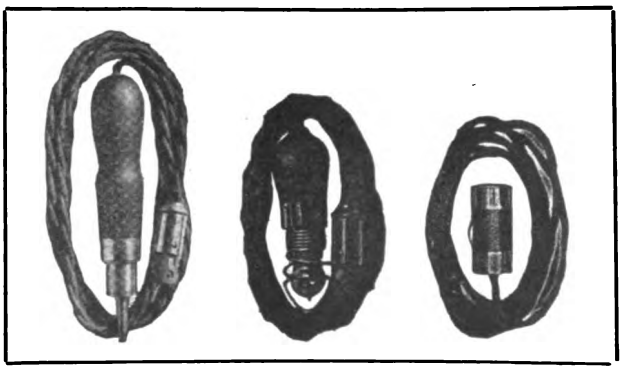
The tool can be employed successfully as a screw driver, for grinding valves, etc., and, when connected with a battery, the extension and shank becomes strongly magnetized. Used as a magnet it makes possible removing nuts, bolts, cotter pins, etc., from places not accessible to the hands or tools. This tool retails for $3. The dealers' proposition is very liberal, and full information will be sent upon request.

MABEY'S ELECTRIC GOODS.

Include Patching Tool for Vulcanizing Tires, Complet Trouble Lamp, Cigar Lighter, Etc.

Mabey's Electric & Manufacturing Company, 940 North Pennsylvania avenue, Indianapolis, Ind., is marketing a line of electrically operated accessories and equipment for the motor vehicle, and some of the line are shown in an accompanying illustration. A new and ingenious device is the electric patching tool, which can be stored easily in the tool box and utilized to repair cuts and holes in the tires while on the road, as the tool can be operated with the current of the lighting system. This device retails for $1.75 and is guaranteed.

The trouble lamp comes complete with socket, ample length of high-grade flexible cord, and the bulb is well protected from possible injury. It retails for $1.25. The cigar lighter is very neat and efficient, comes with ample length of cord and retails for $1. Mabey's Electric Manufacturing Company markets a large number of electrical devices and will forward, free, descriptions and illustrations, upon the receipt of a letter or postal card.



Mabey's Electric Specialties, Including Patching Tool, Trouble Lamp and Cigar Lighter.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

F. E. Beail, Baltimore, Md.; two-story brick garage, 40.9x74.2, $7000.

Mrs. R. A. Snyder, 7942 Germantown avenue, Philadelphia, Penn.; one-story garage, 74x84, $6000.

E. B. Carter, care of Milvale Steel Company, Philadelphia, Penn.; one-story stone garage, 23x31, to be erected on Green street, Mt. Airy.

E. & K. Laundry Company, 209-223 Massachusetts street, Cambridge, Mass.; one-story garage, 41x26.

Fleischmann Yeast Company, 219 Columbia avenue, Boston, Mass.; one-story garage, 55x79, to be erected at Cambridge, Mass.

Swanson & Hanson, Chicago, Ill.; one-story garage, 55x175.

Anton Charvat, 1801 South Ashland avenue, Chicago, Ill.; two-story garage and flat, 24x30.

W. H. Scott, Chicago, Ill.; one-story garage, 50x100, $7000.

Mrs. L. H. Munn, Topeka, Kan.; one-story garage, 25x75, $3000.

D. H. Smith, 4410 Forest avenue, Kansas City, Mo.; one-story garage, 50x121, $5000.

J. S. Stringham, 275 Seminole avenue, Detroit, Mich.; one-story garage, 28x35.

McLaughlin & Hulsken, 610 Savings building, Lima, O.; one-story garage, 25x100, $15,000.

H. S. Smith, McDonald street, Lima, O.; one-story garage, 50x200, $10,000.

H. M. Lowe, Steubenville, O.; two-story auto storage and hardware store, 33x80, $7000.

W. J. Cunningham, Hardin, Mo.; one-story garage, 50x100, to be erected at Norborne, Mo.

J. W. Batterson, Adel, Ia.; one-story garage, 40x132.

Andrew Roth, La Crosse, Wis.; Balavian Bank building, La Crosse, Wis.; one-story garage, 33x130, to be erected at Galesville, Wis.

F. L. Schoelkopf, 166 South Pickney street, Madison, Wis.; four-story garage and salesroom, 50x120.

Mrs. Jennie Eiser, 3959 North Broad street, Philadelphia, Penn.; one-story brick garage, 40x100.

Frederick Smith, 4835 North Marvine street, Philadelphia, Penn.; one-story brick garage, 50x86, $8000.

Louis Cohen & Son, Wilkes Barre, Penn.; two-story garage, $10,000.

Kelly & Shapero, Worcester, Mass.; one-story garage, 100x40.

A. S. Manzie, 168 Shrewsbury street, Worcester, Mass.; two-story garage, $1000.

F. W. Barlow, Jr., 80 North Main street, Brockton, Mass.; one-story garage, 40x70.

F. Molinelli, 146 Midland avenue, Arlington, N. J.; one-story garage, 48x120.

M. Lubetsky, 64 Peshine avenue, Newark, N. J.; one-story garage, 20x30.

Fred W. Forness, Jr., Olean, N. Y.; four-story garage, 84x112, $30,000.

Frank Marion, Falconer, N. Y.; two-story garage and apartment, 50x60, $8000.

A. L. Miller, South Jamaica, L. I., N. Y.; one-story garage, 32x42.

Mrs. A. G. Meyers, 1460 Flatbush avenue, Brooklyn, N. Y.; one-story garage, 40x100, $5000.

W. S. Plager, 103 Second street, N. E., Washington, D. C.; two-story garage, $6900.

Edward L. Enwright, South Bethlehem, Penn.; one-story garage, 40x100, $3000.

V. Montwid, 724 Farwell avenue, Milwaukee, Wis.; one-story garage, 18x20.

J. J. Rempis, Fairview avenue, Grand Rapids, Mich.; two-story garage, 50x100.

Elmer Day, 406 Upper Fifth street, Evansville, Ind.; two-story garage, 46x64.

Nathan Kahn, Indianapolis, Ind.; 2½-story garage, 42x40.

Sebring Auto Repair Company, Sebring, O.; one-story garage, 50x150, $5000.

L. Van Horn, 414 Main street, Alliance, O.; 2½-story garage and residence, 32x38, $5000.

H. A. Sullwald, Studio building, St. Paul, Minn.; two-story garage and residence, $10,000.

K. T. Snyder, 751 Plymouth building, Minneapolis, Minn.; two-story garage and residence, 40x63.

George P. Douglas, Minneapolis, Minn.; private garage, 24x41.

J. G. Schaal, 146 North Main street, Chambersburg, Penn.; one-story brick garage, 65x150.

P. Connelly, 13 East Hamilton place, Jersey City, N. J.; two-story garage, 75x95, $35,000.

Carl Hang & Sons, Little Falls, N. Y.; one-story garage, 20x25.

John Lackie, 848 Livingston avenue, Albany, N Y.; one-story garage, 46x60, $2000.

William Geehan, 36 Dennington avenue, Woodhaven, L. I., N. Y.; one-story garage, 21x120, $4000.

Walter Ryan, 913 Bedford avenue, Brooklyn, N. Y.; one-story garage, 50x126, $5000.

Monnot & Sacher, Canton, O.; two-story garage, 100x150, $26,000.

Frederick Rosengarten, Ninth and Parrish streets, Philadelphia, Penn.; two-story brick and frame garage, 19x34.

Carthage Auto Company, Rochester, N. Y.; one-story public garage, 40x100, $15,000.

Joseph Antes, 1319 Dudley avenue, Utica, N. Y.; one-story garage, 20x24, $2000, for Mayor Realty Corporation.

F. E. Sykes & Company, Pauli building, Scranton, Penn.; two-story garage, 102x90, for Scranton Gas Company.

C. E. Bordner, Calvin and Seeman streets, Canton, O.; one-story garage, 100x50, $10,000, for Green & Kline.

Lewis L. Smith, Strafford, Penn.; 1½-story garage, 25x37.

Dr. Otto Walter, 214 West Fourth street, Joplin, Mo.; one-story garage, 60x105.

W. N. Dudley, 46 Cornhill street, Boston, Mass.; one-story garage, 45x38, $4000.

Rufus K. Dryer, Geneva, N. Y.; 2½-story garage and chauffeur's apartment, 120x160, $20,000.

City of Dunkirk, Dunkirk, N. Y.; two-story garage, 26x32, $1500.

Augustus Weideman, 160 Washington avenue, Rockaway Beach, L. I., N. Y.; two-story garage, 20x14, $5000.

Adeline S. Purchase, Church street, Richmond Hill, L. I., N. Y.; one-story garage, 50x99, $5000.

Pappke & Son, 505 Lexington avenue, Brooklyn, N. Y.; two-story garage and shop, 70x98, $12,000.

Cohen Bros., 61 Market street, Hartford, Conn.; one-story garage, 30x26.

William H. White, 87 Milk street, Boston, Mass.; one-story garage, 67x38.

Monroe Patterson, East Liverpool, O.; three-story garage and rest room, 40x60, $10,000.

J. W. Johnson & Son, Follansbee, W. Va.; two-story garage, 50x50, $6500.

Suburban Amusement Company, Park Heights and Belvidere avenue, Baltimore, Md.; one-story garage, $5000.

G. B. Chapman, 1707 Jefferson avenue, Detroit, Mich.; one-story garage, 19x28.

John H. Togchon, 404 Moffat block, Detroit, Mich.; one-story garage, 28x24.

Star Hotel, Trenton, N. J.; one-story brick garage, 60x110, $6000.

CONTRACTS AWARDED.

C. E. Lloyd, Jr., Philadelphia, Penn.; one-story garage, $500, for E. E. Hanscom, Oak Lane, Penn.

William Edwards, 6033 Vine street, Philadelphia, Penn.; one-story garage, 18x20, $600, for Dr. Edward H. Epler, 704 North 63rd street.

Louis Keller & Son, First and A streets, Louisville, Ky.; two-story garage, $8000, for J. C. Auerbacher.

George S. Clark's Sons, 31 Clinton street, Newark, N. J.; one-story garage, $10,000, for East Orange Auto & Machine Company, East Orange, N. J.

N. R. Pospishil, 1910 Blue Island avenue, Chicago, Ill.; one-story auto shed, 20x22.

C. C. Vandenberg, Scarritt building, Kansas City, Mo.; one-story garage, 50x120, $5000, for D. H. Smith.

W. A. Oldfield, 422 Court street, Des Moines, Ia.; one-story garage, 66x132, $10,000.

Pringle & Bortwick, 8018 Germantown avenue, Philadelphia, Penn.; one-story stone garage, $3800, for Dr. George Woodward.

William J. Gruhler & Company, Philadelphia, Penn.; one-story garage, 18x28, $1800, for William C. Haddock, Oak Lane, Penn.

Specht & Sperry, Philadelphia, Penn.; 1½-story stone and brick garage for William B. Mann, Oak Lane, Penn.

William Demmerling, 50 Centre street, Pottsville, Penn.; two-story garage, 115x20, $1500, for Harry Diamond.

O. J. Aregood, Pottsville, Penn.; three-story garage and warehouse, 23x70, $7000, for F. D. Guengling & Co.

N. Martineau, Holyoke, Mass.; one-story garage, 37x50, for Emily Seney.

J. Fredman, 819 North Franklin street, Philadelphia, Penn.; one-story garage, for Joseph Isman.

Julius & Mozynski, 820 Lincoln avenue, Milwaukee, Wis.; one-story garage, 25x30, $2500, for Joseph Holweck.

The Heil Company, 26th avenue and Montana street, Milwaukee, Wis.; one-story garage, 50x145, $9000, for H. Swendson.

Lex Bros., 1215 27th street, Milwaukee, Wis.; one-story garage, 40x60, for Charles Steiner.

J. Elmer Stanfield, Baltimore, Md.; two-story garage, 41x174, $7500, for Mrs. C. Schellhase.

J. W. Bishop, 683 Atlantic avenue, Boston, Mass.; two-story garage, 48x75, $10,000, for Samuel A. Davis, Brookline, Mass.

R. D. Donaldson, South Lincoln, Mass.; one-story garage, 34x20, $7000, for Mrs. J. F. Thorpe, Cambridge, Mass.

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GARAGES AND REPAIR SHOPS.

Harry A. Gifford, New Bedford, Mass., will erect a garage at 252½ Hillman street.

William Howard White, West Roxbury, Mass., will erect a brick garage at 10 Roxford terrace. It will be modern throughout.

Adelaine Purchase, Richmond Hill, N. Y., is erecting a brick garage on Metropolitan avenue at a cost of $5000.

The Renzi Garage Company, Peabody, Mass., will erect an up-to-date garage on Hardy street.

Samuel Anderson, Taylorsville, Ill., has erected a garage on East Market street.

Warnke Brothers, Oelwein, Ia., contemplate the erection of a garage on South Frederick street. It will be modern throughout.

O. Reichart, St. Louis, will erect a one-story garage at 3232 Longfellow street, costing $1000.

The Ford Company, Des Moines, Ia., is erecting an up-to-date garage on Chestnut street.

S. Samuels, Peoria, Ill., is erecting a one-story garage on Monson street.

James R. Barclay, Macomb, Ill., is erecting a garage which will be modern throughout.

C. J. Grubb, Portland, Ore., will erect a one-story garage at the corner of 15th street. Modern improvements will be featured.

James G. Anderson, Boston, Mass., has purchased property on Parker road and will erect a modern garage.

Albert Erickson, Hartford, Conn., is erecting a garage at 219 Hamilton street.

The East Orange Automobile & Machine Company, East Orange, N. J., is erecting a brick garage at 494 Central avenue at a cost of $10,000.

George Brunner, Duquesne, Penn., has purchased a site at the corner of South First street and will build a garage. It will be fully equipped.

John Hall, Martins Ferry, O., is building an up-to-date garage on Main street.

M. Rini, Cleveland, is erecting a garage at 2486 East 13th street at a cost of $2000. It will be modern throughout.

A. E. Marschner, Wheeling, W. Va., is building a first-class garage at 2311 Chapline street. Modern machinery will be installed.

The Spring City Automobile Company, Hartford, Wis., has purchased land and will erect a garage, 60 by 70 feet. It will be modernly equipped.

Pfau & Fauce, Youngstown, O., is erecting a modern garage and salesroom costing $40,000. It will be built of steel and will measure 80 by 100 feet.

The Dugas Motor Car Company, Menominee, Mich., is erecting a two-story garage costing $25,000. An electric charging plant will also be installed.

The Advance Hardware Company, Crawfordsville, Ind., is erecting an up-to-date garage. The first floor will be used for storage of the company's motor vehicles and the second floor will be given over to a repair shop.

F. W. Griffin, Eddyville, Ia., is erecting an up-to-date garage.

J. H. Kemp, Long Beach, Cal., is erecting a first-class garage on West Ocean avenue.

Hubbs & Brisac, Santa Cruz, Cal., is building a modern garage on Pacific avenue.

G. O. Gaudette, Salem, Mass., is erecting a modern garage on Harrison street. It will be of fireproof construction.

Harry Gill, Jr., Philadelphia, is erecting a garage at 2515 Germantown avenue. It will be one story and of brick construction.

The Delta Garage Company, Delta, Ia., plans to erect a modern garage.

A. A. Gamble, Riverside, Cal., has purchased a site located at Seventh and Almond streets and will build an up-to-date garage costing $6000.

Edward Callahan, Omaha, Neb., is building a first-class garage opposite the Fontelle hotel. He will secure the agency for a low-priced car.

William Mohler, Ebensburg, Penn., is building an up-to-date garage and repair shop.

John L. Young, Atlantic City, N. J., will erect a modern garage at a cost of $5000.

Gelo & Bartheld, Lansing, Ia., is erecting a modern garage on Main street.

M. M. Cohn, Chicago, Ill., is erecting a garage at 360 Douglas avenue to cost $8000.

E. G. Kundel, Minden, Ia., is erecting an up-to-date garage.

The Sharon Hudson Automobile Company, Sharon, Penn., is to erect a large garage of fireproof construction. The company handles the Hudson cars.

Joseph Kaufmann, Oconto Falls, Wis., is erecting a modern garage and repair shop on Main street. Modern machinery will be installed.

The Yolo County Automobile Association, Woodland, Cal., is erecting a two-story garage for the exclusive use of the association. It is located at Main and Elm streets.

Ernest Rutter, Cohasset, Mass., will erect a modern garage in that place.

Fred T. Ley & Company, Pittsfield, Mass., is erecting a fireproof garage on Winter street. New machinery will be installed.

Steve Simmon, Marquette, Mich., is erecting an up-to-date garage on Cleveland avenue. It will be of fireproof construction and equipped with modern machinery.

Ruscoe & Huckins, Springfield, Mass., is erecting a large garage at 310 North Main street. It will cost $8000.

J. C. Phelan, Fresno, Cal., is erecting an up-to-date garage and salesroom at a cost of $35,000. He sells Ford cars.

C. S. Burnett, Wilmington, N. C., is erecting a garage at 14 North Second street to cost $5000.

Michael Gallagher, Dunellen, N. J., is erecting a garage at North and Washington avenues.

Abraham Rosenberg, Gardner, Mass., will erect a garage on North Main street to take the place of an old building.

The Hollywood Garage Company, New York City, has leased the property at Second avenue and 64th street as a site for a new garage.

Hansel & Ortman, Stockton, Cal., is erecting a garage.

Frank Lebkucher, Newark, N. J., is erecting a garage on Clinton avenue at a cost of $50,000.

The Jackson Motor Company, Kansas City, Mo., has erected a building at 1729 McGee street.

The Grant Garage, Fresno, Cal., is erecting a garage on L street. It will be of fireproof construction.

J. B. Silcott, Parkersburg, W. Va., is erecting a garage on 17th street.

The Syorm Holding Company, New York City, is erecting a garage on 72nd street and Avenue A at a cost of $150,000.

Kusel & Harris, Chicago, Ill., is erecting an up-to-date garage on the Sheridan road at a cost of $20,000.

H. F. Roebeke, De Pere, Wis., is erecting a garage of brick, two stories, 40 by 100 feet. It will contain a repair shop.

The Keystone Garage Company, Ashland, Penn., is erecting a garage at Sixth and Chestnut streets.

Fred W. Seanor, Johnstown, Penn., is erecting a fireproof garage six stories high.

C. F. Allen, Salisbury Beach, Mass., is erecting a garage which will have accommodations for 40 cars.

The Milton Garage & Storage Company, Lansdale, Penn., is erecting a garage on Walnut street.

F. A. Johnson, Portland, Me., is erecting a public gagage at Congress and Sheridan streets.

R. Werner, Bloomer, Wis., is erecting a garage and repair shop at a cost of $5000. J. C. Waterhouse is mechanical manager and Mr. Werner manager of the sales and business departments.

George G. Sicketee, Grand Rapids, Mich., has sold his property to Archibald McDonald, who will erect a new three-story building to be used as a garage by the Taxicab Company.

ADDITIONS AND IMPROVEMENTS.

L. F. Schoelkopf, Madison, Wis., is erecting a four-story fireproof building on East Washington avenue. Ford cars are handled.

The Auto Transfer Company, West Allis, Wis., has outgrown its quarters on 66th avenue. Plans are now being prepared for a large building on the same site. O. M. Carter is president of the company.

J. Wynne, Detroit, is having a large addition made to his garage on Grand River avenue.

The Skipton Motor Car Company, Council Bluffs, Ia., has completed remodelling its garage at 31 Fourth street.

The Cushing Machine & Auto Company, Atlantic, Ia., has installed electrical charging machinery for the purpose of charging and repairing storage batteries and electric cars.

T. A. Westmyer, Wheeling, W. Va., has taken over the Wickman block and will remodel it into an up-to-date garage.

The Auto Sales Company, Wheeling, W. Va., has completed remodelling its building on 16th street. The company has the exclusive agency for Overland cars.

The Morse Garage, Hardwick, Vt., is having extensive improvements made.

J. G. Schaal, Chambersburg, Penn., is having extensive improvements made to his garage at 146 North Main street. An addition of one story is being made which will be 65 by 165 feet. M. R. Rhoades has the contract.

The Queen City Vulcanizing Company, Poughkeepsie, N. Y., has installed an automobile repair department at its plant. The company also has the handling of the Portage, Kelly-Springfield and Diamond brands of tires.

William McGeorge, Cynwid, Penn., is having alterations and additions made to his garage.

The Gripp Auto Company, Afton, Ia., has taken over the business of the Afton Garage.

D. C. Powell, Portland, Ore., is having improvements made to his garage.

The Marshall Tire Company, Fall River, Mass., has installed a modern vulcanizing plant at 202 Bank street.

Walter Rose, Wickford, R. I., is erecting an addition to his garage and repair shop.

C. Swan's Garage, Main street, Norwich, Conn., is undergoing extensive improvements.

P. McGarrigle, Philadelphia, is having improvements made to his garage at 5338 Germantown avenue at a cost of $5000.

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NEW CONCERNS AND BUSINESS CHANGES.

GARAGES AND REPAIR SHOPS.

A. Pitman, Cadillac, Mich., has opened an up-to-date garage and repair shop at 604 North Mitchell street.

Edward Lockwood, Three Rivers, Mich., has opened a first-class garage.

Case & Hatcher, Wayzata, Minn., has opened an up-to-date garage.

E. Woodmansee, Palmer, Mass., has opened a garage on Thorndike street. It is modern throughout.

G. S. Holden, Palmer, Mass., has opened a first-class garage on Central street.

Frank A. Storer, Cambridge, Mass., has opened a modern garage.

G. C. Deen, Austin, Tenn., has opened a first-class garage and supply house at the old stand of the Texas Garage, 214 East Sixth street.

O. F. Anderson, Ceresco, Neb., has opened an up-to-date garage. He handles the Buick car.

The Central Garage Company, Salt Lake City, Utah, has opened an up-to-date garage on South First street. The company will handle all makes of tires and accessories.

The Diamond Garage, Philadelphia, was opened recently at 2027-2029 North 29th street. A full line of automobile supplies and a special line of Ford accessories are in stock. Bernard Cohen and son are the owners.

Steele & Son, Palmer, Mass., has opened a garage on Squire street.

The Johnson Garage, Martins Ferry, O., was opened recently at 33rd street. The garage handles the Ford car.

The Auto Hospital, Toledo, O., is the name of a new repair shop which has been opened at 205 10th street. O. L. McCormick is manager.

Harry Seaman, Darien, Conn., has opened a garage on Center street.

Coman & Burt, Newbury, Mass., has opened an up-to-date garage.

W. J. Benseon, San Jose, Cal., agent for the Maxwell car, has opened a first-class garage at North First street.

Edward Faust, Marion, Ind., has opened a garage and has taken the agency for Buick cars.

The Broadway Garage, Edwardsville, Ill., was recently opened at 109 West Vandalia street. Earl Herrin and George J. Dunstender are the proprietors.

E. F. Monje, White Plains, N. J., has opened a garage at 9 South Lexington avenue. A complete line of automobile accessories will be carried.

E. J. Taylor and H. B. Murdock, Minneapolis, have opened a motorcycle repair shop at 115 North Main street. A stock of supplies for automobiles will be carried.

The Buckeye Automobile Company, Columbus, O., has opened a garage and repair shop at 1082 North High street. Harvey W. Smith and J. J. Aldrich are interested.

The Fulton Garage, Fulton, Mo., has been opened by H. Bangs on the state highway between St. Louis and Kansas City, Mo.

The West End Garage Company, Baltimore, Md., has opened a garage and repair shop at 3178 Wilkens avenue. It is under the management of Thomas A. Pietsch, who is an expert mechanic. The garage is kept open all night to accommodate tourists. A full line of supplies is carried.

The D. & J. Machine Shop, Grand Rapids, Mich., has been organized recently. The company purchased the shop formerly occupied by Pomeroy & Wright on Hall street. A general repair shop will be conducted by the new company.

The Ford Garage, Macomb, Ill., has been opened at 129-131 West Jackson street by R. P. Phillips.

Johnson & Co., Bellaire, O., has opened an up-to-date garage. The firm represents the Ford cars.

The Newbury Garage, Worcester, Mass., has opened for business. It is located on Newbury and Pleasant streets.

Peter J. McCormick, Hagerstown, Md., has opened a garage and oxy-acetylene welding plant in a new building erected especially for that purpose. It is located on South Prospect street. The Stanley steamer and Carter-cars are handled.

E. L. Rathburn, Battle Creek, Mich., has opened a garage and repair shop at 38 West State street. It is up-to-date throughout.

C. A. Searles, Merton, Wis., has opened a garage. A full line of supplies will also be carried.

The Piper Garage, Shenandoah, Ia., has completed its large garage, which is one of the most complete in the state. It has accommodations for 80 cars and includes a workroom, 30 by 100 feet. The company handles the Apperson, Maxwell and Reo cars.

W. A. McAuley and Gustave Malley, Leominster, Mass., have formed a company and have opened a garage and repair shop at 112 Union street. They were formerly with the Leominster Garage & Auto Company.

The Graves Garage, Wolverine, Mich., has been opened by George A. Graves, who handles the Ford cars. A repair shop is also maintained.

The Indiana Electric Service Company, Indianapolis, is the name of a new concern located at 421 North Capitol avenue. The company will specialize in expert repair service of electric equipment on motor cars.

The Roanoke Motor Car Company, Roanoke, Va., has now entirely recovered from the fire of June 16. The garage has been thoroughly remodelled and much new equipment added. An expert mechanic is employed in the repair shop.

The Modern Electric Motor Repair Company, Hoboken, N. J., is making a specialty of motor and machine repairs. The company is located at 712 Trapahagen street.

AGENCIES AND DEALERS.

Edwin More, St. Louis, has purchased the assets of the Missouri Car Company, distributor of Marmon cars, and will continue the business in his name until such time as a new company can be organized. He is president of the More-Jones Brass & Metal Company.

The San Bernardino Motor Power Company, San Bernardino, Cal., is a new company that has taken over the agency for Studebaker cars, formerly held by the Brandenburg-Pearson Company. The salesrooms are located at 715 Third street.

The Paige-Toledo Company of Toledo, O. which was organized recently, has opened showrooms at 1002 Madison avenue and a service station at 307-309 10th street. C. L. Sturtevant, Fred Hofer and H. D. Davis are interested.

The President Motor Supply Company, Philadelphia, has opened a store at 515 North Broad street. The company will carry Miller tires, Red Devil horns and a complete line of accessories and supplies. Herman Schreiner, Jr., is president.

The Automobile Brokerage, Wilmington, Del., recently organized, is located in the DuPont building and will handle all makes of cars.

Allen & Spurlin, Union, Ia., has purchased the Union Auto & Supply Company. The new firm will operate a general auto service station.

The Continental Auto Supply Company, St. Louis, has been established and opened for business at 5837 Delmar boulevard. Frank A. Cyr is manager.

Bunker & Reepell, Springfield, Mass., has dissolved partnership, Mr. Reepell having purchased Mr. Bunker's interest. The business will be conducted by the former and Chevrolet cars will be handled.

The Capitol Tire Company, Lincoln, Neb., has the agency for the Michelin and Goodyear tires. The company is located at 235 South 11th street.

The Blain Auto Company, Aberdeen, S. D., has been purchased by the Van Brunt Overland Company of Sioux City. The latter company will continue the business at 215 South Lincoln street and will handle the Overland car and carry accessories.

The Beaumont Auto Supply Company, Beaumont, Tex., has opened an automobile supply house at 175 Pearl street.

E. E. McFarland, Hubbard, Ia., has purchased Emery Whitney's half interest in the Hubbard Motor Company.

The Tire Sales Company, Pittsburg, Penn., has opened a store at 917 Liberty avenue.

Lutheran Vanlandingham, Medicine Lake, Tex., has opened an automobile supply station.

The Stockton Auto Supply Company, Stockton, Cal., has opened an automobile supply store at 208 Eldorado street.

The Auto Exchange, St. Louis, has been opened by Frank Ebbeler at 2330 Olive street. The company will also conduct a repair shop.

The Hubmark Rubber Company, Milwaukee, distributor for the G. & J. tires, has been appointed Wisconsin distributor for Presto demountable rims for Ford cars.

G. W. Decker, Erie, Penn., has purchased the automobile tire business formerly conducted by Arthur L. Stone at Eighth street. He will conduct the business under the name of the Decker Rubber Company.

A. J. Anderson, Wichita, Kan., has opened an automobile supply store at 117 North Lawrence avenue and will handle the Republic and Staggard tread tires.

The Direct Lubricant Company, Galveston, Tex., recently located in that city, at 2411 Strand. A full line of automobile accessories and supplies is carried.

The Vehicle Top & Supply Company, St. Louis, has secured the agency for the Stromberg carburetors.

The Thompson Motor Sales Company, Youngstown, O., is a new concern doing an automobile business. The company handles the Maxwell and Premier cars.

Walter W. Cameron, Hanford, Cal., has opened a tire depot in the Rehoefer building.

B. E. Griffey of the Griffey Motor Supply Company, Indianapolis, has obtained the state agency for the Newton horn, manufactured by the Auto Supply Company. The company is located at 340 North Delaware street.

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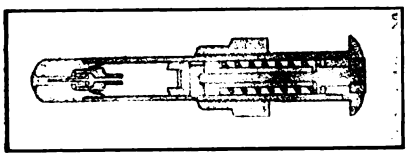
ACCESSORIES, SUPPLIES AND FITTINGS.

(Always Mention the Accessory and Garage Journal When Writing for Prices, Etc.)

GEM SAFETY TIRE SIGNAL.

Explodes Percussion Cap When Pressure Falls Below Normal.

The Safety Tire Signal Company, 655 Twelfth street, Boulder, Col., is marketing the Gem Safety tire sig-



nal, a device which warns the operator of the car when the pressure in the tire falls 20 pounds below normal. It is approximately the same size as the conventional tube valve and it is stated that it may be installed easily. It is also water and dust proof.

When the pressure in the casing falls from 80 to 60 pounds, for example, the device fires a percussion cap in the head of the construction, and it is stated that the signal is sufficiently loud to attract the attention of the driver. It does not allow the air to escape, however, as there is no connection between the signal and the tube, except that the inner tube lies over the end of the device, keeping it locked until the pressure falls. The Gem Safety Tire Signal comes in sets of four for solid rims and with one extra member for the demountable types.

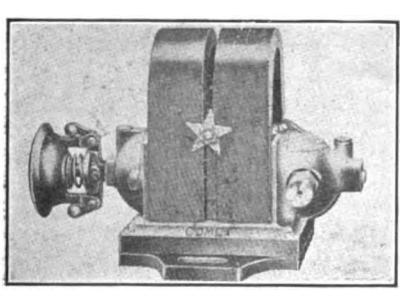
COMET MAGNETO.

Adaptable to the Used Car, Is Efficient and Moderately Priced.

Motorists whose machines are not equipped with magnetos and who desire an efficient, moderately-priced mechanical generator, will be interested in the Comet magneto, manufactured by the Henricks Novelty Company, Indianapolis, Ind. The magneto represents the results of 15 years' experience in building magnetos, is made in four types and is very compact. The one illustrated is four by 5½ inches by nine inches and weighs 10 pounds.

The Comet provides an inexhaustible supply of electricity and can be driven by belt or by friction. It does not, however, time the spark, as is generally the case with conventional magnetos, this being performed by the other components of the ignition system. The instrument is equipped with a governor and is made for varying motor speeds.

One of the qualities of the Comet is that it gives a uniform spark at all times, resulting in engine efficiency. The magnets are of the best imported tungsten steel, and the armature is of the laminated core, drum type. All lead wires are carefully connected and covered; in fact, the magneto is dust and water proof. The Comet governor insures a constant speed, regardless of that of the engine or its flywheel, and the maker states that its output is sufficient to ignite the mixture at low motor speeds. The Comet retails for $10.



THERMOID BRAKE LINING.

Fulfills All Requirements of Friction Material and Is Durable.

Safety first requires the use of a dependable brake lining, one that will not fail in emergencies. The Thermoid brake lining, manufactured by the Thermoid Rubber Company, Trenton, N. J., fulfills all the requirements of a brake lining, as it is constructed of pure Canadian asbestos, interwoven with solid brass wire. It is treated with a secret friction compound, which is forced into every pore of the material by giant heated rolls. After this operation, Thermoid is compressed and cured at 2000 pounds pressure, for one hour, at intense heat. Because of these pro-

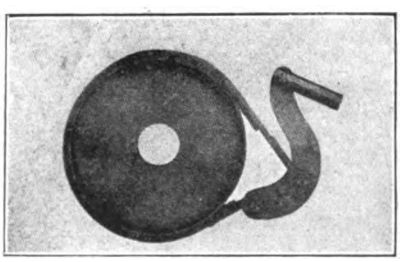
cesses, Thermoid is called the hydraulic compressed brake lining.

One of its qualities is that it will retain its gripping power until worn paper thin. It is not affected by the action of oils, water, gasoline, dirt or heat, and has a high co-efficient of friction.

ROYAL CYCLECAR BRAKE.

An External Device Lined with Raybestos Being Made for Small Cars.

An external brake for cyclecars is being manufactured by the Royal Equipment Company, Bridgeport, Conn. This brake is patterned after the same design as the company's well known Duplex external brake, which is made for larger automobiles



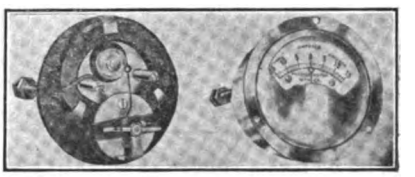
and trucks. As seen in the illustration, this operates on the "wrapping" or "winding" principle. One end of the band is fixed, while the operating force is applied to the other end in the direction of rotation of drum.

The brake effect is stated to be equally powerful whether the drum is rotating backward or forward. By automatic control, either end of the brake becomes the fixed end in proper relation to the movement of the drum. The car may be brought to a gradual or immediate stop, at the will of the driver, by varying the pressure on the brake lever. This brake, like all made by this company, is lined with Raybestos, as it is claimed that no matter how Raybestos is cut, drilled, bent or twisted, if it is properly attached to a metal base the fabric cannot fray, ravel or disintegrate in service.

AUTO IMP VOLT-AMMETER.

Has Self-Contained Tamper Proof Lamp Illuminating Feature.

The Roller-Smith Company, 203 Broadway, New York City, is marketing the Auto Imp volt-ammeter, de-



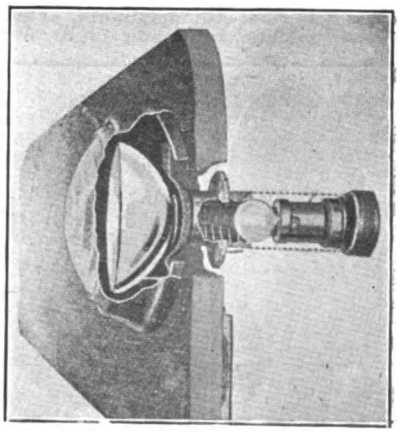
signed particularly for electric lighting systems. It embodies the results of years of experience in the manufacture of current indicating devices and is accurate and durable. The magnets are of the best tungsten steel, and the bearings are polished hardened steel in high-grade jewels. The cases are a solid drawn, single piece with window cemented, and are dust and moisture proof. One of the desirable qualities of the instrument is the self-contained illuminating lamp feature, which does not add to the bulk, has no projecting parts, and is proof against tampering. This lamp feature is shown at the left in the accompanying illustration. The Auto Imp volt-ammeter indicates amperes, volts, discharge and charge.

CAMPBELL CELLO LIGHTS.

Complete Set of Four Lamps to Operate on a Six-Volt System.

The A. S. Campbell Company, Boston, Mass., is marketing a complete set of four Cello lights, two side, dash and tail lights, to operate in series on a six-volt system. These are for Ford and other small cars. By wiring in a series, the maker states the operator will always be made aware of the fact when any lights are out, by a glance at the tell-tale dash light. This wiring, it is claimed, can only be made on a six-volt system by using 1½ volts to each lamp.

The Cello tail light is of the same construction as the bracket side lamp, except that it has the regulation red lens and white glass for number light. These lights are fitted with 1½-volt, ½ C. P. tungsten bulbs and Ediswan base. If desired six-volt bulbs can be supplied. The side lamp and tail light are held by the same bracket as shown on the side lights, and all are furnished in polished brass, bright nickel or black finish. It is the claim of the manufacturers that lighting bill expense can be reduced one-fourth. A complete set of the Cello lights retails for $9.50.



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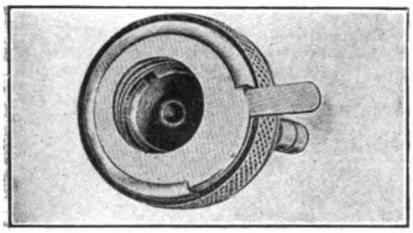
BELL HOSE CLAMP.

Locks to Valve Member and Prevents Leakage When Pumping.

The Bell Pump Company, 78 First street, East Detroit, is marketing the Bell hose clamp, a connection for tire



pumps, which the maker states is very efficient. It not only has a rubber socket, but in addition a threaded internal eccentric, which operates internally upon the threaded part of the tire valve tube.

The rubber socket is engaged with the valve member in the usual manner, and a pressure of the finger actuates the eccentric lever and threaded eccentric inside the clamp, engaging the threads of the valve much in the same manner as a nut. This construction, shown in the accompanying illustration, prevents the clamp working loose. The device is quickly detached by moving the lever member and displacing it from the valve.

POLSON TIRE BOOTS.

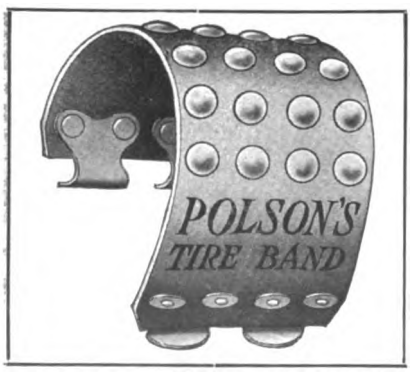
Steel Studded Bands of Rubber or Leather for Use as Patches.

Designed to cover cuts in tires or small blow-outs, the Polson Bros. Manufacturing Company, Kansas City, Mo., is manufacturing a tire band three inches wide, designed to go on the outside of the shoe. This band is made of steel studded chrome leather and has two flat hooks on either side of the patch. To preserve a tire and keep a small rent from ruining an otherwise good shoe, this patch slips over the tire and the hooks, as shown in the accompanying illustration, fit under the steel rims.

It is simple to attach, and the manufacturer says it will wear a long time and protect the tire to the fullest extent. These patches are made for three, 3½, four, 4½ and five-inch tires. Four-inch retails for 60 cents.

The Polson Company also makes a steel studded rubber hook-on boot of the same design, and 6½ to 8½ inches long. The size is optional. A steel studded leather boot of the same dimensions is made.

An extra heavy inside blow-out patch is manufactured by this concern. This patch is made of red rubber and is as heavy as the tire itself. This has strong double flaps, which are clamped under the rims and cut off, as is the ordinary inner patch. These patches are made to fit five sizes of tires and the lengths range from nine to 13 inches.

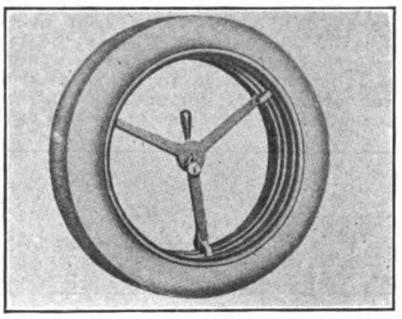


RIMOLOX TIRE CARRIER.

Consists of Three-Arm Bracket and Is Provided with a Lock.

The Rimolox tire carrier, manufactured by the Rimolox Tire Carrier Company, Evansville, Ind., is a new construction for carrying and supporting tires attached to demountable rims. As may be noted by the accompanying illustration, it is provided with a three-arm bracket. The ends of these arms are equipped with cup shaped members, which grip the entire inner surface of the rim.

The Rimolox eliminates straps, and one of its desirable qualities is that it is provided with a locking device, preventing theft or loss of the shoes. By unlocking the padlock in the centre the tire can be easily removed.

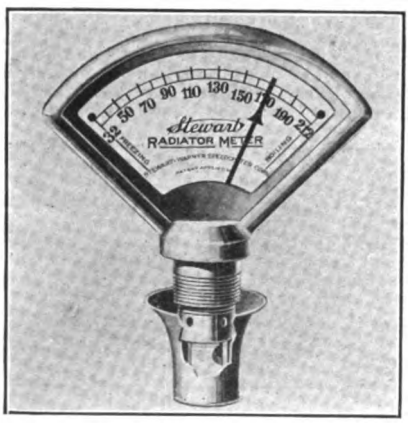


The Rimolox can be used at the side or rear of the car, as is convenient.

STEWART RADIATOR METER.

New Model Tells Temperature of Water in the Radiator.

The Stewart-Warner Speedometer Corporation, Chicago, Ill., has made a number of improvements in the Stewart Radiator meter, shown in the ac-



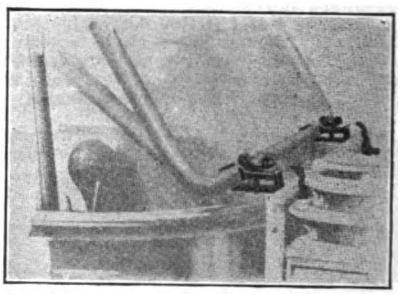
companying illustration. While similar to the usual type in construction internally, it is fitted with a small cup which appears like a telephone mouthpiece. This cup is attached to the meter from underneath the filler cap of the radiator, and when the radiator is filled with water and the engine started, the water accumulates in this cup and the temperature of the cooling fluid is registered.

The cup water has the same temperature as the radiator water, and consequently the condition of the water system can be told at a glance. Should the level drop to the danger point and the cup become dry, the meter will register accordingly. The reverse side of the meter is fitted with special name plates of the different makes of cars.

ROPER WEDGELOCK.

Windshield Device for Ford Cars That Is Easily Operated.

C. F. Roper & Company, Hopedale, Mass., is marketing a wedgelock device fitted to the windshield on Ford



cars. This wedgelock, as seen in the photograph printed herewith, works with a wing nut, and locks the windshield tight in either the regular position on top of the dash, or in the open ventilating position.

This arrangement permits the motorist to open or close his windshield without leaving the seat. The shield opens at the bottom, permitting the air currents to enter the car and keep the driver's section clear from all hot air from the engine. The Roper wedgelock sells for $1.50 the pair.

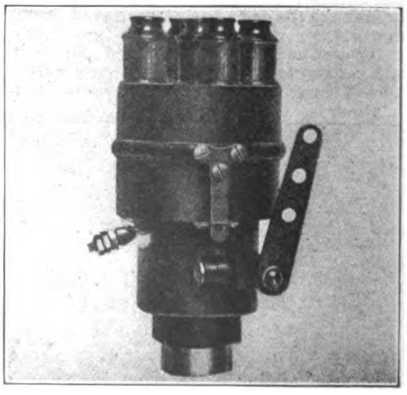
AMPCO DISTRIBUTOR.

Eliminates Moving Wires and Is Applicable to All Motors.

The American Motor Parts Company, 52nd street and Baltimore avenue, Philadelphia, is manufacturing the Ampco distributor, which replaces the conventional timer and multiple-unit coils where the ignition system employs a battery or dry cells as a source of current supply. The Ampco is adaptable for service with any internal combustion engine, regardless of speed and type.

One of the qualities of the distributor is that moving wires are eliminated, preventing ignition troubles due to short circuits and caused by frayed or loose connections. The maker lays great stress upon its construction, stating that all screws and springs, being off centre, it is impossible for the parts to be reassembled other than correctly.

The distributor is made of Bakelite, one of the best known materials for service where high-tension currents are utilized, and New Departure ball bearings are employed throughout. All moving parts are constructed of the best tool steel, tempered and ground. The break of the primary current is positive and the maker claims that mechanical and electrical lag are eliminated by the construction, assuring a high degree of efficiency, as well as synchronization of the spark.



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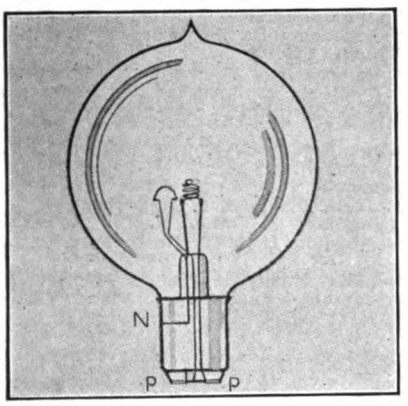
TULITE AUTO BULB.

Combines Two Filaments and Eliminates Need of Side Lamps.

The Tulite Auto Bulb Company, Detroit, is manufacturing the Tulite bulb, shown herewith, and which



provides a soft, diffused, wide range light for city driving, and a powerful illumination for country roads. These desirable features are obtained by the peculiar construction of the filaments, that in the centre being utilized when maximum illumination is desired, while the offset filament is employed when a dim light is required. The construction eliminates the usual side lights, and the wiring arrangement is such that the leads from the usual side members are connected to the offset filament. A complete set of bulbs and the Tulite bulb chest retails for $3.

SPEDOLENE LUBRICANTS.

Have the Heat Resisting Qualities of Asbestos.

Spedolene, manufactured by the Continental Asbestos Corporation, Worcester, Mass., is the invention of Alexander Warrell, the originator of asbestos lubricants, which include Journolene and Asbestolene. Spedolene is a high-grade lubricant and is asbestos rendered into a semi-liquid condition. The heat and friction resisting qualities of asbestos are well known. It can be subjected to a temperature, ranging from 2000 to 3000 degrees, without being affected, and resists the action of acids and alkalies.

Spedolene includes these qualities and is a practical and efficient lubricant for transmissions, differentials, timing gears, universal joints, bearings, etc. The maker states that it will not disintegrate or pack away, and that it will completely cover the bearings and gears even when they are rotating at high speeds, thereby preventing friction and consequently heat.

It is particularly adaptable to the differential where cushioning qualities, combined with the maximum of flow, are necessary in order that the best service may be obtained from the mechanism. It is stated that Spedolene will not leak out through the axle housings and thereby impair

the efficiency of the brakes. It is made in three grades, and comes in five, 10, 25 and 50-pound cans.

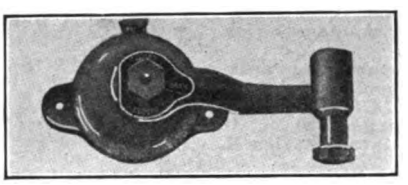
HOUDAILLE SHOCK ABSORBER.

Compresses Castor Oil Through By-Passes, and Is Adjustable.

The Houdaille compensating shock absorber, manufactured in Leualois, Paris, France, is distributed in this country by the Benz Automobile Sales Corporation, 1700 Broadway, New York City. This shock absorber is popular abroad and is used by a large number of racing cars.

The Houdaille is not dependent upon frictional discs, springs, air compression, etc., its compensating suspension being made positive by a rotary paddle piston compression, compressing castor oil and forcing it through by-passes provided for the purpose. The oil, being forced by abnormal pressure through these by-passes, automatically deadens the jar. Recoil is eliminated by the action of the oil returning from the compensating reservoir, this being performed by suction.

One of the qualities of the Houdaille is the simplicity of the adjustment for varying sized cars, etc. The braking power of the suspension is



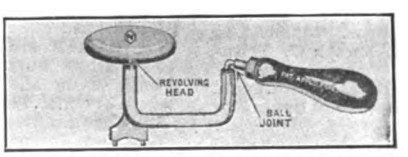
effected by the passage of liquid through the apertures and, by opening or closing these, the desired results are obtained.

It is stated that the shock absorbers require attention but once or twice a year, the work involving the removal of a filler cap and replenishing the supply of liquid. The Houdaille comes in sets of two or four and the maker states they can be easily applied to all types of motor vehicles. A set of four retails for $90.

NELSON VALVE GRINDER.

Designed for Ford Motor and Is Operated by Push and Pull.

A. Nelson Manufacturing Company, Chicago, is manufacturing a valve grinder for the model T Ford motor which presents interesting, as well as practical, features. The maker states that it eliminates the usual wrist and elbow motion utilized in



that it is operated by a direct pull and push motion, a ball joint taking care of all upward, downward or side movements. This, it is claimed, permits the hand to be moved in a natural manner. The revolving brace grip or head is stated to be sufficiently high to prevent striking the fingers against the handle, and is low enough to allow grinding the No. 8 or last valve of the motor, which is not easily accessible with ordinary tools. The grinder is constructed of steel,

Ed. Note—The Accessory and Garage Journal wishes to acknowledge the receipt of several line cuts which are too large for use in this department. Illustrations should not be over 2 1/16 inches wide to insure their use.

JOHNSTONE AUTO LOCK.

Keyless Combination Type for Locking the Ignition.

The Johnstone keyless auto lock, manufactured by the Factory Sales Company, 716 Williamson building,

Cleveland, O., differs from the conventional devices utilized to prevent operation of the car by others than intended in that no keys are required.

The lock is circular in shape and very compact and the maker states that being constructed of metal it cannot be destroyed in an attempt to steal the machine. The device operates on the same principle as a combination lock, and as may be noted by the accompanying illustration is provided with a dial.

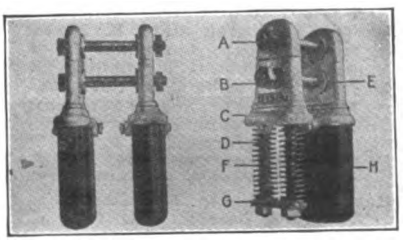
The Johnstone locks the ignition and is made in three types to meet the requirements of different systems. One design is for low-tension ignition systems which require breaking of the circuit to prevent starting and operation of the motor. Another is for high-tension magnetos which require grounding of the primary current to prevent the instrument supplying current to the cylinders. The third design is termed the universal, a special construction for large and expensive machines.

The lock may be installed on the dash or other convenient place, and but three connections are made, these being the wires from the kick switch of the lock, battery and magneto. The ignition is locked by turning the knob on the dial which may be set for one, two, four or six numbers. The maker states that no two combinations are alike, and that the owner can change the setting at any time desired.

VELVET SHOCK ABSORBERS.

Utilize Sensitive Coils and Are Simple and Durable.

The Blackledge Velvet shock absorbing springs, made by the John W. Blackledge Manufacturing Company, 2110 Michigan avenue, Chicago, are suitable for all cars having three-quarter, scroll end or platform springs in the rear, and for all machines excepting those having a cross bar at the rear. The Velvet springs give and adjust themselves to the load of the car, and equalize its variations. The coils utilized vibrate eight times as fast as it is possible for the car springs to work, obtaining Velvet riding qualities on cobblestones and rough roads. These coils are sensitive and, when attached, become a part of the car springs.



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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Finson Electric Motor Manufacturing Company, Rochester, N. Y.; $10,000; H. R. Howard and others.

The Hudson-Stuyvesant Motor Company, Cleveland, O.; $25,000; to manufacture automobiles and supplies; F. E. Stuyvesant, Richard L. Kreesen, B. J. Guthrey, R. E. Williams, H. M. Hodet.

Upton Automobile Company, Bristol, Ind.; $25,000; to manufacture automobiles and springs.

Knotts Taxicab Company, Wilmington, Del.; $25,000; to manufacture automobiles, cyclecars, etc.; E. Krause, J. W. Brady, J. T. Knotts.

Remington Long Island Cyclecar Agency, New York City; $25,000; to manufacture automobiles, cyclecars, etc.; G. A. Weintgetz, F. R. Weintgetz, A. Hobart.

Hendee Manufacturing Sales Company, Springfield, Mass.; $50,000; to manufacture automobiles, motorcycles, etc.; George M. Hendee, Frank J. Weschler, C. A. Earl.

The St. Charles Motor Truck Company, St. Charles, Mo.; $150,000; to manufacture automobiles and trucks; William F. Breedlove, C. E. Tillman.

Dart Motor Truck Company, Waterloo, Ia.; $600,000; C. W. Hellen, W. Galloway, C. C. Wolf.

Dashiell Motor Company, Chicago, Ill.; $25,000; to manufacture automobiles; C. R. Dashiell, Emil C. Wetten, Charles H. Pegler.

Eagle Cyclecar Company, Chicago, Ill.; $200,000; to manufacture automobiles; U. B. Curtis and others.

Boston Motor Manufacturing Company, Boston, Mass.; $200,000; to manufacture automobiles and motorcycles.

Scranton Automobile Company, Scranton, Penn.; $100,000; to manufacture automobiles, engines, accessories, etc.; H. R. Shaw, Leslie G. Stark.

American Standard Automobile Company, Edwardsville, Ill.; $100,000; to manufacture automobiles and farm machinery; P. Berhardt, C. H. Gerling, L. Kirsch.

Pope-Hartford Company, Hartford, Conn.; $200,000; to manufacture automobiles; Wilbur C. Walker, Charles E. Walker, Ralph A. Barkman.

American Wheel Company, Dover, Del.; $200,000; to manufacture commercial cars; W. F. Cook, Walter P. Carrow.

AUTOMOBILE DEALERS.

Bernville Motor Company, Reading, Penn.; $10,000; to deal in automobiles.

Lincoln Motor League, Chicago, Ill.; $2500; to deal in automobiles; A. H. Maurer, C. E. Hall, W. A. McGivern.

Garrett Auto Service Company, New York City; $10,000; to conduct a general automobile business; H. G. Commons, R. D. Whiting, W. G. Stahlnecker.

Vermont Machine & Auto Company, Fairhaven, Vt.; $5000; Philip Pelkey, Mary E. Pelkey, George W. Draper.

The L-Arrow Auto Livery Company, Milwaukee, Wis.; $10,000; Charles H. Ewe, William F. Albers, Charles W. Modersolm.

The Oakland Automobile Company, El Paso, Tex.; $15,000; to deal in automobiles; A. H. Elmore, W. Prosser, L. Rust.

Hudson Auto Company, Greensboro, N. C.; $10,000; to conduct a general automobile business; J. H. Weatherspoon, J. Shaw, C. D. Tassler, C. D. Benbor, Jr., and others.

Reo Sales Company, Syracuse, N. Y.; $15,000; to deal in automobiles; C. H. Norris, G. H. Norris, Harold N. Dewitt.

Colonial Auto Company, Hartford, Conn.; $20,000; to deal in automobiles; David A. Trunbull, Hazel O. Trunbull, William M. Trunbull.

Postles Automobile Brokerage Company, Wilmington, Del.; $50,000; to conduct a general automobile business; Grantley P. Postles, Lorenzo A. Bradley.

Renton Motor Car Company, Haverhill, Mass.; to deal in automobiles; Lester T. Wolff, Ralph W. Renton, Francis W. Johnson.

Meinhard Auto Service Specialties Sundries Supply Company, Buffalo, N. Y.; $10,000; to deal in automobiles and supplies; Charles J. Staples, C. H. Meinhard, T. P. Meinhard.

Ford Auto Company of Passaic, Passaic, N. J.; $10,000; to conduct a general automobile business; Trina Peter, Nicholas Nornstra.

Foster Motor Sales Company, Yonkers, N. Y.; $3000; George B. Foster, Mary E. Foster, J. Bertram Foster.

Roswell Auto Company, Roswell, N. M.; $50,000; to conduct a general automobile business; C. M. Farnsworth, C. C. Cagle, C. M. Sheperd.

Service Motor Supply Company, Chicago, Ill.; $5000; to deal in automobiles; Arthur J. Welsh, Gus C. Aucutt, Samuel H. Silverman, H. F. Walbaum.

Passaic Auto Company, Passaic, N. J.; $5000; to deal in automobiles and supplies; Chester R. Bates, M. K. Raymond, Chester L. Holloway.

Ventre & Ostruk, New York City; $10,000; to conduct an automobile business; Henri Ventre, Paul Ostruk, Joseph Schlesinger.

Los Angeles Motor Car Company, Los Angeles, Cal.; $50,000; to deal in automobiles; L. R. Carpenter, A. M. Young, William F. Floyd, H. A. Davis, J. A. Russell.

Smith-Trew Motor Company, Washington, D. C.; $3000; to conduct a general automobile business; J. B. Trew, Ralph C. Smith, Wilmont W. Trew.

C. B. A. Sales Company, New Rochelle, N. Y.; $3000; to conduct a general motor car business and operate a garage; Sidney H. Kent, William H. Schumacher, M. J. Murphy.

Bartlett Distributing Company, Mount Vernon, N. Y.; $10,000; to deal in automobiles.

Studebaker Corporation, Pine Bluff, Ark.; $25,000; to deal in automobiles; L. B. Bracken, C. H. Montague.

Cheraw Motor Company, Columbia, S. C.; $5000; to deal in automobiles; Henlon B. May, R. B. May, P. A. Murray, Jr.

Union Motor Company, Nashville, Tenn.; $150,000; to conduct a general automobile business; E. Fisher Coles, Harding E. Jackson, R. C. Jones, Albert S. Britt, R. B. C. Howell.

Simplex Sales Company, Anderson, Ind.; $12,000; to deal in automobiles; William H. Nelson, Eldred H. Wilford, Hattie A. Wheelock.

North Side Buick Sales Company, Chicago, Ill.; $8000; to deal in automobiles; H. Well, H. J. Rosenberg, H. J. Lurie.

Patterson Auto Company, Conway, Mass.; $4000; to conduct an automobile business; A. J. Patterson, L. C. Germain, W. M. Alden.

Kenton Motors Company, Covington, N. Y.; $10,000; to conduct an automobile business; E. J. Rouse, L. E. Booth, M. R. Etheredge.

Southern Illinois Motor & Lumber Company, DuQuoin, Ill.; $25,000; to deal in automobiles and lumber; J. H. Ward, R. W. Eddleman, R. C. Easton.

Home Service Company, Detroit, Mich.; $1200; to deal in automobiles; R. C. Semon, L. Diebel, J. B. Dale.

Maxwell Car Company, Lawrenceville, Ill.; $200,000; A. L. Maxwell, C. L. Lewis, N. M. Tohill.

F. E. Stowell, Lowell, Mass.; $5000; to conduct an automobile business; M. L. Stowell, F. E. Stowell, J. S. Stowell.

Taft, Rich Automobile Company, New York City; $10,000; to deal in automobiles; A. Taft, R. R. Richenstein, R. Richenstein.

Dix Automobile Company, Cape May, N. J.; $10,000; to conduct a general automobile business; J. Morgan and others.

Muscatine Motor Company, Muscatine, Ia.; $25,000; to conduct an automobile business.

Southegan Automobile & Electric Company, Milford, N. H.; $25,000; to deal in automobiles and conduct a garage.

Toledo Cadillac Company, Toledo, O.; $25,000; to deal in automobiles and accessories; T. N. Towell, William N. Marlott, R. C. Morrison, W. H. Felton, J. H. Wood.

Savannah Motor Car Company, Nashville, Tenn.; $5000; H. E. Williams, Arch Walker, J. J. Williams, Jr., H. M. Williams, T. R. Williams, E. W. Ross.

Atlantic Auto & Tire Company, Atlantic City, N. J.; $25,000; to deal in automobiles and electric motors; Milton F. Champion, George L. Mason, Norman Zester.

Jeffersonville Motor Car Company, Jeffersonville, Ind.; $10,000; to deal in automobiles; Don Williams, Fred D. Deitrich, William Kilgus and others.

Hartford Motor Car Company, Hartford, Conn.; $50,000; Frank M. Ridler, W. Walker, C. E. Walker, R. A. Barkman.

Bonnell Motor Car Company, Newark, N. J.; $50,000; to deal in automobiles; Jacob W. Mason, Horace A. Bonnell, Anna M. Bonnell.

Norwalk Supply Shop, Norwalk, Conn.; $5000; to deal in automobiles; John A. Mills, Sarah L. Mills, M. A. Gregory.

ACCESSORIES AND SUPPLIES.

Baker Rim & Auto Supply Company, Hempstead, N. Y.; $5000; H. L. Bankney, G. H. Bankney, O. J. Ipsen and others.

Auto Specialty Company, Seattle, Wash.; $10,000; to deal in automobile specialties; J. F. Hill, H. M. Kerr, L. Frank Brown.

Star Tire & Rubber Company, Madison, Wis.; $5000; to deal in tires and rubber goods; J. W. Mort, C. E. Mort, M. M. Mort.

Accident-Proof Tire Company, New York City; $250,000; to manufacture tires, auto supplies, etc.; K. F. Albertson, J. C. Hodge, C. W. Stuart.

Cincinnati Automobile Dealers, Cincinnati, O.; $2500; to deal in automobile parts and accessories; Harry O. Brunton.

Lubricating Accessories Company, Clifton, N. J.; $25,000; J. Swanson, R. W. Haubner, P. A. Ott.

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Day Tire Protector Company, Camden, N. J.; $100,000; to manufacture automobile tires; George H. Martin and others.

Gordon Rubber Company, Chelsea, Mass.; $10,000; Louis Hahn, Mark Baron, William M. Gordon.

The Peerless Tire & Rubber Company, Louisville, Ky.; $10,000; to deal in tires; A. F. Wolke, Charles H. Wolke, Keith L. Bullitt.

Robinson Seits Tire Company, South Orange, N. J.; $5000; to deal in automobile tires; G. W. Robinson, A. M. Seitz, Frank Robinson.

The Central Oil Company, Detroit, Mich.; $200,000; to deal in gasoline, oil and supplies; Roy L. Francis, Otto D. Zaller, Robert J. Morrison, Edward C. Hoffman.

Ellenbeck Tire & Supply Company, Brooklyn, N. Y.; $5000; to deal in tires and supplies; W. Ellenbeck, Jr., E. H. Wilkinson, E. E. Wilkinson.

Lee Tire & Rubber Company, New York City; $20,000; H. E. Field, A. A. Garthwaite, J. J. Watson, Jr.

Co-Operative Consumers of Fort Wayne Company, South Bend, Ind.; $5000; to deal in automobile supplies; A. L. Jacobs, R. Wilkening, R. R. Shuman.

Steel Pneumatic Tube & Tire Company, New York City; $200,000; John S. Heep, Frederick Fuller, Charles O. Roth.

Benninghof-Nolan Company, Evansville, Ind.; $100,000; to deal in automobile supplies; Henry P. Benninghof, John J. Nolan, Val F. Nolan.

Automatic Lifting Jack Company, Cleveland, O.; $50,000; to manufacture automobile supplies; T. H. Wittliff, C. W. Parker, C. M. Deadwyler, F. M. Wittliff, J. A. Wortman.

Limou Curtain & Equipment Company, Cleveland, O.; $1000; to deal in automobile curtains and accessories; A. P. Fischley, B. B. Fischley, C. Albracht, Jessie L. Albracht, C. M. White.

Florida Tire Company, Jacksonville, Fla.; $25,000; to deal in automobile tires and accessories; Claude M. Shine, George M. Hopkins.

Ideal Automobile Company, Chicago, Ill.; $1000; to deal in automobile parts and accessories; A. A. Gross, S. Abrahamson, A. C. Dunning, Leonard L. Cowan.

I. T. S. Rubber Company, Elyria, O.; $100,000; to manufacture rubber goods. J. C. Tirfford, A. G. Smith, C. H. Ingwer, William C. Smith, C. H. Lewis.

International Sales Organization, Boston, Mass.; $50,000; to deal in automobile supplies; L. Taylor, R. Taylor, E. W. Brown.

PARTS AND FITTINGS.

Western Gear Manufacturing Company, Detroit, Mich.; $5000; to manufacture gears and parts; John Saunson, Oscar Palm, Victor Palm.

Detroit Starter Company, Detroit, Mich.; $20,000; to manufacture automobile starters; Alonzo B. Porter, John W. Fitzgerald, F. Joseph Lamb.

Transmission Power Company, Nashville, Tenn.; $100,000; to manufacture compression pumps for automobiles.

Power & Efficiency Company, Trenton, N. J.; $100,000; to manufacture spark plugs; M. T. Minogue, E. F. Hooper, H. T. Caullet.

Consolidated Engine Stop Company, New York City; $120,000; to manufacture mechanical and electrical devices; W. P. Powell; T. S. Buckingham, A. W. Britton.

National Spring Wheel Company, St. Joseph, Mo.; $100,000; to manufacture metal wheels for automobiles; W. L. Mann, W. P. Justice, E. J. Kearby.

The Spranger Rim & Wheel Company, Detroit, Mich.; $100,000; to manufacture automobile specialties; N. M. Spranger, Frank Spranger, Clara B. Dettner.

Fulser Electric Motor Manufacturing Company, Rochester, N. Y.; $10,000; to manufacture motors and machinery; H. R. Howard, R. C. Cash, Lillian Weyrauch.

Bostonian Motor Manufacturing Company, Boston, Mass.; $200,000; Harry L. Simons, Samuel Weiss.

Eureka Water Motor Company, New Orleans, La.; $10,000; to manufacture motors. J. B. Rochelle, E. J. Ernst, N. B. Ernst.

Ogden Fiber, Gear & Tire Company, Columbus, O.; $1000; to deal in automobile parts; D. Ogden, E. Ogden, Hubert S. Ogden.

K. C. B. Company, Detroit, Mich.; $200,000; to manufacture carburetors; J. H. Chambers, C. H. Bennett, A. A. Leslie.

Michigan Lubricator Company, Detroit, Mich.; $200,000; to manufacture lubricators and devices; J. B. Corlis, J. B. Corlis, Jr., C. D. Corlis.

Fenfar Company, Cleveland, O.; $10,000; to manufacture automobile parts; E. W. Farr, C. W. Fenner, F. J. Breeler, O. Guttemann, W. E. Ward, G. A. Ehret.

Modern Auto Parts Company, Chicago, Ill.; $25,000; to manufacture automobile parts; E. S. Carr and others.

Mogul Starter Company, Wilmington, Del.; $100,000; to manufacture starting devices for internal combustion engines; W. H. Harris, E. J. Enlers, J. Southard.

Easy Wheel Auto Company, Duluth, Minn.; $100,000; N. J. Upham, T. F. Upham.

J. Lawrence Hill Auto Company, Rochester, N. Y.; $10,000; to manufacture storage batteries; J. Lawrence Hill and others.

S. & S. Starter Company, Newark, N. J.; $40,000; to manufacture starters for automobiles; W. M. Golden, Jr., A. L. Whitmer, J. W. Shinholser.

Aetna Trucking Company, New York City; $5000; to deal in engines, automobiles, etc.; A. L. Siegel, C. W. Bliss, E. M. Kolstad.

Auto Pump & Machinery Manufacturing Company, Chicago, Ill.; $40,000; to manufacture machinery, etc.; R. B. Schweichler, S. C. Brynelsen, J. W. Kaufman.

GARAGES AND REPAIR SHOPS.

Utica Garage Company, Utica, N. Y.; $1500; to conduct a garage; Paul Bartmer, Park T. Higgs, Benjamin H. Dwinnell.

Wagner Auto Garage Company, Massillon, O.; $10,000; to conduct a garage.

Motor Car Repair Company, Paterson, N. J.; $10,000; R. H. Schroeder, W. M. Livingston, C. S. Slingland.

The Buick Garage, Hickory, N. C.; $25,000; to conduct a garage; S. A. Isenhour, Hugh S. D'Anna, B. B. Blackwelder.

Moritz-Mullin Company, Detroit, Mich.; $5000; to conduct a garage; Leo F. Mullin, John A. Moritz, Fred C. Auger.

United Electric Car Owners' Garages, Chicago, Ill.; $50,000; to deal in automobiles, supplies and operate garages; Sylvester C. Abbott, Dwight S. Robb, E. P. Rumrill.

Grand Pacific Garage Company, San Francisco, Cal.; $20,000; to operate a garage; J. S. Adler, D. S. Cohn, J. J. Marx, H. Marx.

W. S. Curtis, Auburn, N. Y.; $10,000; to conduct a garage and general automobile business; W. S. Curtis, R. S. Messenger, H. A. Ferguson.

Killeen-Green Company, Batavia, N. Y.; $4000; to conduct a garage and motor car business; P. J. Killeen, J. E. Killeen, P. M. Green.

General Garage Company, Detroit, Mich.; $5000; to conduct a general garage business; Frank Boydell, Florence Boydell, J. G. Wood, B. Wood.

Allen Bros. Garage, Greenwich, Conn.; $50,000; to conduct a garage; F. H. Allen, H. W. Allen, F. J. Holmes.

California Garage & Supply Company, Long Beach, Cal.; $50,000; to conduct a garage and supply house; R. H. Brown, W. J. Reid.

Klauer Motor Repair Company, Cambridge, Mass.; $5000; to conduct a general automobile repair business; Benjamin Klauer, Paul Klauer, A. A. Klauer.

The Sadler Garage & Sales Company, Bloomfield, N. J.; $3000; to conduct a garage and deal in automobiles; William H. Sadler and others.

Fifth Avenue Garage Company, Gary, Ind.; $5000; to conduct a garage; Ralph Sykes, William Sykes, Carlisle Dorman.

MISCELLANEOUS.

Cincinnati Speedway Company, Cincinnati, O.; $10,000; W. T. Foley, F. D. Hirst, T. A. Tauwold, Jr., G. A. Ginter, A. H. Morrill.

Auto Jack & Storage Company, Kansas City, Mo.; $25,000; Robert Parker, L. H. Parish, R. E. Stucker.

New Jersey Motor Utilities Company, Newark, N. J.; $50,000; John McLean, F. B. Knowlton, I. O. Dowling.

American Motorists' Protective Association, Boston, Mass.; $50,000; Frederick I. Keith, Richard R. Snow, Alfred P. Goodell.

Canada Carbide Sales Company, New York City; $10,000; Henry J. Fuller, Douglas W. Dunn, Walter L. Bush.

Pickens Auto Cloth Company, New York City; $1000; Sale A. Pickens, James W. Pickens, Benjamin Simon.

Steuben Auto Transit Company, Hammondsport, N. Y.; $10,000; to conduct a general automobile business; R. C. Trumbull and others.

The Astoria Auto Trucking Corporation, Long Island, N. Y.; $3000; Philip Silliman and others.

The Nash Motor Road Corporation, Providence, R. I.; $100,000; Jeremiah E. O'Connell, Joseph J. Cunningham, John C. Maroney.

Automobile Tourists' Association, Boston, Mass.; $15,000; George H. Cox, William J. Sander, Carl H. Cockrane.

New Jersey Motor 'Bus Company, Paterson, N. J.; $50,000; Louis Cramer, Sr., Louis Cramer, Jr., John Purce.

Owl Taxicab Company, San Diego, Cal.; $50,000; Herbert C. Guild, Horton L. Titus, E. L. Davin.

Goodwin Welding Company, New York City; $10,000; J. Edmond Hewitt, J. T. Goodwin, M. T. Goodwin.

Duwamish Valley Auto Transportation Company, Seattle, Wash.; $25,000; A. B. Willard, A. J. Laughon and others.

International Motor Clubs Association, Dover, Del.; $250,000; C. H. Butler, M. M. Hirons, L. B. Phillips.

Auto Transportation Company, Spokane, Wash.; $6000; Clyde M. Graves, John Doran, T. S. Lane.

O. H. Banks Company, Norwalk, Conn.; $25,000; I. T. Banks, M. McShane, G. Hughes.

Lassiter-McDuffie Company, Wilmington, Del.; $25,000; Clyde Lassiter, Neal O. McDuffie, Edwin T. Burton.

Brewster Brothers, Syracuse, N. Y.; $1000; H. A. Brewster, F. L. Brewster, William D. Brewster.

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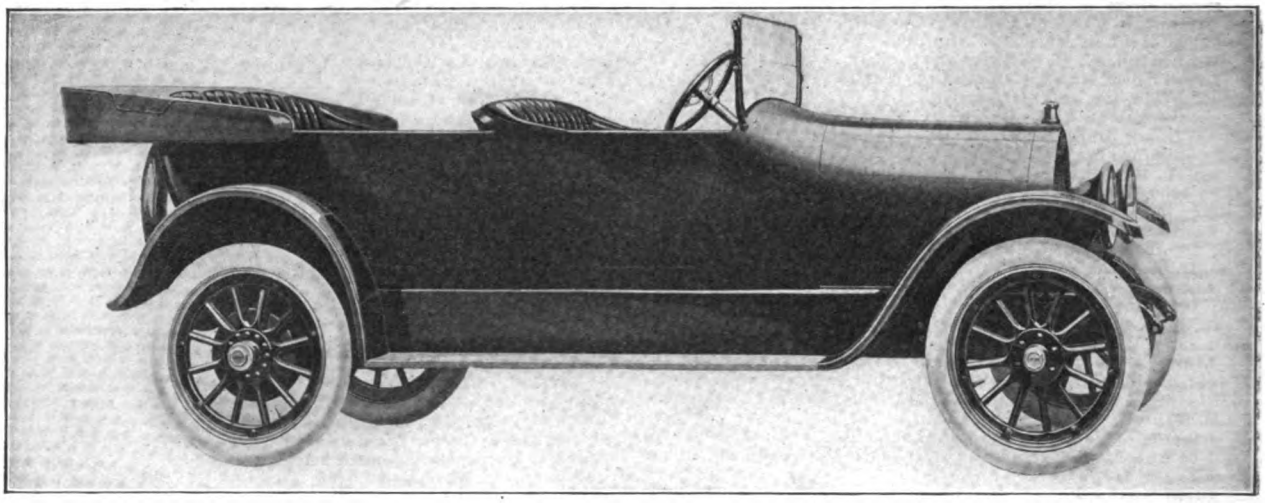
JEFFERY HAS WORM DRIVE.

Chesterfield Six Has Many New Features for 1915.

A worm drive axle, small bore, long stroke, cantilever rear springs, Bijur cranking and lighting system, vacuum fuel feed and a pure European streamline body,



The 1915 Jeffery Chesterfield Six, Worm Drive, Showing Full French Streamline Body.

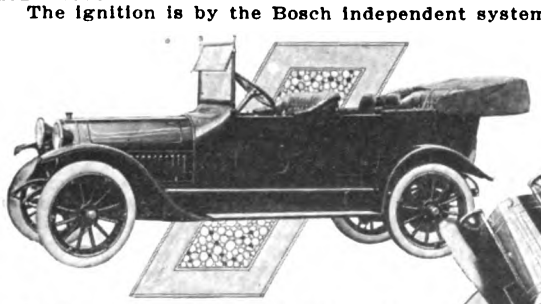
are a few of the 1915 features of the Chesterfield Six, made by the Thomas B. Jeffery Company, Kenosha, Wis.

The two older Jeffery models, a Six and a Four, will continue practically unchanged, except for numerous refinements. Five-passenger touring and two-passenger roadster bodies are offered with the new Six. Both of these are $1650, and a two-passenger all-weather car sells for $1950. The chassis alone is $1350. The five-passenger touring car weighs 2850 pounds, which may be considered an exceptionally low weight for a six-cylinder car.

The motor is of the L head, block type, with a bore of three inches and a stroke of five inches. This motor has developed a speed of 2900 revolutions a minute, according to the factory engineers. For the worm drive rear axle it is claimed that it not only produces a quieter running car, but a much more economical one, as it is stated that a far greater mileage can be obtained from a gallon of gasoline.

Likewise the worm drive gives a continuous smooth gear contact, thereby eliminating all jerks incident to starting. For the drive it can be emphatically stated that it is a most durable form of construction, and the most efficient results are shown when driving at high speed. The worm is of the overhung type, which affords maximum road clearance, and is reached through a large opening at the rear of the axle housing, which has the usual cover.

The ignition is by the Bosch independent system, and



Side View of Studebaker Six—Pressed Steel Has Been Substituted for Wood in the Body.

the equipment includes Bosch spark plugs and cable. A Rayfield carburetor is employed, as in the previous model, and the fuel is delivered to the carburetor by the Stewart vacuum feed, from a seamless, cylindrical tank carried in the rear.

Lubrication is by the combined splash and gravity system, in which the oil supply is carried in a reservoir, under the crank case. The starting and lighting system is the Bijur, which has been so successfully employed by the Packard Motor Car Company.

STUDEBAKER SELLS FOR LESS.

Also Two New Body Types Are Offered This Year.

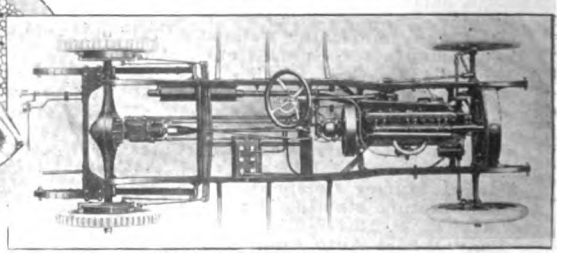
The feature of the Studebaker announcement is a reduction in the price of both the Four and Six, and a great number of refinements added to both lines. These cars,

made by the Studebaker Corporation, Detroit, Mich., are now $985 for the Four, a reduction of $65, and the Six has been decreased $190, the price being $1385 for the five-passenger and $1450 for the seven-passenger body.

No radical changes have been made in either model, and as in 1914, the line consists of two chassis. The Six carries two bodies, a five and seven-passenger, and the Four is built as a touring car and a three-passenger roadster. The driver's section of the seat in the roadster is carried forward four inches, which adds to the comfort of all concerned and gives the driver free play. The equipment is complete, including a one-man top, with side curtains and cover, Wagner electric lighting and starting system, headlight dimmers, Stewart-Warner speedometer, gasoline gauge, electric horn under the hood and an extra demountable rim, jack, pump and tools.

While there has been no increase in the engine dimensions, it is claimed that the power has been increased some 15 per cent. This has been brought about by reducing the weight of the reciprocating parts and improving the design of the manifolds. The motor, four or six cylinders, is cast en bloc, and has a bore of 3½ inches and a stroke of five inches. Both cars have three-speed selective gear sets, controlled by centrally located levers. No change has been made in the clutch, which is a leather-faced cone, but the leverage on the operating mechanism has been increased in the Six. In both cars flat springs are placed under the clutch leathers and a single main spring is employed. The cones are of pressed steel. Brake drums have been increased in diameter, and both brakes are now lined with an asbestos fabric; on the 1914 model the contact was metal to metal. Both brakes are fitted with equalizers. Wheelbase on the Four is 108 and on the Six 122 inches, and tires are 34x4 inches on both models. Rear axle is full floating, and as in the previous model the gasoline tank is placed in the cowl, and a streamline effect is given the body.

Cooling in the Six is by means of a honeycomb radiator, and by a vertical tube radiator with an auxiliary tank in the Four. The problem of cooling has been simplified in the Four by use of a larger exhaust pipe, which carries away hot gases more rapidly than before. Both cars use the centrifugal pump.



In the Centre, a Top View of the Studebaker Six, Denoting the Seating Arrangement—At the Right Is the Chassis of the Six Model.

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IT CAN'T BE DONE!

How Substitution of *Just As Good* Oils Effects the Garageman

Monogram Is the Quality Oil

There is but one brand of oil that will meet the requirements of the motoring public, and that is the BEST THAT CAN BE PRODUCED. Substitution of "Just as Good" oil will do more to destroy the dealers' business than any other one factor.

The service and life of a motor car must depend upon the quality of the lubricants used. Oils that do not give entire satisfaction are shunned by owners, as are the dealers who sell such oils.

There is a certain loss selling unknown oils. The experienced motorist is not gambling with lubricants. The dependable dealer recommends and sells the best oil.

MONOGRAM Oils and Greases are known because of satisfactory use for years in all classes of motor cars. MONOGRAM Oils are sold in sealed containers that give the same protection to dealers and consumers. They are known wherever automobiles are used, and are sold by the trade with an absolute guarantee.

The MONOGRAM selling policy is so broad and liberal that no dealer can afford to sell "Just as Good" lubricants

MONOGRAM Oils make business and are a constant source of profit. Trade is already established when a dealer sells MONOGRAM Oils.

Correspondence relative to agencies is invited.

NEW YORK LUBRICATING OIL COMPANY

Consolidated with the COLUMBIA LUBRICANTS CO. OF NEW YORK
116 BROAD STREET, NEW YORK CITY

Branches at Newark, Boston, Chicago, Cleveland, Philadelphia, San Francisco, Los Angeles, Portland, London, England, Johannesburg, South Africa
Distributing stations in all principal cities

(When Writing, Please Mention The Accessory and Garage Journal.)

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What Counts

The Accessory and Garage Journal

Is the one trade paper that accords the same sterling value to the small user of space as it does the largest advertiser.

It has a known clientele, it is better than any Trade Directory, has all features of a regular magazine and is more reliable than any Trade Mailing List.

It reaches all trade interests, it has no owners' clientele and every feature claimed for it is backed by an iron clad guarantee—Both distribution and service.

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Automobile Registrations

ANY STATE COMPLETE

Ford owners $2.50 per thousand names—1914 Registration.

OWNERS AUTO LIST COMPANY
CAPITOL - ALBANY, N. Y.

A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $3 per M by states.
Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.
Garages—18,515—$25 or $3 per M by states.
Repairs—8,466—$15 or $3 per M by states.
Supplies—6,964—$12 or $3 per M by states.
Auto Mfrs., U. S. and Canada—626—$3.
544 Auto Dealers, second hand—$4.00.
14,000 Auto Truck Owners—$3.50 per M.
AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $3 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.
WRITE US YOUR NEEDS.
All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.
TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1188. Chicago, Ill.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

We Sell Everything

pertaining to the automobile at half regular prices. Send for our great "PRICE WRECKER" No. 5, containing 3000 auto bargains at cut prices. TIMES SQUARE AUTOMOBILE CO. World's largest dealers. S. W. Cor. 56th St. and Broadway, N. Y. 1210 Michigan avenue, Chicago.

The Motor Truck

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A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . .

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Accessory and Garage Journal
Times Building, Pawtucket, R. I.

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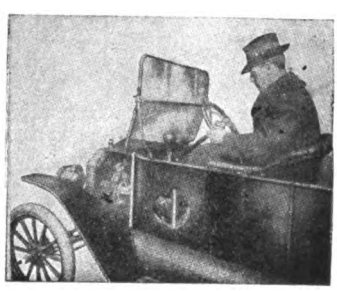
GARAGE JOURNAL
September 1914 Vol 49

CENTURY
MECHANICAL
FORD STARTER

Is the cheapest practical equipment that can be placed on any Ford car. From a pleasure viewpoint it is just as necessary as a top, the lamps, the speedometer, the magneto or the shock absorbers. From a business viewpoint it saves labor, time and fuel. A child can operate it by a push with the foot. It is mechanical in operation and so constructed that it may be changed from one car to another. It will last a lifetime. It can be installed by any man with ordinary mechanical knowledge.



A Sure Motor Starter

IT SELLS AT SIGHT AT A RIGHT PRICE, AND IS A SOURCE OF BIG PROFIT TO LIVE DEALERS

The Century Ford Starter
The Wizard Washer

For $15.00 You Can Give One or 50 Cars a DAILY BATH

WIZARD WASHERS

Are the most practical time and labor and money saving equipment ever installed in a garage. *They obviate the use of finish-destroying soaps and sponges.* A woman or child can use them. Delivered ready for use. They are practically indestructible. Jobbers and dealers recommend the Wizard Washers. *Sold with a guarantee of complete satisfaction.*

CENTURY FOUNDRY COMPANY.
N. SALINA ST. . SYRACUSE, N.Y.

TEAR OFF CORNER
Name
Street
City
State

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REMINGTON MOTOR CO. NEW YORK U.S.A.

OPERATING COST APPROXIMATELY ONE CENT PER MILE

40 miles on one gallon of gasoline. 7000 miles on one set of tires.

The Seal of Quality

This Remington Seal on a mechanical device guarantees to the world utmost efficiency to the user.

REMINGTON

FIR
FIRS
FIRST IN
AUTOMOB

REMINGTON

What the Name "REMINGTON" means
TEES in a Light Automobile. The Perfect M
at the minimum cost. Long service—economical

"REMINGTON"

SPECIFICATIONS:

MOTOR—Unit power plant—four cylinders cast enbloc, bore 2¾", stroke 4½", water cooled, main frame 3 point suspension, valves enclosed. LUBRICATION—Constant level splash feed. Very economical and efficient. CARBURETOR—Float feed. TRANSMISSION—Selective sliding gear, three speeds forward and reverse. Operated by Hollister Automatic Gear Shift. FRONT AXLE—Drop forged I beam section. REAR AXLE—¾ floating with bevel pinion and differential of special steel. STEERING GEAR—Worm and sector irreversible and adjustable for wear. 15" wheel. BRAKES—Service on rear axle, differential contained in rear axle housing free from dirt. Adjustable from outside. Extremely efficient. Hand emergency on rear wheels. SPRINGS—Chrome vanadium steel. Front semi-elliptic. Rear three-quarter elliptic. WHEELS—Wire, 28"x3". FRAME—Pressed steel channel section with cross members and large gussets. WHEELBASE—100". BEARINGS—All annular ball, extremely large. EQUIPMENT—Top windshield, speedometer, electric horn, electric lights with dimmer on headlights, automatic gear shift, electric starter. AUTOMATIC GEAR SHIFT—The Hollister Automatic Gear Shift is a feature found only on Remington cars. A wonderful contrivance new to the automobile improvements. Simple and the most effective automatic gear shift invented.

DEALERS—YOUR OPPORTUNITY

The Remington Roadster is not an experiment—"Remington" would not put on the market a car that would in any way prove below a standard of Remington reputation. The purchaser is not asked to take our car and work out the "bugs"—Remington has seen to that, and the purchaser receives his car with that confidence and pride of knowledge that comes to one who knows that he has the best obtainable—an elegant, dependable, satisfying car—a car that will fulfill his requirements to the utmost—a car of power, speed, comfort and reliability. When a Remington product goes into the hands of the user, he knows that he will receive that fullness of service to be found in a quantity production.

$4
Electri
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REMINGTON MOTOR COMP

2 Columbus Circle, NEW YORK CITY

(When Writing, Please Mention The Accessory and Garage Journal.)

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ST IN WAR
T IN PEACE
THE INTEREST OF
LE DEALER and OWNER

In 1816, Eliphalet Remington forged the first gun made in America and lived to see his name famous in the United States and abroad.

His sons added fame to their name by creating the Standard of the Typewriting Machine.

His grandson now offers a roadster that is of Type and Quality eminently fit to bear the Remington Seal—"All that a light car should be."

EANS PRECISION IN MECHANISM

a GUN—what it signifies in the Typewriter World—Now it GUARAN-anism—correctly applied scientific principles, to give the utmost efficiency keep and operation and an absolute guarantee of satisfaction.

GUARANTEES THEM ALL

95
Lighting
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Starter
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Shift
Wheels
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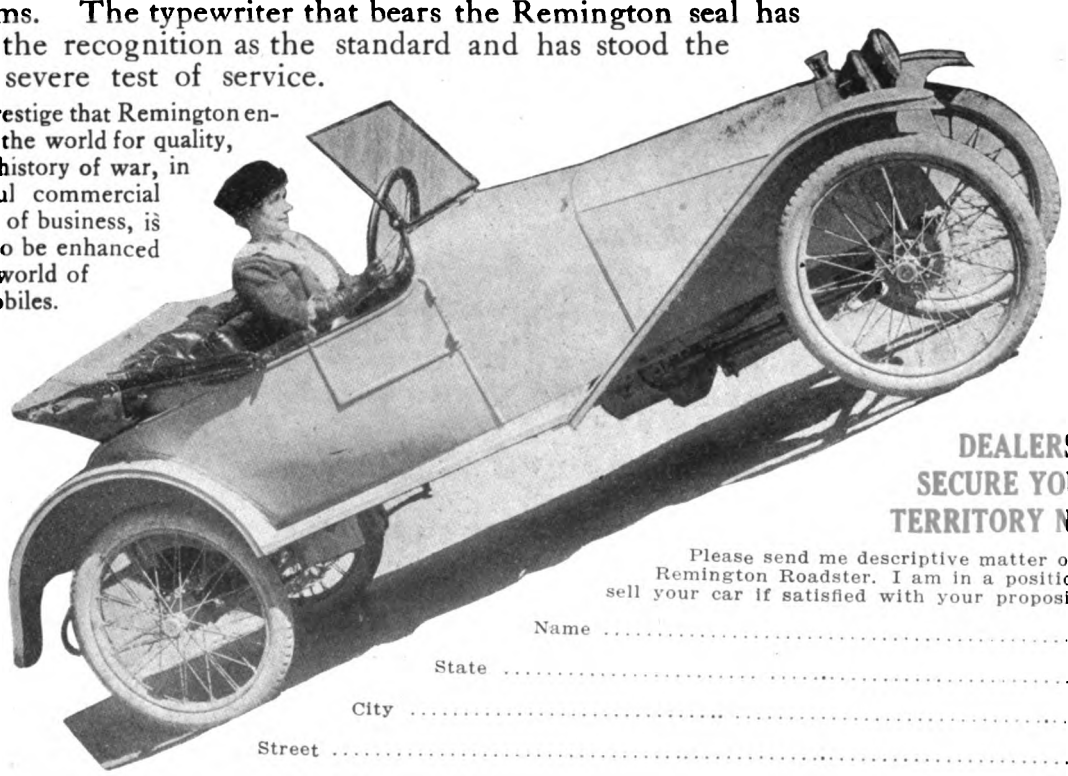
ANY

Since 1816, when Eliphalet Remington forged the first gun barrel, the name Remington in things mechanical has been a guarantee of perfection. The Civil War created a demand for arms and "Remingtons" were the choice as the best that were then produced. Since then they have been a standard and today the world owes to the "Father of American Gun Making" the honor of progress in arms. The typewriter that bears the Remington seal has won the recognition as the standard and has stood the most severe test of service.

The prestige that Remington enjoys in the world for quality, in the history of war, in peaceful commercial history of business, is about to be enhanced in the world of automobiles.



DEALERS SECURE YOUR TERRITORY NOW.

Please send me descriptive matter of the Remington Roadster. I am in a position to sell your car if satisfied with your proposition.

Name .....

State .....

City .....

Street .....

Territory Desired .....

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Don't Pass This Offer

The kind of knowledge contained in these books when applied to your business and work will be a money making and time saving asset.

For Every Garageman, Repairman, Accessory Man and Operator

For Every Owner, Student, Mechanic and Engineer

The investment once made is good for a life time. Do not drag along the old ruts when you can have at command just the actual, practical, mechanical information that you must have and are called upon to use constantly.

LIST OF BOOKS

TITLES		11 BOOKS
Engine .	35c	All indexed
Magneto .	35c	All complete
Carburetor	35c	No theory
Battery . .	35c	All revised
Tires . .	25c	Up to date
Chassis . .	25c	900 pages of text
Lighting .	50c	1800 illustrations
Operation .	50c	Including many
Overhauling	50c	page charts and
Motorcycle .	35c	working diagrams.
Truck Operation	$1	

Be a Leader. Stop Being a Follower.

Improve your knowledge. It will mean success and increased profits for the business man and improved position and increased salary for all others.

A wonderful set of books, written by men who knew their business and what was needed.

Price complete $4.75. Transportation charges paid.

THE ACCESSORY AND GARAGE JOURNAL

Times Building PAWTUCKET, R. I.

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THAT'S THE RESULT

When Gearset and Differential Cases Are Filled with Ordinary Oils or Greases.

SPEDOLENE

Will Solve All Lubricating Problems with Your Motor Car.

IT

Will not gum
Will not run out
Will not change chemically
Will not cause erosion or rust
Will not change with temperature variations.

SPEDOLENE

Is nearer 100 per cent. efficiency in lubricating quality, for gearsets, universal joints, differential gears, timing gears and worm gears than any other known oil or grease.

SPEDOLENE

Is the lubricant that kills heat. It is a combination of highest grade refined mineral oil and asbestos. It is the WONDER WORKER OF LUBRICANTS. It forms an enduring film between all contacting surfaces, it will penetrate any bearing and will not pack or harden.

Packed in 5, 10, 25, and 50 Pound Cans and Half Barrels and Barrels, and Shipped Under Seal.

Distributing Agencies Wanted In All Unassigned Territory.

DISTRIBUTORS:

J. R. Lakin, Detroit, Mich.
C. E. Burtis, Newark, N. J.
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Harry J. Frost, Pittsburg, Pa.
C. H. Mussey, Brooklyn, N. Y.
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Croft & Prentice, Havana, Cuba.
Davis-Rae Oil Co., Buffalo, N. Y.
Chas. E. Ball & Co., Newark, N. J.
Davis-Rae Oil Co., Rochester, N. Y.
Wade H. Jones & Co., Boston, Mass.
Lynn M. Buxton, Los Angeles, Calif.
Lawrence Auto Supply Co., Wheeling, W. Va.

Spedolene, Journolene, Asbestolene, Cupolene, Axolene and Gearolene.

TRADE MARK

This Shield is on every Package and Barrel.
Registered in U. S. Patent Office.

Continental Asbestos Corporation

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Worcester, Mass.

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October Number of MOTOR TRUCK

Will Specialize These Three National Events in One Edition

Detroit	New York	Philadelphia
October 7-10	**October 7-17**	**October 19-21**
The First National Convention of Motor Truck Manufacturers, Dealers, Owners and Allied Interests.	The Eighth Annual Electrical Exposition and Motor Vehicle Show.	Fifth Annual Convention of the Electric Vehicle Association of America.

LAST FORM CLOSES OCT. 14

LIGHT CAR CYCLECAR ACCESSORY SHOW

Horticultural Hall BOSTON, MASS.

OCTOBER 10 to 17, Inclusive

Will Be Specially Promoted by the Issue of The Automobile Journal to be Mailed Oct. 10

This will be the first exclusive Light Vehicle Show ever held in Boston, the commercial centre for a population of 9,000,000, in the richest and most productive motor car market of the nation. In the territory from which the show will draw are unlimited possibilities for business development.

To realize the fullest extent of the possibilities of this show liberal publicity in THE AUTOMOBILE JOURNAL, the one Magazine that occupies this field to the exclusion of all others, that affords certain returns for one advertising expense, with no duplication of circulation, is absolutely necessary.

AUTOMOBILE JOURNAL PUB. CO.

Times Building **Pawtucket, R. I.**

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PERSONAL NEWS OF THE INDUSTRY.

F. W. Pilling, Detroit, has accepted a position as eastern sales manager of the Briggs-Detroiter Company. He has been connected with the automobile industry for 10 years, and for the past four years has been associated with the Krit Motor Car Company.

F. W. Pilling, Eastern Sales Manager of the Briggs-Detroiter Company.

E. A. Gilmore, Boston, Mass., for years an agent for the Hudson car, and more recently partner in the Whitten-Gilmore Company, after a visit to the L-P-C Motor Company's factory at Racine, Wis., has taken the agency for the Lewis VI for eastern Massachusetts.

Marshal E. Lebon, New York City, has been appointed district representative for that territory by the Thomas B. Jeffery Company, Kenosha, Wis. He has been with the Jeffery organization since 1908 covering the wholesale end of the Boston branch.

George L. Willman, Detroit, formerly business manager of the Detroit Board of Commerce and assistant advertising manager of the Studebaker Corporation, has been appointed advertising manager of that firm.

C. H. Clement, Detroit, has resigned as chief engineer and sales manager of the Metal Products Company.

A. E. Landman, Los Angeles, Cal., has been appointed sales manager for the Don Lee Company, distributor of Cadillac cars in that territory.

A. W. Gilpin, Minneapolis, Minn., until recently manager of the Ford branch at Chicago, has been transferred back to his old position.

William C. Brackett, traffic manager of the Motor Car Dealers' Association of San Francisco, Los Angeles, Portland and Spokane, died recently.

S. H. Stern, East Orange, N. J., has been appointed Marmon sales manager for New Jersey, with headquarters at 494 Main street.

Louis E. Wagner, Detroit, has accepted a position as general sales manager for the Century Electric Car Company. He will tour the country to observe business conditions.

J. Herbert Teal, Chicago, resigned his position with the Uno Manufacturing Company, Inc., and is now specialty sales and advertising manager of Valentine & Co.

Joseph Kerrigan, New York City, has disposed of his interest in Partridge, Clark & Kerrigan, representative of several makes of cars in the Metropolis. His interests were purchased by Partridge, Clark and M. J. Swetland.

Herbert Chase, New York City, for the past five years laboratory engineer of the Automobile Club of America, has been promoted to the newly created post of chief engineer. Ferdinand Jehle has succeeded him in his former position.

E. A. Travis, Bridgeport, Conn., has been promoted to the position of assistant sales manager of the Locomobile Company of America, with headquarters at the factory. He was formerly branch manager for the Locomobile company at Boston, Mass. A. P. Hawes has succeeded Mr. Travis at the latter city.

Rene M. Petard, chief engineer of the L-P-C Motor Company, Racine, Wis., who has been trying one of the Lewis VI's in the Alps, has been ordered to report for duty as captain in the Reserve Engineering Corps of the French army. The car that he was testing was commandeered for the use of the colonel of the regiment.

Horace Dodge, Hugh Chalmers, Walter Briggs and Eugene Lewis, all prominent automobile men, are on the board of directors of the new Merchants National bank, which started business recently in Detroit.

L. C. Pickering, Des Moines, Ia., has been appointed manager of the Grant Distributing Company.

W. W. Tackerbury, Detroit, has become assistant general manager of the Puritan Manufacturing Company. He was formerly of the Metal Products Company.

H. R. Patterson, Muncie, Ind., has been appointed inspector for the Inter-State Motor Company. For some years past he had been foreman of the technical department of the Twyman Motor Car Company, Columbus, O.

C. A. Freeman, Detroit, has been appointed purchasing agent of the J. C. Wilson Company.

D. S. Dyer, Indianapolis, has become associated with the Nordyke & Marmon Company. He was formerly connected with the Moon Motor Car Company, St. Louis.

J. A. Charlton, Houston, Tex., has joined the sales force of the Overland Houston Company. He was formerly connected with the local branch of the Ford Motor Company.

W. A. Zimmerman, Buffalo, N. Y., has been appointed general sales manager of the Buffalo Electric Vehicle Company. He was formerly connected with the Mercury Motor Truck Company, Chicago.

R. G. Hargreaves, Detroit, has been appointed traffic engineer for the Federal Motor Truck Company.

E. R. Bronner, San Leandro, Cal., has been appointed superintendent and engineer of the Sequoia Motor Car Company.

Leslie H. Curtis, Crisfield, Md., has been appointed district manager for the Philadelphia territory by the Crow Motor Car Company, Elkhart, Ind.

H. S. Smith, Detroit, is now superintendent of the body division for the Packard Motor Car Company. He was formerly associated with the Dayton Motor Car Company.

Henry B. Joy, Detroit, president of the Packard Motor Car Company, has been appointed to a class "B" directorship of the federal reserve bank of Chicago.

J. M. Donohue, New York City, has resigned as sales manager of the American Voiturette Company, representative of the Keeton and Car-Nation cars in that section.

Bud Winter, Detroit, has opened an office at 605 Bamlet building and will represent the Perpetual Gas Saver Company of Riverside, Cal. He was formerly associated with the Universal Motor Truck Company.

J. A. Handin, Chicago, has been appointed manager of the new retail branch established by the Ford Motor Company, Detroit.

Harold T. Birnie, New York City, has joined the sales staff of the Simplex Motor Car Company. He succeeds Frank Bowen, who recently resigned.

A. T. Mosher, Indianapolis, has been appointed state representative for the Chalmers Motor Company. He was formerly associated with the sales department of the Nordyke & Marmon Company.

J. A. Martin, Vancouver, B. C., has been appointed Canadian sales manager of the Russell Motor Car Company. He was for the past four years manager of the local branch.

Charles Ferguson, Rhinelander, Wis., inventor of a new type of electric cranking device for automobiles, has been granted patents and is now arranging with local capital to manufacture and market the starter.

A. L. Turner, Boston, Mass., who has been with the Whitten-Gilmore company since 1908, has joined the sales force of the Nettleton-Crittenden company.

C. W. Howard, Detroit, has been appointed assistant sales manager of the Hupp Motor Car Company. He was formerly a member of the travelling staff.

John H. Campbell, Detroit, who, it was stated in these columns recently, was to have charge of the Birmingham, Ala., branch of the Paige-Detroit Motor Car Company, is not to be so engaged, as the company does not operate or have any connection with any branches.

W. C. Howard, Assistant Sales Manager of the Hupp Motor Car Company.

R. P. Dowse has been appointed sales representative of the Kelly-Springfield Tire Company, New York City. He was formerly identified with the Goodyear Tire & Rubber Company, Akron, O.

C. Roy Clough, Columbus, O., has accepted a position as sales manager of the Broad Oak Automobile Company.

D. B. Webster, Indianapolis, has accepted a position as assistant mechanical engineer of the National Motor Vehicle Company. He was formerly experimental engineer of the Hudson Motor Car Company, Detroit.

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NEW AND ATTRACTIVE LINES.

MAKES DESIRABLE LINE.

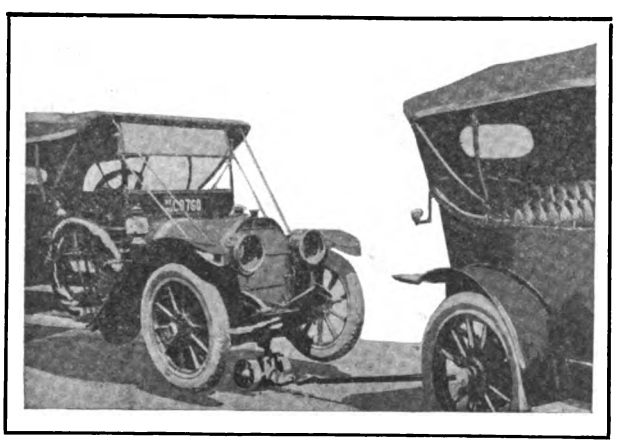
Rub-On Manufacturing Company Marketing Products in Demand the Entire Year, Also Auto Turn Jack.

The Rub-On Manufacturing Company, Buffalo, N. Y., is marketing a line which is in demand the entire year, one that is easily stocked and yields good returns upon the investment. Among the standard articles produced by this company are a radiator mending preparation, lamp enamels, body, top and upholstery dressings and renewers, leather dyes, body finish, etc. These products are put up in attractive containers, and to obtain results for the garage, dealer and repairman handling the line the company is making a special offer of a cabinet for displaying the goods. These cabinets are neatly made, are mission finished, trimmed with brass and have neat glass doors. Locks are provided, by means of which the contents can be secured.

Auto Turn Jack Under Rear Axle.

One of the leaders of the line is a combination auto towing and turn jack, which is a practical and handy device for the garage, as by it cars may be moved about the building, eliminating the need of a turntable, and wrecks may be towed in. The jack is sturdily constructed and will stand all of the stresses produced by cobblestone pavements, rutty country roads, etc., and runs remarkably easy. The wheels have a three-inch face and Hyatt roller bearings are fitted on a case-hardened removable steel axle. Two interchangeable handles are supplied, the regular type being utilized in the garage and the telescopic member for towing.

Accompanying illustrations show the practicability of the jack. That at the top depicts the jack supporting



Towing a Wrecked Car with Auto Towing and Turn Jack Clamped to Front Axle.

the rear axle of a machine in the garage, enabling the operator to move it in cramped quarters. The second view shows the combination jack clamped to the front axle of a heavy machine which requires towing. As may be noted, there is ample clearance between the wheels and housing and the brace rods do not interfere. The telescopic handle is extended and rigidly braced to the front axle. The jack is as serviceable for suspending the front axle. A postcard will bring descriptive matter, including data showing the profits made by handling the Rub-On Manufacturing Company's line.

NEW FORD ACCESSORIES.

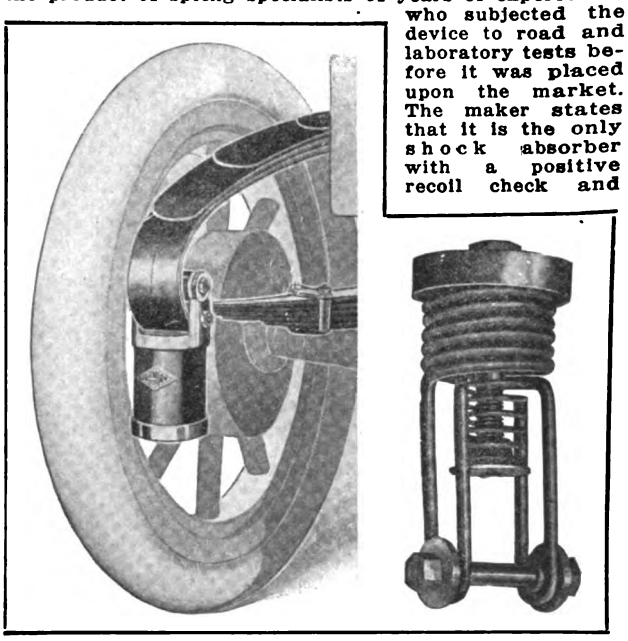
Perkins-Campbell Company Issuing Catalogue of Equipment for Ford and Other Vehicles.

The Perkins-Campbell Company, 603 Broadway, Cincinnati, O., manufacturer of high-grade motor car accessories and equipment, including the Campbell water proof seat covers for all pleasure vehicles, is issuing a new catalogue containing details and illustrations of a large number of new specialties. The company is marketing a new type of carburetor for the Ford motor, which is held to make starting easy, as well as to add considerably to its power. The catalogue will be forwarded free upon request.

JOHNSON SHOCK ABSORBER.

Has a Positive Recoil Check, Which Adjusts Itself to Load Changes and Adjustment Is Provided.

The Johnson shock absorber, marketed by the Triple Action Spring Company, 58 East 28th street, Chicago, is the product of spring specialists of years of experience, who subjected the device to road and laboratory tests before it was placed upon the market. The maker states that it is the only shock absorber with a positive recoil check and



Johnson Shock Absorber.

which adjusts itself to load changes. It has an adjustment for extreme load and road conditions, which may be easily and quickly operated.

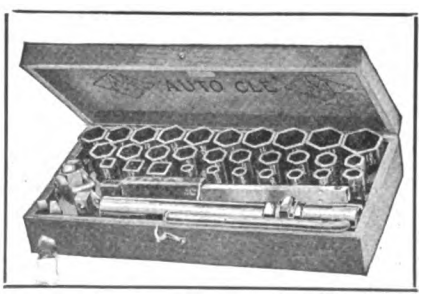
Two views of the Johnson shock absorber are shown herewith. One depicts the device attached to the rear springs of a car and the other illustrates its construction. As may be noted, there are two massive intercoiled spiral springs, which carry the load and absorb the shocks. These springs are constructed of the finest tempered alloy steel. Inside of the springs is a slightly lighter coil, which takes the lighter shocks and eliminates the recoil effect.

The maker calls attention to the large profits and quick sales possible with his product and has a dealers' and distributors' proposition open for a large amount of territory for 1915. Particulars will be forwarded upon the receipt of a letter or a postal card.

MOSSBERG AUTO CLE.

A Standard Tool with Sockets That Is Backed by the Well Known Mossberg Guarantee.

The Frank Mossberg Company, Attleboro, Mass., is issuing a new catalogue, 16 A, which describes and illustrates all types of wrenches used in the garage and repair shop, as well as those in demand among owners. A popular type of wrench with the repairman and the trade is the Mossberg Auto Cle set, shown in the accompanying illustration. The maker lays great emphasis on the efficiency of this tool,



Mossberg Auto Cle.

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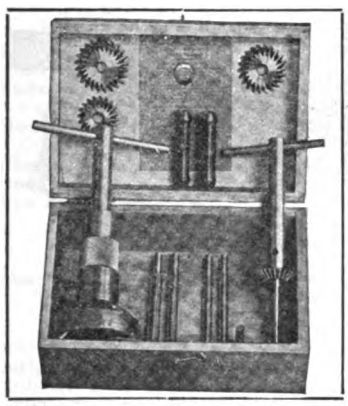
stating that no adjustment is impossible to make with it. Having a large number of hardened pressed steel sockets, the equipment is a great time and labor saver when working on the motor vehicle. The Mossberg catalogue will be mailed free for the asking.

IMPROVED VALVE RESEATER.

Changes in the Well Known Fosnacht Tool, Which Is Adaptable to All Types of Motors.

The Fosnacht valve reseater, one of the oldest tools on the market and standard equipment in a large number of repair shops and service stations, has been improved in several ways and is now being offered to the trade with the same guarantee that covered the earlier design. Formerly it consisted of five standard chucks, but these have been replaced by two universal members, which permit a wide variety of work in that they will accommodate valve stems from 5/16 to ½-inch diameter, inclusive.



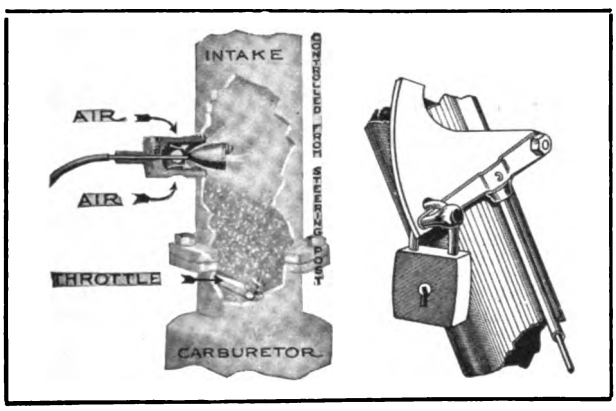
New Fosnacht Valve Reseater.

The reamers have been improved and with the Fosnacht equipment valves from 1½ to 2⅝ inches may be reseated accurately with a minimum of labor and time. The tools are built accurately and are designed to withstand severe service. Their practicability is indorsed by hundreds of users, and garages and repair shops will do well to investigate the merits of the Fosnacht, which is marketed by H. G. Paro, 30 North Michigan boulevard, Chicago.

SAUNDERS GASOLINE SAVER.

Is Operated by a Lever on Steering Column and Includes Locking Device, Preventing Use of Car.

The Powers Sales Company, 122 South Michigan avenue, Chicago, is marketing the Saunders gasoline saver, shown herewith, a device that retails for $5 and which the maker states is one of the best sellers of the season. From 25 to 50 per cent. fuel economy is claimed for the Saunders, which is operated by a lever under the steering wheel convenient to the driver. It provides control of the mixture when the motor is operating and eliminates the need of readjusting the carburetor to meet climatic changes, etc. The Saunders is easily attached, and



Saunders Gasoline Saver and Motor Lock.

the equipment provides for locking it in such manner that the motor cannot be operated. Complete details and prices will be supplied upon request.

A TRADE OPPORTUNITY.

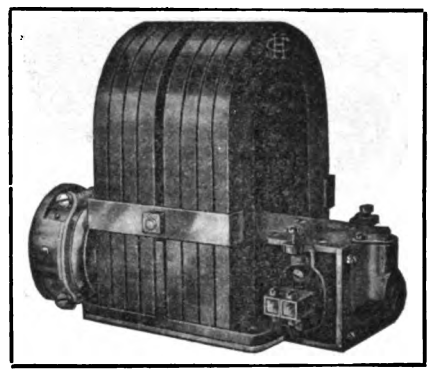
Territory Open for Ball Carbon Remover Made by the Bowling Green Sales Company.

Announcement is made by the Bowling Green Sales Company that territorial rights are open for Ball carbon remover, the preparation that is held to remove carbon and other deposits in the cylinders without dismantling the motor and in record time. The material is a chemical compound put up in tablet form, and not only is it stated that the carbon is displaced, but a film of lubricating deposit is left in the cylinders, etc. The maker has a large number of testimonials from users of its product. Its offer and territory proposition will be made clear by addressing department A of the Bowling Green Sales Company, 42 Broadway, New York City.

MAGNETO GENERATOR.

The Holtzer-Cabot Electric Company Marketing a Moderately Priced Electric Lighting Equipment.

To meet the demand for a moderately priced electric lighting equipment, the Holtzer-Cabot Electric Company, Brookline, Mass., is producing the Holtzer-Cabot magneto generator, which is not only a very compact instrument, but one that is particularly adaptable to the used car. One of the desirable qualities of the generator is that it can supply current direct for lighting purposes, as well as maintain a storage battery in a fully charged condition. The cells are charged through a cut-out, and a feature of the generator is that it can be operated in either direction. The wiring plan is simple and the magneto requires but little power to operate. The design is particularly adaptable to the Ford and small cars, as well as medium sized machines. The company issues a booklet, A-1807, which contains a complete description of the system, as well as valuable information on lighting the used car by electricity.

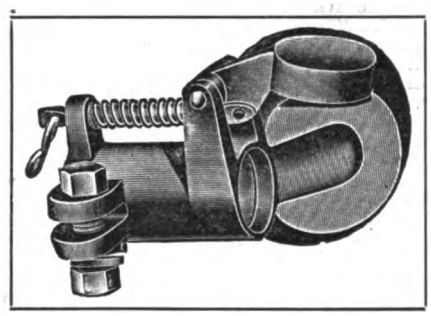


Holtzer-Cabot Magneto Generator.

TREMO HORN FOR FORDS.

The D. Henry Bonner Company Offers an Attractive Proposition in an Exhaust Type of Signal.

The D. Henry Bonner Company, manufacturer of the Tremo horn, is offering a special discount to the trade, the details of which will be supplied upon request. The Tremo horn is operated by the exhaust of the motor and one of its desirable qualities is that it can be attached easily and without any alteration or machining whatever. As may be noted by the accompanying illustration, the Tremo comes equipped with a special clamp for attaching to the exhaust pipe of the muffler. The design shown is for the Ford car. The Tremo is made for all types of gasoline motor vehicles and a perfect signal is obtained at all motor speeds. The maker guarantees his product against clogging.



Tremo Horn for Ford Cars.

BLUE RIBBON GOODS.

International Metal Polish Company Has Attractive Line for Dealer, Jobber and the Trade.

Blue Ribbon goods are strictly high class and fully guaranteed by their maker, the International Metal Polish Company, Indianapolis, Ind., for which W. A. Blackburn, 335 Broadway, New York City, is eastern distributor. Among the Blue Ribbon specialties are: Metal polish, nickel polish, auto body gloss and radiator leak proof cement. The company calls especial attention to the last named preparation in view of the approach of cold weather, when the radiator must needs be leak proof if an anti-freezing solution is to be used.

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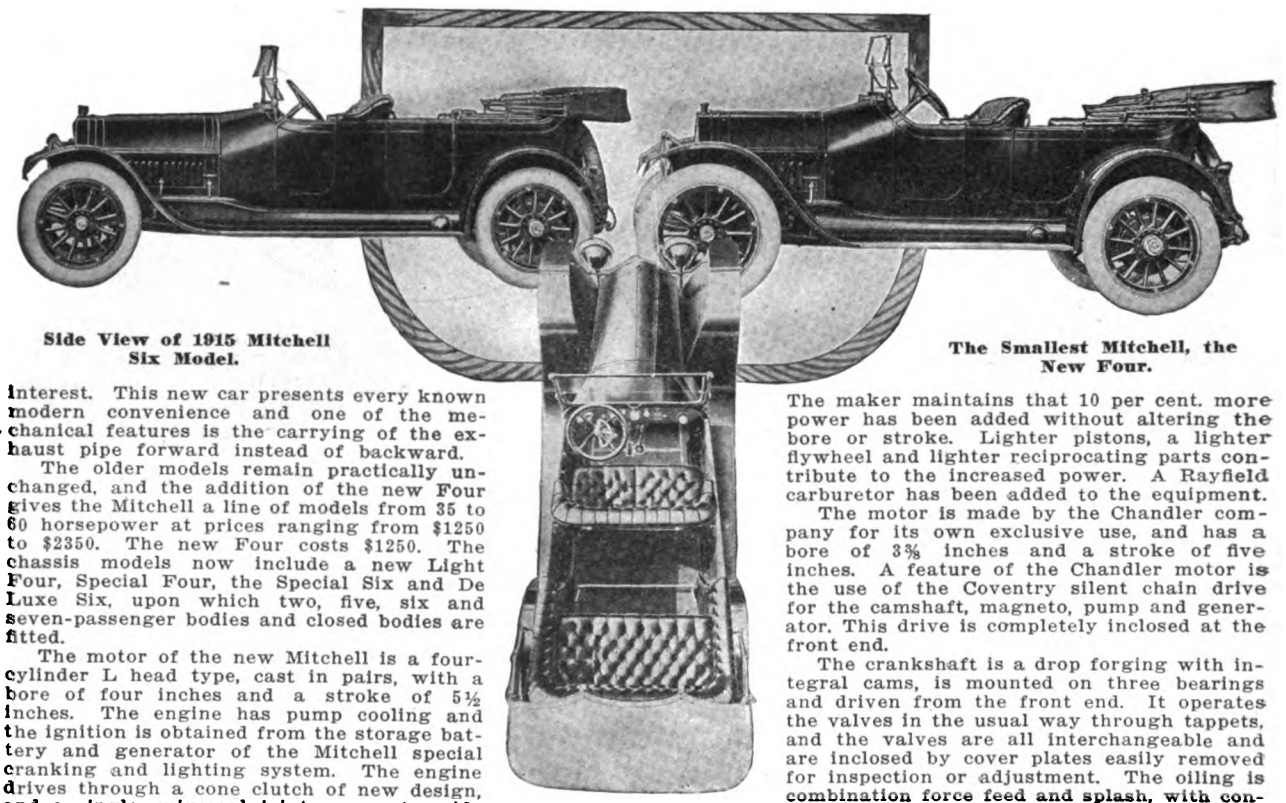
MITCHELL BRINGS OUT FOUR.

Light 1915 Model Is Introduced to Sell For $1250.

Featured by a new four-cylinder, 35-horsepower model, the 1915 announcement of the Mitchell-Lewis Motor Company, Racine, Wis., created more than the usual interest. This new car presents every known modern convenience and one of the mechanical features is the carrying of the exhaust pipe forward instead of backward.



Side View of 1915 Mitchell Six Model.

The Smallest Mitchell, the New Four.

Showing Seating Arrangement of the New Four.

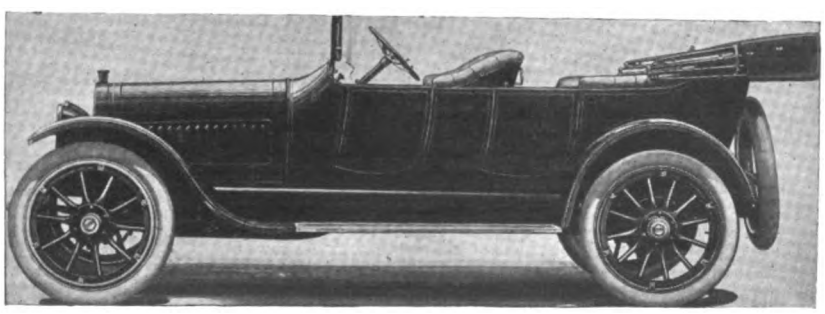
The older models remain practically unchanged, and the addition of the new Four gives the Mitchell a line of models from 35 to 60 horsepower at prices ranging from $1250 to $2350. The new Four costs $1250. The chassis models now include a new Light Four, Special Four, the Special Six and De Luxe Six, upon which two, five, six and seven-passenger bodies and closed bodies are fitted.

The motor of the new Mitchell is a four-cylinder L head type, cast in pairs, with a bore of four inches and a stroke of 5½ inches. The engine has pump cooling and the ignition is obtained from the storage battery and generator of the Mitchell special cranking and lighting system. The engine drives through a cone clutch of new design, and a single universal joint gear set amidships gives three speeds forward and a reverse selectively. The drive is on the left and the control is centred.

The starting, lighting and ignition are taken care of by the Mitchell special generator electric system. A single-unit motor generator is carried on the right side of the crank case and driven by a silent chain completely inclosed in the cast distribution gear case. The motor generator is hung from the trunnions at either end and can be easily lifted out of its cradle when desired. It is geared at a low driving ratio, only 2.7 turns of the starting motor to one of the crank shaft.

Cooling is by a finned tubular radiator, and the connection to the water jackets on the cylinders is by a two-outlet, tapered manifold, with heat proof steam hose between engine and radiator. The radiator is braced by a short rod paralleling the hose to the motor. This is an innovation that adds simplicity to the mechanism and, by eliminating the top bar from the radiator to the dash, greatly improves accessibility when the engine bonnet is removed.

The keynote of the body design is its clean lines. The running boards are long and wide. They are covered with linoleum, which is edged with aluminum. The gear and emergency brake levers are in the centre of the car at the driver's right, and far enough forward to permit the occupant of the front seats to leave or enter easily from either side. All of the indicating devices and instruments are mounted on the cowl board.



Chandler Five-Passenger Six.

NEW 1915 CHANDLER SIX.

Company Makes but Few Changes from Its Previous Product.

Entering the third year of its existence, the Chandler Six, made by the Chandler Motor Car Company, Cleveland, O., shows but few changes in the new 1915 model.

The maker maintains that 10 per cent. more power has been added without altering the bore or stroke. Lighter pistons, a lighter flywheel and lighter reciprocating parts contribute to the increased power. A Rayfield carburetor has been added to the equipment.

The motor is made by the Chandler company for its own exclusive use, and has a bore of 3⅜ inches and a stroke of five inches. A feature of the Chandler motor is the use of the Coventry silent chain drive for the camshaft, magneto, pump and generator. This drive is completely inclosed at the front end.

The crankshaft is a drop forging with integral cams, is mounted on three bearings and driven from the front end. It operates the valves in the usual way through tappets, and the valves are all interchangeable and are inclosed by cover plates easily removed for inspection or adjustment. The oiling is combination force feed and splash, with constant level maintained under each connecting rod. A stream of oil is forced by the oil pump to each of the three main bearings, and another lead takes a supply to the chains at the front. All exterior oil piping has been eliminated by locating the pump in the oil base. An accessible filling tube for oil is placed in the left side, back of the magneto.

FRANKLIN LOWERS PRICE.

Touring Car Has Been Reduced $150 and the Coupe $350.

The H. H. Franklin Manufacturing Company, Syracuse, N. Y., announces a general reduction of prices for the 1915 Franklin series. The 1914 price for the touring car and roadster has been reduced $150, now being $2150; the coupe has been cut from $2950 to $2600, the sedan from $3200 to $3000, and the berline from $3400 to $3200.

The seats in the touring car and roadster this year are higher and the body larger. A shutter effect in front of the sloping hood has been adopted instead of the grill type window used in previous models. The Dyneto cranking and lighting system supplants that used in 1914, but the general features of the new system are the same as in the older.

Another important change is the adoption of the skew bevel, or worm bevel, as it is sometimes called. This takes the place of the bevel gear rear axle used last year. It is claimed to be quieter and is a much desired drive, especially on inclosed cars where the hum of the bevel gears reaches the passenger compartments.

The motor is a six-cylinder, the cylinders being separately cast, and it has a bore of 3⅝ and a stroke of four inches. With the exception of the manifold changes, which are redesigned throughout, the air-cooled motor is substantially the same as before.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham—King, Coxe Motor Sales Co.
Moon, Chaffin Auto Co.
Paige, Morris Westall Auto Tire Co.
*Koehler, Drennen & Co.
Florence—Maxwell, McRae Motor Car Co.
Gadsden—*Koehler, Etowals Warehouse Co.
Montgomery—*Koehler, Patterson & Ingalls.
Phoenix—KisselKar, Ball Auto Co.
Russellville—Maxwell, C. H. Wilson.
Tuscaloosa—KisselKar, J. T. Pullen.

ARIZONA.

Phoenix—Jeffery, McArthur Bros.
Metz, Cole Motor Co.

ARKANSAS.

Little Rock—King, Shoemaker Bale Auto Co.
Pine Bluff—Studebaker, L. B. Bracken and C. H. Montague.

CALIFORNIA.

Leemore—Haynes, Valley Garage.
Los Angeles—Car-Nation, Herbert T. Brown.
Crescent, Smith Bros.
King, William R. Reuss.
Maxwell, Peacock Motor Co.
Peerless, Smith Bros.
Premier, Smith Bros.
Oakland—Metz, Cole Motor Co.
San Francisco—Hupmobile, Linz-Sanborn Motor Co.
San Jose—Paige, Normandin-Campen Co.
*Kelly, Normandin-Campen Co.
Stockton—Haynes, White Garage.
Vallejo—Haynes, Acme Garage, Inc.

COLORADO.

Denver—Chalmers, Western Motor Car Co.

CONNECTICUT.

Bridgeport—Herff-Brooks, Fairfield Auto Co.
Hartford—Herff-Brooks, E. H. Harris.
Stearns, The Britton Co.
*Vim, Keeney Garage.

DELAWARE.

Wilmington—Haynes, Delaware Touraine Co.

DISTRICT OF COLUMBIA.

Washington—Haynes, Briscoe Sales Co.
King, William P. Barnhart & Co.
Knox, Knox Motors Co.
Metz, Cartercar Sales Co.
Mitchell, Mitchell Sales Co.
Reo, Smith-Trew Motor Co.
*Bessemer, Commercial Garage.
*Vulcan, Commercial Garage.

FLORIDA.

Gainesville—Cole, Gainesville Motor Car Co.
Jacksonville—King, Central Garage.
Miami—Herff-Brooks, Belcher Auto Co.
Tampa—Cole, West Coast Automobile Co.

GEORGIA.

Atlanta—Haynes, Pegram Motor Co.
*Maccarr, D. E. MacCarthy & Son.
Macon—Haynes, George R. Napier.
Savannah—Haynes, Arthur H. Hadden.

IDAHO.

American Falls—Detroit, A. W. Davis Auto Co.
Kellogg—Chevrolet, W. W. Papesh.
Lozier, W. W. Papesh.
Twin Falls—Detroiter, Pike Auto Co.

ILLINOIS.

Albany—Saxon, J. W. Dineen.
Bethany—Haynes, Hudson & Scott.
Centralia—Cole, Centralia Garage & Vulcanizing Co.
Chicago—Herff-Brooks, Chicago Great Western Motor Car Co.
Clifton—Herff-Brooks, A. N. Grossaint.
Clinton—Herff-Brooks, Arthur Shaw.
Decatur—Herff-Brooks, Rehling Bros.
Deer Plain—Cole, R. L. Meyer.
Hammond—Haynes, E. B. Leavitt.
Jerseyville—Cole, W. Sheppard.
Johnson City—Saxon, Colp Mercantile Co.
Joliet—Haynes, Joliet Motor Co.
Mahomet—King, George W. Carter.
Olney—King, A. E. Hill.
Saxon, Auto Supply Co.
Peoria—Haynes, Automobile Exchange of Peoria.
Herff-Brooks, Henry Hoopes.
Pontiac—Haynes, J. P. Cook & Co.
Port Byron—King, S. R. Wainwright.
Princeton—Haynes, Alpaugh Bros.
Quincy—King, Great Western Sales Co.
Ramsey—Haynes, L. F. Strobel.
Springfield—Herff-Brooks, Baker & Baker.
Washington—King, Washington Garage.

INDIANA.

Angola—Haynes, Hendry & Elston.
Bloomington—Cole, College Avenue Garage.
Evansville—Ford, Korb Co.
Fort Wayne—Cole, Fort Wayne Iron Store Co.
King, Onhaus Automobile Co.
Hillsboro—Cole, Byron Heesler.
Huntington—Cole, John E. Miller.
Indianapolis—King, W. J. Fitton & Co.
Kendallville—Herff-Brooks, Zoller Bros.
Kokomo—Buick, Edward Neary.
Cole, C. F. Seward & Son.
Michigan City—Cole, W. J. Grieger.
Needham—Cole, L. M. Megee.
Portland—Haynes, Fred Foltz.
Redkey—Saxon, Redkey Garage.
Valparaiso—Haynes, Wheeler Elam Co.
Vincennes—Cole, W. A. Miller.

IOWA.

Armstrong—Herff-Brooks, R. E. Burt.
Aurelia—King, Julius Jordan.
Cedar Rapids—King, Hawkeye Distributing Co.
Chester—Herff-Brooks, Jones Hdw. Co.
Clinton—Saxon, Saxon Motor Co.
Corydon—Haynes, Wayne County Auto Co.
Council Bluffs—Cole, C. H. Robertson.
Cresco—Haynes, Woods & Milz.
Des Moines—King, Holsman Sales Co.
Eagle Grove—Haynes, Middleton Auto Co.
Grinnell—Haynes, William P. Watson.
Iowa City—Cole, H. A. Knease & Sons.
Luana—Herff-Brooks, G. F. Lindroth.
Muscatine—Cole, Denham & Smalley Motor Co.
Oelwein—Cole, J. C. Knapp.
Ottumwa—Cole, Johnson Motor Car Co.
Shenandoah—Franklin, Franklin Car Co.
Sioux City—Herff-Brooks, Adams Auto. Co.
State Center—King, Eckhardt & Hilleman.
Waterloo—Herff-Brooks, Wagner Wood Auto Co.
Waverley—Herff-Brooks, C. Hohnsbehn.
Zearing—King, Hease Bros.

KANSAS.

Chanute—Cole, E. W. Weiner.
Fort Scott—Cole, Central Garage.
Garnett—Cole, J. J. Anderson & Son.
Iola—Cole, J. G. Mittelback.
Kingman—Franklin, Arrington Lumber & Mercantile Co.
Manhattan—Cole, Hiner & Paige.
Ottawa—Cole, Troup Bros.
Paola—Cole, C. C. Hoover.
Strong City—Cole, Dr. J. Hinden.
Topeka—Cole, George R. Evans.
Wichita—Regal, Regal Motor Co.
Yates Center—Cole, Stell Bros.

KENTUCKY.

Barbourville—Ford, W. H. McDonald.
Lexington—Ford, Commercial Auto Co.
Louisville—Dodge, Southern Motors Co.
Jeffery, R. W. Jones and G. C. McConnell.
King, F. E. Van Patton.
Williamsburg—Crescent, Electric Garage Co.

LOUISIANA.

Alexandria—King, Fuselier Motor Car Co.
Blankston—Herff-Brooks, Hopewell Planting Co.
New Orleans—King, August Stef.

MARYLAND.

Salisbury—Haynes, Peninsula Motor Co.

MASSACHUSETTS.

Boston—King, Artemas Ward.
Maxwell, Peacock Motor Co.
Mitchell, Pope-Hartford Co. of Boston.
R-C-H, David Houston.
Northampton—R-C-H, T. J. Collins.
Springfield—Empire, H. B. Trask.
Swampscott—Herff-Brooks, Harry M. Doane.
Worcester—Franklin, F. B. Williams.
Pullman, Peter Welin.

MICHIGAN.

Detroit—Briscoe, Eininger McHugh Co., Inc.
Detroiter, McKenney-Devlin Co.
Dodge, Thomas J. Doyle.
Haynes, McKenney-Devlin Co.
King, Monarch Hdw. Co.
Monarch, Owen-Schoeneck Co.
Premier, Fashion Garage.
R-C-H, E. W. K'Burg.
Howell—Buick, C. B. Atkin.
Lansing—Briscoe, A. W. & H. L. Brown.
Mt. Pleasant—King, A. Z. Campbell.
Pontiac—King, Pontiac Motor Sales Co.
Port Huron—Buick, George E. Yokum.
Saginaw—Ford, Hubbel Auto Sales Co.

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MINNESOTA.

Cottonwood—Haynes, A. O. Hovdesven & Son.
Minneapolis—King, Martin Motor Sales Co.
Lewis, C. & S. Motor Car Co.
Moline, Morton Brown Motor Co.
Oldsmobile, John E. Fawkes.
Overland, Union Motor Car Co.
R-C-H, Choate Auto Co.
Princeton—Cole, S. P. Skahon.
St. Paul—Lewis, C. & S. Motor Car Co.

MISSISSIPPI.

Duck Hill—King, E. E. Wilkins.
Meridian—Haynes, John H. Simmes Motor Co.
Starksville—Cole, D. O. Slaughter.

MISSOURI.

Bridger—Haynes, Dowdle & Hough.
Drexel—Cole, C. H. Paulk.
Kalispell—Hudson, F. D. Stoop.
Kansas City—Allen, Jackson Motor Co.
Briscoe, Bond Motor Co.
Car-Nation, Apple Motor Co.
Chandler, E. C. Eads.
Reo, Sutcliffe Reo Auto Co.
Saxon, Bond Motor Co.
Sedalia—Herff-Brooks, Richmond Motor Car Co.
St. Joseph—Studebaker, Kinsey Motor Car Co.
St. Louis—King, Heinrich Automobile Co.
Versailles—Cole, Crewson & Monsess.
Wyanconda—Herff-Brooks, Kerner Bros.

NEBRASKA.

Fremont—Haynes, Leslie L. Whitcomb.
Gering—Franklin, C. C. Hampton.
Lincoln—Herff-Brooks, A. B. A. Auto Co.
Omaha—Herff-Brooks, A. B. A. Auto Co.
Saxon, Liniger Implement Co.
Schuyler—Haynes, Douglas Grotluschen.

NEW HAMPSHIRE.

Dover—Pullman, Granite State Garage.
Manchester—Pullman, H. L. Lamprey.
Winton, August Van der Wolke.

NEW JERSEY.

Newark—Saxon, Essex Motor Co.
Swedesboro—Haynes, H. F. Hunter.

NEW YORK.

Bergen—*Koehler, G. E. Parish.
Binghamton—Chandler, Binghamton Motor Car Co.
Buffalo—Haynes, A. L. Dixon.
East Aurora—King, B. A. Burgett.
Ithaca—Franklin, F. A. McClune.
Lestershire—King, Charles H. Wakeman.
New York—King, Artemas Ward.
Lexington, Partridge, Clark & Kerrigan.
Oswego—Herff-Brooks, Ontario Motor Car Co.
Schenectady—Herff-Brooks, W. W. Primmer.
Syracuse—King, Ferdinand Crosby.
Utica—Herff-Brooks, L. J. Zobel.
King, Fred Klopfanstein.
Westbury—*Koehler, Michael J. Knipfing.

NORTH CAROLINA.

Charlotte—Pullman, Auto Sales Co., Inc.
Kinston—Saxon, Kinston Garage.
Raleigh—King, Raleigh M. C. Co.

NORTH DAKOTA.

Hillsboro—Haynes, Helgo Bros.
New Salem—King, Schultze & Toppins.

OHIO.

Alliance—King, Alliance Motor Supply Co.
Archbold—Haynes, Haynes Auto Sales Co.
Bellefontaine—Saxon, Hornsberger Garage.
Canal Dover—Chandler, Dover Automobile Co.
Cedar Hill—Paige, C. E. Hartman.
Cincinnati—Packard, Citizens' Motor Car Co.
Cleveland—Haynes, W. H. Barger Co.
Herff-Brooks, Brandt Motor Car Co.
Columbus—Allen, Snyder Automobile Co.
Buick, Oscar Lear Motor Car Co.
Empire, S. W. Schott.
Hudson, Standard Motor Car Co.
King, Auto Inn & Exchange.
Krit, Cummins Auto Sales Co.
Maxwell, Pearson Motor Car Co.
Paige, Central Auto Vehicle Co.
Premier, Edward Miller.
Wahl, Garther Automobile Co.
Winton, E. J. Thornton.
*Commerce, Coates Motor Co.
*Federal, Coates Motor Co.
*Republic, Coates Motor Co.
Convoy—Saxon, W. G. Campbell.
Coshocton—Allen, W. E. Layman.
Oldsmobile, W. E. Layman.
Dayton—National, Schrieber-Boorse Motor Car Co.
Paige, Paige-Toledo Co.
Hallsville—Paige, H. S. Boecher.
Hillsboro—Ford, Hillsboro Motor Co.
Kenton—Grant, W. S. Snyder.
Lima—Buick, Independence Motor Co.
Chalmers, W. E. Rudy.
Cole, Thomas Motor Car Co.
Ford, Bertram & Friedley.
Hudson, Baxter Bros.
Lewis, Shappell Auto Sales Co.
Partin-Palmer, Shappell Auto Sales Co.
Studebaker, E. H. Hawisher.
Logan—Paige, Theodore Johnson.
Louisville—Herff-Brooks, G. F. Munk.
Newark—Saxon, Warren S. Weiant, Jr.
New Philadelphia—King, Moffitt & Kneuss.
Old Fort—Herff-Brooks, C. C. Drown.
Radnor—Paige, Frank Coonfare.
Richwood—Paige, R. G. Roberts.
Spencerville—Haynes, American Motor Sales Co.
Toledo—Haynes, William Wheaton.
King, Maumee Motor Car Co.
Lozier, Litchie Automobile Co.
Mitchell, H. E. Throne.
Reo, Smith-Trew Motor Co.
Wooster—*Koehler, Rice & Wacker.
Youngstown—Haynes, Electric Auto Service Co.
King, J. Ralph Seidner.

OKLAHOMA.

Tulsa—Cole, Chapple Bros.

PENNSYLVANIA.

California—Haynes, Duff Garage.
Chapman Quarries — Herff-Brooks, Roberts Motor Car Co.
Connelsville—King, Connelsville Garage Co.
Cressona—Herff-Brooks, I. A. Reber.
Easton—Haynes, Keifer & Steele Motor Co.
Erie—Haynes, Wolverine Motor Co.
Pullman, Erie Penn Auto Co.
Fayette City—Haynes, J. B. Sloterbeck & Son.
Franklin—Haynes, George K. Moffett.
Greensburg—Haynes, F. M. Seanor Motor Co.
Greenville—Haynes, Gillespie & Holden.
Hanover—Herff-Brooks, D. B. Lau.
Philadelphia—*Garford, Garford Philadelphia Co.
Pulaski—Cole, John M. Reed.
Punxsutawney—Haynes, Edelblute & Olson.
Reading—Haynes, L. H. Fisher.
Pullman, Motor Supplies Co.
Snyders—Herff-Brooks, Holliday Motor Car Co.

RHODE ISLAND.

Providence—Cadillac, Cadillac Co. of Boston.

SOUTH CAROLINA.

Abbeville—Cole, A. M. Stone.
Charleston—Haynes, Palmetto Garage Co.
Columbia—Haynes, Haynes Motor Car Co.
Honea Path—*Koehler, McKenzie & Monroe.
Walterboro—King, Walterboro Garage.

SOUTH DAKOTA.

Fargo—R-C-H, Bruening Bros.

TENNESSEE.

Chattanooga—Car-Nation, Miller Bros.
Nashville—Buick, Nashville Motor Car Co.
Car-Nation, Chester Motor Car Co.
Ford, Hartsfield Automobile Co.
King, Alexander Bennie & Co.
Mitchell, Burton Auto Co.

TEXAS.

Brownsville—Haynes, Hinckley Auto Co.
Brownwood—King, Joseph Hall.
San Antonio—King, Guarantee Motor Car Co.
Studebaker, Collins-Clem Auto Co.
Waco—Hudson, Willis-Halff Co.

VIRGINIA.

Clifton Forge—Haynes, W. G. Mathews.
Fredericksburg—Saxon, W. A. Richards, Jr.
Gig—Haynes, Charles J. Hitchens.
Hampton—Franklin, J. V. Bickford.
Harrisburg—Haynes, Kavanaugh Garage.
Monterey—Haynes, Kyle Garage Co.

WASHINGTON.

Dayton—Haynes, W. K. Bloome.
North Yakima—Haynes, Central Auto & Supply Co.
Seattle—King, F. H. Bardshar.
Mercer, Pacific Coast Agency.
South Bend—Maxwell, Soule & Round.
Spokane—Chevrolet, Moylan-Reilly Auto Co.
Lozier, Moyland-Reilly Automobile Co.
Saxon, Hodgins & Fosdick.
Walla Walla—Haynes, G. G. Schneller.

WEST VIRGINIA.

Charleston—Haynes, W. Hoferer & Son.
Huntington—Haynes, Walter L. Robinson.
Princeton—Haynes, Princeton Motor Garage.

WISCONSIN.

Darlington—King, H. J. Gallagher.
Milwaukee—Haynes, W. H. Diener.
King, Schreiber-Borse Motor Co.
Lewis, Burgette Auto Co.
Mitchell, F. H. Lucas.
Overland, L. E. Bowman.
Pathfinder, F. G. Hensler.
Regal, Regal Motor Co.
New London—R-C-H, New London Hdw. Co.
Prairie du Chien—Saxon, Harris Auto Co.
Seymour—Saxon, Otto Motor Co.

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NEW MACHINERY AND EQUIPMENT.

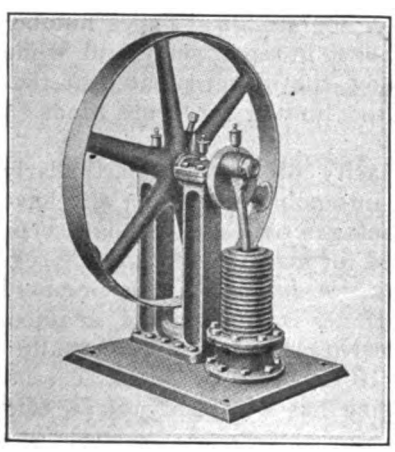
DIAMOND Saw & Stamping Works, Buffalo, N. Y., specialist in hacksaw blades and frames, is manufacturing a variety of power hacksaw machines to meet the requirements of motor car repairing. These are made under the trade name of Sterling and that shown in the accompany illustration is the No. 1.

Sterling Power Hacksaw.

The machine combines a number of practical features, the most noticeable of which is that it is driven by milled gears, permitting use of a narrow belt. Another feature is the automatic shut-off, the saw being stopped on the backward stroke, which throws the belt from a tight to a loose pulley. Gravity feed is utilized, minimizing buckling or breaking of the saw, and the weight can be adjusted to obtain the best results on the work. The swivel vise, cutting any angle up to 45 degrees, is interchangeable.

THE PHILADELPHIA COMPRESSOR.

The Philadelphia Timer & Machine Company, 51st street and Lancaster avenue, Philadelphia, is manufacturing a number of compressors for garages, etc. That shown in the accompanying illustration is a single-cylinder, straight belt driven stationary compressor, and is known as the type C.



Philadelphia Compressor.

The compressor is air-cooled, has a bore of 2½ inches and stroke of three inches, and a capacity of 1.6 free air at 200 revolutions a minute.

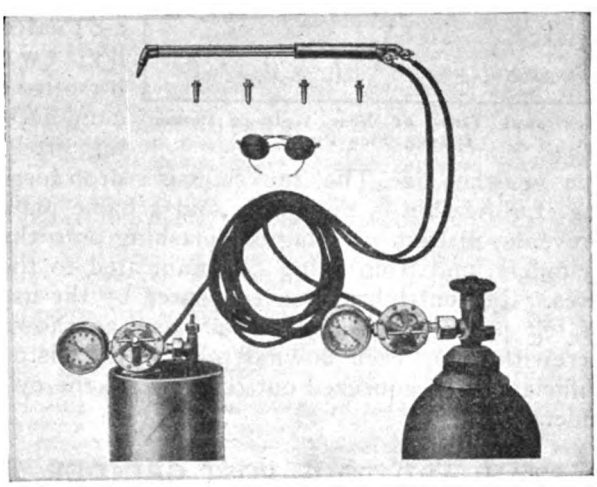
APCO SPINDLE ARM BOLT.

The Auto Parts Company, Providence, R. I., maker of the Apco line of specialties, is manufacturing an anti-rattling spindle arm bolt for the Ford car. The bolts come with a bushing and are constructed of a high-grade steel, hardened and ground.

WATERHOUSE WELDING OUTFIT.

The Waterhouse Welding Company, Pelham street, Boston, Mass., which has been producing welding equipments, etc., since 1907, is manufacturing a number of outfits for the garage and repair shop, one of which, a moderately priced equipment, is shown herewith. This outfit was designed especially for the small garage, is sold on a two weeks' trial, and is constructed with the same care and high-grade material characteristic of the products of the company.

The Waterhouse torch is stated to be constructed upon an entirely different principle from any other marketed, and among the advantages claimed for it are: Better combustion, economy, wider range in the number of tips, safety, and ease of operation. The principle involved is covered by patents.



Waterhouse Welding and Decarbonizing Equipment, a Scientifically Constructed Apparatus Economically Operated.

The equipment includes one B welding torch with five tips, one oxygen reducing valve with 50-pound line pressure gauge, acetylene reducing valve, one set of special welding hose, one pair Complete details and prices will be supplied upon request.

NEW KELLOGG POWER PUMP.

An announcement is made by the Kellogg Manufacturing Company of Rochester, N. Y., of a new type of power driven tire pump. As may be noted by the accompanying illustration, cooling by air has been eliminated and the poppet type of valves is utilized for the intake and exhaust. These features are shown in the sectional view.

The Kellogg pump involves the general principles of a gasoline motor, having a piston with

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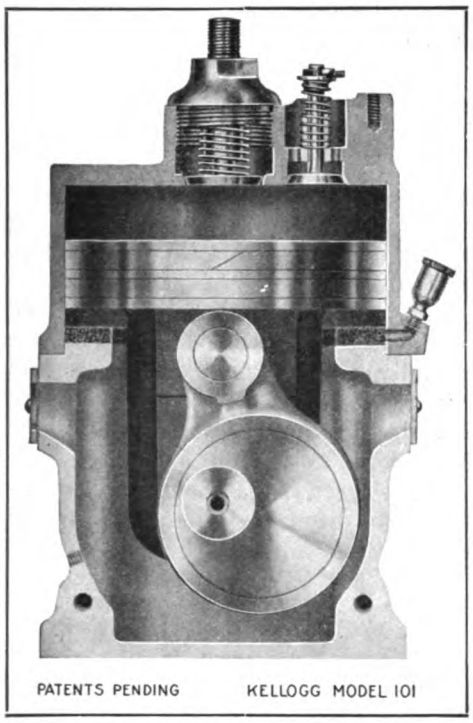
rings, connecting rods, etc. One of the qualities claimed for the construction is that it will not heat up even when operating under heavy loads.



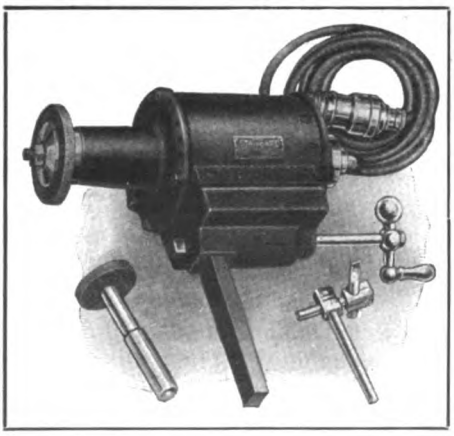
Sectional View of New Kellogg Power Driven Tire Pump.

The entrance of dirt or other foreign elements is prevented by screening the intake.

The cylinder and piston are of gray iron and the latter is fitted with two rings. The piston is actuated by two bronze connecting rods, one on either side. The crankshaft is a drop forging. Lubrication is by splash, and a baffle plate prevents oil from working or splashing onto the cylinders, and from being communicated to the tires. Efficient lubrication is assured by the use of felt packing attached to the case, as shown herewith. On each down stroke of the piston sufficient oil is squeezed out to lubricate the cylinder wall.

STANDARD TOOL POST GRINDER.

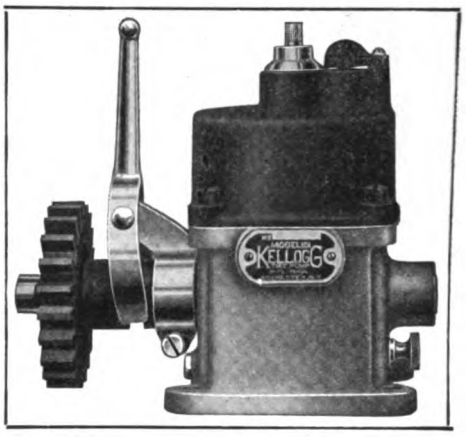
The Standard Electric Company, Cincinnati, O., is manufacturing a variety of portable electric tools adaptable to the garage and repair shop, one of which, a tool post grinder, is shown herewith. The machine is built as light as possible, consistent with the power developed, and is constructed with a view to giving efficient and economical service.



Standard Electric Tool Post Grinder.

The motors are compound wound, insulated and impregnated throughout by a special process. The armature poles are built of soft steel laminations, and are carefully and uniformly insulated. Imported ball bearings are used throughout and each member is mounted in a dust proof chamber. Cooling is by means of a fan mounted on the armature shaft. The fan expels warm air which is replaced by cool. The direction of circulation is from the commutator to the wheel end.

The grinder is made to operate on both direct and alternating current of 60 cycles or less. It is wound for 110 or 220 volts, and has a lamp socket connection. The grinder is produced in two types, 2 Tu and 4 Tu, both having a speed of 6000 revolutions a minute. The first named design is fitted with an emery wheel 3½ inches in diameter with a ⅜-inch face, while type 4 Tu has a four-inch diameter wheel and ¾-inch face. Complete details and prices will be supplied upon request by the maker, the Standard Electric Company, Cincinnati, O.



Kellogg Tire Pump in Which Cooling Flanges Are Eliminated.

GREENERD ARBOR PRESSES.

Edwin E. Bartlett, 326 A street, Boston, maker of the well known Greenerd arbor presses, is producing standard types for the automobile repair shop and service station. Types number 3, 3½ and 4 are utilized in repair shops and, while they are very handy, the maker points out that their capacity is too limited for some kinds of work.

The extra capacity presses are particularly adaptable for the automobile machinist and have a number of advantages over the standard type which was designed for machine shops doing regular machine work. A feature of the Greenerd extra capacity machines is the pressure obtained. One man with the No. 15 machine can obtain a pressure equal to 10 tons and two men, 16 tons. The No. 17 machine has a capacity of 20 tons with one man and 30 with two.

With a modern, efficient arbor press the garage and repair shop is enabled to complete a wide variety of work which ordinarily requires the services of a large machine shop. The Greenerd is particularly adaptable to motor vehicle repair work and is not only a time saver, but cuts the cost of labor to the minimum. Edwin E. Bartlett, the maker of these presses, on receipt of a letter or postal card, will supply interesting information upon the practicability of the Greenerd in automobile work.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3014—Ohio Firm wishes to secure an agency for the very cheapest roadster on the market.

3017—Florida Concern is in the market to secure the agency for pleasure cars selling from $500 to $1500.

3020—Michigan Dealer is in the market to represent a line of pleasure cars selling up to $1200.

3023—Iowa House wishes to secure an agency for pleasure cars selling from $500 to $3500.

3026—Iowa Dealer is in the market to secure the agency for pleasure cars selling from $695 to $1975.

CYCLECAR AGENCIES.

1791—California House wants information relative to cyclecars selling from $250 to $350.

1794—Florida House wishes to hear from a line of reliable cyclecars selling from $275 to $400.

1797—Iowa Dealer is in the market to represent a line of cyclecars selling from $250 to $500.

1799—Rhode Island dealer wants information relative to cyclecars selling from $250 up.

ELECTRIC PLEASURE CAR AGENCIES.

518—Georgia House is in the market to secure the agency for electric pleasure cars selling up to $1000.

MOTORCYCLE AGENCIES.

115—Florida Firm is desirous of securing the agency for motorcycles selling from $200 to $300.

COMMERCIAL CAR AGENCIES.

6131—Florida Company wishes to hear from a line of reliable gasoline trucks ranging in price from $750 to $2000.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

513—Illinois House wants anti-rattlers, autogenous welding equipment, axles, batteries, burners, cable, carburetors, chains, chemical tanks, coils, engines, gaskets, ignition, lathes, machinery, magnetos, patches, plugs, radiators, reamers, carbon removers, rims, shims, shock absorbers, speedometers, tire accessories, tires and valves.

516—Rhode Island Firm is in the market for anti-rattlers, carbide, charging apparatus, shock absorbers and gasoline storage systems.

517—Iowa House is anxious to secure bolts, bulbs, bumpers, cable, chains, charging apparatus, dimmers, furnaces, gasoline, glass, heaters, horns, hose, ignition, nuts, platinum, pumps, solder, springs, storage systems, tire accessories, tires, tops and parts, valves, vulcanizers, wearing apparel, whistles and windshields.

521—Missouri Company is in the market for anti-rattlers, batteries, bearings, belts, brushes, bulbs, burners, cable, caps, carbide, carburetors, celluloid, cements, chains, cloth, coils, commutators, couplings, cups, curtains, drills, emblems, fire extinguishers, gaskets, gauges, goggles, graphite, grinders, guns, hammers, headlights, heaters, holders, horns, hose, hydrometers, ignition, indicators, jacks, lamps, leather, locks, lubricators, maps, meters (measuring instruments), mufflers, nuts, odometers, packing, paints, patches, pedals, pins, plugs, primers, pumps, punches, racks, radiators, rectifiers, reflectors, carbon removers, rubber, scrapers, screws, searchlights, seats, shackers, shims, soaps, sockets, solder, speedometers, steps, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, tubing, upholstery, ventilators, vises, voltmeters, vulcanizers, waste and wrenches.

524—Iowa Concern is interested in arbor presses, batteries, bodies, bulbs, cabinets, cable, carburetors, coils, doors, engines, fenders, gaskets, gasoline, generators, graphite, horns, hose, hydrometers, ignition, lamps, lathes, magnetos, mechanical starters, meters (measuring instruments), motors, packing, platinum, pumps, radiators, rectifiers, shock absorbers, speedometers, starters, steel, storage systems, tanks, testers, tire accessories, tires, tool, vises, voltmeters and windshields. Interested especially in charging apparatus. The above goods to be used for stock and equipment.

527—Michigan Firm wants information relative to batteries, bearings, bodies, bulbs, bumpers, burners, carbide, carburetors, coils, cones, connectors, dimmers, gaskets, gauges, generators, goggles, headlights, horns, ignition, jacks, lamps, magnetos, patches, platinum, reflectors, rims, searchlights, shock absorbers, sockets, speedometers, springs, starters, switches, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, vulcanizers, washers, washstands, wearing apparel and windshields. The goods to be used for wholesale and retail selling.

531—Michigan Dealer is in the market for a full line of automobile accessories and supplies, to be sold to the trade.

534—South Dakota House wants information relative to generators, mechanical starters, patches, plugs, shock absorbers, speedometers, tire accessories, tires, tools, wearing apparel and wrenches. The above products to be used for Maxwell and Saxon cars.

537—Florida Dealer wants air compressors, air pumps, anti-rattlers, anvils, arbor presses, asbestos, autogenous welding equipment, batteries, bearings, belts, bolts, brakes, brushes, bulbs, bumpers, burners, cable, carbide, carburetors, castings, cements, chains, charging apparatus, clamps, commutators, connectors, curtains, cylinder machines, dimmers, drills, fire extinguishers, forgings, furnaces, gaskets, goggles, graphite, grinders, hammers, hose, hubs, hydrometers, ignition, indicators, injectors, lathes, magnetos, maps, mechanical starters, nuts, packing, paints, platinum, plugs, polishes, presses, pullers, punches, reamers, shapers, shock absorbers, solder, springs, stampings, steel, tape, testers, tire accessories, tires, tools, valves, vises, vulcanizers, waste and wearing apparel. The goods to be used for stock, garage and machine shop.

539—New York Firm is interested in charging apparatus, fire extinguishers, lathes, pans and waste. The above goods to be used by a garage.

542—Georgia House is interested in axles, batteries, bodies, brakes, carburetors, castings, emblems, headlights, horns, ignition, magnetos, mechanical starters, motors, mufflers, radiators, shock absorbers, speedometers, springs, starters, steering wheels, tanks, tires, tops and parts, transmissions, wheels and windshields.

545—Arkansas Dealer wants information relative to air compressors, starters and tanks.

FOREIGN TRADE OPPORTUNITIES.

No. 13,461. Motor Trucks—A resident of a South American country is interested in establishing a motor truck service between the various sugar and rice plantations of the region and the railroad, to operate as a feeder to the railroad. He is now financing a company for that purpose and expects to begin the service with two two-ton machines. American manufacturers should communicate directly with this person in Spanish. Illustrated catalogues, prices, terms, etc., are desired.

No. 13,511. Electrical Apparatus, Motors, Dynamos, Etc.—A European business house handling electrical apparatus, ventilators, electric motors, dynamos, etc., would like to receive catalogues and prices from American manufacturers of such articles. The consul who submitted the report states copies of American publications on electricity are also desired.

No. 13,547. Motor Cars—An American consular officer in France reports that one of the most important motor sales and garage companies in one of the largest French cities is desirous of securing the agency of the best American automobile that can be retailed at $1158 and leave a fair profit to the dealer. Direct relations are preferred. Prices c. i. f. Bordeaux with catalogues, preferably in French, should be communicated either through the consulate or directly to the company in question.

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NEW CONCERNS AND BUSINESS CHANGES.

The Delaware Tire & Supply Company, Wilmington, Del., is now located at 218 West 10th street. The company carries a complete line of accessories and supplies.

Smith & Trew, Washington, D. C., has moved into new quarters at 829 14th street. The company represents the Reo car.

The Birmingham Motor Car Company, Goshen, N. Y., has taken possession of the premises at 57-59 North avenue and will do a general garage business. Buick, Oakland, Oldsmobile, Federal, Standard, Menominee and Vim cars and trucks will be handled. W. G. Faatz is the proprietor.

H. C. Briggs, St. Louis, and L. Morse are occupying their new garage and repair shop at 3908 Washington avenue. A complete line of accessories will be carried.

The Peterson-Keyes Auto Company, Indianapolis, is now located in its new salesrooms on Vermont street. The company handles the Regal cars.

The Auto Devices Company, St. Louis, Mo., has established itself at 3027 Locust street. Edward McGuigan is manager.

E. H. Labadie Company, San Antonio, Tex., has rented the service station at 510 River avenue. The company is agent for Chalmers cars.

The June Motor Car Company, Binghamton, N. Y., has moved into larger quarters at 184 Water street. The company carries the Chalmers car.

The Henderson-Rowe Auto Company, Washington, D. C., is located at 1012 14th street, N. W. The company handles the Chevrolet cars.

The Phoenix Auto Supply Company, St. Louis, has moved to larger quarters at 3325 Locust street.

A. E. Staacke Auto Company, San Antonio, Tex., has removed from Commerce street to Avenue D, where larger quarters were obtained.

Levi O. Sawyer, Fitchburg, Mass., has moved from Pritchard street to 9 Elm street. The company does a vulcanizing business and carries automobile supplies.

Thorwald Hanson, Worcester, Mass., has moved to 711 Main street. Cole pleasure cars and Selden commercial vehicles are handled.

The W. & H. Auto Repair Company, Indianapolis, is located in its new building at 2019 Madison avenue. The company will enlarge its painting and rebuilding business.

The Creston Repair Shop, Creston, Ia., is now located at 110 North Elm street.

The Fuller Ashley Company, Syracuse, N. Y., has leased a portion of the Chalmers-Syracuse company's building and will conduct a general repair shop and furnish maintenance service to owners of Chalmers cars.

The Sidney B. Bowman Company, New York City, has leased the building at 1710 Broadway and will occupy it. Oakland cars are handled.

The Leghorn Sales Company, Boston, Mass., is now occupying its new salesrooms at 793 Boylston street. The rooms are finished throughout in mahogany and a unique decorative and lighting scheme is employed.

The Halsey Automobile Company, St. Louis, has moved into its new four-story building at 2201 Locust street. Packard cars are handled.

The Pearson Motor Car Company, San Francisco, has opened new quarters at Van Ness avenue. The company handles the Maxwell cars.

McQuigg Brothers, San Diego, Cal., local distributor for the Oldsmobile line of cars, is now located at its display room and service department at Fifth and A streets.

The Wolcott Motor Car Company, Elmira, N. Y., is now located at 106 West Church street. W. F. Cassidy is manager.

The Christensen Motor Car Company, San Francisco, is now located in its new home on Van Ness avenue.

The Reick Automobile Company, Newburg, N. Y., is now located in its new modern quarters at 105 Broadway. The company operates a taxicab service.

The Buckeye Motor Truck Company, Cleveland, will occupy the new garage which is to be built exclusively for the storage and sale of motor trucks. The structure will be 75 by 570 feet and of steel and concrete fireproof construction. It will cost approximately $125,000. Hall Brothers, Taylor's, the May Company and the Lincoln Moving Company, all large local firms using motor trucks, will also occupy it.

The Columbia Automobile Exchange, Atlanta, Ga., has leased from W. T. Healey the building at 320 Edgewood avenue and will move there.

The Webster Supply House, Bakersfield, Cal., has been purchased by E. D. Wilson, who was formerly connected with the Savage Tire Company. He will conduct the business.

The Southern Arizona Company, Tucson, Ariz., has taken over the vulcanizing business of D. Moore and will move the property to its new building.

The Alabama Tire Repairing Company, Birmingham, Ala., has taken the agency for the Kelly-Springfield tires. The company is located at 521 South 20th street.

The Sawyer Ford Automobile Supply & Accessory Depot, Philadelphia, has been opened at 2729 North Broad street.

The Service Tire & Vulcanizing Company, Chicago, is the name of a company that has begun business at 2307 Indiana avenue. The company has a capital stock of $30,000.

W. C. Stroud, Eugene, Ore., has purchased the interest of C. M. Triplett in the Independent Auto Repair Shop & Garage at 70 Seventh avenue.

The Imperial Motor Company, St. Louis, has established showrooms at 1045 North Grand avenue.

The Cleveland Auto Tire & Repair Company, Cleveland, has secured the agency for Mohawk tires. The company is located at East 107th street and Euclid avenue.

The Automobile Tire Company, Indianapolis, is a new concern located at 34 Jackson place.

The Collins-Clem Auto Company, San Antonio, Tex., has been organized and will handle the Studebaker cars. Showrooms have been opened at 736 East Houston street. Mr. Clem will also retain his interest in the San Antonio Auto Supply Company.

Phillips Machine Shop, Jackson, Mich., recently organized, is located at the corner of North Jackson and Van Buren streets.

The Congdon & Carpenter Company, Providence, R. I., has taken the agency for Swinehart tires.

The Texas Motor Car & Supply Company, Yoakum, Tex., has been purchased by F. F. Klohs of the Universal Motor Car & Supply Company. He will continue the business.

The American Tire Sales Company, St. Louis, has opened salesrooms at 604 South Seventh street.

The Ford Motor Car Company, Newark, N. J., has opened retail salesrooms and a repair department at Central and Halsey streets. Edwin Baskett is in charge.

Charles E. Miller, Hartford, Conn., has opened salesrooms at 382 Trumbull street.

Buchanan Lyon Company, Inc., Campbellsville, Ky., agent for Hudson cars, operates a first-class garage and carries a complete line of accessories.

The Central Iowa Motors Company, Des Moines, Ia., Iowa distributor of Hupmobiles, has been purchased by Walter S. Adams, Frank E. Card and H. R. Brown. The new organization is composed of experienced automobile men. The business will be conducted under the same name.

The Hanson Auto Repair Shop, Worcester, Mass., has taken the agency for the Gaulois tires.

S. S. Marx, San Diego, Cal., of the Eastern Radiator & Lamp Shop, has bought out his partner's interest and is conducting the business alone.

O. O. Spotts, Battle Creek, Ia., has sold his interest in the automobile and repair business to James Warneck, Jr.

Central Iowa Motor Company, Des Moines, Ia., has sold its business to Walter S. Adams and associates.

The Holly Auto Company, Omaha, Neb., is a new concern which has established a business of equipping automobiles with tops and other trimmings at 2318 Harney street. A. R. Hollenberger is interested.

GARAGE TRANSFERS.

Powell & Whitman, Pittsfield, Me., has dissolved partnership, Mr. Powell taking over the business. A first-class garage is maintained.

The John Schelldorf Garage, Des Moines, Ia., has been purchased by Harm Kruse, Sr.

Peter Apland, Sac City, Ia., has sold his garage to Serral Munsen and T. T. Omrig.

The Beatty Garage Company, Lockhart, Tex., has been sold to T. A. Allen. A new building is to be erected for the company.

The Calumet Garage Company, Brillon, Wis., has been purchased by Edward Colyar of Manitowoc and Adolph Valesky of Collins, Wis. The new firm will be known as the Brillon Garage and will handle the Overland cars in that territory.

W. L. Peeler, Corona, Cal., has purchased the interests of his partners in the Crown Garage & Machine Works. Studebaker cars are handled.

The Knight Rubber Company, Toledo, O., has dissolved partnership, Thomas J. Harris having purchased the interests of his partner, Orrie E. Starr. Mr. Harris is now the sole owner of the concern. The company is located at 810 Madison avenue.

The Service Garage, Grand Rapids, Mich., has purchased the Dowling Garage at 206 Ionia avenue and will operate it as a general garage and accessory, retail and wholesale business. R. E. Sproat is manager.

S. P. Widman, Schenectady, N. Y., has purchased the Sterling Garage Company, located on Yates street.

The Harper Overland Company, Washington, D. C., successor to the Overland Washington Motor Company, has taken possession of the garage at 1022 Connecticut avenue.

The Schaefer Garage, Grundy Center, Ia., has been purchased by W. K. Laybourn.

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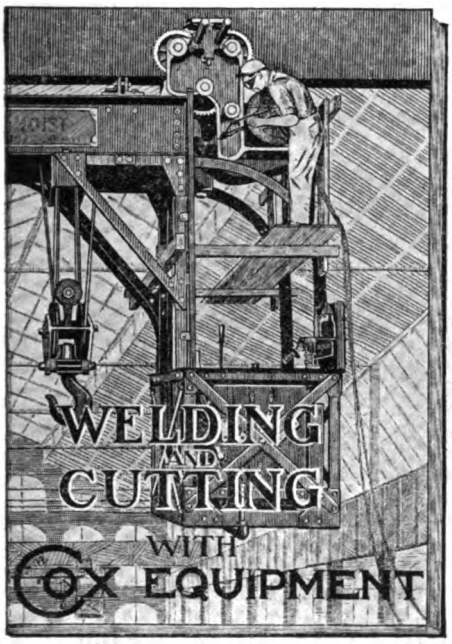
WELDING AND CUTTING EQUIPMENT.

Cox Brass Manufacturing Company Producing an Efficient Outfit Designed to Meet All Requirements.

The value of the welding and cutting equipment in the garage, repair shop, service station and machine shop is demonstrated by the increasing number in service. The utilization of time and labor-saving equipment is essential in these days of keen competition and there is another factor to be considered, the profits.



Illustrating Cover of Cox Catalogue.

Formerly it was the general practise for the garage and repair shop to send broken crank cases, frames, axles, etc., to a welding concern, but improved manufacturing methods and large quantity production has enabled the maker of welding, cutting and decarbonizing outfits to market a first-class outfit at a moderate price.

The Cox Brass Manufacturing Company, Albany, N. Y., is issuing a new and attractive catalogue covering the welding, cutting and decarbonizing equipment. An accompanying illustration shows the cover to the booklet, which is complete in every detail and which gives in a concise and interesting manner a thorough description of the apparatus, as well as the uses to which it is adapted.

The book teems with information valuable to garagemen, blacksmiths, machinists, contractors and manufacturers, as it describes welding and cutting by the oxy-acetylene method, also the simplicity of the equipment and its advantages. Among the illustrations is one showing the work daily performed by the average garage. The Cox Brass Manufacturing Company states that it is cheaper to own a welding equipment than to depend upon outside labor, and that the company furnishes without charge complete instructions and special tuition. The book will be sent free upon request.

NEW SPLITDORF MAGNETO.

Instrument for Ford Motor Now Provided with Movable Circuit Breaker Housing.

There is an increasing demand among owners of the model T Ford automobile for a true high-tension magneto, the advantages of which when properly fitted to the Ford motor are well known. Not only does the instrument make for easy starting because of the intensity of the spark, but absolute synchronization is also obtained.

Because the Ford motor is a high-speed engine, the magneto drive utilized must not only be sturdy, but the bearings and gears must be well lubricated. It is also essential that the drive be quiet, all components accessible and the installation made easily and without alterations.

The Splitdorf Electrical Company, Newark, N. J., has been experimenting for a considerable period with a magneto installation for the Ford motor, and it is stated that the new equipment meets all of the above requirements. The new Splitdorf magneto, the EU4, is constructed with a movable circuit breaker housing, providing variable advance of the time of the spark, as there is a variance in the Ford motor as well as a demand among owners for this form of ignition. The circuit breaker housing can be shifted to an extent of 23 degrees, sufficient for all purposes.

The adoption of a magneto with a variable time of the spark required a slight change in the equipment manufactured by the company when the fixed type of magneto was marketed. The alteration consists of the fitting of a bell crank arrangement, so that the lever arm of the circuit breaker housing can be actuated by the usual spark lever on the steering column. One of the desirable qualities of the Splitdorf design is that the rod connecting the timing arm with the Ford lead or advance rod is made adjustable, so that slight alterations may be made in timing without disturbing the setting of the magneto. These features are shown in the accompanying illustration, which depicts the simplicity of the design.

The Splitdorf EU4 magneto is a true high-tension instrument and its output is sufficient for motors having a considerably larger piston displacement than the Ford. As with all true high-tension magnetos, coils are not necessary, as the motor may be started easily on a quarter turn of the starting crank. One of the qualities of the Splitdorf magneto is that it is water, dust and oil proof. The breaker box is easily displaced if desired and, being linked to the housing, cannot be lost when making adjustments to the platinum contact points or when cleaning the circuit breaker housing. The distributor cover is accurately fitted, has an indicating window, making it a simple matter to correctly time the magneto, and is retained by three block thumb nuts.

The Splitdorf magneto ignition for the Ford car can be installed by the owner, and the work involves no alterations or machining whatever. The Splitdorf Electrical Company, Newark, N. J., is issuing a new booklet on its latest system, which will be mailed free upon request, as will trade prices. The booklet contains many pertinent facts on ignition.

BARGAINS IN WHEELS.

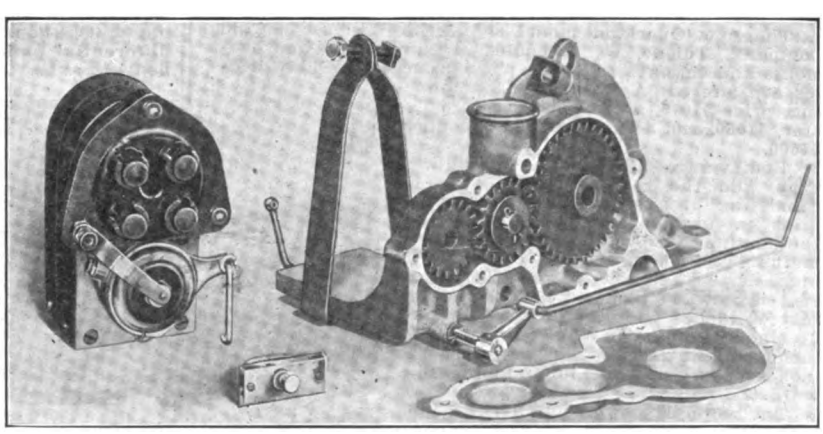
Metalwood Manufacturing Company Offers Variety of Steering Wheels, Also Rims and Spiders.

Those in need of a steering wheel, rim or spider, will do well to write the Metalwood Manufacturing Company, Leib and Wright streets, Detroit. This concern is offering bargains in hard maple, bent steering wheels, with screwed on type of spider in brass and aluminum. The company also has genuine mahogany and black walnut wheels with concealed continuous rim and inserted spider, both plain and corrugated. Details and prices will be supplied upon request.

NORMA BALL BEARINGS.

Complete Line for All Kinds of Motor Vehicle Service Carried in Stock.

Announcement is made by the Norma Company of America, 1790 Broadway, New York City, that it is prepared to supply at short notice all types of Norma ball bearings to the trade. The line includes Norma ball, roller, thrust and combination bearings. The Norma product is well and favorably known to the automobile industry and Norma equipped magnetos have played an important part in the big racing events for several years. The company specializes in bearings for magnetos, lighting generators, starting motors, etc., and will supply data in regard to its complete line, upon request.



Splitdorf Magneto, Base, Gears and Gear Housing, Advance Rod and Switch, Comprising the Ignition Equipment for Ford Cars—The Magneto Is Now Supplied with Variable Advance and Retard of the Spark.

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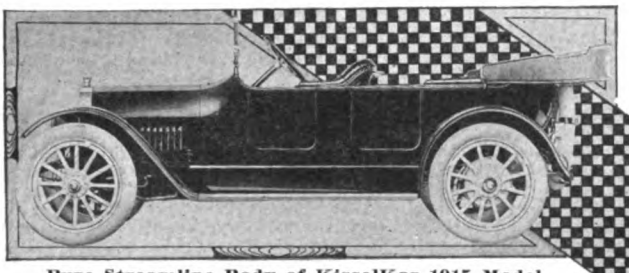
KISSELKAR'S NEW FEATURES.

Latest Four Has a Detachable Sedan Top for Winter.

The Kissel Motor Car Company, Hartford, Wis., has made two announcements for 1915. The first described the KisselKar 48 Six, and the latest, just made, is of the



Pure Streamline Body of KisselKar 1915 Model.

36, a four-cylinder model, made with a new two-door design. The price of the latter is $1450.

One of the striking points of the new Four is an innovation in the way of a detachable sedan top for winter use. The top fits snugly over the touring body, and is so simple in construction that two inexpert men can make the change.

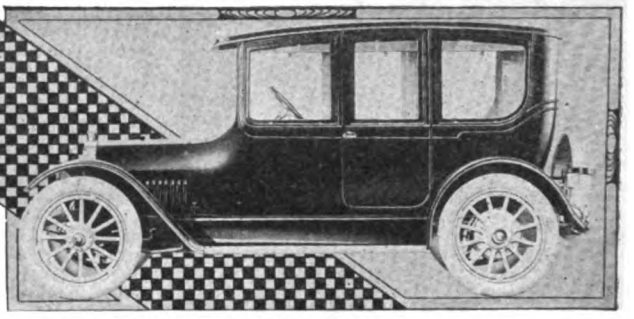
The motor is a Kissel-built engine, L head, cast en bloc, with a bore of 4¼ inches and a 5¼-inch stroke. The 1914 model had a bore of 4⅛ inches and a stroke of 5¼ inches, cast in pairs. The new 36 has a set of three helical gears, instead of the chain timing drive employed in the 1914 model.

A specially designed radiator of the Mercedes honeycomb type is used. Carburetion is obtained by a special type Stromberg carburetor, which is connected directly to the cylinder, thus doing away with the intake pipes.

power, according to the rating by company's engineers.

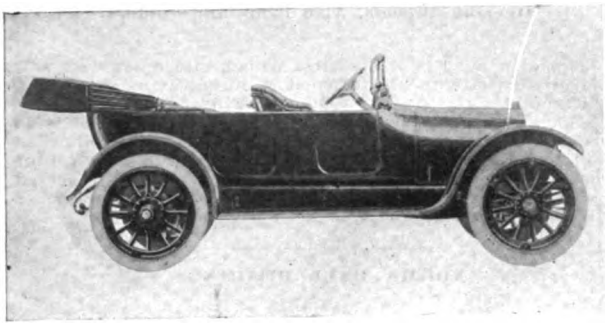
Current for ignition is supplied by the Bosch magneto, mounted on a bracket at the right of the forward end of the motor. The drive is through a leather coupling and the leads are carried in fibre blocks, which are secured to the water intake and outlet pipes. At the speed at which the motor cranks the engine there is no need of an auxiliary starting system, and consequently the Bosch single ignition has been adopted.

Cooling is by thermo-syphon system and the water jackets, together with the water intakes and outlets, have been kept large, with a minimum amount of curvature to meet the requirements of this system. A six-blade fan driven by a belt is a further aid to cooling. Lubrication is by the constant level splash system, in which the oil is circulated by a pump. The gasoline system is by gravity, and on the touring cars the capacity of the tanks is 15 gallons and on the roadster 30 gallons.



KisselKar with Two Doors and Removable Sedan Top.

The carburetor is the latest design of Schebler model R, this being provided with a double heated air intake, which takes care of both the primary and auxiliary air supplies.



Overland Model 80, a Five-Passenger Touring Car, Having Left Hand Control and Attractive Streamline Body.

1915 OVERLAND MODEL 80.

Very Few Changes in Latest Car Compared with 1914.

The new Overland model 80 of the Willys-Overland Company, Toledo, O., embodies a number of improvements and changes from the previous model. Three bodies are offered: A five-passenger touring, price $1075, a two-passenger roadster, $1050, and a four-passenger coupe, $1600.

Bodies are all of the streamline type and the radiator, with a shell consisting of a single steel stamping, joins its curve to the graceful slope of the engine hood. The wheelbase remains 114 inches, but the body offers more leg and elbow room. The rear seat is now 49 inches wide, the front seat 40 inches wide and the backs are 21 inches high in the rear and 19 inches in the front. The seats are 20 inches deep, with cushions sloping toward the rear.

The motor is a four-cylinder, L head type, the cylinders being cast singly, the latter being set 9/16 inch off centre. The bore is 4⅛ inches and the stroke 4½ inches, developing 35 horse-

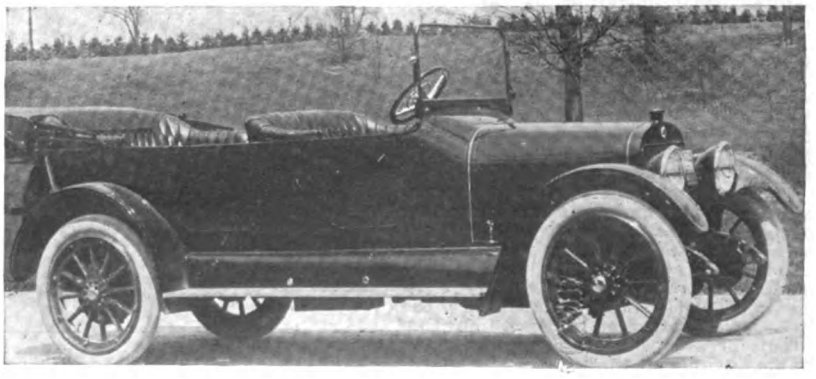
PREMIER CUTS PRICE $400.

New Roadster to Be Offered for the Coming Season.

Selling for $2385, a reduction of $400 compared with the previous model, the 1915 series of Premiers has been announced by the Premier Motor Manufacturing Company, Indianapolis, Ind. This price applies to the five-passenger touring car. The seven-passenger car costs $2460. The new roadster is the same price as the five-passenger touring.

These are mounted on a single chassis model, known as 6-49, and the only change is the substitution of semi-elliptic rear springs for the three-quarters type formerly employed. The new 6-49 Premier has a unit power plant, consisting of a T head, six-cylinder engine, cast in threes, with a bore of four inches and a stroke of 5½ inches. The clutch is a multiple-disc type, enclosed in a tight case with a large plate opening at the top.

Electric starting and lighting are provided by a six-volt Remy system. Lubrication is by a circulating system with a constant level splash maintained by a gear driven pump. There is a sight feed glass on the dash. The front axle is of special design, a single-piece I beam drop forging without welds, with spring seats integral, roller bearings in the wheels and imported load carrying bearings in the steering knuckles. The rear axle is a non-truss type, a Premier patent, and may be called a three-quarter floating design, as it does not carry the load, but at the same time the shafts cannot be pulled out of the housing without being disconnected from the differential pinions. The makers call this a 90 per cent. floating axle. All body lines are of the streamline type.



Premier 6-49 Touring, Showing Body Lines.

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Will *Your* Car Drivers Pump Up Tires by Hand Next Year?

Not a candidate for re-election.

Do you realize that you can make your customers save tire bills and gain other material satisfaction if you will see that their old or new car has a

Engine Driven KELLOGG Air Pump

One, Two, Four, Six Cylinder Models

Standard or Special Factory Equipment on this list of cars:

Chalmers	Howard	Lozier	Speedwell
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Fiat	Jackson	Packard	Stevens-Duryea
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Furnished with Attachments that anyone can install on these cars:

Abbott	Cole	Oakland	Simplex
Buick	Henderson	Overland	Studebaker
Cadillac	Hudson	Pierce	Stutz
Chalmers	Maxwell 6	Reo	And Many Others

Remember that Kellogg superiority is found not only in the design and quality of the pump—but in the ***special attachments*** that make them a part of the power plant. ***Write for Full Particulars.***

KELLOGG MANUFACTURING CO., 128 Circle St., Rochester, N. Y.

New York **San Francisco** **Detroit** **Chicago**

Special Pumps and Air-Starting Units. ***Send for 1915 Ford Starter Literature.***

Stevens Valves
Stevens Auto Tire Check Valve

Actual Size Complete Valve

Patents Issued 1,043,224---1,050,942---1,078,847 and others Pending.

Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve Stem.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Fire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

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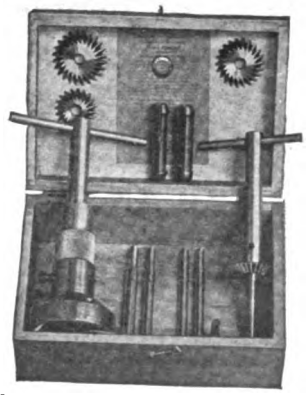
Have you a Fosnacht Valve Reseater in your shop?

If not, you are losing money every day that would more than double the price of one of these high grade tools, in two months' time.



If you don't give attention to the valves of your car, you are not a good engine doctor. A doctor that is not equipped with proper instruments, cannot give good service and consequently don't hold his patronage

A FOSNACHT VALVE RESEATER will cut the valves and seats both, in a few minutes' time, at identically the same angle, insuring perfect fitting valves. Get one now and be up-to-date.

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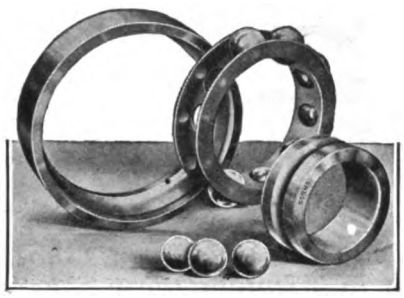
Ball Bearings



The reason why you'll find "NORMA" Ball Bearings in all the high-grade magnetos, lighting generators and starting motors, is that the makers of these machines have proved to themselves that "NORMA" Bearings are the best bearings for high-speed conditions. Don't substitute—don't permit substitutions. Insist upon "NORMA" Bearings.

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OF AMERICA
1790 Broadway NEW YORK

"NORMA" *Ball, Roller, Thrust and Combination Bearings*

Stop the Blinding Headlight Glare!

The law says it must be done —blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street —the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Installed on the dash and operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on the dash of any car. The average car owner can do it himself in ten minutes. It can be operated by a slight kick of the foot, while both hands are on the wheel.

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The moment you start to run a new car Friction begins its sly work of depreciation.

DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS

tie Friction's hands and draw its teeth.

Ask your dealer for Dixon's

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Made in Jersey City, N. J., by

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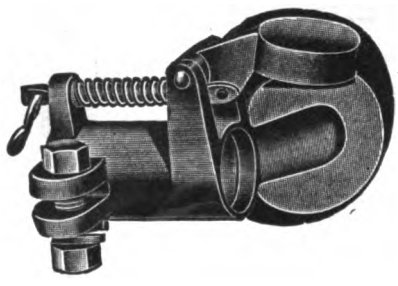

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A perfect exhaust warning signal at all speeds. Easy to attach, no clogging and cannot get out of order.

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PRICE LIST FOR TREMO HORNS.
No. 1—16 to 25 H. P., $6.00 No. 3—40 to 50 H. P., $7.00
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Dealers, Write for Special Discounts.

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BOSTON STARTER FOR FORD CARS

The One Practical Mechanical Starter for Ford Machines.

WE WANT DEALERS AND HAVE THE MOST ATTRACTIVE SELLING PLAN EVER MADE TO THE TRADE.

Learn the Number of Ford Machines in Your Territory. Then Write

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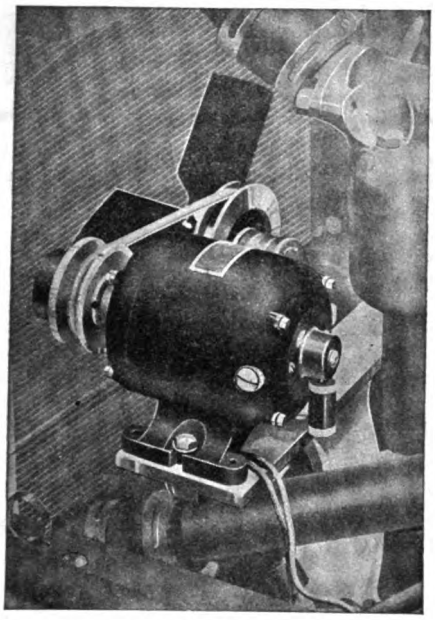

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Jackson Generator

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8 Amperes
Light
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Dynamo, Governor, Cutout and Meter, $27

We can furnish installation fittings for nearly all cars.

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HAVOLINE OIL

"It makes a difference"

in every garage, because it's a meritorious motor lubricant with a nation-wide following. Owners of every make of car will testify that Havoline minimizes frictional losses and carbon deposits throughout the motor, permitting it to generate maximum power. Its base crude is of high quality and its process of manufacture preserves its life.

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Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it. $150 to $500 for complete outfit. Write us now.

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THE
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WITH THE
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2. Being yellow it is not as noticeable on brass when dry as others.
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4. Cans are of our unique "Polisaver" type. Screw cap secured to body of can, with chain and swivel. Cannot be lost.
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Accessory and Garage Journal
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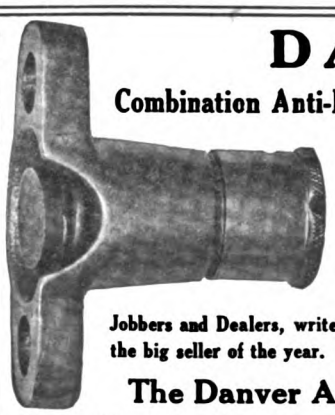
DACO

Combination Anti-Rattler and Grease Cup.



It is not a grease cup fitted to an anti-rattler, but a part of it. Eliminates all lost motion in the steering gear. Spring acts as a cushion and absorbs all road shocks. All wear is taken up automatically by the spring. Made in bronze, will last a lifetime. Fitted in a minute.

Jobbers and Dealers, write for new discounts. This has been the big seller of the year. Our prices will interest the trade.

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Makers of the famous DACO Accessories and Motor Car Specialties.
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Guaranteed Motor Car Accessories

Looks, Fit, Wear: All in Campbell Seat Covers

LOOKS. Campbell Seat covers add 100% to the appearance of any car, old or new.

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Seat covers and Top boot
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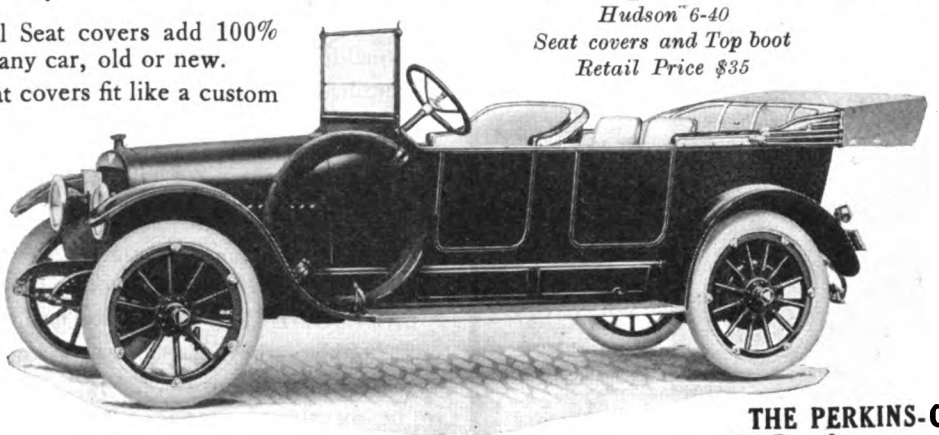

Car dealers and carownersshould get samples and prices on Campbell water proof Seat Covers. They're the leaders in their class.

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CLEANS HEAVY FABRICS
Made by Campbell

Clean your dirty tops and seat covers the easy way. Gets all the dirt. Contains no Benzine or Gasoline. Quart 25c. 1-2 gallon 40c. Gallon 60c.
Write for folder and Trade discounts.

JOHNSON MODEL "D" CARBURETOR
For Fords $12, Ready to Attach.
Put it on your Ford, and forget it. A "live seller" and a good "buy"
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has proven positively that it will save from 25% to 50% gasoline —increase power and speed proportionately— give absolute control of fuel mixture under all conditions without readjusting carburetor.

Other good features described in booklet. Easy to operate. Consumes nothing but air Never gets out of order

Only one size. Fits any car.

Think Twice before you pass this by—it's a Money Maker—a Satisfaction Builder!

Every car owner in your community—every touring customer—is a logical buyer of this simple, practical device; and **every buyer is a booster** of the—

Saunders Gasoline Saver

the one gas saver that is **not** an experiment. Saunders Saver is a proven success—**thousands in use**—a sure seller and sure "repeater" (to enthusiastic car owners' friends) wherever shown.

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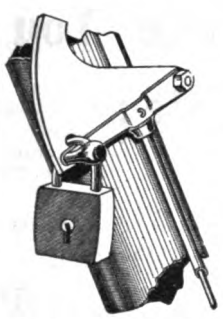

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Operates by lever just under steering wheel—**action positive**—a touch of the finger does it!

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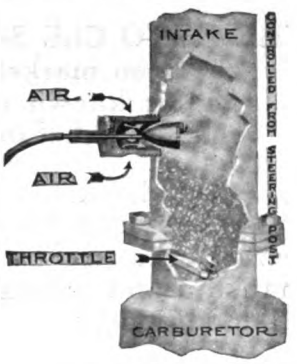
For full information, and list of wholesale distributors, write to—



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No. 17 Socket Wrench Set, for Ford work, Canvas Case . . . $2.00

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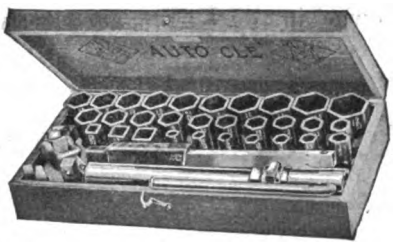

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A wonderful record and every sale made has been backed by the Mossberg Guarantee as to quality, workmanship and satisfactory work under all conditions.

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THE AUTO CLE is one of the very few tools or devices introduced during the development of the automobile industry that has become standard and that is an honest value and of great benefit to mechanics.

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It is maintained to the highest possible degree of efficiency and revised daily.

We have just the names that you want and in any town, city or state.

Our experts will be pleased to give you estimates covering all service costs. Tell them your requirements.

Accessory and Garage Journal

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A COMBINATION TOOL WITH 100 UTILITIES

When magnetized by battery connection it may be used to remove nuts, bolts, tools or metal parts from engine cases, timing gear and gearset cases, cylinders, differential housing, oil reservoirs or other inaccessible places; to remove cuttings from tapped holes and eliminate metal particles from oil. With it valves may be ground without removing the springs.

We Want Agents Everywhere. Liberal Selling Proposition

W & L Magnetic Tools are sold at retail for postage prepaid. Liberal discount to trade. $3.00

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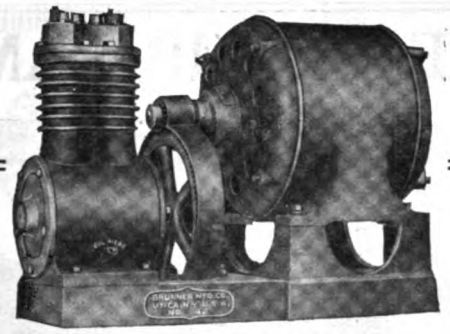

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This one is designed for the larger garages and service stations. Delivers 2½ cu. ft. of air per minute and 150 lbs. pressure and won't overload its ½ H. P. motor. It can be operated from any lighting circuit.

Equipped with a Brunner Airtite Tank and fittings, and a Brunner Model L Pressure Controller, it will give you free air—always "on tap"—with convenience, without interruption.

Especially if your garage houses 50 cars or over, ask to see the Brunner No. 42.

There are many styles and sizes of Brunner Air Compressors to meet ordinary and peculiar conditions.

There is a jobber in your territory that handles the Brunner. Write us for his name.

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KOEHLER ONE TON TRUCK $750

KOEHLER

GREATEST VALUE AT THE PRICE · LOWEST PRICE FOR THE CAPACITY

Here are brief specifications: **Motor**, 24 H. P., water cooled, 4 cycle. **Ignition**, high tension magneto. **Tires**, 36 in. solid std. removable, also **non-skid demountable, pneumatic tires optional** at extra price. **Tread**, 58 in. **Axles**, 2 in. sq. rear, 1 1-2 in. front. **Transmission**, proved **right**, by years of use, runs in oil bath.

TEN BODY TYPES

KOEHLER $750 ONE TON TRUCK

SEND FOR CATALOGUE

DEALERS How about your city or town—is it Koehlerized, or waiting for some one to reap a harvest from sales? Will it be you, or one of your competitors who will make it hard for anyone else to sell any other make of truck? The Koehler is a great money-maker for dealers, being the lowest priced ton truck and giving greatest value at any price.

Our Traveling Representatives Are Now Covering the Entire Country

and each has a truck with him. Notify us at once if you are interested as a representative may now be in your section. You do not want to miss a chance to see this truck.

Our complete catalogue and selling plan should be in your hands—send for these.

H. J. KOEHLER S. G. CO., 1709 Broadway, New York

ONE TON TRUCK $750

KOEHLER ONE TON TRUCK $750

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a ***smooth running engine*** and a ***saving in gasoline.***

Territorial rights open. Address Dept. A.

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Sole Distributors for U. S. A. and Canada

Coxajusto

ADJUSTABLE TO ANY LOAD

Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today. Address Dept. M. Established 1872

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Shop and Garage Vulcanizers

For Catalogue, Address

VANDERPOOL CO.

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"LAX-FAL"

Guaranteed Tubes

Red or Grey
An excellent Para rubber inner tube fully guaranteed at

40% Off Standard List

Are you interested?
Territory open for responsible agents
Write Now

LAX-FAL RUBBER CO.

77 Chambers Street Dept. S New York City

(When Writing, Please Mention The Accessory and Garage Journal.)

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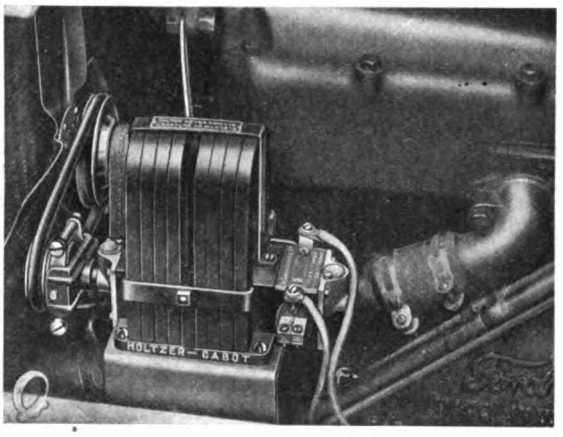
"H-C" Magneto Lighting Generators

FOR FORD CARS



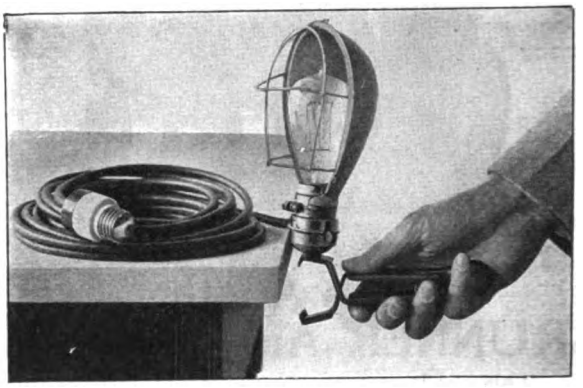
Some Reasons For Their Success

Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Low power consumption.

For FORDS, and other small and medium cars they are unsurpassed. ***Send for Booklet A-1807.***

THE HOLTZER-CABOT ELECTRIC CO.
BROOKLINE, MASS.
6161-65 SO. STATE ST. CHICAGO — 101 PARK AVENUE, NEW YORK — 1003 UNION TRUST BLDG. BALTIMORE

THE CLAMP LAMP



Press on the handle. This opens the jaws.

Apply the jaws to bench, rod, spoke, fender—any old place—to hold the light where you want it.

Rotate the reflector to throw the light on your work and shade your eyes.

Then go to it with both hands free.

For use in public and private garages, in mills and factories, in stock rooms and on shipping floors.

The complete outfit, including clamp, socket, reflector with wire guard, 20 feet of slicked portable cord and a two-piece separable plug, is sold at retail for $3.00, postage prepaid. Liberal discount to the trade.

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SELL SULLIVAN TRUCKS

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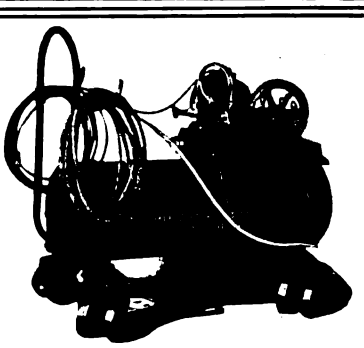

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Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated

Hyatt Service Stations

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169 Massachusetts Ave., Boston, Mass. Telephone—Back Bay 1015
Fourth and Middlesex Sts., Harrison (Newark), N. J. Telephone—Harrison 2190
1210 South Figueroa St., Los Angeles, Cal. Home Phone F 6383 Bell Phone Broadway 8053

Service Agents

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Broom & Wade, High Wycombe, England.

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Write to Nearest Branch

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Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

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$3 to $5 will waterproof the outside and re-dye the the lining, making any auto top good as new. Send for information.

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"Velos" Portable Garage Compressor

A complete portable electric compressor mounted on a 3 wheel metal base, with long hose and wire connections, pressure gauge, and safety valve. Pumps a 3 inch tire tight from the flat in 3 minutes.

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Leading Concerns in the Industry

Buyers Use This Guide

Representative houses in all branches of the industry are to be found in this index. When purchasing look for names, addresses and product wanted, under proper classified heading

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.

Auto Parts Co., Providence, R. I.

Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.

Motor Parts Co., 185-187 Columbus Ave., Boston: 818 No. Broad St., Philadelphia: Springfield, Mass.

Northwestern Chemical Co., Marietta, O.

Times Square Auto Co., 56th St., at Broadway, New York City.

Waite Auto Supply Co., 81 Exchange place, Providence, R. I.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instrument Works, Penacook, N. H.

ARBOR PRESSES.

Bartlett, Edwin E., 326 A St., Boston. (Greenerd.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1790 Broadway, New York City; 805 Woodward Ave., Detroit.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

Norma Co. of America, 1790 Broadway, New York City. (Norma.)

R. I. V. Co., 1771 Broadway, New York. (R. I. V.)

BATTERIES.

Edison Storage Battery Co., 137 Lakeside Ave., Orange, N. J. (Edison.)

Geissler Bros. Storage Batttery Co., 514 W. 57th St., New York.

Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn. (Raybestos.)

Russell Mfg. Co., Middletown, Conn. (Russco.)

Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)

Branches: F. Shirley Boyd, 903 Boylston St., Boston; C. D. Schmidt, 276 Canal St., New York City; N. A. Petry Co., 1427 Vine St., Philadelphia; F. M. Sparks, 1430 Michigan Blvd., Chicago; Fred Ward & Son, San Francisco.

Thermoid Rubber Co., Trenton, N. J. (Thermoid Hydraulic Compressed.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)
Branches: 1140 Michigan Ave., Chicago; 1211 Woodward Ave., Detroit; 1902 Broadway, New York City.

Zenith Carburetor Co., Detroit. (Zenith.)

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Cole Motor Car Co., Indianapolis, Ind. (Cole.)

Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)

Lexington-Howard Co., 131 Main St., Connersville, Ind. (Lexington and Howard.)

Maxwell Motor Co., Inc., Detroit. (Maxwell.)

Metz Co., Waltham, Mass. (Metz.)

Moline Automobile Co., E. Moline, Ill. (Moline.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Premier Motor Mfg. Co., Indianapolis. (Premier.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Stutz Motor Car Co., Indianapolis. (Stutz.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Overland.)

Winton Motor Car Co., 131 Berea Road, Cleveland, O. (Winton.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Alma Motor Truck Co., Detroit. (Republic.)
Factory: Alma, Mich.

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: New York, Chicago, Boston, Philadelphia, Kansas City.

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Motokart Co., 1790 Broadway, New York City. (MotoKart.) Factories, Peekskill and Tarrytown, N. Y.

Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Signal Motor Truck Co., Detroit. (Signal.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: 30th floor, Singer Bldg., New York; 178 Devonshire St., Boston.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Branches: See Cars—Gasoline Commercial.

General Vehicle Co., Long Island City, N. Y. (G. V.)

CARS—FIRE, POLICE AND MUNICIPAL SERVICE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Couple-Gear Freight-Wheel Co., 575 Buchanan St., Grand Rapids, Mich. (Couple-Gear.)
Branches: See Cars—Electric Commercial.

Willys-Overland Co., Toledo, O. (Overland.)

CEMENTS.

Northwestern Chemical Co., The, Marietta O. (Se-ment-ol Radiator.)

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

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BUYERS' GUIDE---Continued

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

CIGAR LIGHTERS. (See Lighters.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 42 Broadway, New York City.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)

Branches: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Pittsburg, Providence, San Francisco, Seattle, St. Louis and St. Paul.

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

FORD AUTOMOBILE SPECIALTIES.

Denver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GARAGE HEATERS. (See Heaters.)

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHT DIMMERS.

Chaney Co., L. F., Springfield, O. (Chaney.)

HEATERS.

Superior Mfg. Co., N. S., Pittsburg, Penn. (Superior Safe Garage.)

HORNS.

Bonner, D. Henry, Co., Cambridge, Mass. (Tremo.)

Garford Mfg. Co., Elyria, O. (Tuto.)

LAMPS.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric Trouble.)

LAMPS, TAIL. (See Tail Lights.)

LEATHER GOODS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTERS, CIGAR.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)

LIGHTING SYSTEMS, ELECTRIC.

Garford Mfg. Co., Elyria, O. (Dynalux.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Continental Asbestos Corp., Worcester, Mass. (Spedolene.)

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Haws, Geo. A., 148 Front St., New York. (Panhard.)

Branch: 899 Boylston St., Boston.

Indian Refining Co., 17 Battery Place, New York City. (Havoline.)

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MoToRol, Non-Fluid, Kejex.)

Northwestern Chemical Co., Marietta, O. (Gear-Silence.)

Platt & Washburn Refining Co., 1 Broadway, New York City. (Veedol.)

Standard Oil Co., New York. (Polarine.)

Branches: In all cities.

Vacuum Oil Co., Rochester, N. Y. (Gargoyle Mobiloil.)

Branches: 49 Federal St., Boston; 61 Broadway, New York; Fourth and Chestnut Sts., Philadelphia; 154 Exchange St., Bangor, Me.; 406 Hitchcock Bldg., Springfield, Mass.; 117 Commercial St., Portland, Me.; Fisher Bldg., Chicago; 321 Free Press Bldg., Detroit; Indiana Pythian Bldg., Indianapolis.

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: 119-121 E. 24th St., Chicago; 1250 Woodward Ave., Detroit; 357 Van Ness Ave., San Francisco.

Eisemann Magneto Co., 32 33d St., Brooklyn, N. Y. (Eisemann.)

Branches: 123 W. 52d St., New York City; 514 No. Capitol Ave., Indianapolis; 802 Woodward Ave., Detroit.

Heinze Electric Co., Lowell, Mass. (Heco.)

Holtzer-Cabot Co., Brookline, Mass.

Branches: 101 Park Ave., New York City, 161-65 So. State St., Chicago; 1005 Union Trust Bldg., Baltimore, Md.

Marburg Bros., 1790 Broadway, New York. (Mea.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: 10-20 W. 63rd St., New York; 1110 S. Michigan Ave., Chicago; 180-182 Massachusetts Ave., Boston; 1028 Geary St., San Francisco; 972 Woodward Ave., Detroit; 1228 S. Olive St., Los Angeles, Cal.; S. W. Corner Cherry and Juniper Sts., Philadelphia; 1828 Grand Ave., Kansas City; 1628 Broadway, Seattle, Wash.; London, Eng.; Buenos Aires.

MAILING LIST.

Owners' Auto List Co., Albany, N. Y.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PATCHES, TIRE.

Braender Rubber & Tire Co., Rutherford, N. J. (Cementless.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

International Metal Polish Co., Quill St. and Belt. R. R., Indianapolis, Ind. (Blue Ribbon.)

Morgan Mfg. Co., Dept. F, Newport, R. I. (MorganBrite.)

Northwestern Chemical Co., Marietta, O.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

PRESSES. (See Arbor Presses.)

PUBLICATIONS, AUTOMOBILE.

The Automobile Journal, 24 issues, $1.00 the year.

The Motor Truck (Commercial Car), Monthly, $2.00 the year.

The Accessory and Garage Journal, monthly, $2.00 the year.

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The A B C of Carburetor Construction, Maintenance and Repair..... .35

The A B C of Magneto Systems..... .35

The A B C of Battery Ignition Systems .35

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Sent Postpaid to any address in United States upon receipt of price. Address all communications to The Automobile Journal, Pawtucket, R. I.

PUMPS, OILS AND GREASE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

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BUYERS' GUIDE---Continued

PUMPS, TIRE.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y.

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)

United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)

Branches: New York, Chicago, San Francisco.

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)

Branches: Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburg, Cincinnati, Kansas City, Minneapolis, New Orleans, Seattle, Birmingham, Ala.; London, Eng.; Montreal, Toronto, Winnipeg, Vancouver, Can.; St. John, N. B.; Halifax, N. S.

ROLLER BEARINGS.

Hyatt Roller Bearing Co., Detroit. (Hyatt.)

Norma Co. of America, 1790 Broadway, New York City. (Norma.)

SEAT COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SELF-STARTERS. (See Motor Starters.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.

Bresler Wallace Sales Co., 1031 Dime Bank Bldg., Detroit. (Wallace.)

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

Seger Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Colgate & Co., 199 Fulton St., New York City. (Moto-Gloss and Mechanics' Soap Paste.)

Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUG CASES.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Bosch Magneto Co., 223-225 W. 46th St., New York.

Branches: See Magnetos and Magneto Supplies.

Heinze Electric Co., Lowell, Mass. (Heco Priming.)

Mosler, A. R. & Co., P. O. Box M, Mt. Vernon, N. Y. (Spit Fire.)

Stives Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

Branches: See Magnetos and Magneto Supplies.

SPEEDOMETERS, RECORDERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.

Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TANKS, ACETYLENE GAS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Lite.)

Branches: See Cylinder Cleaning Compound.

TANKS, TIRE INFLATING.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Baby Tire Filler, The Emancipator.)

Branches: See Cylinder Cleaning Compound.

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Braender Rubber & Tire Co., Rutherford, N. J.

Coe Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)

Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens Valves.)

TIRE CHAIN GRIPS. (See Chains)

TIRE PRESERVATIVES AND PROTECTORS.

Braender Rubber & Tire Co., Rutherford, N. J.

Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)

Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Branches: In all principal cities.

Lax-Fal Rubber Co., Dept. S, 77 Chambers St., New York City. (Lax-Fal Guaranteed.)

United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)

Branches: See Rims—Removable and Detachable.

TIRES—MOTORCYCLE.

United States Tire Co., Broadway and 58th St., New York. (Morgan & Wright, G & J.)

Branches: See Rims—Removable and Detachable.

TIRES—SOLID AND COMMERCIAL.

United States Tire Co., Broadway and 58th St., New York.

Branches: See Rims—Removable and Detachable.

TOPS AND ATTACHMENTS.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

VALVE LIFTERS AND RESEATERS.

Pare, H. G., Suite 718-719 Michigan Blvd. Bldg., 30 No. Michigan Blvd., Chicago.

Winsor Mfg. Co., Providence, R. I.

VALVES, TIRE.

Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens.)

VARNISHES, ETC.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VENTILATORS.

Wattles, C. B., 441 Butler Exchange, Providence, R. I. (Excelsior Adjustable.)

VIBRATORS. (See Master Vibrators.)

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)

Vanderpool Co., Springfield, O.

Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Welder.)

Branches: See Cylinder Cleaning Compound.

Waterhouse Welding Co., 8 Pelham St., Boston, Mass.

WHEELS, WIRE.

Houk Co., Geo. W., 1709 Elmwood Ave., Buffalo, N. Y. (Houk Detachable.)

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.

Mossberg Co., Frank, Attleboro, Mass.

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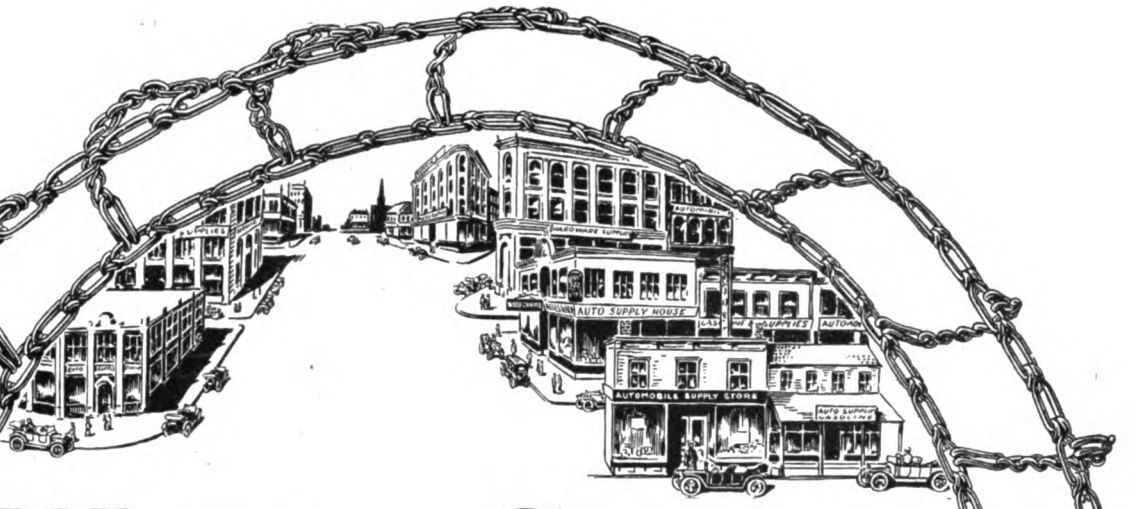

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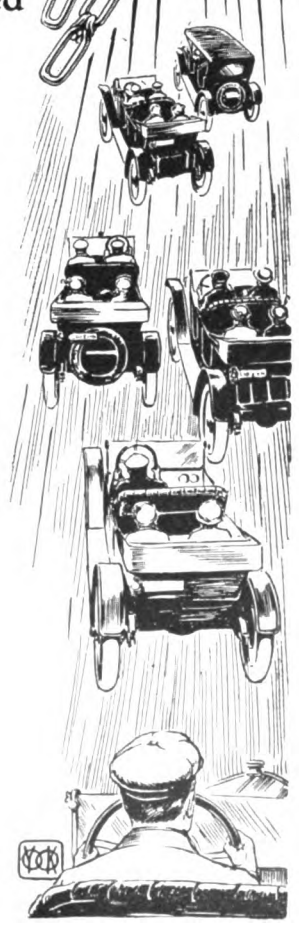

Weed Chain Tire Grip Company

Bridgeport, Connecticut

Manufactured for Canada by

DOMINION CHAIN COMPANY, Limited
Head Office: Shaughnessy Building, Montreal, Canada

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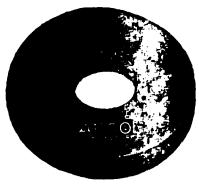
FORD DEALERS AND REPAIRMEN

Do you know that the APCO Line of Repair Parts for Ford Cars consists of more than fifty of the best selling articles on the list and our prices represent a saving of 25 per cent. over the factory prices? The goods are absolutely guaranteed in every way and by insisting on APCO you are absolutely protected against inferior substitutes.

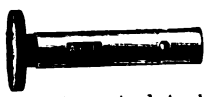


REAR AXLE FELT WASHERS No. 2510-B

Made of high grade felt and if these won't keep the grease in the axle housing, nothing will.

5c Each

APCO PUSH ROD



These rods are made from the highest grade steel obtainable, finely machined, hardened and accurately ground to the thousandth part of an inch. Guaranteed to be satisfactory in every respect.

Price 20c Each

APCO PISTON RINGS

These rings are made from the very best close grained gray iron and each ring is cast individually instead of being cut from a pipe shaped casting. They are carefully machined and accurately ground to size and are superior in every way to the ring you are familiar with at the same price.

Price 17c Each

APCO No. 2705-6.

Right and left Adjusting cone. For outside bearing of fron wheel.

Each 20c

APCO SPINDLE BODY BOLT

This is to take the place of Ford part number 2710. It is made from high grade steel and is ground after hardening. This is a very important feature as each bolt must be perfectly true and straight, while those that are hardened after grinding are inclined to be distorted in the hardening process. You can see the quality at a glance.

Price 40c Each

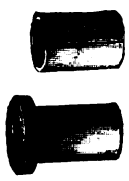
Fourteen Branches in Fourteen Cities. Write for One Nearest You.

The Largest Ford Specialties Manufacturers in the World.

Please send me catalog and discount sheet on Ford parts, also address of nearest branch. Send special discount proposition on first order.

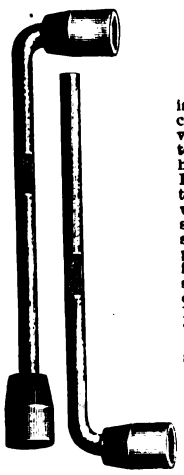
AUTO PARTS CO., Providence, R. I.

APCO STEERING GEAR BUSHINGS



Consisting of four large bushings and two small as shown in cut. Ford Repair Catalog No. 2713-2714. They are both turned from the highest grade bearing bronze obtainable and we are sure a set will outlast three sets of the ordinary soft brass that you are familiar with.

Price 10c Each



APCO SOCKET WRENCHES

On the Model T" Ford it is necessary to remove the cylinder head to grind the valves and to do this the sixteen bolts in the cylinder head have to be removed. It is impossible to remove these without a special wrench and we have designed our No. 1 and No. 2 socket wrenches for this purpose. They are made from high grade hardened steel throughout and will outlast two or three cars. Both sockets on the double wrench are the same, but the bolt is loosened with one end and spun out with the other.

PRICE

No. 1, Double End 50c
No. 2, Single End 40c

APCO ADJUSTABLE SPINDLE ARM BOLT

These bolts are made to take the place of Ford part No. 2718, but they are hardened and ground and will outwear ten of the soft ones you are familiar with. As shown in the cut they are 1-16 inch shorter than the regular bolt and are made this way so as to provide an adjustment, which, heretofore, has been impossible. Tightening down on bolt closes up the yoke on steering arm and prevents rattle from this source. This adjustment is easily made and it will be appreciated by Ford owners.

Price 20c Each

EMERGENCY BRAKE SHOES

These are furnished in Iron and Manganese Bronze. Price is for complete set.

Iron 80c **Bronze $2.50**

APCO FORD LOCK WASHERS

To be used under nuts instead of using cotter pins. Size 3-8 inch.

5c Dozen

No. 2811 Small Ball, 3-8 in. **4c Each**
No. 2810 Large Ball, 1-2 in. **5c Each**

APCO HOSE CLAMPS

These clamps are the famous "Thompson" same as used on the Ford car. They represent the highest development of hose clamps and are very easily adjusted and removed. They are twice as heavy as the regular clamp and will last twice as long. We are able to quote the same price as on the cheap kind, owing to the large quantity we use.

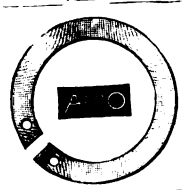
5c Each

Large Hose Connections 25c Each
Small Hose Connections 25c Each

No. 2704

Inner Stationary Cone for inside bearing of front wheel.

Each 30c



No. 2807
LARGE RETAINER
Each 5c

No. 2808
SMALL RETAINER
Each 5c

No. 2805
Large Inner Ball Race.
Each 35c

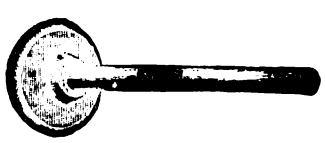
No. 2804
Small Outer Ball Race.
Each 25c

APCO ENGINE BOLTS No. 3014

With casteled nut and hole for cotter pin. Size 3-8 inch. Threads run to within 1-4 inch of head of bolt.

5c Each

APCO ENGINE VALVE No. 3052



This is as good a valve as they use on the high priced car. Steel stem cast iron head.

30c Each

AUTO PARTS COMPANY

PROVIDENCE, R. I.

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GUARANTEED TO REACH ALL TRADE INTERESTS

20 CENTS the COPY

Industrial News Pages 7-8, Personals 9-10, Accessories 13-15, New Cars 11-16, Market Quotations 17, Editorials 18, Garage Accounting System 19-21, New Car Agencies 22-24, Manufacturers 25, New Concerns and Business Changes 26, Accessories and Supplies for Garages 21-27-30, New Lines 33-34, New Machinery and Equipment 35, Opportunities for Dealers 36, Buyers' Guide 47-48.

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THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., OCTOBER, 1914. N

PANHARD OIL

PANHARD OIL AGENCIES

Begin business fully established.

Panhard Oils and Panhard Quality are known to motorists.

Panhard Oils are guaranteed by the manufacturer and sold in sealed checkerboard containers that protect the trade and the consumer alike.

Panhard Oils are advertised the world over and have been standards of lubricants for 11 years. Their sale is supported by extensive and intensive advertising.

Panhard Oils satisfy customers, and the influence of these customers constantly develops patronage that is in turn productive of more enduring business and increased profits.

Public knowledge of quality creates demand, and known quality must be established by experience. Unknown lubricants may have merit, but the public must learn this. Educating the public is costly.

One who sells Panhard Oils is benefiting, both for the present and the future, with every sale. The agent who develops business is working for his own interests. The agent who sells unknown oils is at best striving alone to promote another's business at the expense of his own.

There's Big Profits in a Panhard Oil Agency. Let us submit our selling proposition.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.

For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

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METZ

The Quality Car

A SPLENDID PROPOSITION FOR DEALERS

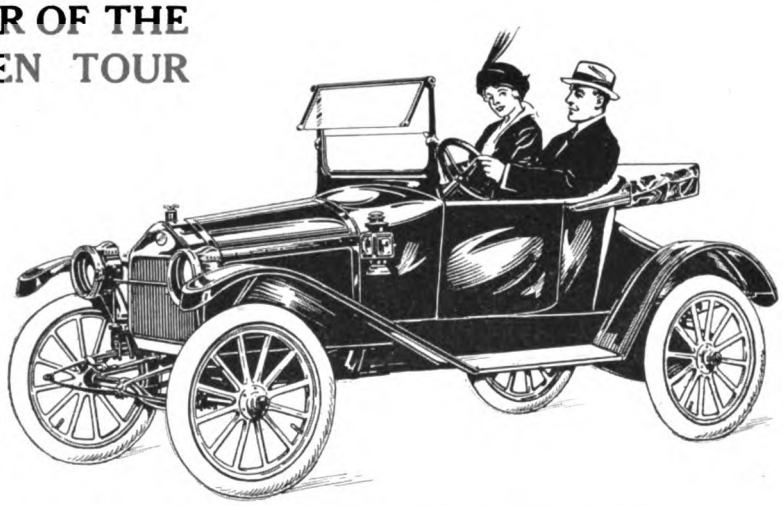
YOU know, Mr. Dealer, that the public is looking for a combination of **Quality** and **Low Price,** and this is exactly what you can guarantee a customer when you sell him a METZ.

The new Fore-Door model of the METZ is the classiest car in the roadster class. Its graceful lines win instant approval, and as you go on and explain its simplicity of construction and its economy in operation, and then mention the official records of its many sensational wins in endurance, hill-climbing and track events, the favorable first impression of your prospective customer becomes a conviction.

You don't have to **argue** a man into buying a METZ. All you have to do is to make him **acquainted** with it—and your sale is made.

The METZ fully meets the popular idea of a low-priced strictly high grade car.

WINNER OF THE GLIDDEN TOUR



$495 Equipped Complete

New Fore-Door Model

Stream line body, plate glass rain-vision wind shield, extra wide fore doors, Prest-O-Lite tank carried in closed compartment in rear, leaving running boards free.

Left-hand drive, center control and gearless transmission—which does away entirely with gear trouble.

Wide, comfortable seat, luxuriously upholstered, and deep cushions. Full elliptic springs all around. This new METZ model is remarkable for its easy-riding qualities.

Four-cylinder water cooled motor, Bosch high tension magneto, artillery wheels, best quality Goodrich clincher tires, extension top, five lamps, and complete equipment.

Makes 40 to 50 miles per hour, and for reliable road performance and hill-climbing ability it has no superior at any price. The METZ is pre-eminently the high class car in the low price class.

LIBERAL TERMS TO DEALERS. WRITE FOR PARTICULARS AND NEW CATALOG "F."

METZ COMPANY, - - WALTHAM, MASS.

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Raybestos

The PRODUCT of BRAKE SPECIALISTS

A brake lining made by a brake manufacturer, developed by experiment and experience to meet engineering requirements, and proven by practice with thousands of pleasure cars and trucks.

The use of Raybestos by most of the leading manufacturers, who have no other purpose than obtaining the best, whose conclusions are based on their own careful engineering and service knowledge, is a recognition of Raybestos as the standard of brake lining.

ENDURANCE

There can be no exact measure of mileage, for operating conditions are extremely variable, but Raybestos is guaranteed to endure for a year on all pleasure cars and light trucks, no limitation being placed on miles driven or the character of service. In event the guarantee is not realized the brake lining is replaced without cost.

SERVICE

In 57 cities of the United States are nearly 100 distributors of Raybestos, all having full stocks, who can supply any order, who can be quickly reached by mail, wire or 'phone, and who can afford attention equal to that given by our own highly efficient factory organization, which is also at your command.

Specify Raybestos when you overhaul, refit or repair a vehicle.

At request we will supply the name of the Raybestos distributor for the section in which any inquirer is located—an information that may be extremely useful.

When we can serve you write, wire or make a personal visit to our distributors, or to

THE ROYAL EQUIPMENT CO.

1380 Bostwick Avenue Bridgeport, Conn.

(Always Mention the Accessory and Garage Journal When Writing for Prices, Etc.)

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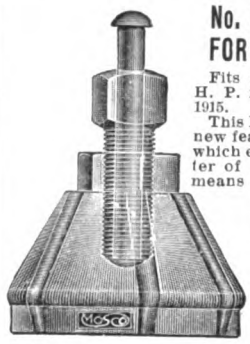
FRONT REAR

SHOCK ABSORBERS FOR THE FORD—FRONT AND REAR

Each absorber has two torsion springs of vanadium steel—one on each side of the shackle. Springs and moving parts enclosed in housing. Look like part of the car when installed. Only 5½ inches high. They make the Ford ride like a Pullman coach.

Set of 4, $10.00; Set of 2, $6.00



No. 3 WHEEL PULLER FOR OVERLAND CARS

Fits all Overland 30 and 35 H. P. models of 1913, 1914 and 1915.

This Puller has an absolutely new feature in the loose plunger which extends through the center of the screw, affording a means of starting off a wheel which is stuck or "frozen" to the axle. A sharp blow with a hammer against the end of plunger is a wonderful help.

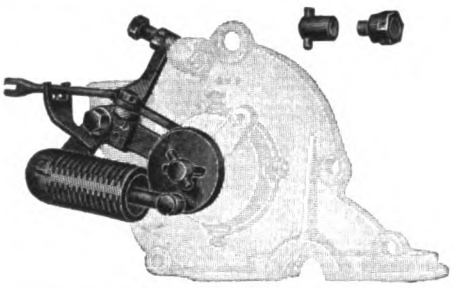
$1.25 Each

(Patent applied for)

BRAKE SHOES FOR FORD REAR WHEELS

Made in one piece of best quality grey iron casting and covered with asbestos lining. These shoes grip the drums much more securely than the plain iron shoes and yet permit a more gradual application of the hand brake because of the lining. They are positive money savers as the lining may be replaced for only a few cents.

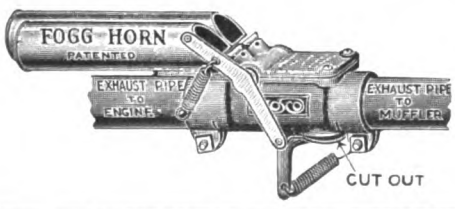
Price per pair $1.50



MOSCO POWER TIRE PUMP mounted on front cover of Ford timing gear case

This is the first practical and substantial power pump ever put on the market for inflating tires on the Ford car. It is driven by an extension of the time shaft and therefore runs at half engine speed. When mounted in the position shown it becomes like a part of the power plant. Equipped with a clutch device so that it may be stopped or started by one movement of a shifting lever.

Price, with 15 feet hose and 150 lb. gauge, $7.50



"FOGG" EXHAUST HORN

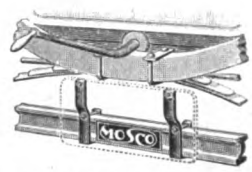
Generally admitted to be the best signal ever produced for Ford or Metz cars. Located between the engine and the muffler, it delivers a full, mellow signal at low engine speeds. A new model for 1915 has cut-out in the body of the horn so that in buying the Fogg you get two fittings in one—a signal and a cut-out.

Price with cut-out $5.00 Price without cut out $4.50

Our line of MOSCO specialties includes also Muffler Cut-Outs, Radius Rod and Steering Rod Anti-Rattlers, Brake Rod Guides, Anti-Rattling Door Checks for the Ford Doors, Gas Savers, Stabilizers, Timers, etc. A late addition is a line of Anti-Rattlers fitted with grease cups. Descriptive matter on application.

MOTOR SPECIALTIES COMPANY

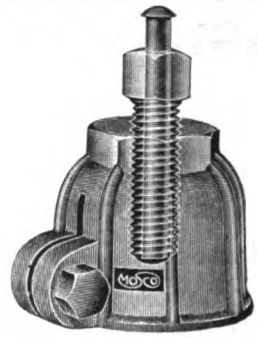
WALTHAM MANUFACTURERS MASSACHUSETTS



FRONT NUMBER PLATE HOLDERS

attached to the front axle of the Ford in two minutes. No holes to drill. Made of rust-proof steel. Hold the plate above the mud and do not permit it to shake or rattle.

Price per set of 2, 25 cents



No. 2 Wheel Puller for the Ford Car

This model has our new loose plunger feature as used in our No. 3 model. It also has an adjusting screw to provide for the variation in hub threads often found in the Ford car. No stripping of threads is possible with this puller. Made of malleable iron casting with steel fittings. (Patent applied for.)

Price $1.00

FAN BELT GUIDE FOR THE FORD CAR

A safeguard against the familiar trouble of belt slipping on greasy fan pulleys. Made of semi-steel. Readily attached to side of timer gear housing without extra hole or bolt. There is no excuse for any Ford owner suffering from belt trouble when this little device can be bought at slight expense.

Price 50 Cents

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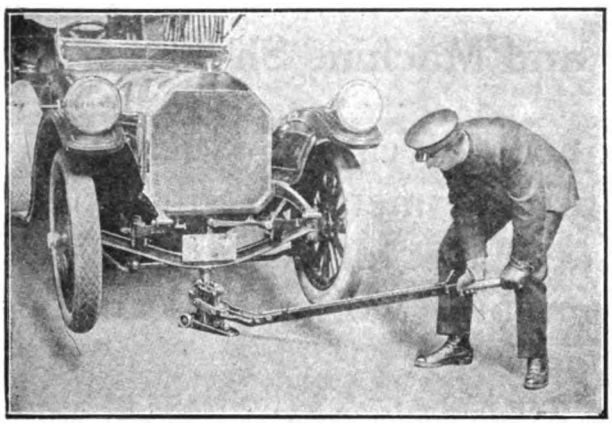
$16 IT'S THE EXCEL AUTO JACK $16

RAISING FRONT END OF HEAVY TOURING CAR.

And It's All Done Before You Could Find The Jack You've Been Used To.



Weight 50 lbs. Capacity for cars weighing up to 8000 lbs. Length of Handle 50". Range of adjustment from 4 to 20" raising 4½" from these or intermediate points.

WHY

It is too large to be mislaid.
It is never out of order; too heavy to be taken without your permission. Roll it to car, pull up on handle until head touches axle. Press down on handle ONCE, and up goes 4500 lbs. 4½ inches, in 4½ seconds. It will raise 4½ inches from a starting point, 4 to 20 inches from the ground.

This is not a turntable jack. Don't be skeptical because it's new. You must see and use it before passing judgment. Just try one and let it speak for itself. If it isn't more than we claim for it, or if you are not perfectly satisfied with your purchase, send it back. It bears the (Mosco) guarantee, which means your money back (without any strings) if not satisfied.

The list price is **$16.00.** Dealers, Garages and Repair Shops, **$12.80.** Send us your check for one today. Be the first in your town or city to have one. You have my personal guarantee that you will make no mistake.

S. L. Campbell
Sales Manager

If you have a car and are calling on the trade write to us for attractive agency proposition.

MOTOR SPECIALTIES CO.
MANUFACTURERS
WALTHAM, MASSACHUSETTS

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Do Your Own Welding

A WATERHOUSE OUTFIT

Is a Great Profit Producer in Every Garage, Repair and Machine Shop.

A practical equipment, developed by years of experience, that can repair any worn or broken metal at trifling expense. No other process can equal it for economy. Its use is not confined to automobile work. It can be utilized for hundreds of purposes.

"The Busy Corner"

A Trial Costs You Nothing

WATERHOUSE Equipment will develop business. The value of autogenous welding is known. This service can be made highly profitable.

A WATERHOUSE Welding Plant is comparatively inexpensive. A small investment will equip a shop to do any work.

WATERHOUSE Welding Apparatus is absolutely safe. The torch will not flash. Time is not lost from "flashing," relighting, adjusting flame and from cooled metal. Waterhouse torches are built right, and are guaranteed for a year.

WATERHOUSE Outfits are sold with the right to two weeks' trial. If it doesn't satisfy you send it back and no questions are asked.

Waterhouse Welding Company

3 Pelham Street, Boston, Mass.

Established 1908 **Welding and Cutting Equipments Exclusively.**

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Pay From The Profits

Free Trial Offer

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.

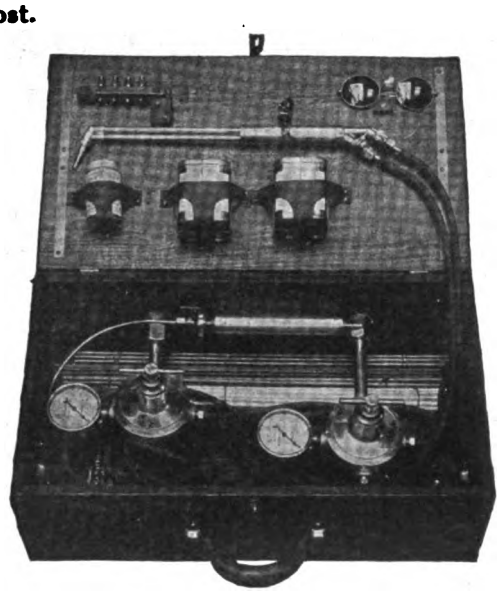
The WATERHOUSE Welding Outfit costs less than useless or inferior equipment---Sold on terms to prove its value and superiority.

Free Trial Offer

When you buy a WATERHOUSE WELDER you protect yourself. Built under U. S. Patents 1,039,036 and 1,075,818. Absolutely non-flashable. Lowest in operating cost.

The Waterhouse Outfit

	Value
1 B Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50 lb. line pressure gauge . .	10.25
1 Acetylene Reducing Valve with 50 lb. line pressure gauge .	11.00
1 Set of Special Welding Hose (20 ft.)	3.00
1 Pair of Welding Glasses . .	.75
1 Carbon Burning Torch	Free
1 Set Instructions . .	Free
Net Cost Complete	**$42.00**



If you have a regulator for carbon burning, the oxygen regulator with the outfit is unnecessary, and you can deduct the price ($10.25), from the above total price.

TERMS: 5% discount cash with order or C. O. D. *or* $20.00 cash with order, balance in two payments, first of $12 in 30 days, $10 in 60 days *after receipt of outfit by you.*

If supplies are desired as well, we will sell for $4.50 additional the following, making you ready for any auto welding:

1 Bottle Aluminum Flux
1 Can Cast Iron Flux
1 Can Copper and Brass Flux
2 pounds Brass Welding Rods
5 pounds Cast Iron Welding Rods
2 pounds Aluminum Welding Rods
2 pounds of Steel Welding Rods

SUPPLY SPECIALS THIS MONTH

We are the largest manufacturer of welding supplies in the United States, and our prices are absolutely the lowest.

Our Prices	Others Charge
Cast Iron Welding Rods, 25 lbs. or more, 10c lb.	15c lb.
Aluminum Welding Rods, 10 lbs. or more, 60c. lb.	75c lb.
Aluminum Flux, doz. or ½ doz. cans, $7 a doz.	$12 doz.
Cast Iron or Copper Flux, doz. or ½ doz. cans, $5 a doz.	$6 doz.

Waterhouse Welding Company

3 PELHAM STREET, BOSTON, MASS.

Established 1908 **Welding and Cutting Equipments Exclusively**

(When Writing, Please Mention The Accessory and Garage Journal.)

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THERE is no question about which is the best brake lining for this is a point which has been proved time and again by engineering tests. Don't take our word for it, but write at once for the signed reports of these tests.

STANDARD WOVEN FABRIC CO.
FRAMINGHAM, MASSACHUSETTS

BOSTON—F. Shirley Boyd, 903 Boylston St. PHILADELPHIA—N. A. Petry Co., Inc., 1427 Vine St.
CHICAGO—F. E. Sparks, 1430 Michigan Blvd. SAN FRANCISCO—Fred Ward & Son, Inc., Cor. First & Howard Sts.

(When Writing, Please Mention The Accessory and Garage Journal.)

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., OCTOBER, 1914. No. 6

NEW PLANT FOR PRODUCING LBA BATTERIES.

Willard Storage Battery Company Erecting New Building Providing Six Acres of Floor Space—Standard Woven Fabric Company Holds Convention.

OWING to the increasing demand for LBA storage batteries, the Willard Storage Battery Company, Cleveland, O., has been obliged to add to its manufacturing facilities, and the company is erecting a new plant, which will provide six acres of floor space. The new plant will include 10 buildings and will be equipped on such a scale as to amply provide for the company's needs for an indefinite period. There is sufficient space, however, for further expansion.

New Factory of the Willard Storage Battery Company, Cleveland, O., Which, When Completed, Will Provide Six Acres of Floor Space for the Production of LBA Storage Batteries.

The new location is on East One Hundred and Thirty-First street, upon 10 acres of land. All buildings will be of brick, of the latest and most approved construction, and will be equipped with sprinkler systems throughout. Each structure will be sufficiently apart from the other to insure adequate protection from fire and to give the maximum of light.

The offices will be housed in a handsome administration building, two stories in height, and equipped in the most approved manner. The accounting, cost and purchasing departments, with necessary private offices, will be located on the first floor, while the private offices for the executives and heads of departments, filing rooms, draughting departments, etc., will occupy the second floor. In a separate building will be the dining rooms for the office and factory employees, where noonday lunches will be served at a nominal cost. Particular attention is to be given to sanitation, and the most modern lockers, bath rooms, dressing rooms, etc., will be installed. A feature of the plant will be a completely equipped hospital for the treatment of the employees, in charge of a physician regularly employed by the company.

A switch track from the Belt line railway, which connects with all railroads entering Cleveland, will extend the entire length of the 10-acre lot in proximity to the end of each building.

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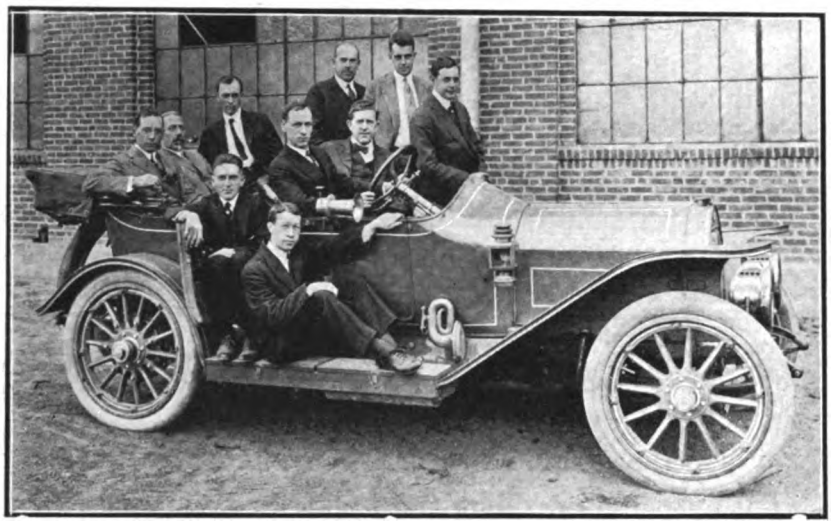
WONKOTE ENAMEL.

F. Ed. Spooner Forms Company to Market Material Applicable to Metals, Glass, Wood, Etc.

F. Ed. Spooner, well known to the industry, has formed the WonKote Enamel Company, Inc., with headquarters at 903 Free Press building, Detroit, Mich., and laboratories at Ravenswood, Ill. He is secretary and general manager, F. J. Wirtz is president and sales manager, and Paul Fuchs, former lieutenant in the German navy, manufacturing manager. The enamel is the discovery of Lieutenant Fuchs. It is a secret preparation and is non-transparent, non-porous, and retains a high gloss against the actions of acids and alkalies. It is applicable to metals, glass, wood, etc., and is produced in every known color. WonKote will be put on the market for the automobile and building trades.



Giving Multibestos Brake Lining a Road Test in General Manager A. H. Burdick's Car.

MULTIBESTOS CONVENTION.

Representatives of Standard Woven Fabric Company Meet at Factory to Discuss 1915 Campaign.

One of the events in the automobile industry last month was the sales convention of the Standard Woven Fabric Company, maker of the well known Multibestos brake lining. The convention was held at the factory at Framingham, Mass., with the idea of going over in detail the plans which have been made for an active sales and advertising campaign for the coming year.

The success of the Standard Woven Fabric Company in the accessory field is largely due to its thorough sales service and distribution policy. The company has five distributing centres, New York City, Boston, Philadelphia, Chicago and San Francisco, each carrying a very large stock of the different sizes of Multibestos brake lining which are in general use. The agent in charge of these centres is a direct factory representative, and he has an allotted territory which he and the salesmen under him cover thoroughly.

This service is maintained chiefly in the interests of the jobbers handling Multibestos material, for while their stock orders are filled direct from the factory, it frequently happens that they have calls for odd sizes, which are supplied by the factory branch, a method assuring prompt service. Due to the activity of these branches, a jobber or distributor is located in practically every city of importance in the country.

The sales plans for the coming year aim to make this distribution even more complete and at the same time to increase the volume of business of the jobbers by means of advertising and assistance from the home office. The company holds that the jobber or large dealer is the logical distributor for Multibestos lining, and the concern makes no effort to sell to garages, repair shops or small dealers. This class of trade is to be appealed to on behalf of the jobber and the campaign includes plans for assuring this business to the jobber and the consumer trade to the garage and repair shop. This, coupled with an endless chain of advertising and sales service, will benefit those handling Multibestos brake lining.

One of the features of the convention was the interesting talk by E. E. Waite, factory manager, on brake linings. He escorted the representatives through the factory and explained each step of the manufacturing process, told how other brake linings were made, and gave reports of his tests, as well as those made in the engineering departments of motor car makers. A point demonstrated by Mr. Waite in his talk was the solidity of the weaves of Multibestos lining, there being no loose plies or stuffers in its makeup.

General Manager A. H. Burdick gave a very interesting talk in which he traced the history of the company's success. According to his report the business was doubled in the past year and the outlook is bright for a similar increase in 1915.

Although the convention was decidedly of a business nature, the representatives were royally entertained. One evening was spent at the Framingham Country Club with Mr. Burdick as host. N. A. Petry, of the Philadelphia branch, presided at the piano. R. D. Northrop, advertising manager, and E. E. Waite, gave an exhibition of the "Friction Clutch" and other modern dances. T. J. Daley, secretary of the company, and Walter Williams, of the Boston office, contributed to the success of the evening.

Those present at the convention included F. Shirley Boyd and Walter Williams of the Boston office; N. A. Petry and G. R. F. Cotton of Philadelphia; T. J. Daley, secretary; M. D. Davies, travelling representative for New England, and R. D. Northrop, advertising manager. The convention was so successful that it is planned to hold another in January, when representatives from the Chicago and San Francisco offices will be present.

Sales Representatives of the Standard Woven Fabric Company Present at Recent Factory Convention: Upper Row Reading from Left to Right—R. D. Northrop, Walter Williams, M. D. Davis, Thomas Lamb, E. E. Waite and F. S. Weeks; Lower Row—N. A. Petry, A. H. Burdick, T. J. Daley and F. Shirley Boyd.

SPARK PLUG MERGER.

Champion Spark Plug Company and Jeffery-Dewitt Company Combine and Former Will Produce Both Makes.

The Champion Spark Plug Company, Toledo, O., and the Jeffery-Dewitt Company, Detroit, Mich., have merged, and the former will manufacture and market the "J-D" and Reliance plugs, formerly the product of the Detroit concern, in addition to its own product, the Champion. All business will be handled exclusively from Toledo. The Jeffery-Dewitt Company will manufacture porcelains and porcelain products only. All machinery and equipment will be moved from Detroit to Toledo and the Champion plant will be enlarged by the addition of 40,000 square feet of floor space.

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PERSONAL NEWS OF THE INDUSTRY.

Howard E. Coffin, Detroit, vice president of the Hudson Motor Car Company, has been appointed a member of the patents committee of the National Automobile Chamber of Commerce.

Howard E. Coffin, Member of the Patents Committee, National Automobile Chamber of Commerce.

Hugh Chalmers, Detroit, is rapidly recovering from a serious surgical operation. He is a member of the Chalmers Motor Company.

A. B. Wagner, Indianapolis, has been appointed local sales manager of the branch of Nordyke & Marmon Company. He has been connected with that company for the past six years.

Ralph P. Merritt, Detroit, formerly district sales manager in northwestern Ohio for the Buick car, has joined the staff of the King Motor Car Company.

H. A. Griffith, Spokane, Wash., has been appointed sales manager of the local branch of the United States Rubber Company, to succeed H. A. Thompson, who has been promoted to the Seattle and Tacoma branches as manager.

B. M. Burbank, Detroit, has joined the sales staff of the King Motor Car Company. He will have charge of sales in Omaha and vicinity.

Earl J. Moon, St. Louis, has been appointed general advertising manager and city sales manager of the Moon Motor Car Company.

A. F. Holleyhead, Chicago, has been appointed district sales manager of the Federal Motor Truck Company. He was formerly manager of the Gibney Tire Company, Detroit.

D. C. Warren, Portland, Ore., has been appointed sales manager of the Oregon Motor Car Company, Studebaker distributor for that territory.

F. M. Randell, Seattle, has become general sales manager of the Seattle Automobile Company. He is well known to the trade.

William H. Beldler, Seattle, has charge of the Maxwell interests in the northwest. He was formerly associated with Don Lee, San Francisco.

William Fewell, New York City, has been appointed local manager of the branch of the Lee Tire & Rubber Company, whose headquarters are at Conshohocken, Penn.

Homer V. Hawk, Toledo, has been appointed general purchasing agent for the Willys-Overland Company, the Gramm Motor Truck Company and the Garford Company. He succeeds C. C. Homer, resigned.

H. J. C. Miller, New York City, has been appointed retail sales manager of the Winton Motor Car Company. He has been identified with that company for a number of years.

L. J. Ollier, Detroit, returned recently after a trip through the northwest, where he addressed nearly 100 dealers. He is sales manager of the Studebaker Corporation.

L. D. Thomas, Indianapolis, has been appointed auditor of the Premier Motor Manufacturing Company, succeeding J. H. Hartman, resigned.

George E. Edmunds, Detroit, secretary of the Edmunds & Jones Manufacturing Company, sailed for Europe recently to establish agencies for the lamps and lighting specialties produced by his concern.

W. J. Morgan, Newark, N. J., has become identified with the Ford Motor Company in the sales department. He will also attend to publicity matters.

C. W. Dow, Detroit, former sales manager of the Detroit Electric Appliance Company, has become identified with the sales force of Fred E. Castle.

E. W. Weaver, Cleveland, is now chief draftsman of the Ferro Foundry & Machine Company. He was formerly connected with the Peerless Motor Car Company.

W. W. Whipple, Boston, has been appointed manager of the local branch of the Stromberg Motor Devices Company, Chicago, succeeding A. W. Sayre.

Charles F. Remington, Detroit, has resigned as secretary of the Lincoln Motor Car Company.

Charles E. Lloyd, Philadelphia, has been elected treasurer and retail sales manager of the E. C. Johnson Company, which handles the Premier and Reo cars.

Bert Hewitt, New York City, has joined the sales staff of the United States Tire Company. He will have supervision over the commercial vehicle tire department.

J. F. Reddick, Chicago, has become identified with the Stromberg Motor Devices Company in the capacity of advertising manager. He was formerly director of publicity for the Goodyear Tire & Rubber Company, Akron.

Henry W. Gray, St. Louis, has been appointed manager of the motor car accessories department of the H. W. Johns-Manville Company. He is well known to the trade.

W. M. Jenkins, Detroit, recently returned from a trip through the middle west and reports good business conditions. He is sales manager of the Master Carburetor Corporation.

D. M. Trombley, St. Louis, has become identified with the De Luxe Automobile Company as general sales manager. He has been connected with a number of prominent automobile concerns in the West.

G. C. Brainard, Cleveland, has joined the sales department of the Hydraulic Pressed Steel Company, Detroit. He was formerly salesman for R. B. McMullen & Co., Detroit.

R. W. White, Chicago, has been promoted to the Chicago branch of the Columbus Tire & Rubber Company. He was formerly manager of the Columbus branch of that company.

James H. Kiefer, Dayton, of the engineering staff of the Dayton Engineering Laboratories Company, died recently.

Frank Briscoe, Detroit, has returned from Europe and announces that the business of Briscoe Brothers in France will be closed. He is connected with the Briscoe Motor Car Company and the Argo Motor Company, Jackson, Mich. With his brother he established the Briscoe Freres Company in Paris.

Carlton E. Norfolk, Detroit, has become advertising manager of the Regal Motor Car Company.

O. H. Browning, Chicago, formerly manager of the Philadelphia branch of the International Harvester Company, has been appointed manager of the commercial vehicle department. He will have full charge of the output of the Akron plant of that company.

F. R. Bump, Detroit, has been appointed eastern wholesale manager of the Studebaker Corporation. He is well known in the industry.

Carl H. Clement, Toledo, is now sales engineer for the Bock Bearing Company. He was, until recently, chief engineer and sales manager of the Metal Products Company, Detroit. Mr. Clement was the first axle builder to test the new Bock taper roller bearing.

L. J. Petre, Cleveland, who was formerly with the research department of the F. B. Stearns Company, has established himself as consulting engineer, specializing in work for individual automobile owners.

Tom Burton, Atlanta, Ga., has been appointed manager of the United States Tire Company.

Frank H. Trego, Springfield, Mass., has accepted a position as general manager of the Knox Motors Company. He was formerly research engineer of the Packard Motor Car Company.

Edward T. Birdsall, Detroit, has become associated with the Emil Grossman Manufacturing Company, Inc., succeeding Eduard Shaw as manager. Associated with him are F. George Walker and Alfred A. Greenburg.

H. R. McDonald, San Francisco, Cal., has been made manager of the Chalmers Motor Company.

Frank H. Trego, General Manager of the Knox Motors Company.

D. R. Murrell, Norfolk, Va., has been appointed district representative for the Studebaker Corporation.

Robert H. LaPorter, Detroit, has joined the sales staff of the Scripps-Booth Company. He was formerly con-

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nected with the Franklin Automobile Company.

Frederick H. Elliott, New York City, secretary of the Safety First Society of New York City, is touring the country to build up a Safety First movement. He will give lectures in the various cities emphasizing the importance of Safety First.

Frederick H. Elliott, General Secretary of the Safety First Society.

Henry R. Jossman, Flint, Mich., has accepted a position as travelling representative for the Chevrolet Motor Company. He held a similar position with the Oakland Motor Car Company, Pontiac.

N. F. Sutton, Pontiac, Mich., for almost a year a member of the sales force of the General Motors Truck Company, has been appointed manager of the company's branch at St. Louis.

N. H. Motsinger, Jr., Chicago, has become associated with the Findeisen & Kropf Manufacturing Company. He will be factory representative.

C. J. Patterson, St. Louis, has become secretary of the Velie Motor Company of Missouri.

Harold Pope, Cleveland, formerly of the Pope Manufacturing Company, Hartford, Conn., has joined the engineering force of the Ferro Machine & Foundry Company of the former city.

C. M. Menzies, Portland, Ore., has become identified with the Northwest Auto Company. He has been for the past three years connected with the H. L. Keats Automobile Company.

J. W. Bayard, Detroit, representing the sales department of the Signal Motor Truck Company, left recently for the Pacific coast.

Charles W. Baird, Detroit, formerly president of the Detroit Steel Company and a director in the Federal Motor Company, died at his home recently.

H. E. Bradford, Bridgeport, Conn., has accepted a position as manager of the Erwin M. Jennings Company. He was formerly associated with the Earlye Y. Booth Company, agent for the National car at Los Angeles.

Seymour G. Cole, Detroit, has resigned as general manager of the Parish Manufacturing Company.

H. J. Vogel, Philadelphia, has become district sales manager in that territory for the Maxwell Motor Company, Inc.

F. C. Blanchard, Akron, assistant sales manager of the Firestone Tire & Rubber Company, is touring throughout the northwest.

C. Louis Allen, New York City, is now general sales manager of the Pyrene Manufacturing Company. He was formerly general manager of the automobile department for that company.

C. A. Pfeiffer, Detroit, has resigned as president of the Wolverine Automobile Club, owing to his many business duties. He is secretary and treasurer of the Chalmers Motor Car Company and the Metal Products Company.

R. K. Jack, Toronto, Ont., has been appointed chief engineer of the Russell Motor Car Company. He was associated for a number of years with the Cadillac Motor Car Company, Detroit.

Stefan J. Kjeldsen, New York City, has become associated with the Holbrook Company. He is well known among the importers of automobiles and is also manager of the Importers' Salon held in that city.

Frank G. Eastman, Detroit, of the Packard Motor Car Company, and E. A. Walton, advertising manager of the Timken-Detroit Axle Company, have been appointed members of the house organ committee of the Associated Advertising Clubs of the World.

T. C. Woodin, Detroit, has been appointed factory manager of the Abbott Motor Company. He was formerly sales manager of that company, with headquarters at Philadelphia.

Wallace M. Williams, Covington, Ky., has become associated with the International Liberty Union. He was formerly connected with the Franklin Automobile Company, Syracuse, N. Y., as advertising manager.

C. P. Carey, Detroit, has joined the sales force of the Federal Motor Truck Company and will be district sales manager in the New England states and New York. He was formerly identified with the Peerless Motor Company.

A. Roy Camp, New York City, has been appointed sales manager of the Chalmers Motor Company's branch. Headquarters for the company is at Detroit.

M. C. McCann, Lafayette, Ind., has been appointed representative in northwestern Indiana for the Indiana distributing branch of the Oakland Motor Company.

B. F. Everitt, Detroit, has become associated with the Hayes Manufacturing Company in the body building and trimming department.

Howard Flagg, Cleveland, is now connected with the Standard Welding Company, having joined the sales staff recently. He was formerly associated with the Shelby Tube Company, the National Tube Company and the Ohio Seamless Tube Company.

William M. Gage, New York City, has joined the C. T. Silver Motor Company, agents for Peerless, Willys-Knight and Overland cars. He was formerly associated with the Colt-Stratton Company, Cole distributor in the East.

E. A. Cassidy, New York City, has been appointed general manager of the auto accessories department of the H. W. Johns-Manville Company, succeeding George L. Holmes, resigned.

Ernest Coler has accepted a position with the Briscoe Motor Company, Jackson, Mich. He was formerly publicity manager of the Willys-Overland Company, Toledo, and also advertising manager of the Maxwell-Briscoe Motor Company, Tarrytown, N. Y.

Harry J. De Bear has been appointed manager of the new Maxwell Motor Sales Corporation's branch, which succeeded the agency in New York City. He has been connected with the sales end of the automobile business for some time.

Aaron Waldheim, Indianapolis, president of the Empire Automobile Company, is one of the many Americans stranded in Europe on account of the war. Empire representatives on the Continent and in England have been cabled to assist Mr. Waldheim in returning to this country.

Arthur J. Paige, M. E., who has been assistant mechanical engineer of the National Motor Vehicle Company, Indianapolis, Ind., for over three years, resigned recently to give some time to the development of a new motor of his own design.

C. W. Dow, Washington, D. C., now has charge of the local branch of the Hupp Motor Car Company.

W. M. Hogle, Alma, Mich., has resigned as general sales manager of the Alma Motor Truck Company.

Frank J. Girard, Columbus, O., has been appointed district sales manager for the Peerless car and will make his headquarters at 168 North Fourth street.

Henry Holt, New York City, has become affiliated with the local branch of Dodge Brothers. He will take care of the selling end of the business.

John Dietrick, Detroit, is in charge of the engineering department of the Denby Motor Truck Company.

Charles L. Rutter, Detroit, has been appointed manager of the Rutter, Raths & Theisen Auto Sales Company, 761 Dix avenue.

M. J. Holmes, Alma, Mich., has been appointed sales manager of the Alma Motor Truck Company, maker of the well known Republic commercial cars.

Charles Van Horne, Detroit, has taken charge of the commercial vehicle department of the Studebaker Corporation as sales manager.

W. T. Bush, Walkerville, Ont., has been appointed sales manager of the Studebaker Corporation of Canada, Ltd. He succeeds C. H. Snoke, who recently resigned.

Charles P. Henderson and R. P. Henderson, Who Have Joined the Cole Forces—The Former Is General Manager of Sales and Advertising and the Latter His Assistant.

C. P. Henderson, Indianapolis, and his brother, R. P. Henderson, have become associated with the Cole Motor Car Company. They will have charge of sales and advertising.

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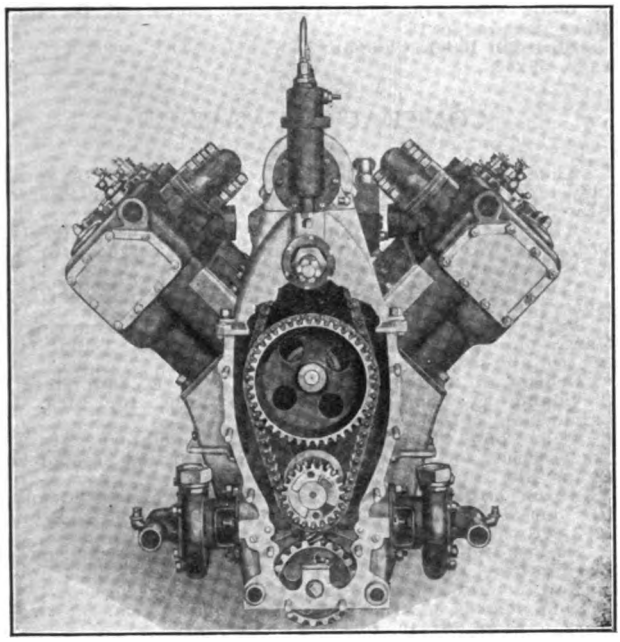
EIGHT-CYLINDER CADILLAC.

1915 Product Innovation Inspired by Aviation Motor Success.

The Cadillac Motor Car Company, Detroit, Mich., has put an eight-cylinder car on the 1915 market which is to cost no more than the previous car, $1975. The eight-



Front View of Cadillac Eight-Cylinder V Motor Having Two Groups of Cylinders Mounted at 90 Degrees to Each Other—A Pump Is Provided for Each Set, and Silent Chain Drive Is Generally Employed.

cylinder motor has been successfully used in aviation and the company has been influenced in its use on motor cars because it creates a power impulse every quarter turn of the crankshaft. There is no interval between the impulses as in a four-cylinder motor, and the application of the power is more continuous than in a six-cylinder engine. To eliminate undesirable dimensions, particularly length, the V type cylinder is utilized. Two groups of cylinders have a block casting of four cylinders mounted at 90 degrees to each other. The motor is more compact than the one formerly used, and it weighs 60 pounds less. The bore of the new motor is 3⅛ inches and the stroke 5½, giving a piston displacement of 314 cubic inches. The application of the S. A. E. formula to the motor gives it a rating of 31.28 horsepower, but the horsepower curve shows that this rating is very conservative, it being developed at approximately 1000 revolutions a minute, whereas the motor develops 70 horsepower at 2400 revolutions a minute. At slightly above 1600 revolutions a minute the chart shows 50 horsepower. The crankshaft has four connecting rods and is 26 1/16 inches long. The camshaft directly above the crankshaft has eight cams, each one operating two opposite valves. The accurate balance necessary with a high-speed motor is obtained by uniformity of weight due to the machining of the pistons and connecting rods to very close limits. The firing order of the new motor alternates from one side to the other. Carburetion is by a single-jet type carburetor, located midway of the engine and between the cylinder blocks. The ignition is by the Delco system. An innovation is the application of thermostatic control to the temperature of the cooling fluid. The lubrication system involves a number of refinements and is of the force feed type. The fan and Delco motor-generator are driven by a shaft vertically in line above the camshaft. The reduction between the electric motor and engine is 25 to one. Numerous other changes in the chassis are noted. The gearset is incorporated with the power plant and the leather faced cone clutch has been replaced by a well designed disc cluch of the dry plate type. Drive to the axle is by an enclosed shaft having two universal joints. The rear axle is of the floating type, but the two-speed construction has been dropped. Spiral gears replace straight bevels. Timken roller bearings are employed and the axle is also a Timken. The other components of the chassis are practically the same. The wheelbase has been increased from 120 inches to 122, and the driver is placed on the left, with centre control. The fuel feed is by pressure, the tank being at the rear of the chassis and the air pump is at the forward end of the camshaft. The tires are 36 by 4½ inches on demountable rims and wood wheels.

A variety of body designs is offered and these follow conventional practise. These include a five and seven-passenger touring car, a four-passenger salon of the open design, a two-three passenger roadster, a coupe, a five-passenger sedan and two seven-passenger limousines. The four-passenger salon body provides a passageway to the rear seats and between the individual seats. The equipment leaves nothing to be desired.

FOUR-PASSENGER BOAT TYPE.

One Addition to the Bodies of the New National Series.

National will continue its six for 1915 and will follow the one-chassis model policy. Of this chassis there will be six body types. Five of these are continuations of the bodies of the past season, with refinements, while a sixth, a four-passenger boat design, is a new one.

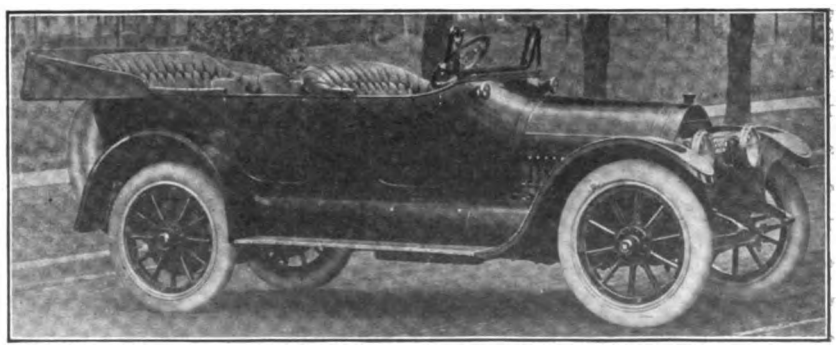
Features of the 1915 line are four-passenger boat body in use, five improved bodies continued, prices unchanged, Remy cranking and lighting adopted, Eisemann ignition is new, reciprocating parts lightened, body weight reduced and other minor improvements.

The four-cylinder car known as series V3 will be continued practically for the coming season.

While the new cars are the same in price and essentially the same mechanically as for the 1914 season, a number of refinements will be noted throughout. The entire electrical equipment of the car has been altered, Remy lighting and starting replacing the outfit used formerly, and in place of the dual system of ignition, the Eisemann magneto now forms the sole source of ignition current.

Twenty-five per cent. has been cut off the reciprocating parts of the motor resulting in an increase in power and the elimination of vibration at high speeds. The crank case now is a heavier casting, adding still further to the rigidity of the motor construction. While the oiling system remains the same in the principles of operation, a vertical oil screen separates the horizontal type, eliminating any chance of clogging, because the oil cannot settle on the surface.

In the gearbox the travel of the sliding pinion has been increased by ¼ inch, making an easier gearshift. The rear springs are now made of manganese. Another alteration in the spring, which is a cantilever design, is that it is practically flat. Although 100 pounds has been clipped from the body's weight, the six-passenger car is longer and wider. The Willard battery has been placed beneath the splash guard at the side of the car. The new boat design body sells at $2700. The National Company is continuing the four-passenger toy tonneau, five-passenger touring and two-passenger roadster, all listing at $2775; a coupe at $2750 and a six-passenger toy tonneau with disappearing seats, $2500. The cars are all fully equipped, tire pump, Collins curtains, extra demountable rim, windshield, horn, etc., being standard. Color is optional, but if not specified, National blue is furnished. Wheelbases of all but the roadster are 132-inch, the roadster being 124. The front axle and frame construction is standard throughout and has no departure from previous National designs. The channel section of the main frame has a web depth of five inches.



A Wide Variety of Open and Enclosed Bodies Is Offered with the 1915 Cadillac Chassis—That Illustrated Is the Seven-Passenger Touring Car.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

James S. Talley, 1931 Market street, Philadelphia, Penn.; one-story garage, $10,000.

Josiah Grossman, 145 Munroe street, Lynn, Mass.; one-story garage, 20x25.

S. H. Merrill, Brooklyn, N. Y.; one-story garage, 45x56.

William D. Goff, 171 Westminster street, Providence, R. I.; one-story garage, 21x30.

Blevin's Automobile Sales Company, 1101 Madison street, Toledo, O.; two-story garage and service station, 100x132, $50,000.

F. Dietzel, 2014 West Boulevard, Cleveland, O.; one-story garage, 24x18.

W. E. Rodenback, 91 Ohio street, Wheeling, W. Va.; one-story garage, $900.

Dr. G. W. K. Forrest, Wilmington, Del.; one-story garage, 18x28, $3000.

George Gerber, 514 Wunder street, Reading, Penn.; one-story garage, 11x14.

John Hall, Bridgeport, O.; two-story garage, 40x100, $5500.

G. W. Adolph, Bridgeport, O.; three-story garage and apartment building, 40x80, $20,000.

E. J. St. Clare, Pinehurst, N. C.; one-story garage, 30x60, $15,000.

Rev. James J. Murphy, Brighton, Mass.; one-story garage, 34x32.

F. J. Rockwell, Dorchester, Mass.; one-story garage, 55x50, $12,000.

John F. Armstrong, Worcester, Mass.; one-story garage, 25x22.

S. Fink, Westfield, N. J.; one-story garage, 60x90, $10,000.

A. M. Smith, Mt. Lebanon, Penn..; one-story garage, $3000, to be erected at Pittsburg, Penn.

Grant Saylor, 548 Schuylkill avenue, Reading, Penn.; one-story garage, 12x21.

Col. H. E. Robinson, Uniontown, Penn.; two-story garage, $3000.

Mrs. E. E. Strickler, Uniontown, Penn.; two-story garage, $3000.

William G. Thomas, 807 North Broadway, Baltimore, Md.; two-story garage, $10,000.

W. C. Nicholas, Oxford building, Washington, D. C.; two-story garage, 50x75, $10,000.

George W. McClintick, 1104 Washington avenue, Charleston, W. Va.; two-story garage and sleeping quarters, 20x40, $4000.

Hon. W. C. Lewis, Greeley, Col.; one-story garage, 50x90.

J. E. Dongan, Iowa Falls, Ia.; one-story garage, 66x126, $10,000.

Henry K. Wick, Youngstown, O.; one-story garage, 50x150, $15,000.

J. A. Doran, Edgewood, R. I.; two-story garage, 25x30, to be erected at Providence, R. I.

A. H. Cosden, 135 Central Park, West, New York City; one-story garage, 26x36, to be erected at Southold, L. I.

Troy Gas Company, Troy, N. Y.; two-story garage, 37x65.

Charles J. Wells, 1932 So. Salina street, Syracuse, N. Y.; one-story garage, 20x20.

Robert Dunkel, 4253 Washington street, Boston, Mass.; one-story garage, 45x34.

J. Howard Jones, Worcester, Mass.; one-story public garage, 110x45.

Anton Charvat, 1801 So. Ashland avenue, Chicago, Ill.; one-story garage, 22x31.

Buchanan Manufacturing Company, Eldorado, Ill.; one-story garage and machine shop, 50x100 and 125x125.

W. Haldeick, 785 Ocean Parkway, Brooklyn, N. Y.; one-story garage, 49x123, $15,000.

W. A. Kerns, 420 W. 259th street, New York City; two-story garage, 57x65.

Joseph Ringelstein, 223 No. 60th street, Philadelphia, Penn.; one-story garage, $500, to be erected at 222 No. Salford street.

Frank A. Okon, 1044 W. 32d street, Chicago, Ill.; one-story garage, 50x125, $13,000.

Charles S. Meacham, 322 Linden avenue, Oak Park, Ill.; two-story garage, 22x29.

L. Novy & Son, 3223 W. 22nd street, Chicago, Ill.; one-story garage, 20x22.

Hatzbeld & Knox, 7 So. Dearborn street, Chicago, Ill.; one-story garage, 50x125.

Dr. Adolph H. Urban, 1433 E. 10th street, Brooklyn, N. Y.; one-story garage, 16x15, $500.

J. W. Sullivan, 156 Hewes avenue, Brooklyn, N. Y.; one-story garage, 20x198, $15,000.

J. Zaret, Rockaway Beach, L. I., N. Y.; one-story garage, 14x18, $3000.

E. J. Coleman, 99 Main street, Poughkeepsie, N. Y.; one-story garage, 18x24.

Seneca Motor Car Company, Rochester, N. Y.; two-story garage, 50x100, $25,000.

E. J. Mitten Estate, Boston, Mass.; three-story garage, 155x53.

Joseph Rosenberg, S. W. corner Townsend street and Scott avenue, Brooklyn, N. Y.; one-story garage, 40x40, $2500.

George S. Beck, Wyomissing, Penn.; one-story garage, 14x22.

Shoenthal & Naxter, 20 Park street, Orange, N. J.; one-story garage and store, $7000.

Cranwell & Son, 317 Union street, West Hoboken, N. J.; two-story garage, $5000.

Louis Noss, 3408 Library avenue, Cleveland, O.; one-story garage, 20x16.

Barkwill Brick Company, Cleveland, O.; one-story garage, 35x55.

CONTRACTS AWARDED.

Anders Contracting Company, 413 Champlain avenue, Cleveland, O.; one-story garage, 60x96, $8000, for Pilsner Brewing Company.

Klieves Contracting Company, Third and Eoff streets, Wheeling, W. Va.; one-story garage, 12x22, $1000, for A. E. Marschner, 2311 Chaplin avenue.

C. E. Parsie, 274 Academy street, Newark, N. J.; one-story garage, 13x19, for Mrs. K. Knapp.

Patterson & Fox, 1287 Cambridge street, Cambridge, Mass.; one-story garage, 35x39, for Edith L. Dana, 113 Brattle street.

George A. Rutherford Company, 2160 E. 18th street, Cleveland, O.; one-story garage, 33x30, for Mrs. J. Landesman, 1912 E. 89th street.

T. J. Foley Company, Chicago, Ill.; one-story garage, 92x25, $6000, for Standard Oil Company, to be erected at Evansville, Ill.

Aaron Miller, 2911 No. Sacramento avenue, Chicago, Ill.; one-story garage, 25x55, $3500, for Halperin Bros., 1223 Milwaukee street.

Forbes McKenzie, 7 Water street, Boston, Mass.; one-story garage, 80x90, for John G. Reinhardt, 408 So. Huntington avenue, Jamaica Plain, Mass.

John Kaiser & Bro., Elyria building, Elyria, O.; two-story garage, 26x110, for H. M. Andress.

GARAGES AND REPAIR SHOPS.

The Garage Building Company, Baltimore, Md., has purchased property on Charles street and will erect a modern two-story garage at a cost of $40,000.

L. S. Good, Wheeling, W. Va., will erect a garage on 14th street. It will be modern throughout.

Sewell & Company, Clinton, Ia., is erecting an up-to-date garage.

J. Elmer Wood, Beverly, Mass., is erecting a brick garage on Railroad avenue.

C. E. Bowlby, Somerville, Mass., will erect a modern garage on Thorndike street.

John Leary, Southbridge, Mass., is erecting a modern garage on Washington street.

The Newport Auto Service Company, Newport, O., will build a first-class garage near Seventh street, costing approximately $10,000. It will be of iron, steel and concrete, and will have all the latest appliances.

A. A. Bradbridge, Hutchinson, Kan., is erecting an up-to-date garage on Sherman street.

E. F. Rall, Dallas, Tex., will build a modern garage at 2610 Main street at a cost of $75,000.

Warren S. Woodward, Lowell, Mass., is erecting a one-story garage at 7 Fairfield street.

Nathaniel W. Lowe, Lowell, Mass., will build a modern one-story garage on Newell street.

The Carne Company, Chicago, is erecting a garage at the corner of 39th street. It will be one-story, of brick construction, and will cost $50,000.

Morris Snyder, Washington, N. J., is to erect a garage on Broadway, which will be fully equipped.

John C. Burns, Pittsburg, Penn., will erect an up-to-date garage at 1147 Mellon street.

R. E. Mims, Fort Pierce, Fla., is erecting a first-class garage of concrete and iron on Orange street.

Charles C. Housenick, Bloomsburg, Penn., will build an up-to-date garage at the corner of East and Main streets. It will be a three-story building of white cement blocks.

McNaul & Kauffman, Olean, N. Y., is to erect a large livery barn and garage at a cost of $20,000 on North Union street.

Francis H. Thole, Philadelphia, is having plans prepared for the erection of a garage at 58th street. It will be two stories high.

Peter S. Polucki, Baltimore, Md., is erecting a garage at 215 South Bethel street. It will be one-story and modern throughout.

Grolse Bros., Holyoke, Mass., will erect an up-to-date garage on Elm street.

E. E. Burns, Malden, Mass., is building a first-class garage on Irving court.

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ACCESSORIES, SUPPLIES AND FITTINGS.

ARTILLERY TIRE PROTECTOR.

Comprises a Number of Units Attached to Ring by Hooks.

The Artillery auto tire protector is marketed by the Artillery Auto Tire Protector Company, Inc., Pittsburg,

Penn. It consists of a strip or band, as shown in the accompanying illustration, and is constructed of strong rubber fabric faced with the best grade of chrome leather, to which are riveted the lugs on the tread. The protector, as fitted to a tire, consists of a number of units, each about three inches wide. They are applied around the casing and hooked to a continuous wire cable. The maker states that it is impossible to break this cable and that the hooks, lugs and rivets are of hardened steel. In addition to providing non-skidding qualities, the protector is stated to be puncture and water proof.

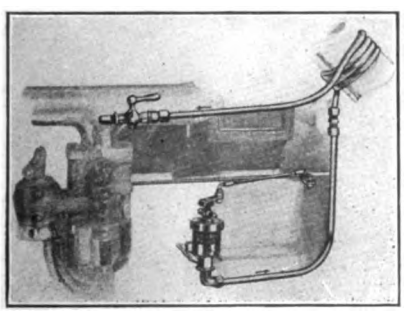
GO MOTOR SPEEDER.

Novel Fuel Economizer with Automatic Control of Air Admitted.

The advantage of utilizing heat for raising the temperature of the fuel is well known, and the use of the warmth of the exhaust gases is standard practise with a large number of car manufacturers. A device operating on this principle is the Go motor speeder, manufactured by the Go Motor Speeder Company, Three Rivers, Mich. It differs in a number of ways from the usual devices, the most noticeable variation being an automatic control of the extra air admitted.

The heat is obtained by a coil of tubing around the exhaust manifold. One end of the pipe is tapped into the intake manifold above the carburetor, and the other end is attached to the device itself. The last-named member is very compact and air is drawn through it by the suction of the piston. In passing through the coil on the exhaust pipe the atmosphere is warmed. The heated air mingles with the mixture drawn from the carburetor, and any particles of fuel are broken up into a useful vapor.

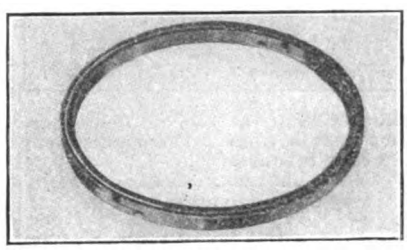
One of the features of the device is the automatic control of the air admitted. The bell crank lever regulating the amount of air is connected by linkage with the throttle control, so that the air supply is augmented and in proportion to the speed of the motor. The maker states that the use of the Go motor speeder will increase the mileage to a gallon of fuel from 30 to 50 per cent., and that starting is made easier, as the mixture left in the cylinder is more homogeneous.



McCADDEN PISTON RING.

Comprises Two Concentrics and Is Stated to Be Leak Proof.

A new type of piston ring, held to be leakless by the maker, the McCadden Machine Works, St. Cloud, Minn., is the McCadden. It consists of two concentric rings, one within the other, and the lap joint of the outer is spaced diametrically opposite the joint in the inner and is held in position by a dowel pin. It is claimed that it is impossible for this pin to work loose or into a position that would cause it to score the walls of the cylinder, as it is not drilled through from either ring. The lap joint is milled to exactly one-half the ring width, and the inner ring is ex-



actly the same width as the outer ring. As its joint is diametrically opposite that of the other ring, it is held to be leak proof. The McCadden is made in various sizes.

AUTO-COMFORT ROBE.

Provides Conveniences of Lap Rug and a Chest Protector.

The Auto-Comfort Robe Company, Inc., Gloversville, N. Y., is manufacturing a lap robe which fulfills a

number of requirements. It is an improvement over the ordinary robe in many respects, particularly when used as a lap rug, as pockets are provided for the feet, thereby eliminating draughts.

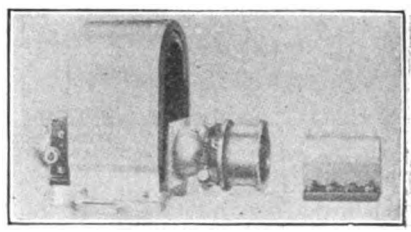
Another use to which the robe can be put is shown in the accompanying illustration, a special chest protector, consisting of an apron attached to that portion of the robe which rests on the knees. This, when in position, extends up to the throat, and is held in place by adjustable straps. The robe is made in light and heavy weight, of fur, velour and mackinaw.

Ed. Note—Manufacturers, distributors and agents of accessories and equipment are cordially invited to forward data and illustrations of their product for publication in this department.

TRECO BATTERY CHARGER.

An Electric Generator with Cut-Out Adapted to the Used Car.

The Tritt Electric Company, Union City, Ind., maker of electrical apparatus for motor vehicles, is mar-



keting the Treco battery charger, which is adaptable to motor vehicles and motor boats. It is of the permanent magnet type and the maker states that nothing but the best of material and workmanship is used.

The generator is equipped with an automatic cut-out of the electrical type and has a flat belt governing pulley. The dimensions of the Treco are five by six by eight inches and the weight is 12 pounds. A friction pulley is supplied if desired.

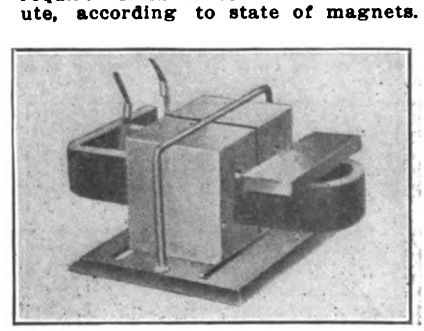
The cut-out is an electromagnet with a compound winding. When the engine is started and the voltage of the generator is equal to that of the battery, the current passes through the finer windings of the cut-out, causing the circuit on the magnet armature to close, thus permitting the current to pass through the coarser winding to the cells. When the speed of the generator falls so the voltage is below that of the battery the circuit is opened, preventing the cells discharging through the generator. The maker states that the cut-out is positive and thoroughly dependable. The Treco battery charger is adapted to the used vehicle and is moderately priced.

The maker will supply the trade with complete details, and will forward discounts upon application. The Tritt Electric Company specializes in electrical equipment.

PEERLESS CHARGER.

Remagnetizes Magneto Magnets and Uses Dry Cells or Battery.

The Sauermann Motor Company, Rock Island, Ill., has brought out a magnet charger which it is claimed will successfully remagnetize any of the magnets of a magneto. The Peerless magnet charger is of simple construction and is provided with two terminals to which are attached the leads from a six-volt storage battery of six dry cells. The maker states that the device can be operated by anyone and that by using it at frequent intervals the magneto is maintained in an efficient condition. It is stated that the charging operation requires from 15 seconds to a minute, according to state of magnets.



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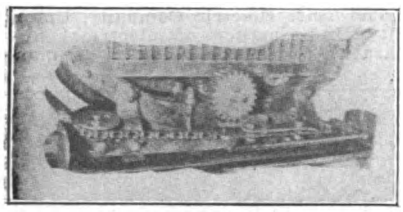
MURPHY MOTOR STARTER.

A Mechanical Type Operated by a Pedal and Hand Lever.

One of the features claimed for the Murphy mechanical starter, made by the Murphy Starter Company, Ida



Grove, Ia., is that it is applicable to and practical with any type of motor vehicle. That shown in the accompanying illustration is the Ford.

The starter is of the sliding gear construction. A pinion, fitted to a short shaft and having an engaging clutch at its inner end, takes the place of the usual hand crank. This pinion is actuated by a gear or rack, which moves freely.

A single movement of a pedal engages the clutch with the motor and, by pulling a hand lever conveniently located to the driver, the crankshaft of the engine is rotated rapidly by the gear actuating the pinion, as considerable leverage is obtained by the construction.

One of the starter's qualities noted by the maker is that it can be installed without removing the radiator from the car. No changes, machining, etc., are necessary. Provision is made for preventing any injury to the mechanism in the event of a back fire of the motor, and it is stated that it requires but little effort to spin the crankshaft.

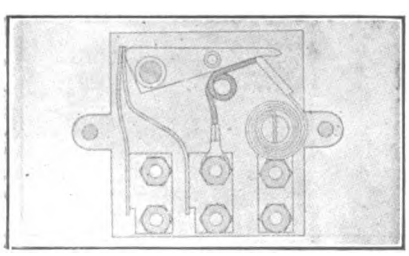
MAPLE THERMO CUT-OUT.

Replaces Fuses in Lighting System and Breaks Circuit.

The R. H. Maple Company, Indianapolis, Ind., has brought out the Maple Thermo cut-out, which is a device for replacing fuses in the electric lighting system of the motor car. It employs the thermostat principle, being affected by the heat of the current passing through it, and it is adjusted to break the circuit at a temperature of 200 degrees.

The thermostat metal is in the form of a coil, as shown to the right in the illustration, and the connections are two nuts at the lower corners. The electricity passes through the thermostat metal and wire connection to the central metal fitting, thence to a similar member at the left through contact points at the upper corner.

Any excess current causes the thermostat to coil more closely, allowing the lever across the top of the cut-out to be lowered under the influence of the spring contact points, interrupting the current. With a two-wire system two cut-outs are combined. A post projects through the cover near the middle of the lever, serving as a visual indicator when the current is interrupted by the cut-out, by assuming a position opposite the word "Off". It is stated that the device offers only a fraction of the

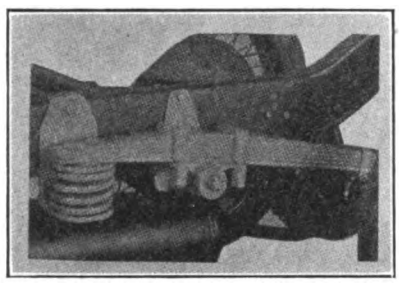


resistance of fuses. It is placed on the dash and wired between the battery and the switch.

CANTILEVER ABSORBER.

A Combination Spring and Double Coil to Check Rebound.

Under the name of the Shock Absorbing Cantilever Spring, the Garden City Spring Works, Chicago, Ill., is manufacturing a combination cantilever and double coil spring. The rear end of the cantilever is attached in the usual manner as is the fulcrum point, but the front rests upon double coil springs inserted in a bracket. The bracket thrusts downward and this is met with a counter thrust upward. In this way, it is claimed, frame rail twist is eliminated. When installed on a Ford the casting has



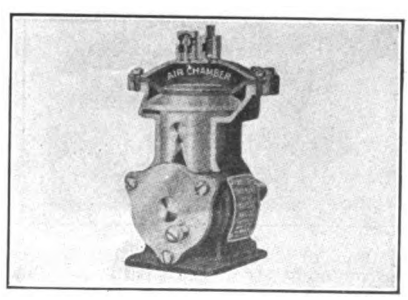
attached to it, at two of its projections, coil springs. The makers say it checks rebound.

TAYLOR POWER PUMP.

New Design Has Many Improvements and Is Lighter.

The Taylor Manufacturing Company, box 485, Chicago, maker of the Taylor engine driven tire pump, has made a considerable change in the original design, which has been described in these columns. The air valves in the head are now machined out of bar stock and replace the rough casting formerly utilized.

It is pointed out that this tends to keep the pump much cooler. The body has been stripped of all unnecessary corners, ribs, etc., and now presents a very smooth, attractive appearance. The weight has also been reduced by the removal of all surplus material. A larger oil filler has been



incorporated for replenishing the supply to its crankcase.

BROWN MASTER VIBRATOR.

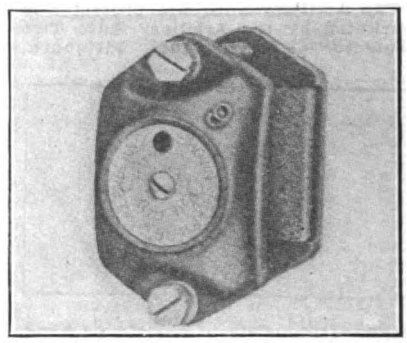
New Design for Model T Ford Motor Held to Be Very Efficient.

The Brown Company, Syracuse, N. Y., is manufacturing a new type of master vibrator for the model T Ford motor, and one of its qualities is the purely mechanical adjustment employed. It is stated that it is so simple that a novice may adjust it without trouble and in a very short time. It is also stated that when once set it will require no attention, as the adjustment is permanent.

BROWN OIL BOX.

Automatically Cleans and Lubricates the Springs.

The Brown Traflog Company, Cleveland, O., is placing a new lubricating device for motor vehicle



springs upon the market. The Brown oiler is designed to automatically lubricate the leaves of the springs, thereby preventing squeaks and making for easier riding. The oil box is attached to the springs, just inside the rebound clips, and contains two heavy felt pads, which supply the lubricant by capillary attraction. The action of the springs forces the oil their entire length, removing deposits, as well as polishing the friction surfaces. The Brown is attached with a screw driver.

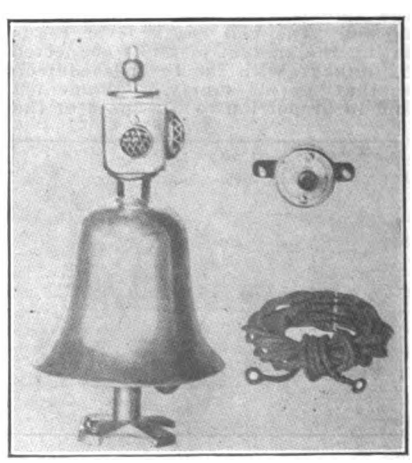
LIBERTY BELL.

Is Operated by Electricity and Has a Melodious Tone.

The Liberty Bell Company, the Arcade, Cleveland, O., is marketing a signal which is stated to produce a melodious tone, one that is distinct and free from annoying features. The Liberty Bell is of the electric type and the blow of the tongue is obtained by the use of a coil and a magnet. The operation is by the conventional push button.

The bell is constructed of special metal, one that gives a clear, but penetrating note, and the operating mechanism is concealed, as well as weather proof. It is easily installed on any convenient place, and is made in two sizes. The No. 1 is five inches high and five in diameter at the base, while the No. 2 is six inches high and six in diameter. Being light in weight it can be attached to the mudguard if desired.

The maker states that the signal conforms with all ordinances, and that it does not detract from the appearance of the machine. The bell and its fittings are constructed of high-grade material and the workmanship and finish are first-class in every respect.



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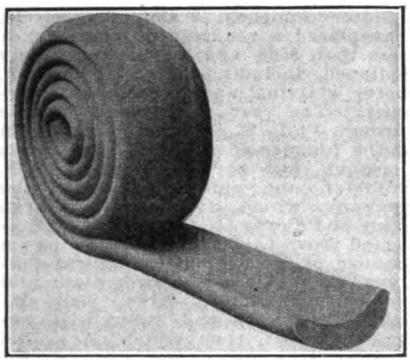
CRESCENT TUBE GUARD.

Raises Tube Out of Reach of Puncturing Objects.

The Dahl Company, 1309 Race street, Philadelphia, is marketing the Crescent tube guard which is em-



ployed with pneumatic tires. It is inserted between the inner tube and the casing, and having a concave side does not pinch or injure the tube.

The Crescent guard raises the tube out of reach of puncturing objects, and the maker states that it does not impair the resiliency of the tire. The guard is from ⅝ to one inch thick, is adaptable to any type of casing, and can be changed from one shoe to another as it is not cemented to the tire. It is constructed of one piece, and the maker states that it will reinforce tread and walls of casing.

HANS POWER TIRE PUMP.

Is Inserted in Spark Plug Opening and Equipment Is Complete.

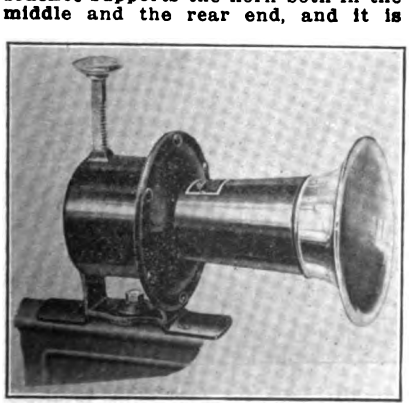
The Hans Motor Equipment Company, La Crosse, Wis., has brought out an automatic tire pump, which comes complete with gauge and 12 feet of high grade flexible hose. It is the spark plug type; that is, it is provided with a threaded end for insertion in the spark plug opening.

The pump is constructed of brass, has two independent checks in the secondary pump, and the bottom inlet is double. Nothing but pure air is forced to the tire, and one of the qualities of the design emphasized is that it will not overheat in service. The gauge supplied is known as the standard No. 3. The material and workmanship are strictly first class.

STEWART BRACKET.

A Device to Hold a Hand Horn at the End as Well as Middle.

To provide a double hold on a hand-operated horn is the aim of the Stewart-Warner Speedometer Corporation, Chicago, Ill., in manufacturing the Stewart horn, which is supplied with this extra device. This double bracket supports the horn both in the middle and the rear end, and it is



claimed by the makers that pressure on the sounding plunger can absolutely have no loosening or wearing effect on the bracket.

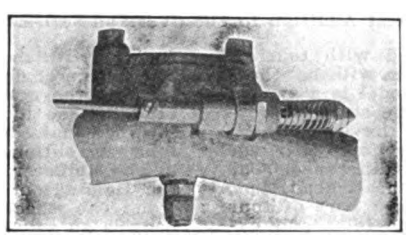
The additional bracket is attached to the top rail of the car and is fastened by a swivel joint, which allows it to change direction with the car.

HANDY CONTROLLER.

Automatically Admits Air to Intake Manifold as Required.

The Handy carburetion controller is the product of the Crary Company, 652 Woodward avenue, Detroit. It is a simple, compact device, which is fitted to the intake manifold between the carburetor and the cylinders. The function of the controller is to automatically provide extra air to the mixture, thereby reducing the suction at the spraying jet and preventing undue enriching of the mixture at all motor speeds. The stream of air striking the fuel vapor breaks it up into a fine spray and mingles it with the air, thereby obtaining a rapid burning charge.

The Handy controller is automatic in its action. After the motor has

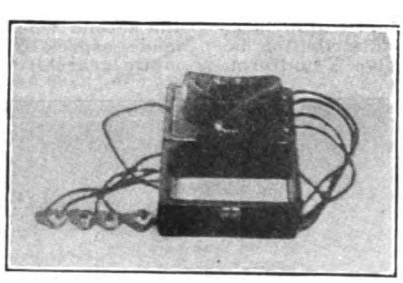


become warmed up a small control lever on the steering column or other convenient place is moved, which opens the Handy valve. A special equipment is made for the model T Ford motor.

DINSHAH ENGINE TESTER.

A Camera-Like Device for Locating Ignition Troubles.

To locate faulty operation of the ignition system requires considerable experience and to make easy the



work of finding the cause of trouble the Dinshah Sales Company, 735 Seventh avenue, New York City, has brought out a device termed the Dinshah engine tester.

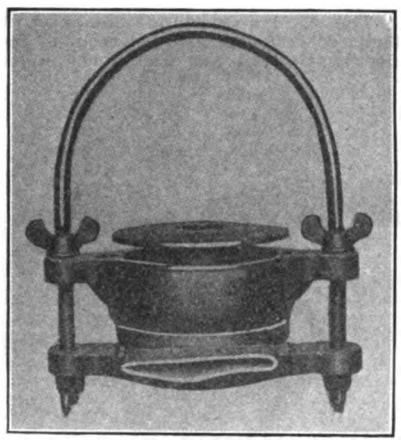
As may be noted by the accompanying illustration, it resembles a camera box, and an opening is provided for inspecting the operation of the electrical apparatus. By observing the color and size of the spark within the box the operator is enabled to ascertain whether or not the particular circuit is working correctly, as well as a dead connection. The Dinshah tester is stated to be adaptable to all electrical apparatus.

Always consult the Classified Buyer's Guide published elsewhere in this issue, when in need of material, etc.

PERFECT VULCANIZER.

Protects the Rubber Around the Repair and Vulcanizes Rapidly.

The Perfect Process Vulcanizer, made by the National Cement & Rubber Company, Toledo, O., is intended



to meet the demand for a medium priced vulcanizer. According to the makers this machine is simple, easily operated and protects the rubber around the repair. The vulcanizing plate has a "hot centre", while the balance of the plate is kept comparatively cool by insulation.

KERN WATER CIRCULATOR.

Assists Cooling System of Ford Motor, Improving Efficiency.

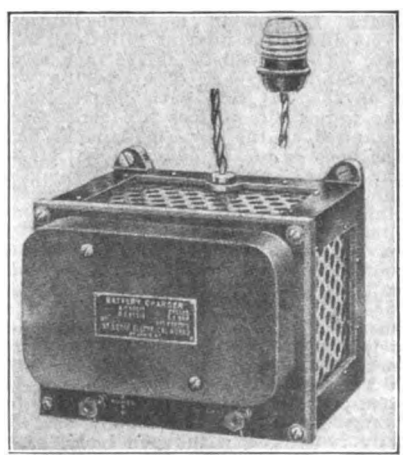
The Pittsburg Manufacturing Company, Ltd., 703 East End Trust building, Pittsburg, Penn., is marketing the Kern water circulator for model T Ford motors. It is designed to augment the flow of the cooling fluid, and comprises a simple propellor incorporated in the lower pipe or inlet water manifold.

The propellor is actuated by a pulley driven by belt, and the water is circulated in proportion to the motor speeds. It is estimated that the device will circulate eight gallons at 500 revolutions a minute and 18 gal-

BATTERY CHARGING APPARATUS.

Said to Operate on a Voltage and Frequency of Wide Variation.

The St. Louis Electrical Works, St. Louis, Mo., is manufacturing a battery charging apparatus designed to operate on a voltage and frequency of wide variation from normal, according to the makers. Its size is six inches by six inches by 6¾ inches, and its weight 14½ pounds. It is made so that it can conveniently be carried under the seat of the car.



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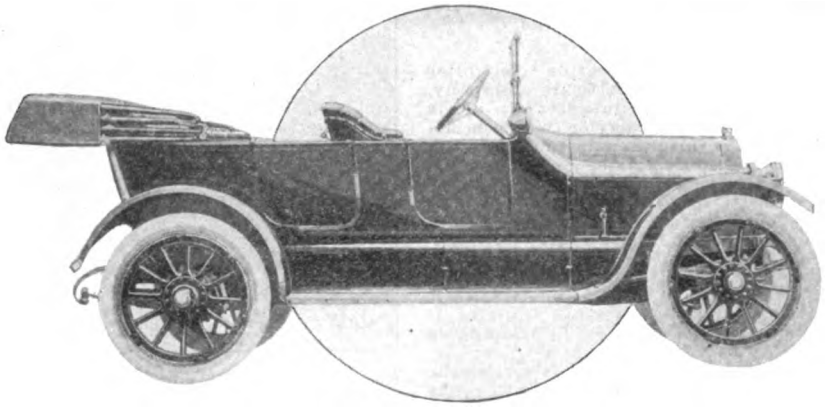
OVERLAND SMALL FOUR.

Known as Model 81 and Is One of Three Models for 1915.

The Willys-Overland Company, Detroit, Mich., has departed from its usual custom of manufacturing a single chassis and has announced a small four, which is known as model 81. This is furnished with touring, roadster or delivery car bodies. There will be three Overland models for 1915. The latest model is a typical Overland car in every respect, in that the standard features of the Willys-Overland company have been adhered to in every way. The engine is practically the same as in model 80, except a slight bore difference. The motor, four-cylinder, cast singly, is of the L head type, with the water jacket integral and with a bore of four inches and a stroke of 4½ inches. The inlet and exhaust valves, located on the same side, are actuated directly from below and the same general arrangement of the various parts is adhered to. The S. A. E. formula gives it 25.6 horsepower. The motor is suspended at three points, although the flywheel is not inclosed, and the gearset does not combine with the engine to form a unit power plant. The valves, manifolds, carburetor and generator are located on the left side of the motor. The valves are not enclosed. The intake and exhaust headers have separate openings and the exhaust pipe passes over the intake. The exhaust manifold is made in two sections. The crankshaft is carried on five main bearings in the upper half of the crank case. The camshaft is mounted on three bearings, and is drop forged from carbon steel. The valves are made with carbon steel stems electrically welded to 3½ per cent. nickel steel heads. Cooling is by the thermo-syphon system, which eliminates the circulation pumps and its gears, glands and stuffing boxes. The radiator is of the cellular type with vertical circulation. The lubrication is a constant level splash system, and the oil distribution is so arranged that all four cylinders receive a uniform supply. Power is transmitted to the gearset by a leather faced cone clutch. The ignition is independent of the lighting and starting system and is by means of a high-tension magneto located on the right forward side of the engine. There are no dry cells. The starting motor is on the right side of the motor at the rear, and the ratio of the electric motor to the engine is 11 to one. The spring suspension is semi-elliptic in front and three-quarter elliptical in the rear. The wheelbase is 106 inches, with the standard tread. The steering wheel is on the left side with centre control. The indicating devices are conveniently arranged on the cowl instrument board. The body is of the conventional streamline design, and presents a roomy and handsome appearance. The concealed hinges and inside handles of the door eliminate all unsightly projections and leave the exterior of the car entirely smooth. Deep upholstery adds materially to the riding comfort and appearance of the body, the latter being finished in a rich Brewster green, with striping of white ivory. The whole makeup of the car suggests the model 80.

The five-passenger touring car costs $850; two-passenger roadster, $795; delivery wagon with closed body, $895; and delivery wagon with open body, $850.



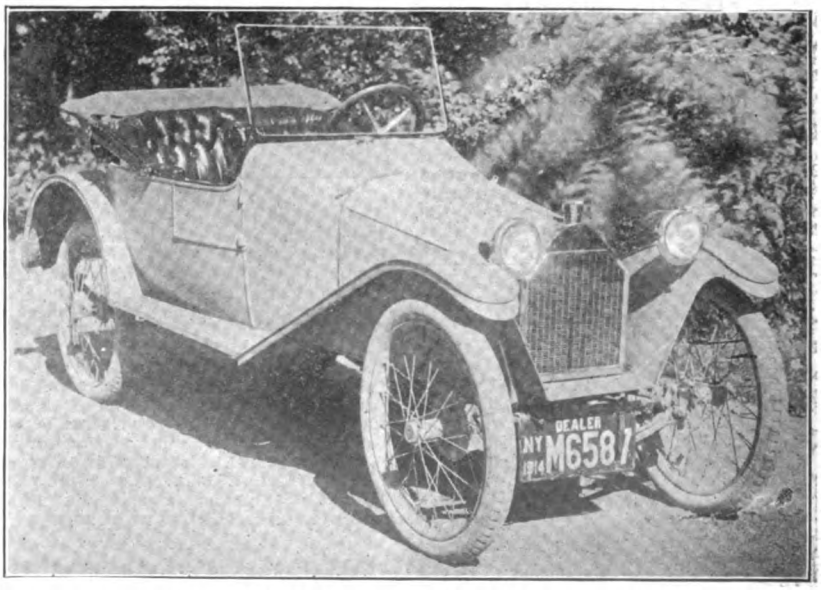
Side View of Overland Model 81, the Latest Addition to the Overland Series.

HAS COMPLETE EQUIPMENT.

Remington Car, with Automatic Gearshift, Sells for Less Than $500.

The Remington Motor Company, 2 Columbus circle, New York, N. Y., has placed a roadster on the market that is to sell for less than $500 and to be completely equipped, including electric lighting, motor starting and automatic gearshift. The car is made possible through Philo E. Remington, grandson of the founder of the Remington Arms Company, and is the design of C. P. Hollister, the chief engineer of the company, which will erect a large plant at Rahway, N. J. Delivery is expected Nov. 1. The Remington has a number of well tried mechanical features, such as a unit power plant and transmission, shaft drive, well designed rear axle and differential, selected gearset, cone clutch, etc. The equipment is very complete and includes top, windshield, speedometer, tools, etc. The features are 40 miles to a gallon of fuel and from four to 50 miles an hour on the high speed. The motor is a four-cylinder, four-cycle, water cooled unit, with cylinders cast en bloc. The bore is 2¾ inches and the stroke 4½. The three-point suspension on the main frame is utilized and the valve mechanism is closed. A late design of float feed carburetor is employed and being close to the cylinders, vaporization of the fuel is accelerated. The flywheel is inclosed. The clutch is of the international cone type and the gearset provides for the four conventional speeds. Change of speeds is obtained by the Hollister automatic gearshift, the patents of which the Remington Motor Car Company has exclusive control. The wheelbase is 100 inches and the tread 42. The body is an attractive streamline design, a two-passenger roadster. The fuel supply is carried in the cowl and the feed is by gravity. The electric motor starter is operated by a pedal and the headlights are fitted with a dimming device.

The Hollister automatic gearshift is of simple construction and very efficient, as well as requiring no attention. Its operation is simple. After starting the motor the operator selects the low speed by moving a lever to a point of the control corresponding with the speed required. The clutch is then depressed and the low-speed gear is quickly and automatically meshed. To change into the second, high and reverse speeds, the lever is set to the desired speed, but the change is not effected until the clutch pedal has been depressed. Changes can be anticipated, but if the operator sets the lever for the low speed, for example, and decides that the second will serve, this speed can be obtained by moving the lever to the second-speed position. The device is of particular value when dropping from the high into the second when ascending a grade, a change not easily made, especially by the new owner. The Hollister automatic gearshift has been thoroughly tested.



Remington Car with Automatic Gearshift Sells for Less Than $500.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period for purposes of comparison. Northern iron decreased $1.00. Bessemer and open hearth steel fell $1.00 on the ton respectively. Beams and channels dropped from $1.31 to $1.26 for the month. Tin showed a perceptible decrease of $2.87½ on 100 pounds.

	Sept. 21		Sept. 28		Oct. 5		Oct. 12*			
	High	Low	High	Low	High	Low	High	Low	Sept. 15	Oct. 15
Antimony	9	9	9	8	11¼	8	11	10½	10	10½
Iron, Fdy., S., ton	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Iron, Fdy., N., ton	13.00	13.00	13.00	12.75	12.75	12.50	12.50	12.00	13.00	12.00
Iron, Bessemer, ton	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Steel, Bessemer, ton	20.00	20.00	20.00	20.00	20.00	19.50	19.50	19.50	20.50	19.50
Steel, open hearth, ton	20.00	20.00	20.00	20.00	20.00	20.00	20.00	19.50	20.50	19.50
Beams and chan., 100 lbs	1.31	1.31	1.31	1.31	1.26	1.26	1.26	1.26	1.31	1.26
Copper, elec., 100 lbs	11.87½	11.75	11.80	11.70	11.62½	11.40	11.40	11.30	12.12½	11.30
Copper, lake, 100 lbs	12.12½	12.12½	12.00	11.87½	11.87½	11.55	11.62½	11.50	12.25	11.50
Lead, 100 lbs	3.85	3.75	3.75	3.70	3.70	3.35	3.50	3.50	3.85	3.50
Tin, 100 lbs	32.00	30.12½	31.12½	30.75	31.05	30.25	30.15	28.50	31.37½	28.50
Petroleum, Kan., cr., bbl	65	55	55	55	55	55	55	55	75	55
Petroleum, Penn., cr., bbl	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Linseed oil, raw	60	56	56	53	53	49	49	49	60	49
Rapeseed oil, refined	82	82	82	82	82	82	82	82	82	82
Lard oil, prime	93	93	93	93	93	92	92	92	93	92
Fish oil, Menhaden, br	40	40	40	40	40	40	40	40	40	40
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	32	32	32	28	28	28	28	28	32	28
Cottonseed oil, bbl	5.70	5.65	5.63	5.50	5.53	5.30	5.30	5.20	5.85	5.15
Sea Island cotton	19½	19½	..	....	....	....	....	....	....	....
Silk, raw, Japan	4.00	4.00	3.95	3.95	3.85	3.85	3.65	3.65	....	3.65
Silk, raw, Italy	4.60	4.60	4.60	4.60	4.45	4.45	4.40	4.40	....	4.40
Rubber, fine up-river Para	65	65	66	65	65	64	64	64	68	64
Tire, scrap	5	5	5	5	5	5	5	5	5	5

*For the week of Oct. 12 quotations are given for the three days previous to the 15th of the month on account of that date coming in the middle of the week.

CRUDE OIL PRICES.

The price of crude petroleum at the wells during the middle of the month of October were as follows:

Pennsylvania dark	$1.45	Somerset 32°	.85
Second Sand	1.45	Ragland	.65
Tiona	1.45	Illinois above 30°	.92
Cabell	1.05	Kan. & Okla.	.55
Mercer black	1.02	Corsicana light	.60
New Castle	1.02	Corsicana heavy	.50
Corning	.85	Electra	.60
Wooster	1.18	Henrietta	.60
North Lima	.96	Caddo, La., 38°	.80
South Lima	.91	Caddo, La., heavy	.45
Indiana	.91	Spindletop	1.06
Princeton	.92	Canadian oil	1.36

California.

21 to 23.9 grav	40	29 to 30.9 grav	55
24 to 26.9 grav	42½	31 to 32.9 grav	60
27 to 28.9 grav	45		

Naphtha.

	10-gallon drums Under 100 cases	100 cases and over	*100 gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	23½

*Drums extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	15
Refined, barrels	12	a	13
Tank wagon delivery	..	a	9
Fuel, 31°	8	a	..
Fuel, 34°	9	a	..

Naphtha.

Auto in wood	..	a	17
Auto in garages, steel bbls	..	a	13
V. M. & P. deod., in steel	..	a	9
V. M. & P. deod., in wood	..	a	11

Gasoline.

86°	..	a	26
74-76°	..	a	25
67-70°	..	a	22

BRAKE SPECIFICATIONS.

Royal Equipment Company's Engineers Will Supply Data on Installing and Maintaining Brakes.

Owners realize the importance of having reliable, efficient brakes, and frequently the garageman or repairman is called upon to replace service or emergency members with a more practical design than the original brakes. Generally, this requires careful consideration upon the part of the workman and, unless entirely familiar with brake construction, considerable time is consumed, a loss to the customer. The Royal Equipment Company, Bridgeport, Conn., maker of the well known friction material, Raybestos, maintains an engineering department which easily solves all brake problems. The trade is invited to consult the engineering department when in need of data. The company issues a booklet containing valuable information on the fitting, care and adjustment of brakes, as well as practical knowledge on this important subject. The book will be mailed free to those interested by addressing Department 1380, the Royal Equipment Company, Bridgeport, Conn.

COMET MAGNETO.

An Efficient, Moderately Priced Instrument, One Especially Adapted to the Used Automobile.

The Henricks Novelty Company, Indianapolis, Ind., ignition specialist, is manufacturing the Comet magneto, which represents the results of 15 years' experience in building magnetos for ignition purposes. The Comet is made in four types, is very compact and of light weight. It provides an inexhaustible supply of electricity and can be driven by belt or friction, adapting it to installation on any gasoline motor. The instrument is equipped with a governor and is made for varying motor speeds. This governor insures constant speed, regardless of that of the engine, and the maker states that the magneto has an output at low speeds that is sufficient to make for easy starting. The Henricks Novelty Company issues a very complete catalogue of its line, which will be mailed free to the trade.

SEAMLESS STEEL TUBING.

Edgar T. Ward's Sons Carries Complete Line of Cold Drawn Stock to Meet Every Requirement.

The trade is invited to write for a trial piece of the cold drawn seamless tubing manufactured by Edgar T. Ward's Sons, 25 Purchase street, Boston. Tubing is produced and carried in stock to meet every requirement and a special analysis is to be had for parts, including jigs, bushings, dies, etc., of great hardness.

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THE ACCESSORY AND GARAGE JOURNAL

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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

THE SMALL AUTOMOBILE.

Never was there such an excellent opportunity for the man with limited means to exploit the small automobile. The conditions obtaining for the representation of a pleasure motor vehicle have greatly changed in recent years and it is now possible to take and maintain the agency of a small car at a reasonable first expenditure and overhead expense. The carrying of small parts, if the contract so stipulates, does not involve a large amount of money. While it is true that the profits accruing are not as large as with the high-priced automobile, they are in keeping with the money invested. The outlook for a prosperous year for the dealer in the small automobile is exceedingly bright.

MAKING THE GARAGE PAY.

Much of the success of the modern garage is due to the adoption of a practical system and its enforcement to the most minute detail. The most complete system, no matter how well adapted to the requirements of the business, loses its value if one or more employees are exempt. The proprietor should insist that each detail be complied with if he is to expect results. It is the small leaks that amount to the losses in dollars, involving profits that rightfully belong to the garage. The success of an efficient system does not require an intricate method of bookkeeping or the exhaustive compilation of data, but rather depends upon the rigid enforcement of its details.

SCHEDULED REPAIR WORK.

A prominent agent of a well known make of popular-priced motor car advertises prices obtained for repairing the machine he represents, listing all such work as removing carbon deposits, grinding in the valves, adjusting bearings, etc. This is indicative of the keen competition existing, and emphasizes the necessity of equipping the repair shop and the garage with the most modern machinery, tools and labor saving devices. Those who hope to compete with this agent must use equipment especially designed for the machine in question.

ENCLOSED BODIES.

That there is a growing demand for the enclosed body, particularly for the used motor vehicle, is evidenced by the number of makers producing high-grade designs. Two and five-passenger bodies, the last named a limousine, are now offered to the owners of the Ford car. The types are ingeniously constructed in that they may be fitted easily and without alterations, and obtain for the owner the same comfort and convenience as provided by the high-priced automobile.

ORIGINAL PACKAGES.

The stocking of material, especially lubricants, put up in original and sealed containers, is the best kind of insurance for the trade. It assures the customer the service which he demands and is entitled to, and protects the dealer in the event of trouble, as the manufacturer stands back of his product. The substitution of "something just as good" has frequently been the cause of lost custom.

FORD ACCESSORY DEALERS.

Practically every garage is afforded an opportunity to become a dealer in accessories, supplies and equipment for the Ford car, as this machine is well represented on the garage floors. The progressive garageman will familiarize himself with the latest specialties for this vehicle, get in touch with the jobber or manufacturer, and be in a position to meet the requirements of his customers.

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SIMPLE AND ECONOMICAL ACCOUNTING SYSTEM.

Designed for Medium-Sized Repair Shop and Garage---Requires No Expert Knowledge, and Is Easily Installed and Maintained.

SYSTEM is a necessity just as much in the garage or repair shop of small or medium size as in those more ambitious, employing a large number of workmen and possibly combining an automobile and accessories salesroom with garaging, storage, repairing and various other departments. But, in the modest establishment, simplicity is vastly more important as, in such, whatever bookkeeping or clerical work is required must, from the standpoint of economy, usually be performed by the proprietor or one of the partners of the concern, who devotes the major part of his time to the actual shop work or, as no expert knowledge of accounts is necessary, it may be entrusted to a person demanding only a modest salary.

The accompanying suggestions are designed to apply to a repair shop employing such a number of men as to enable the proprietor or a competent foreman to have personal supervision over all the work, but it can readily be adapted to larger establishments by subdividing the work in charge of additional foremen.

While designed primarily for a business devoted to repairs, and carrying only the more common supplies, such as gasoline, oil, etc., it can readily be expanded to cover the handling of a considerable stock of accessories, and to include painting, care or renewal of tops, upholstery, etc., as well as storage.

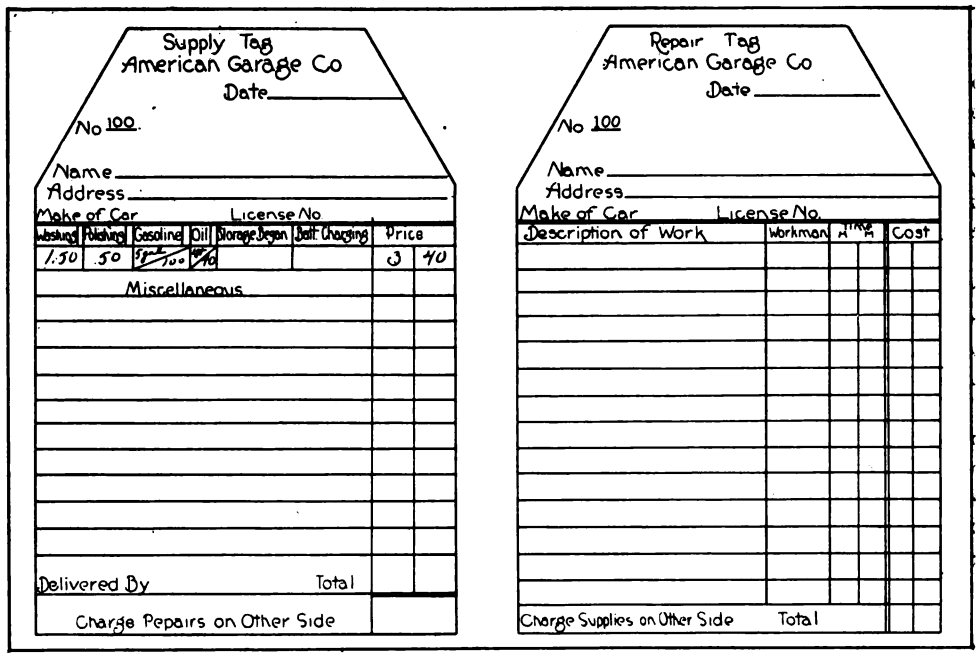
The system outlined would seem to be as simple as could well be devised for this class of business, and includes only a single tag, printed on both sides, a simple slip for the record of supplies furnished when no repairs are done, and the conventional loose leaf ledger. A simple cash book should also be maintained in connection with this system, to keep a record of money received and paid. A number of accounting registers, with which many garages are equipped, have slips for cash paid on account, etc., and the entries can be made from these to the ledger.

It should be understood, at the outset, that this system contemplates only a record of transactions between the garage and its patrons, and does not attempt to include accounts between the garage and supply houses, as, in a business such as is here considered, each proprietor will doubtless have his own method of keeping track of the payment of his bills, renewal of stock, etc., this being a comparatively simple matter in a garage of modest size.

One Side of Tag for Repairs.

As will be seen from the accompanying reproduction, one side of the tag is devoted to repairs, there being spaces at the top for the date, make of car and license number, owner's name and address. The number in the space at the left may be printed in consecutively when the tags are printed, or it may be filled in later by a hand stamp or in ink. The most economical way, however, would seem to be to have the numbers printed with the tag, as then there would be no chance of a job number being omitted. As will be seen, the body of the tag is devoted to the repair work done on the car, each particular operation being entered upon a separate line, there being a space for the workman's name or number, and the amount of time consumed. For convenience in charging or for a cash payment, the tag is ruled at the right, so that the prices and totals can be carried out. The ordinary method of procedure would be for the bookkeeper to carry out the prices on the tags, before charging up on the ledger and, when referring to the tags later, after being filed away, it would be found convenient to have the prices on them.

The reverse side of the tag is used when, in addition to repairs, the car is washed and pol-



At Right, Repair Tag, Showing a Record of Work Done, Workman and Time Spent; at Left, Reverse of Repair Tag for Charging Supplies, Storage, Etc.

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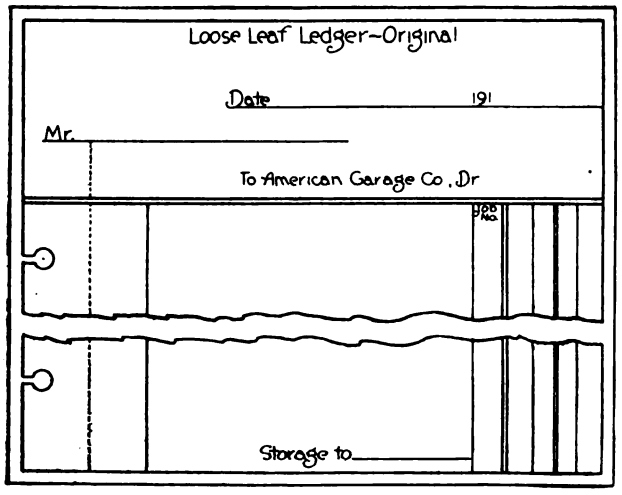
ished or supplies furnished, such as gasoline or lubricating oil, a generous space being left for miscellaneous items. It will not be necessary to



Page of Loose Leaf Ledger Which Is Torn Out and Rendered as a Bill—Duplicate Remains in Ledger File Until Paid.

fill in the spaces at the top of this side of the tag with the date, name of car, etc., if this has already been done on the obverse. When a shop has storage facilities, the space marked "storage began" affords a convenient memorandum to the bookkeeping department when a new car is put into storage, although it is expected that a list of all cars in storage would be kept independently in the office, for convenience when rendering monthly bills.

A space has been left for a record of battery charging for use in case the garage is supplied with facilities for doing this work, but either this or the storage column, or both, can easily be omitted at the option of the user.

The supply side of the tag can be used independently of the repair side when the car is brought in simply for washing and polishing or supplies and, of course, then the top part of the tag would be filled in with the name, make of car, etc. A space is left at the bottom for the name of the person doing the work or delivering the supplies, and also a chance is given at the right to fill in the price and total, as on the repair side.

Method of Procedure.

When a car is driven in for repairs, the proprietor, foreman, or some competent workman will secure a tag from the office and, in the space allotted to description of work, he will enter any repair or adjustment that the owner or chauffeur suggests should be done, or he may make an examination and enter, in the proper space, such work as appears to him to be necessary. Any needed supplies may also be indicated on the reverse side of the tag.

For convenient reference in the office, although it is not absolutely necessary, when the tag is filled out, the name of the owner and the make and license number of the car may be entered in a book in which numbers corresponding to the serial numbers on the tags have been written or stamped. Any ordinary blank book could be used for this purpose, a line or two being left for each job, and the number can be easily stamped in by an inexpensive consecutive numberer such as can be obtained of any stationer. The jobs can also be checked off on this book by numbers when the tags are turned in, although, as the tags are numbered consecutively, any missing number would be noticed and the job traced up.

While the car is in the repair shop, the tag accompanying it may remain in a suitable box at the foreman's desk, or in a convenient rack near the work bench, where it will be kept clean.

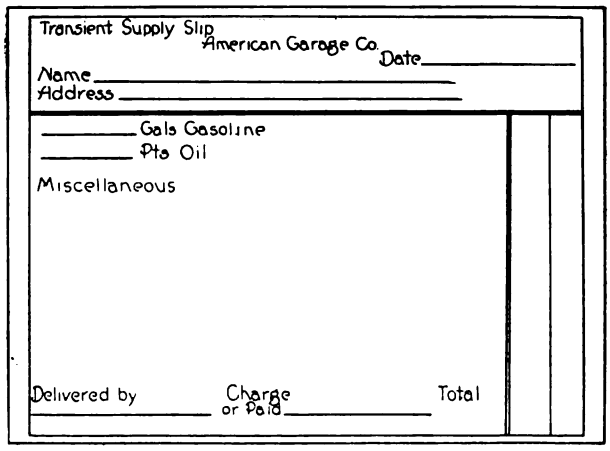
When any work is done on a car, the workman either reports to the foreman the amount of time spent, or makes the entry on the tag himself if authorized to do so. Of course it is needless to state that any necessary work performed, not included in the original inspection and already entered up, is added, with the workman's name or number, and time spent.

If, in addition to repairs, the car is washed and polished, and gasoline or oil or other supplies are needed, these are entered on the reverse side of the tag, or this part of the tag may be used independently of the other, where the car simply needs washing and polishing or supplies of any kind.

When the repairs are finished and the car is ready for use, the tag is left at the office, where the work may be charged up on the ledger at convenience. If the work is paid for at the time the car is taken out, the tag is stamped "Paid" and filed away without being posted to the ledger.

How to Use Loose Leaf Ledger.

The ledger is of the conventional loose leaf type, in duplicate; that is, the upper sheet is generally of white linen stock, printed like the customary bill head. This sheet is perforated at one edge so it is easily torn out, and can be presented to the customer when the work is completed, at the end of the month or at any other time when wanted. Underneath this is an unruled sheet of thicker, colored stock, and when in use, a piece of indelible carbon paper is inserted between the



Slip for Convenient Record of Transient Supplies, Blocked for Use in Garage.

white and colored sheets in the ledger, which has expansible covers, securely holding the various accounts by the patented locking device that is

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incorporated with the covers. An indelible pencil is used, and this transfers a duplicate of all writing on the white sheet or bill proper through the carbon sheet to the colored sheet beneath it, these tinted sheets always being kept in the ledger until the accounts are settled, when they are taken out and filed away alphabetically in any convenient form for future reference. These ledgers are supplied with lettered index tabs, arranged in alphabetical order, which enables the accounts to be easily inserted and kept also in alphabetical order; thus no separate index is required, as in the old style ledger.

As will be noted, space is provided for entering on the ledger, at the right of the items, the job number corresponding to that on the repair tag. After the work is posted up from the tags, the latter are checked and filed away consecutively by numbers, thus being easily referred to from the ledger accounts if necessity arises. At the same time, as heretofore stated, when filing the tags away, any missing number will be readily noted and can be traced up in the shop.

Whenever a new account is opened, the blank sheets are inserted in the ledger in the proper place alphabetically. Thus one set of covers will serve for a number of years and the blank loose leaves can be obtained in any quantity and at any time needed.

Bill Always Ready for Customer.

When it is desired to tender a bill, the only work necessary on the part of the bookkeeper, if the tags are promptly handed into the office and kept posted up on the ledger, is to foot the bill and tear it out. In case other charges come in before the bill is paid, the bookkeeper simply inserts a new sheet and writes at the top "Bill previously rendered" and carries out the amount, before entering up the new charges.

When the account is paid the original bill is receipted and given back to the customer, while the duplicate in the ledger is stamped "Paid" and can be removed at that or other convenient time and filed away with the "Dead" accounts. To avoid a bulky ledger, it is the best plan to remove all accounts as soon as they are paid, and thus only the running or "Live" accounts will be found in the ledger. If it is desired to obtain, at any time, the total amount of the unpaid accounts, it is a simple matter to copy out the total amount due on each account, and then add up the totals.

It will be noted that, near the bottom of the ledger, a space is provided for entering up storage. This is for convenience when bills are rendered monthly or at other stated intervals, it being presumed that a garage doing a storage business will keep an independent list of such customers, which is gone over before monthly or weekly bills are rendered. Any new car going into storage should be entered up in the proper space on the tag, as already stated, and the bookkeeper can add such to his list when it first appears on the tag, or cancel when the car is put into commission again.

Transient Supply Slip.

It now remains to outline the use of the small blank presented herewith, headed "Transient Supply Slip". This can be printed on any ordinary paper stock, and blocked in convenient size for use in the garage. It is designed to keep an account of supplies, etc., furnished, where the car is not left at the garage for any length of time for repairs, etc. The person delivering the supplies fills out the slip, and turns it in to the office, no matter whether it be a cash sale or charged. If the latter, it is entered on the ledger in the usual way, but no numbers are deemed necessary with these slips. If the amount is paid at the time, the slip is marked paid. These slips should also be filed away in alphabetical order.

It may be stated, in conclusion, that no system, however simple or elaborate it may be, is automatic. To be successful it must be strictly adhered to, and it is needless to say that it is essential that all work done be entered up on the tag, and also that all supplies furnished be charged up, or it cannot be expected that the bookkeeper will be able to make his entries fully and accurately on the ledger, and the business is, of course, liable to lose out to just the extent that any such omissions occur.

NEW DEPARTURE BEARINGS.

Distribution Centres Have Been Established in All Parts of the Country and Are Well Stocked.

The New Departure Manufacturing Company, maker of the well known New Departure ball bearings, which are standard equipment in a large number of cars, has established distribution centres in all parts of the country, where stocks of single-row and Radax types, particularly, are carried. These are interchangeable with other standard makes. Garages and repair shops can have orders filled promptly at any of these stations, an arrangement insuring efficient service to the customer.

KELLOGG ENGINE DRIVEN PUMPS.

Are Made in One, Two, Four and Six-Cylinder Models and Come with Fittings for Attaching.

Many owners of cars not fitted with power driven tire pumps and desiring the equipment will be interested in the Kellogg, as the maker, the Kellogg Manufacturing Company, 128 Circle street, Rochester, N. Y., not only produces them in one, two, four and six-cylinder forms, but supplies special attachments, adapting them to any standard make of car. One of the desirable qualities of the Kellogg product is that anyone can install the pumps and attachments, which makes the proposition an interesting one to the dealer and garageman. The company issues a booklet on power driven tire pumps, which gives complete information upon the subject, and the trade is invited to write for a copy, which will be mailed free upon request. The possession of the book will enable the garageman to advise his customers fully upon the installation of power driven tire pumps.

ECONOMIC VALVE TOOLS.

J. W. Brooks Manufacturing Company Producing Reseating and Refacing Devices of Distinct Merit.

To meet the requirements of the repair shop for an adjustable valve refacing and reseating tool, the J. W. Brooks Manufacturing Company, Stamford, Conn., has brought out the Economic equipment. The refacing tool is adjustable to any size of valve stem by means of bushings supplied, and is adjustable to any diameter of valve up to three inches. The tool is supplied with a double-ended cutter, one end for standard 45-degree angle valves, the other for standard 60-degree valves, and is so constructed that the valves come perfectly true with the stems. The Economic saves over 75 per cent. in time. Those desiring a practical, efficient equipment, will do well to investigate the merits of the Economic outfit.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham—Dodge, Saunders Motor Car Co.
Headlands—Buick, J. W. Roberts.
Huntsville—Buick, Henry Coyle.
Livingston—Oldsmobile, L. S. Fluker.
Mobile—Dodge, Block Bros.
Haynes, Motor Machine Co.
Oakman—Moon, W. H. Utley.

ARIZONA.

Phoenix—Cole, C. M. Dubois Investment Co.

ARKANSAS.

Fort Smith—Maxwell, J. B. Williams, Jr.
Oldsmobile, J. B. Williams, Jr.
Little Rock—Cole, W. E. Bell Auto Co.

CALIFORNIA.

Cedarville—Oldsmobile, Wakefield & Wilson.
Eureka—Hupmobile, A. W. Way.
Gustine—Oldsmobile, J. E. Hollingsworth and Jenson Bros.
Lincoln—Oldsmobile, Lincoln Garage.
Long Beach—KisselKar, Mission Garage.
Los Angeles—Case, Hollingsworth Motor Car Company.
Dodge, Harold L. Arnold.
Haynes, Bekin-Speers Motor Co.
Los Banos—Haynes, N. Y. Hulen.
Napa—Oldsmobile, B. M. Norton.
Oakland—Oldsmobile, M. Koenig and R. Drum.
Premier, A. B. Crosby Motor Co.
Sacramento—Chalmers, Bert S. Bingham.
San Diego—Mercer, Pacific Auto Co.
Simplex, Pacific Auto Co.
Stutz, Pacific Auto Co.
San Francisco—Apperson, Myers Motor Car Co.
Chandler, Peacock Motor Sales Co.
Dodge, H. O. Harrison Co.
Paige-Detroit, Don Lee.
Premier, A. B. Crosby Motor Co.
Santa Cruz—Oldsmobile, Hubbs & Brisac.
Santa Maria—Oldsmobile, W. H. Crakes.
Weed—Oldsmobile, Weed Mercantile Co.

COLORADO.

Denver—Regal, Mid-West Auto Sales Co.
Glenwood Springs—Oldsmobile, Dr. G. A. Hopkins.
Greeley—Saxon, John E. Camfield.
Salida—Oldsmobile, Salida Auto Co.

CONNECTICUT.

Bridgeport—Dodge, Blue Ribbon Garage.
Packard, Blue Ribbon Garage.
Hartford—Empire, Keeney Garage.
Hupmobile, S. A. Foster.
Marathon, Auto Tire Co.
Stearns-Knight, Britton Co.
Oakland, Auto Tire Co.
‡Trumbull, J. D. Parker.
Meriden—Dodge, Blue Ribbon Garage.
New London—Cole, Lathrop & Smith.
South Norwalk—Cole, Vaast Bros. Garage.
Stamford—Allen. J. M. MacDonald Co.

DELAWARE.

Delmar—Oldsmobile, A. Brewington.
Milford—Oldsmobile, W. M. Vineyard.
Wilmington—Oldsmobile, Harry R. Loose.

DISTRICT OF COLUMBIA.

Washington—Briscoe, Briscoe Sales Co.
Cole, Cole Motor Sales Co.
Dodge, Semmes-Kneesi Co.
Hupmobile, Crescent Motor Co.
*G. M. C., Emerson & Orme.
†Waverley, Pollock Car Co.

FLORIDA.

Live Oak—Cole, E. F. Dougherty.
Miami—Haynes, J. K. Dorn.
*Koehler, C. Roy Miller.
Quincy—Saxon, H. T. Sharon.
Sanford—Apperson, C. F. Williams.
St. Petersburg—Haynes, Cramer B. Potter.
Tampa—Abbott-Detroit, Hammerstrom & Cook.
Paige-Detroit, J. C. Williams.
Regal, E. E. Cone.

GEORGIA.

Atlanta—Apperson, Southern Apperson Co.
Valdosta—National, Dr. Clarence Whittington.
Waynesboro—Apperson, J. O. Applewhite.

IDAHO.

Boise—Franklin, Norman Gratz.
Sand Point—Cole, H. E. Thomason.

ILLINOIS.

Altoona—Cole, Eleventh Avenue Garage.
Argenta—Apperson, J. A. Eyman.
Aurora—Haynes, Auto Accessories Co.
Bushnell—Oldsmobile, Ball Bros.
Champaign—Cole, J. L. Wiese.
Chatsworth—Herff-Brooks, T. C. Baldwin.
Chenoa—‡Glide, F. E. Cunningham.
Chestnut—Apperson, O. F. Downey.
Chicago—Briggs-Detroiter, C. F. Atkins and H. C. Frisbie.
Oakland, Schillo Motor Sales Co.
Oldsmobile, Ropp Motor Co.
*I. C. E., Burman & Rice.
*KisselKar, H. P. Bransetter, 26th and Wabash Ave.
Cissna Park—‡Glide, Herman Cluver.
Cornell—Oldsmobile, Lishness & McVay.
Danville—Apperson, Barger Sales Co.
Decatur—Cole, A. L. Shellabarger & Sons.
DeKalb—Oldsmobile, G. H. Deane & Co.
Dixon—Oldsmobile, Moeller & Wilson.
Effingham—Cole, Curry Motor Car Co.
Elkville—Meteor, C. T. Bass.
Elliott—Herff-Brooks, Nels Sunnes.
Freeport—Oldsmobile, W. J. Maurer.
Gardner—Apperson, Knut Mathison.
Geneseo—Saxon, Velie & Chevrolet Motor Car Co.
Gibson City—Apperson, William A. Susford.
Havana—Wahl, Lange Bros.
Hillsboro—Cole, Wiley & Williams Garage.
Hinckley—Oldsmobile, Craige C. Kennedy.
Jacksonville—McFarlan, J. G. Claus. Saxon, Andre & Andre.
Kilbourne—Haynes, A. E. Sauer.
Lee—Apperson, S. Ostewig & Co.
Manhattan—Oldsmobile, Manhattan Motor Car Co.
Morris—Oldsmobile, J. A. McCormick.
Newton—Cole, Newton Motor Car Co.
Oregon—Apperson, R. O. Sayner.
Ottawa—Oldsmobile, F. S. Knowles.
Owaneco—‡Glide, I. M. Luzader.
Pleasant Plains—Apperson, John Lehman.
Princeton—Apperson, Evans-Coppins Co.
Oldsmobile, Guy Kasbeer.
Quincy—Apperson, Quincy Garage.
Rockford—Oldsmobile, George Maurer.
Studebaker, C. B. Williamson.
Rock Island—Saxon, A. E. Shalline.
Springfield—Haynes, J. Earl Bell.
King, The Quality Car Co.
Stonington—Apperson, F. A. Gleason.
Utica—‡Glide, W. W. Wylie.
Verona—Oldsmobile, John F. Stitt.

INDIANA.

Ashley—Oldsmobile, F. B. Faulkerson.
Bluffton—Saxon, Spitler Bros.
Evansville—Cole, R. D. King.
Fort Wayne—Empire, C. A. Bachelor.
Huntington—Oldsmobile, Peoples' Garage.
Indianapolis—Auburn, Brunsford & Wright.
Dodge, Steinhart-Eckler Auto Co.
Hupmobile, Higgins-Craig Co.
Krit, Krit-Auman Auto Sales Co.
†Flanders, F. P. O'Brien, 431 No. Capitol Ave.
†Woods, North Side Garage.
Salem—Cole, C. M. Crim & Son.
South Bend—Oldsmobile, J. W. Nikart.
Terre Haute—Oldsmobile, Olds Motor Car Sales Co.
Winchester—Haynes, H. K. Wright.

IOWA.

Bonaparte—Haynes, Blackford & Blackford.
Boxolm—Apperson, Ecklund & Burkgren.
Brooklyn—Apperson, B. W. Sloan.
Clear Lake—Haynes, H. D. Mason.
Deep River—‡Glide, C. M. Shaffer.
Des Moines—Apperson, Apperson Iowa Co.
Oldsmobile, Oldsmobile Co. of Ia.
Regal, Means Automobile Co.
Wahl, Masebach Auto Co.
Dubuque—Dodge, Byrne Bros.
Oldsmobile, Kassler Auto & Tire Co.
Eagle Grove—Herff-Brooks, William Pletcher.
Elkader—Oldsmobile, Allen Bros.
Independence—Oldsmobile, J. H. Wright.
Mason City—Apperson, Leaman Auto Co.
Muscatine—*Koehler, Denham & Smalley.
Northwood—Haynes, S. O. Thompson.
Waterloo—Cole, Burd Auto & Supply Co.

KANSAS.

Chanute—Franklin, Chanute Auto Co.
Chapman—Oldsmobile, Perry Frazier.
Hill City—Saxon, Ivan B. Parker.
Hutchinson—Saxon, Callender Auto Co.
Lawrence—Cole, C. E. Varnum.
Liberal—Haynes, Liberal Auto Supply Co.
Perry—Cole, Garrett W. Trant.

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Salina—Mitchell, Ollinger Auto Co.
Overland, Ollinger Auto Co.
Topeka—Cadillac, Cowdrey Auto Supply Co.

KENTUCKY.

Glasgow—Haynes, G. R. Lewis.
Greenville—Apperson, R. O. Pace.
Louisville—Haynes, Van Patton Motor Car Co.
Overland—The Overland-Louisville Co.
Williamsburg—Ford, George N. Delaney.

LOUISIANA.

New Orleans—Apperson, Bernin Auto Co., Inc.
Briscoe, M. E. Hart.
Jeffery, Abbott Auto Co., Inc.
R-C-H, American Automobile Co.
Shreveport—Cole, W. K. Nulsen.

MAINE.

Belfast—Hudson, B. O. Norton.

MARYLAND.

Aberdeen—Reo, Motor Sales Co.
Baltimore—Apperson, Model Automobile Co.
Saxon, S. S. Greenwall.

MASSACHUSETTS.

Belmont Hill—Metz, The Suburban Garage.
Boston—Dodge, Charles S. Henshaw.
Lewis, E. A. Gilmore Co.
*Vim, Victor Motor Car Co.
Springfield—Oakland, Dunbar Motor Co.
Watertown—Herff-Brooks, C. E. Mathews.
Worcester—*O. K., E. J. Kehoe.

MICHIGAN.

Adrian—Oldsmobile, S. W. Raymond Auto Sales Co.
Battle Creek—Oldsmobile, Henry L. Phillips.
Bay City—Franklin, Oakland Auto Co.
Belding—Studebaker, Wise & Goodman.
Brown City—Ford, H. C. Stimson.
Caro—Oldsmobile, J. D. Sutton, Jr.
Constantine—Oldsmobile, Fish & Tarnutzer.
Elkton—Oldsmobile, Paige Bros.
Flint—Chevrolet, Garner Auto Sales Co.
Grand Rapids—Haynes, Adams & Hart.
Hartford—Dodge, Hartford Motor Car Co.
Ionia—Oldsmobile, Ogilvie & Wilkinson.
Jackson—Cadillac, Ralph Lewis.
Ford, Ralph Lewis.
Marquette—Regal, Asire & Palmer.
Mason—Oldsmobile, J. E. Taylor.
Plainwell—Herff-Brooks, G. H. Crawford.
Port Huron—Oldsmobile, George E. Yokum.
Overland, Mooney Motor Sales Co.
Saginaw—KisselKar, William A. Adair.
Krit, J. P. Beck.
St. Joseph—†Glide, E. Hofer.
Stockbridge—Oldsmobile, E. A. Tisch.
South Haven—Maxwell, C. A. Herriman.
Traverse City—Regal, S. O. Sawyer.
Woodbury—Apperson, W. R. Wells.

MINNESOTA.

Arlington—Oldsmobile, H. J. Moskop.
Chatfield—Oldsmobile, Col. A. Murphy.
Duluth—Oldsmobile, E. W. Bradley.
Kasson—Oldsmobile, Otterness & Son.
Lake Elmo—Oldsmobile, A. Fazendin.
Mable—Maxwell, A. G. Olson.
Minneapolis—Apperson, Nicollet Ave. Auto Co.
Briscoe, Minneapolis Briscoe Motor Sales Co.
Marmon, Harry J. Mich.
R-C-H, The Northwest Haynes Auto Co.
Westcott, D. G. Hedderly & Son.
New Germany—Oldsmobile, New Germany Auto Co.
Newport—Oldsmobile, Metager Bros.
Sottonwood—Haynes, A. O. Hovdesven & Son.

MISSISSIPPI.

Collins—Cole, W. R. Holloway.
Greenville—Cole, H. H. Berry.
Meridian—KisselKar, A. J. Lyons & Co.

MISSOURI.

Centertown—Maxwell, Stark & Vogel.
Chillicothe—Cole, Adams & Sons Grocery Co.
Hagerstown—Oldsmobile, Charles E. Schenck.
Jefferson City—Cole, Capital Equipment Co.
Kansas City—Apperson, Bruening Bros. Auto Co.
Maxwell, Acton-Parke Auto Co.
Paige-Detroit, Greenlease Motor Car Co.
Kirksville—Saxon, Charles C. Gardner.
Quitman—Meteor, Edward N. Malvern.
Salisbury—Cole, Stamper & Stamper.
Springfield—Regal, Sam Herrick & Son.
Studebaker, D. B. Asbury.
*Hercules, J. F. Yandell.
St. Joseph—Cole, Grand Center Motor Car Co.
St. Louis—Briscoe, Briggs & Morse.
Partin-Palmer, C. G. and N. Harrington.
‡Saginaw, W. A. Blackstadt.

MONTANA.

Anaconda—Regal, Frank M. Osborne.
Butte—Dodge, Silver Bow Motor Car Co.
Glendive—Saxon, David Leidehl.
Lewiston—Apperson, Fergus County Machine Co.

NEBRASKA.

Omaha—Apperson, Apperson Jack Rabbit Co.
Hupmobile, Cadillac Co. of Omaha.
Paige-Detroit, W. L. Huffman Auto Co.
Seward—Oldsmobile, J. F. Zimmerer.

NEVADA.

Ely—Franklin, Ely Garage & Supply Co.
Reno—Oldsmobile, Wheeler & Parry.

NEW HAMPSHIRE.

Manchester—Pullman, H. L. Lamprey.

NEW JERSEY.

Atlantic City—Oldsmobile, Irwin's Garage.
Camden—Oldsmobile, Ford Service & Sales Agency.
Elizabeth—Oldsmobile, Franklin Garage.
Flemington—Oldsmobile, Hervey Kuhl.
Hackensack—Oldsmobile, Hackensack Auto Co.
Lakewood—*Koehler, I. B. Thompson.
Newark—Cole, Wallace Motor Car Co.
Dodge, Bonnell Motor Car Co.
Hupmobile, Bonnell Moor Car Co.
Pennington—Oldsmobile, Pennington Garage.
Rutherford—Overland, Rutherford Garage.
Syracuse—Krit, W. R. Shaw.
Trenton—Chandler, J. L. Peoples.
King, R. McCardell & Co.
Oldsmobile, Motor Shop.

NEW YORK.

Albany—Oldsmobile, W. L. Schupp & Sons.
Albion—Oldsmobile, Albion Garage.
Alden—Oldsmobile, Arthur W. Eastwood.
Arcade—Oldsmobile, Pinney & Lewis.
Baldwin—KisselKar, Baldwin Garage.
Binghamton—Chalmers, June Automobile Co.
Oldsmobile, Binghamton Ford Sales Co.
Saxon, June Automobile Co.
Bloomingsburg—KisselKar, Chapham & Hagan.
Brooklyn—Apperson, Farrell Auto Co.
Oldsmobile, C. B. Derby & Co.
Buffalo—Briscoe, Monroe Motor Co.
Dodge, J. A. Cramer.
Herff-Brooks, Henry Brunn.
King, Mutual Motor Car Co.
†Detroit, Detroit Electric Car Co.
†R. & L., Irwin Daw, 1030 Main St.
Caledonia—Oldsmobile, Central Garage.
Canandea—Oldsmobile, Fred Litchard.
Castile—Oldsmobile, K. W. Lamberson.
Ellenville—KisselKar, R. D. Cookingham.
Glens Falls—*Koehler, F. F. Newberry.
Gowanda—Oldsmobile, Sipple & Dean.
Hamburg—Oldsmobile, Daniel Brodbeck.
Hoosick Falls—Oldsmobile, Phoenix Garage.
Ithaca—Oldsmobile, E. J. Trapp.
Jamestown—Oldsmobile, Jamestown Auto Sales Co.
Le Roy—Oldsmobile, Thomas Watson.
Malone—Oldsmobile, Eldredge & Mason.
Mexico—Oldsmobile, Oswego County Auto Co.
New York—KisselKar, Benz Auto Co.
Lewis, Stewart Automobile Co.
Olcott Beach—Oldsmobile, W. F. Kruger.
Port Jefferson—KisselKar, D. & H. Garage.
Penn Yan—Haynes, Wagener Bros.
Schuylerville—Oldsmobile, Ford Garage Co.
Syracuse—Dodge, Stowell Motor Car Co.
Oldsmobile, Wright Bros.
Suffern—KisselKar, Suffern Garage.
Troy—Oldsmobile, Ilium Garage.
Utica—Oldsmobile, Utica Regal Sales Co.

NORTH CAROLINA.

Asheboro—Paige-Detroit, Asheboro Motor Car Co.
Asheville—Oldsmobile, D. C. Shaw Motor Co.
Durham—Paige-Detroit, Snow Motor Car Co.
Franklinton—Paige-Detroit, Franklinton Garage Co.
Gastonia—Cole, Gastonia Garage Co.
Greensboro—Oldsmobile, Guilford Motor Car Co.
Henderson—Haynes, J. S. Paythress & Son.
Hickory—Paige-Detroit, T. F. Bogle.
Mebane—Paige-Detroit, Mebane Motor Co.
Rocky Mount—Oldsmobile, Oldsmobile Sales Co.
Winston-Salem—Oldsmobile, Carolina Cadillac Co.
Paige-Detroit, Crawford Mill Supply Co.
Yanceyville—Paige-Detroit, J. A. Massey.

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NORTH DAKOTA.

Bismarck—Haynes, Harry O. Paxton.
Dickinson—Oldsmobile, E. G. Holst.
Milnor—Metz, John Marshall.
Minot—Overland, Minot Auto Co.
Oakes—Franklin, W. E. Weston.

OHIO.

Bucyrus—Haynes, Harry O. Paxton.
Oldsmobile, McFarland, Miller & White.
Chillicothe—Overland, Hickey-Putnam Auto Sales Co.
Circleville—Overland, J. Metzger.
Reo, Clifton Bros.
Cleveland—Apperson, Eiseman Auto Co.
Briscoe, Jackson Motor Sales Co.
Columbus—Abbott-Detroit, W. W. Muzzy.
Chevrolet, Daniels Motor Car Co.
Cole, Brasher Motor Car Co.
Davis, Renner Auto Sales Co.
Detroiter, Frank C. Corbett.
Dodge, Ohio Auto Sales Co.
Ford, Renner Auto Sales Co.
Haynes, P. H. Rogers Motor Car Co.
Hupmobile, Kaiser Motor Car Co.
Lexington-Howard, F. Mayer.
Marion, Frank P. Corbett.
National, O. G. Roberts & Co.
Overland, O. G. Roberts & Co.
Pilot, F. E. Jolly.
Velie, Spring Street Garage.
Vulcan, Miller-Main Garage.
White, Brasher Motor Car Co.
*Mais, Otis Williamson.
†Waverley, Brasher Motor Car Co.
Conneat—Oldsmobile, Auto Sales Co.
‡Scripps-Booth, Frank Pappas.
Coshocton—Hupmobile, George J. Bock & Son.
Dayton—Apperson, H. H. Barton.
Eaton—Saxon, E. C. Wysong.
Greenville—Buick, Dunham Auto Co.
Westcott, John Ludy.
Lancaster—Overland, L. E. Huddle.
Reo, Clyde Chidester.
Lima—Dodge, Baxter Bros.
Oldsmobile, W. E. Rudy.
Logan—Studebaker, Studebaker Garage & Sales Co.
London—Overland, The London Auto Inn Co.
Lorain—Oldsmobile, F. E. Burrer.
Marseilles—Saxon, M. R. Emptage.
Marysville—Overland, H. R. Huffman.
McConnellsville—Ford, Morgan County Garage.
Mt. Gilead—Oldsmobile, W. D. Mathews.
Overland, Wilson & Bradford.
Mt. Vernon—Oldsmobile, B. E. Salisbury.
Overland, F. J. Harris.
Newark—Overland, Fred S. Simpson.
New Berlin—Apperson, W. E. Schumacher.
Norwalk—Paige-Detroit, Smith Bros.
Painesville—Oldsmobile, B. K. Elias.
Powhatan—Oldsmobile, J. E. Berry.
Springfield—Oldsmobile, Eaton Motor Service Co.
Steubenville—*Koehler, J. H. Timberlake.
Thornville—Overland, Thornville Garage.
Toledo—Apperson, R & M Motor Car Co.
Cadillac, Toledo-Cadillac Co.
Chandler, Lichtie Auto Co.
Chevrolet, Bunnell Auto Sales Co.
National, Louis Lichtie.
Oakland, Guy R. Ford, 604 N. Madison ave.
Oldsmobile, Bunnell Auto Sales Co.
Westcott, Baumgardner & Kibby.
Wooster—Apperson, H. H. Ziegler.

OKLAHOMA.

Bigheart—Haynes, Bryant & Truitt.
Dewey—Cole, L. E. Chanks.
Lawton—Dodge, Fred F. Thompson.
Muskogee—Knox, E. M. Semans.
Oklahoma City—Briscoe Stapleton Motor Sales Co.
Tulsa—Herff-Brooks, J. H. Snider.
Oldsmobile, New State Auto & Supply Co.

OREGON.

Portland—Apperson, Apperson Motor Car Co.

PENNSYLVANIA.

Allentown—Kearns, Lloyd Stewart.
Beaumont—Dodge, Crew Bros.
Beaver—Haynes, Fort McIntosh Auto Co.
Bigerville—Herff-Brooks, E. H. Trostle.
California—Haynes, Duff Garage.
Carlisle—KisselKar, Gillmor & Kaufman.
Chester—Oldsmobile, Palace Garage.
Clearfield—Cole, Wallace Garage.
Doylestown—Oldsmobile, George B. McLaughlin.
Duquesne—Oldsmobile, Old City Hall Garage Co.
Erie—Mitchell, Hartleb Bros.
Greencastle—Saxon, H. H. Leiter Bros.
Harrisburg—Herff-Brooks, J. K. Kipp.
Paige-Detroit, G. R. Bentley.
Hazelton—Oldsmobile, Hazelton Motor Service Co.
Houston—Apperson, Isaac C. Patsch.
Indiana—Haynes, C. H. Moore.
Johnstown—Dodge, Lincoln Automobile Co.
*Denby, Transportation Engine Co.
Lamberton—Haynes, Hill Bros.
Lancaster—Oldsmobile, George W. Creswell.
*Koehler, J. M. Binkley.
Lehighton—Oldsmobile, Jones Garage Co.
McKees Rock—*Koehler, Bert Noble Motor Car Co.
Norristown—Oldsmobile, Keystone Garage.
Pen Argyl—Maxwell, Jackson Bros.
Philadelphia—Stevens-Duryea, F. W. Eveland.
Pottstown—Oldsmobile, W. P. Young & Son.
Scranton—Apperson, C. C. Conrad.
Oldsmobile, The Oldsmobile Sales Co.
Tarentum—Haynes, Valley Motor Co.
Tunkhannock—Apperson, C. P. McKown.
Tyrone—Apperson, Penna. Auto Co.
KisselKar, J. Ray Davis.
Uniontown—Haynes, G. M. Rush.
Williamsport—Haynes, H. W. Ruggle.

RHODE ISLAND.

Providence—Apperson, Apperson Sales Co.
Cole, Cole Motor Sales Co.
Dodge, Cadillac Auto. Co. of R. I.
Elkhart, A. O. Poirier.
King, Charles L. Bebeau.
Pathfinder, Robert L. Knight.

SOUTH CAROLINA.

Columbia—Franklin, Gibbes Machinery Co.
Williamston—Oldsmobile, J. P. Gossett.

SOUTH DAKOTA.

Lead—Buick, M. Scherman.
Mitchell—Oldsmobile, Mitchell Auto & Supply Co.
Sioux Falls—Dodge, C. W. Thomson.
Sisseton—Cole, Stavig Bros.
Volga—Ford, F. H. Felberg.
Regal, F. H. Felberg.

TENNESSEE.

Bristol—Oldsmobile, L. C. King.
Chattanooga—*Koehler, Ford Sales Co.
Nashville—Hudson, Imperial Motor Car Co.
Maxwell, Morton-Gregory Auto Co.
*Koehler, West H. Morton.
Springfield—*Koehler, J. D. Traughber.

TEXAS.

Austin—Cadillac, Prior, Cullen & Gydeson.
Corpus Christi—Chalmers, O. D. Douglas.
Dallas—Paige-Detroit, Manger Automobile Co.
Fort Worth—Oldsmobile, Oldsmobile Sales Co.
Galveston—Cole, John Christensen & Co.
Dodge, Galveston Motor Car Co.
Houston—Buick, Sprong-Roberts.
Knoxville—Maxwell, Biddle Auto Co.
Port Arthur—Saxon, Linn & Smith.

UTAH.

Ogden—Apperson, Becraft Auto Co.
Buick, Wotherspoon & Jost.
Salt Lake City—Apperson, Apperson Motor Car Co.
Reo, Grady Motor Co.

VERMONT.

Bebee Plains—KisselKar, J. E. Turner.

VIRGINIA.

Charlottesville—Oldsmobile, E. L. Thurston.
Danville—Oldsmobile, Virginia City Motor Co.
Lynchburg—Saxon, Piedmont Motor Co.
Norfolk—Apperson, Seay Bros.
Oldsmobile, H. S. Meyers.
North Tazewell—Herff-Brooks, W. A. Scott & Co.
Parksley—Oldsmobile, Parksley Automobile Co.

WASHINGTON.

Endicott—Cole, C. R. Hays.
Walla Walla—Dodge, Franklin Motor Car Co.

WEST VIRGINIA.

Martin's Ferry—Overland, Gail Ulrich.
Newburg—R-C-H, J. T. Logsdon.
New Cumberland—Regal, Scott Bros.
Parkersburg—Cole, O. D. Strader.
Wheeling—Dodge, Engineering & Equipment Co.
Oldsmobile, H. M. Bratton.

WISCONSIN.

Beloit—Briscoe, James W. Nenhall Auto Co.
Bounduel—Briscoe, Adolf Ulmer.
Coleman—Briscoe, Motor Car Co.
Dodgeville—Briscoe, E. G. Miller & Son.
Grafton—Briscoe, Lansing Garage.
Lancaster—KisselKar, John Day.
Lone Rock—KisselKar, B. M. Dewey.
Madison—Cole, R. A. Warner.
Marinette—Cole, United Car Sales Co.
Marshfield—KisselKar, Hugo Wegener.
Milwaukee—Briscoe, Milwaukee Auto Sales Co.
Chevrolet, Wilson Motor Sales Co.
Dodge, Edwards Motor Car Co.
National, Screiber-Boorse Motor Car Co.
Oldsmobile, Frint Motor Car Co.
Westcott, H. Collins.
Oshkosh—Briscoe, A. E. Hanley.
Pardeeville—Briscoe, Royee Carpenter.
Platteville—Saxon, Udelhoven Motor Car Co.
Viroqua—Briscoe, Zityner & Fortney.
Waukesha—KisselKar, R. W. Crary.
Wausau—Cole, Wausau Garage.

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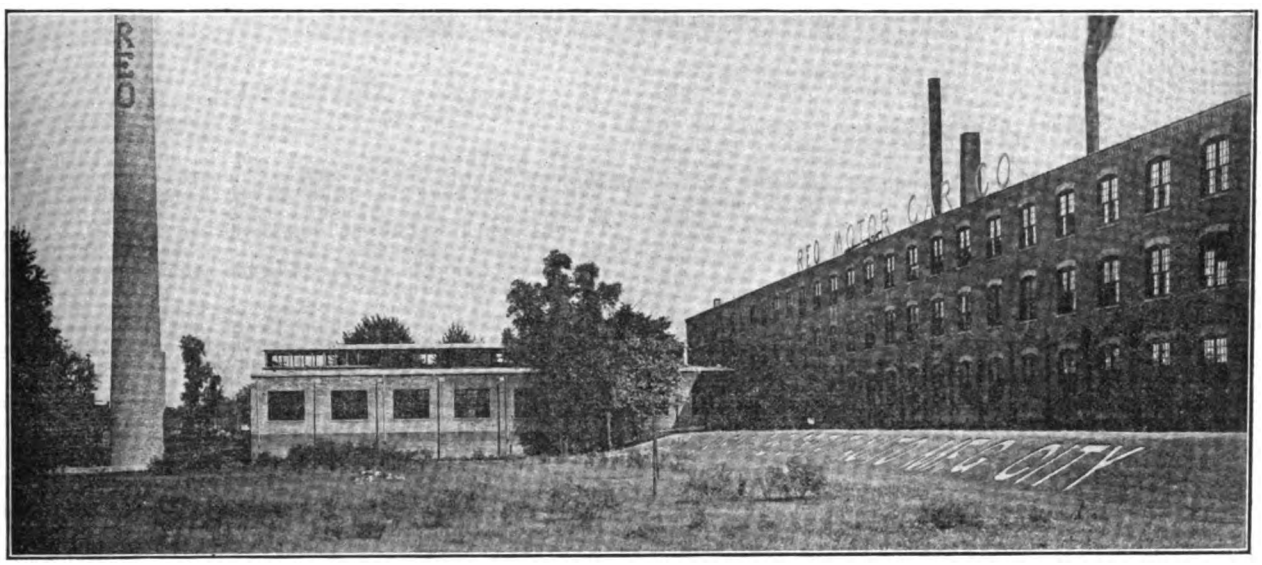
GENERAL NEWS OF THE MANUFACTURERS.

The Crescent Motor Company, Carthage, O., is making a vigorous fight against a receivership filed against it in the county court at Cincinnati, O., by the Hisey-Wolf Company. The suit is on a claim of $85 upon which it is alleged that payment has been refused. The plaintiff says the firm is solvent, but is unable to turn its assets into cash.

The Flagler Cyclecar Company, Cheboygan, Mich., is now in the hands of a receiver. The directors are endeavoring to perfect a plan of reorganization whereby the company may resume its corporate life. It is hoped that it will be possible to merge the company with some other concern other than for the manufacture of motor cars. A stockholders' meeting will be called in the near future.

The Indian Refining Company, New York, N. Y., has opened 17 new service stations. There are seven in Indiana, five in Illinois and two each in New York and Minnesota. The towns where these stations have been opened are: Buffalo, N. Y.; Bluffton, Ind.; Elk River, Minn.; La Grange, Ind.; Lawrenceburg, Ind.; Louisville, Ky.; South Bend, Ind.; Streator, Ill.; Ticonderoga, N. Y.; Wabash, Ind.; Waconia, Minn.; Warsaw, Ind.; Aurora, Ill.; Bedford, Ind.; Huntington, Ind.; Quincy, Ill., and Springfield, Ill.

The Reo Motor Car Company, Lansing, Mich., is expending $300,000 for new buildings and additions to manufacturing facilities. Two new buildings are now in course of construction, and the larger of these will be three stories high and will add 4½ acres of floor space to the plant. An addition is being made to the machine shop, and over $200,000 will be spent on new machine equipment.



Section of Reo Motor Car Company Plant, Lansing, Mich., Where $300,000 Is Being Expended on New Buildings and Additions to Machinery Equipment.

The Standard Welding Company, Cleveland, O., is building its third large addition of the year to its plant. The latest building is of structural iron, with corrugated asbestos, metal reinforced roofing and sidings. The new building, which is 60x240 feet, and 30 feet high, will be devoted entirely to the storage of rims. It will accommodate approximately 100,000 rims of various types.

The Auto Jack & Storage Company, Danville, O., has opened a branch office in Kansas City, Mo.

The Thomas B. Jeffery Company, Kenosha, Wis., has installed a refrigerating plant for the purpose of making cold weather tests on Jeffery carburetors, batteries and motors. In one hour after starting the refrigerating machinery it is possible to get a temperature of from eight to 10 degrees below zero. With this arrangement, winter tests may be conducted under summer conditions.

The Evinrude Motor Company, Milwaukee, Wis., will add one story to its plant in that city at a cost of $14,000.

A. R. Mosler & Co., New York City, has revised its price list and is issuing a new illustrated schedule to dealers and jobbers on application. Likewise this concern has compiled a list of jobbers and invites all jobbers to send in their names, which will be added to its list in event that it has not already done so. Only the jobbers so listed will get the benefit of the Mosler company's lowest quotations.

The Stewart Automobile Company of 225 West 57th street, New York City, has taken the metropolitan agency for the Lewis VI, made by the L. P. C. Motor Company, Racine, Wis.

Dodge Brothers, Detroit, Mich., has appointed Harold L. Arnold as distributor in southern California, George and Thomas W. Gilmore, distributors in Macon, Ga., and the Steinhart-Eckler Company, distributor in Indianapolis. The Lincoln Motor Car Company will represent Dodge Brothers in Cincinnati.

The Chevrolet Motor Car Company's plant at Flint, Mich., was visited recently by William J. Small, distributor in Indiana for the Chevrolet, accompanied by about 60 of his dealers in the state. After an entertainment by the company they all drove home in their 1915 cars. The party also spent two days in Detroit.

The Detroit Steel Products Company, Detroit, Mich., has closed contracts with the National Motor Vehicle Company, Indianapolis, Ind., and the Wichita Falls Motor Company, Wichita Falls, Tex., to supply Detroit self-lubricating springs for all cars manufactured by these companies.

The Ford Motor Company, Detroit, Mich., is discontinuing the old employee's badge, which was of brass, oval shaped, with the employee's number and department stamped across its face and, instead, is using one of German silver with a Ford car designed against the radiator for a background.

The Cole Motor Car Company, Indianapolis, Ind., has sold a Cole Little Six to the Gary, Ind., fire department. The car is for the use of the fire chief, and was driven from the plant to Gary.

The Partin Manufacturing Company, Chicago, Ill., maker of the Partin-Palmer car, recently purchased 1000 bales of cotton at 10 cents a pound, to foster the "Buy a Bale" movement. The purchase, involving an expenditure of $50,000, was made through the Partin-Palmer distributor, the Texas Motor Car & Truck Company of Dallas and Austin, Tex.

The Commonwealth Trust Company has been appointed receiver of the Vestal Motor Car Company, Pittsburg, Penn. Application for the receivership was made by the Jackson Motor Supply Company, a creditor, who claims that the Vestal company is unable to meet its obligations. The assets were placed at $11,500 and the debts at $6900.

The King Motor Car Company, Detroit, Mich., has received a release on all its English shipments. These have been tied up since the beginning of the European war. A number of cars being shipped to England have been purchased by the British government through the King distributor in London. The King Company states that the indications at present point to an early release of a majority of their foreign shipments going to Australia, New Zealand and Africa.

The Chevrolet Motor Company, Flint, Mich., is planning to build at least 10,000 cars for the season of 1915 in its Flint plants. The New York factory, which will take care of all of the New England states and the export business, is expected to turn out 3000 cars. The working forces will be greatly increased in both plants, and within a short time it is expected that the Flint plants will be turning out 50 cars a day.

The National Motor Vehicle Company, Indianapolis, Ind., is taking initial steps toward the erection of a substantial addition to its plants in that city. On ground recently acquired, a dozen frame buildings have been razed and the new building will be started as soon as possible. This new addition will house the administration offices and a number of various departments.

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NEW CONCERNS AND BUSINESS CHANGES.

AGENCIES AND DEALERS.

The Postles Automobile Brokerage Company, Wilmington, Del., has been established by Colonel Grantley P. Postles, with offices in the Du Pont building. The company has the agency for that state for the Chandler car.

Winders Motor Car Company, Columbus, O., is the name of a new company organized recently to handle the Velie car in central Ohio. The company is located at 240 North Fourth street.

The Weller Company, Portland, Ore., is a new company which has opened for business at 112 Sixth avenue. A full line of automobile accessories is carried.

Bainse, The Tire Man, Staunton, Va., is the name of a new concern which was opened recently at 21 South New street. Repair of tires is specialized in.

Chanslor & Lyon, Seattle, has opened a service station for Stewart speedometers.

L. G. Brinkman, Lincoln, Neb., has retired from the firm of Lincoln Tire & Repair Company. His partner, J. F. Murphy, now conducts the business.

The Central Garage, Clifton Forge, Va., has opened a service station for Haynes cars. J. C. Chambers is in charge.

E. B. Scapnelli Auto Supply Company, Joliet, Ill., is the name of a new automobile concern which has opened in the Adam arcade. Tires will be specialized in.

The Bruening Brothers Auto Company, Kansas City, Mo., has opened a branch at 1618 Grand avenue. Studebaker cars are handled.

The Benedick-Buick Company, Iona, Mich., has been formed to continue the business of the Iona Auto Company, which has gone out of business. The new company will handle the Buick and Ford cars.

Toburen Brothers, Rantoul, Ill., has opened an automobile supply house and repair shop, which is fully equipped.

The Titan Storage Battery Company, Newark, N. J., has opened an office at 2332 Michigan avenue, Chicago, in charge of D. M. Simpson.

The Auto Jack & Storage Company, Danville, O., has opened a branch house at Kansas City, Mo., in charge of J. M. Stucker. The company is located at Eighth and McGee streets.

The Tioga Automobile Company, Philadelphia, has opened salesrooms at 336 North Broad street. The company will continue the service station at Broad and Tioga streets, where a fully equipped repair shop is conducted.

J. W. Leavitt & Co., Seattle, Wash., has opened a used car department in charge of L. J. Kearns. The company represents the Overland car.

GARAGES AND REPAIR SHOPS.

Fred C. Losen, Galveston, Tex., has opened a garage.

T. H. Field, Cameron, Wis., has opened a garage. A full line of automobile supplies will be carried. Ford and Overland cars will be sold and a repair shop maintained.

The Stoepel Company, Detroit, is the name of a new company recently formed. A garage is to be maintained at 85 East Elizabeth street.

Butler & King, Kittanning, Ga., is the name of a new company which has entered into the garage business. The company is located on North McKean street.

Frost & Drake, Central Lake, Mich., has opened a garage. A full line of automobile supplies will also be carried.

R. A. Pallotti and T. P. Soule, Hartford, Conn., has opened a new garage at 254 Weathersfield avenue. The new company will specialize in repair work of all kinds.

S. R. Boyd, Pomona, Cal., has opened a modern garage at 156 West First street. Maxwell cars are handled.

Lawler & Quick, Huntsville, Ala., has opened a garage on Jefferson street in the building formerly occupied by the Kelley Garage Company.

Bill Organ, Bay Shore, N. Y., has opened a repair shop on East Main street.

The Hermiston Auto Company, Hermiston, Ore., has opened a repair shop in the Telephone building. Parts and supplies will be carried. C. Chaney will have charge.

The Masonic Temple Garage, Detroit, is the name of a new concern located next to Masonic Temple. The company will handle Hupmobile cars.

D. W. Vaughn, Richmond, Va., has opened a garage and repair shop at 319 West Main street.

The Huntsville Taxi Service Company, Huntsville, Ala., has opened offices and a garage at 106 Eustis street. L. W. Becker and P. H. Palmer are interested.

The Central Automobile Company, Lewistown, Penn., has opened a large and up-to-date garage on Chestnut street. The company is agent for the Haynes and Reo cars.

Mingos & Van Horn, Towanda, Penn., has opened a garage on Main street. It is fully equipped.

The Fowler Auto Company, Gainesville, Fla., has opened a garage on Masonic street. A complete line of accessories and parts will be stocked.

Charles W. Rock, Taunton, Mass., has established an automobile repair shop on Washington street.

The General Garage Company, Salt Lake City, Utah, is the name of the new garage which was recently opened on First South street. The building has a capacity for 200 cars and will be open day and night.

The Guarantee Auto Repair Company, Indianapolis, has opened for business and will make a specialty of rebuilding and overhauling automobiles. Fred P. Merz of the Comet Cyclecar Company is interested.

The Ford Shop, Grand Rapids, Mich., is the name of a new company which has opened a repair shop at 626 South Division avenue. Claude R. Buck and Wesley T. Smith are interested in the project. A full line of accessories will also be handled.

Andrew Stried, Ellendale, N. D., has opened a modern garage in the Old Moor Inn. Repair work of all kinds will be given close attention.

The Mission Garage, Santa Cruz, Cal., will conduct a service station for Chalmers cars, where buyers may have their repair work attended to free of charge. The company also handles the Oldsmobile car.

Christofferson & Larsen, Cokato, Minn., has opened its new garage on Broadway. Repair work and storage will be specialized in.

Smith & Parks, Oakdale, Cal., has just completed a new garage, which is 50 by 150 feet.

The Santa Fe Trail Garage, Kansas City, Mo., has started business on Westport avenue under the management of Forest Jones.

Albert Miller, Columbus, O., has opened a vulcanizing and tire repair business at 132 East Spring street.

TRANSFERS.

W. A. Wattles, Battle Creek, Mich., has purchased an interest in the United Motor Company. The company will now be known as Riley & Wattles and will conduct a repair shop. Reo, Overland and Ford cars are handled.

The Soden Motor Cab Company, Brooklyn, N. Y., one of the most flourishing taxicab concerns in that city, has purchased the Central Garage from George Bradt, the former proprietor.

Archie E. Symonds, Chicago, has taken over the corporate stock formerly held by Robert Wachman and wife, also Daniel J. Alpert, in the United States Auto Supply Company. Mr. Symonds is now president of that company.

A. H. Hultman, Webster City, Ia., has purchased the Albright Garage on East Second street. The business will hereafter be conducted under the name of the Hamlin Automobile Company. Paige and Maxwell cars will be handled. Repair work will be specialized in, as a fully equipped repair shop has been installed.

M. Schell, Beardstown, Ill., has purchased the E. N. Cannon garage and machine shop.

Frank Downing, Cadillac, Mich., has bought an interest in the Manton Garage.

The Granville Garage Company, Granville, Ill., has dissolved partnership, but the firm name will not be changed. L. W. Ham is the proprietor, C. H. Bassett having retired from the business.

R. I. Hether and A. Tenniswood, Brown City, Mich., have bought the foundry and repair shop which J. J. McKnight has been operating for over 30 years. The business will be continued and improvements made.

Voss & Conrad, Iowa City, Ia., has sold an interest in its garage and salesrooms to Lattner Brothers, Cedar Rapids. The new firm will operate on a much larger scale. Lozier, Maxwell, Chalmers and Reo cars are handled.

Parker Barrett, Bakersfield, Cal., has purchased the interest of his partner in the M. & F. Garage. Overland and Stutz cars are handled.

Morris Williams, Birnamwood, Wis., has purchased a half interest in the garage and agency business of E. H. Jewson. The firm name has been changed to the Birnamwood Automobile Company. Mr. Williams is an expert electrician and machinist.

A. F. Neumeyer and J. D. Ganst, Smithton, Mo., have purchased the interest of their partner, A. R. Bohon, in the Smithton Automobile Company.

Henry B. Beckwith, Guilford, Conn., has purchased the C. B. Forbes garage on Union street.

The Milford Garage, Milford, Del., has been purchased by Edward Atkins. The company is located on Railroad avenue.

Charles Meighan, South Richmond, Va., has taken over the automobile repair and storage business of J. H. Smith & Co., 717 Hull street.

F. E. Kent, Hart, Mich., has purchased the George Graff Garage and the name has been changed to the Kent Garage. Elwin Kent will be in charge. A first-class repair shop will be maintained and a full line of accessories carried in stock.

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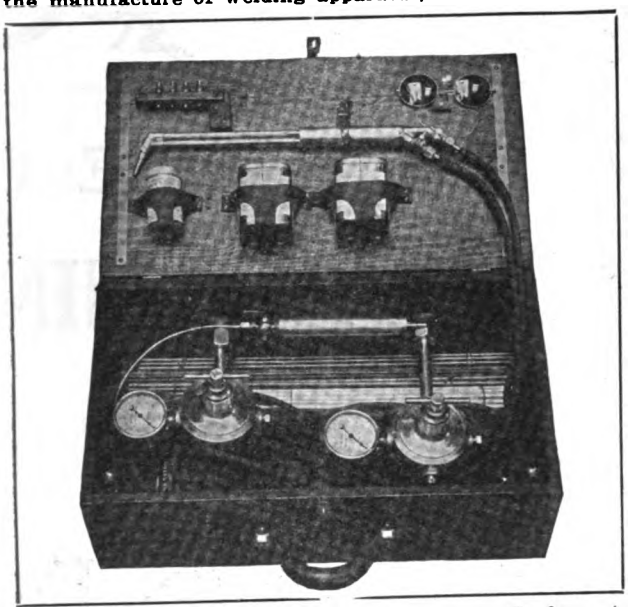
FREE TRIAL OFFER.

Waterhouse Welding Company Permits Use of Welding Equipment for Two Weeks—Terms Are Liberal.

The Waterhouse Welding Company, 8 Pelham street, Boston, Mass., one of the oldest companies engaged in the manufacture of welding apparatus, is making a free trial offer that will interest garages and repair shops desiring this equipment, particularly small concerns of limited capital.



The Waterhouse Welding and Decarbonizing Equipment, a High-Grade, Economical Apparatus Offered to the Trade on Unusually Liberal Terms.

The company permits use of its product for two weeks, at the end of which time the equipment may be returned. Indicative of the liberality of the offer is the statement that the user will not be obliged to give any reason for sending it back.

The price of the outfit is $42 and includes one B welding torch with five tips, one oxygen reducing valve with 50-pound line pressure gauge, one acetylene reducing valve with 50-pound line pressure gauge, one set of special welding hose (20 feet), one pair of welding glasses, one carbon burning torch, and a complete set of instructions. Supplies, such as flux, welding rods, etc., are furnished at a slight extra cost.

The terms are very liberal, a small first payment being required and the balance on easy installments, the amounts being so small it should be an easy matter for the purchaser to pay for the equipment from profits. Complete details of the free trial offer will be supplied upon addressing the company.

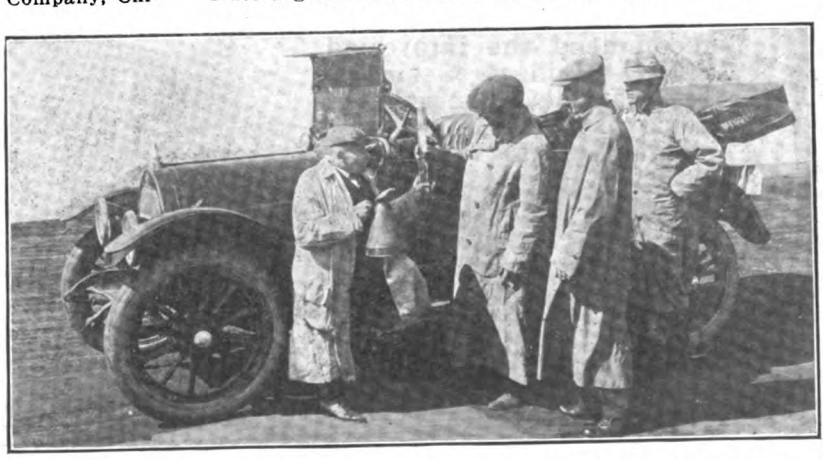
OVERLAND FUEL ECONOMY TEST.

Equipped with Model G Rayfield Carburetor, the Car Travels 24.2 Miles to the Gallon.

Equipped with a model G Rayfield carburetor, made by the Findeisen & Kropf Manufacturing Company, Chicago, Ill., a model 80 Overland touring car, made by the Willys-Overland Company, Toledo, O., obtained 24.2 miles from a gallon of fuel in a series of tests, which included trials for acceleration, throttling, speed and hill climbing.

The trials were held under the supervision of F. E. Edwards, chairman of the technical committee of the Chicago Automobile Club at Chicago, and throughout no change whatsoever was made in the adjustment of the Rayfield carburetor. In the acceleration test the car attained a speed of 30 miles in 12.5 seconds from a standing start. Extreme flexibility was demonstrated, the motor throttling down to a car speed of three miles an hour on the high and quickly accelerating to 42 miles.

The trials were completed with the climbing of Hubbard's hill. The first test was made from a standing start and the machine attained a speed of 18 miles an hour on the high at the top. In the second trial the Overland was started on the high at a rate of 12 miles an hour, and it finished at the top at a speed of 18 miles an hour. The official weight of the car, equipment and four passengers, was 3620 pounds. It was driven by Charles Merz. The Overland used was the demonstrating machine of the Overland Motor Car Company of Chicago. The Findeisen & Kropf Manufacturing Company is naturally pleased over the showing made by its product, which demonstrates the efficiency of the Rayfield carburetor.



Officially Measuring the Fuel Utilized in the Gasoline Test of the Overland Car Equipped with Model G Rayfield Carburetor.

FORD LIGHTING DYNAMO.

Charles A. Jackson Company Produces Equipment, Including Fittings, Selling for $27.

The Charles A. Jackson Company, Motor Mart, Park square, Boston, is marketing an electric lighting system, including the dynamo, cut-out and ammeter, that retails for $27. One of the desirable qualities of the equipment is that installation fittings are to be had for nearly every type of machine. A special equipment is produced for the Ford car. The dynamo is constructed of the best of material and is guaranteed to give perfect satisfaction. Its output is sufficient to meet all requirements. The constantly increasing demand for an electric lighting equipment for the used car affords the progressive garageman and repairman an opportunity to place a large number of these systems. A postal will bring complete details of the various installations, also the big discount offered.

MOTOR PARTS COMPANY.

Boston Concern Now Has Branches All Through New England and Is Rendering Excellent Service.

Organized about a year and a half ago, the Motor Parts Company, 185-187 Columbus avenue, Boston, Mass., has made wonderful progress and has at all times met the needs for quick service and quality products. The organization has been extended to include representative concerns in commercial centres throughout New England, each of which has a fully equipped laboratory for the adjustment and repair of Bosch ignition systems.

In addition to handling all Bosch products, the Motor Parts Company is distributor for a long line of other specialties, including Kemco fan type generators, Zenith carburetors, Leak-Proof piston rings, etc. It is possible to purchase the Bosch ignition system parts and spark plugs of any of the associated companies at the same price that is charged by the main house at Boston, or the branch house in Springfield. Likewise, the associated companies carry in stock a full line of other specialties handled by the parent concern. The object sought is to afford a co-operative plan, in which combined resources afford the fullest benefit through mutuality of endeavor.

CANDIDATE FITZGERALD LOSES FORD.

J. M. Fitzgerald, Democratic nominee for secretary of state, Rhode Island, in addition to seeking votes, is now seeking a brand new model T Ford car, which was stolen from him Sept. 30. Candidate Fitzgerald left his Ford on the corner of Eddy and Westminster streets, Providence, R. I., at 8 o'clock at night, and on his return some 10 minutes later found that his car was gone. Up to the present time the police have not been able to trace it. The maker's number on the car was 207,468, and the state registration number was Rhode Island 2896.

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EVERY SALE OF

S-M-C BRAKE LINING

IS MADE with the Manufacturer's Guarantee to the Purchaser That It Gives the Highest Degree of Satisfaction or Money Refunded.

Our Offer to All Public Garages, Etc.

We will send, absolutely free of charge, sufficient brake lining to equip a ca so that you may give it a thorough test and become acquainted with the un usual durability and resistance power of the improved S-M-C Brake Lining

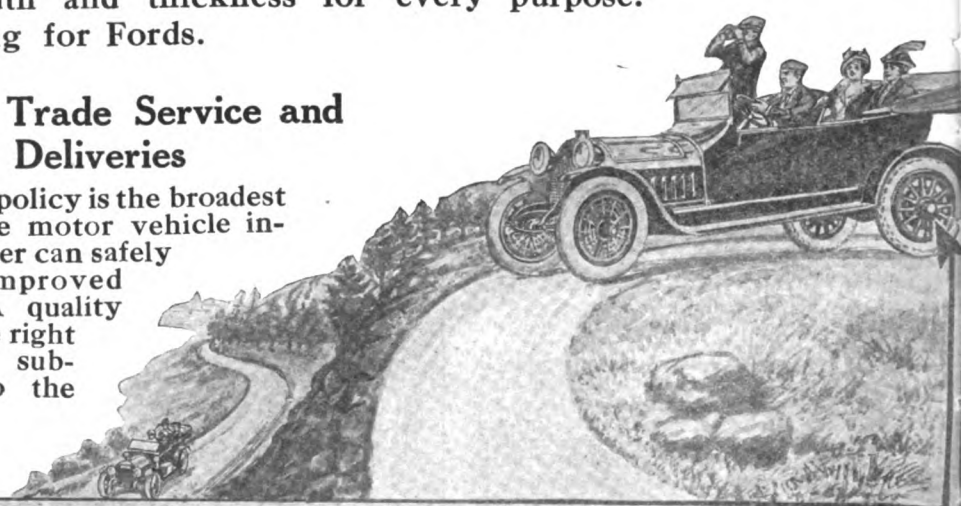
S-M-C IMPROVED BRAKE LINING

IS THE BEST PRODUCTION OF THE INDUSTRY; THE MOST ADVANCED ACHIEVEMENT OF SCIENCE.

Our manufacturing processes insure absolute uniformity of quality an there is a width and thickness for every purpose.
A special lining for Fords.

We Specialize Trade Service and Quick Deliveries

The S-M-C selling policy is the broadest ever known to the motor vehicle industry. Every dealer can safely recommend the improved S-M-C Lining. A quality line that sells at the right price and brings substantial profits to the dealer.



"SAFETY MILEAGE COST" ALSO ASBESTOS AND RUBBER PACKINGS, GASKETS, RADIATOR HOSE
Manufactured and Guaranteed By
STAYBESTOS MFG. CO. Germantown, Phila, Pa.

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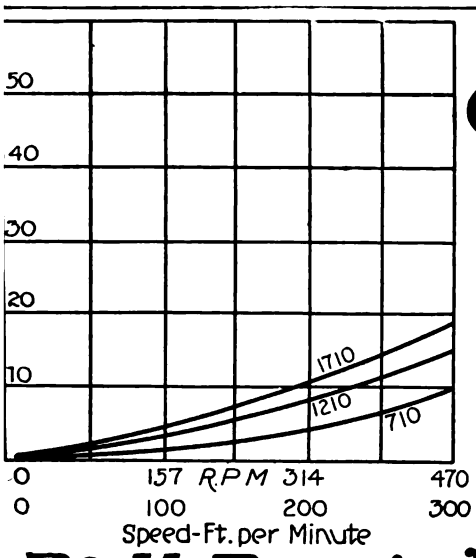
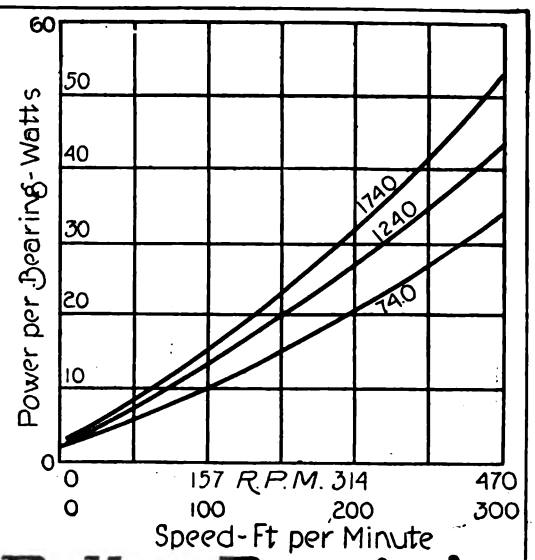


Chapter X

F&S



Ball Bearing Efficiency VS Roller Bearing Deficiency

THE RESULTS OF A TEST THAT COVERED FOUR YEARS OF TIME

The Engineering Department of the University of Wisconsin enjoys an international reputation for its efficiency in research work.

For this reason the result of its experiments to determine the Absolute and Relative amounts of power consumed by BABBITT, ROLLER and BALL BEARINGS is authoritative and settles absolutely the merits of these types of bearings for the purpose for which they are manufactured—the elimination of friction.

The charts at the top of this page show graphically the relative amounts of power consumed by friction, by ball and roller bearings as determined by the University of Wisconsin.

The reader will readily see that a motor has to generate three times the power to overcome the friction of roller bearings as it would for ball bearings under practically the same loads.

The following tables are taken from the official statement of the University of Wisconsin giving the result of their experiments on the three types of bearings:

TABLE 1. COMPARISON OF COEFFICIENTS OF FRICTION.

Peripheral speed of shaft = 150 ft. per min. corresponding to 235 r. p. m.

Bearing	Average Load Per Bearing = 727 Lb. Temperature Bearing = 77° F Coeff. Friction	Average Load Per Bearing = 727 Lb. Temperature Bearing = 100° F. Coeff. Friction	Average Load Per Bearing = 1227 Lb. Temperature Bearing = 77° F. Coeff. Friction.	Average Load Per Bearing = 1227 Lb. Temperature Bearing = 100° F. Coeff. Friction.	Average Load Per Bearing = 1727 Lb. Temperature Bearing = 77° F. Coeff. Friction	Average Load Per Bearing = 1727 Lb. Temperature Bearing = 100° F. Coeff. Friction
Ball	0.0025	0.0019	0.0022	0.0018	0.0020	0.0016
Roller	0.0069	0.0055	0.0055	0.0047	0.0049	0.0042
Babbitt	0.0112	0.0075	0.0082	0.0058	0.0070	0.0051

TABLE 2. COMPARISON OF RELATIVE AMOUNTS OF POWER CONSUMED IN FRICTION.

Bearing	Temperature of Bearing = 77° F.	Temperature of Bearing = 100° F.	Temperature of Bearing = 77° F	Temperature of Bearing = 100° F.
Ball.	1	1	1	1
Roller	2.2	2.5	2.7	3
Babbitt	3	3.6	4.5	4

Table 2 gives the relative amounts of power consumed in friction by the three types of bearings, assuming the relative amount of power consumed in friction by the ball bearing as 1. The relative numbers given are based in each case on the average power for three loads: 710, 1210 and 1710 lb. for ball bearings; 740, 1240 and 1740 lb. for roller bearings; 730, 1230 and 1730 lb. for babbitt bearings.—*American Machinist.*

BRETZ COMPANY
F & S Ball Bearings
250 West Fifty-fourth, New York

(When Writing, Please Mention The Accessory and Garage Journal.)

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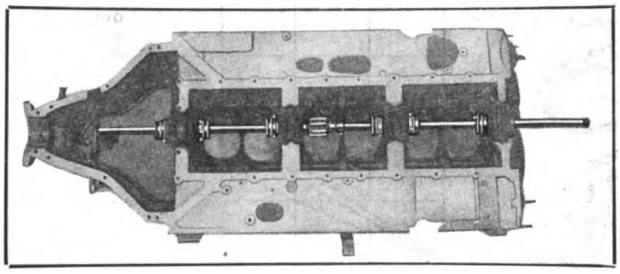
FEATURES OF MARTELL ALIGNING REAMER.

ANY tool obtaining more accurate results than possible with manual methods, and which economizes in time, is a profitable investment for the repairman and the service station. It is perfected machinery and modern equipment that enables the automobile manufacturer



The Martell Aligning Reamer in Service in Crank Case of a Six-Cylinder Packard Motor—The Tool Eliminates Scraping Bearings by Hand, Insures Perfect Alignment and Saves Considerable Time and Labor.

to increase his production and to market it at a lower price than formerly. This applies particularly to the motor bearings, and the large factories have abandoned the hand scraping of crank bearings because of the inaccurate results and time consumed.

The progressive repairman will be interested to learn that the Martell aligning reamer, a tool that will successfully compete with any of those utilized by large factories, is now being produced by the Harding Manufacturing Company, South Main street, Mansfield, Mass.

Not only does it perform the work quickly and accurately, but it insures perfect alignment. One of the several advantages of the Martell aligning reamer is that it can be used on any motor. It not only produces perfect surfaces in correct alignment with each other, but makes possible the correct meshing of gears. It is equally adaptable to connecting rod and other bearings.

The supporting bushings, shown in an accompanying illustration, depicting the Martell reamer in service, are provided with a very fine thread on the tapered portion, and screw very firmly into the ends of the bearings to be reamed. They are also provided with means of adjustment in any direction, the range being about .095-inch. They also have a micrometer reading, showing the amount of "set".

The maker states that one or two operations with the reamer will perfect one in its use and that scraping is seldom necessary except fillets. Generally the motor can be left in the frame when utilizing the reamer.

The Martell Reamer, Including Heads, Adjustable Blades, Etc., Comes in a Neat, Substantial Box.

The reamer consists of two heads, each carrying six adjustable blades, the range of adjustment being about .08-inch. The small head takes all sizes from 1⅝ to 1⅞ inches, and the large member from two to 2¼ inches. This range is obtained by the use of six blades, and it is an easy matter to make any desired changes.

The smaller illustration shows the Martell reamer set up in the crank case of a Packard six-cylinder motor, and reaming out bearings after the gears have been set correctly and the rear end trued up. This work was completed in 11 hours without any attempt to make a record. The time was taken from starting to shim the bearings until the main and rod bearings were all reamed, fillets scraped and connecting rods and crankshaft assembled.

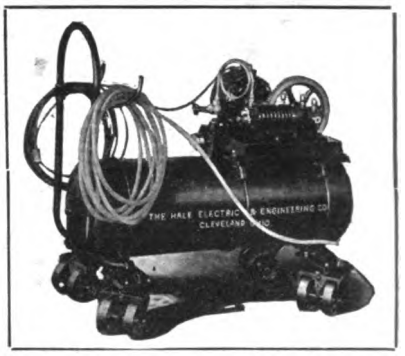
The maker states that the operation of the tool does not require an expert; a workman more or less familiar with bearings and the use of a micrometer can run it. The Martell eliminates the element of uncertainty in estimating jobs for repair work. It is as easy to ream .02 as .002-inch.

Mr. Martell, the inventor of the reamer, is a well known mechanical engineer. For several years he was at the head of the experimental and testing department of the Packard Motor Car Company. He is now with the Harding Manufacturing Company as factory manager. The company issues a booklet upon bearings, which will be mailed upon request. The Harding Distributing Company, Boston, Mass., is the sole distributor.

HALE GARAGE COMPRESSOR.

A Practical Equipment for the Public or Private Garage, One Operated from a Lamp Socket.

The Hale Electric & Engineering Company, 1232 East Third street, Cleveland, O., is manufacturing a portable electric air compressor that can be operated from any lamp socket. The Hale compressor comprises a steel tank mounted on sturdy wheels, and includes an electric motor, compressor, gauges, hose, cable, etc. The tank has a capacity of 175 pounds maximum pressure, and the pump supplies 1½ cubic feet of air a minute. High-grade material and workmanship are incorporated, and the Hale is a good selling proposition for the dealer and jobber, as it is as practical for the private garage as it is for the public service station. Details and prices will be supplied upon request.



Hale Compressor.

TIRE REPAIR EQUIPMENT.

Mapes & Maburn Manufacturing Company Producing Vulcanizer Adapted to Garage and Repair Shop.

To meet the demand for a moderately-priced, high-grade vulcanizer, one adapted to the requirements of the garage and repair shop, the Mapes & Maburn Manufacturing Company, 19 Fulton avenue, Rochester, N. Y., has brought out the Maburn Superior steam vulcanizer. It will repair all kinds of tires under four inches, also motorcycle tires, and is adaptable to all vulcanizing. The construction is not only very compact, but the equipment is capable of a wide variety of work at a slight cost. It comes complete, including the heating apparatus. With one of these vulcanizers the garage and repair shop can build up a nice trade in tire and inner tube repairing, and the profits are very attractive. Complete details of the offer made by the company will be supplied upon request.

NEW MOSCO SPECIALTIES.

Include Practical, Easily Operated Power Tire Pump and Shock Absorbers for Ford Car.

The Motor Specialties Company, Waltham, Mass., manufacturer of high-grade appliances for motor vehicles and power boats, announces several new Mosco specialties for the Ford car, including a power tire pump and shock absorbers.

The Mosco pump is designed for direct connection to

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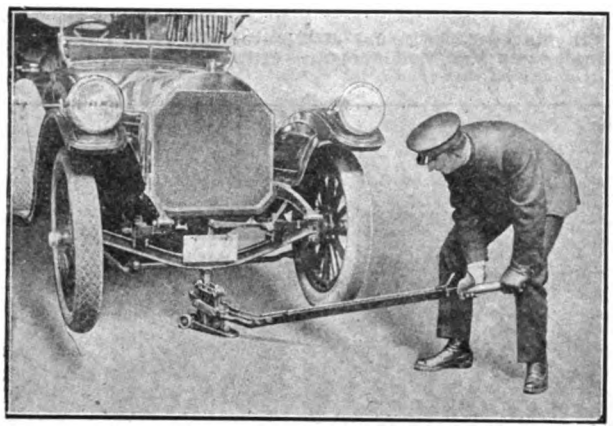
the Ford motor and is driven by an extension of the timer shaft, as shown in accompanying illustration. By means of an ingenious clutch arrangement the pump can be started and stopped by a simple movement of a shifting lever, easily accessible and without lifting the hood. The



Showing Excel Auto Jack in Service.

pump is substantially constructed, is made from castings throughout, and has individually lapped pistons. It is stated to be capable of inflating a Ford tire in less than three minutes. It retails for $7.50 and comes complete with 15 feet of high-pressure hose and a 150-pound capacity gauge.

The Mosco shock absorber is built on the principle of of a torsional spring, two of which in each absorber work in unison on either side of the shackle. The springs and moving parts are enclosed in a steel housing of attractive appearance, finished in black enamel. Some departure from conventional practise is noticeable in that the height of the Mosco is only 5½ inches. The construction is such that in case of breakage of springs no inconvenience is experienced, as the car can be operated and the replacement of the spring can be made when convenient, the work being easily accomplished within five minutes. The Mosco shock absorbers are listed two ways, a complete set of four retailing for $10, or either pair of front or rear members for $6.

The Motor Specialties Company is also marketing the Excel auto jack, a large and powerful tool for the rapid and easy handling of motor vehicles weighing up to 8000 pounds. It is a practical, useful jack for garages, service stations, repair shops, tire agencies, etc., as with it any car may be lifted up to 26 inches without blocking, permitting the removal of shackle bolts, springs, front suspensions, etc. The jack is especially convenient when adjusting the steering gear and its linkage. One of its desirable qualities is that it has sufficient range of action to permit the removal of a Ford front suspension.

The maker of the Excel auto jack states that it requires but little effort to raise a car and that any desired height up to the maximum can be obtained. The jack is always under complete control of the user.

A feature of the construction is that the jack can be instantly adjusted to any part of the frame of chassis by the 50-inch handle and without stooping. The wide, heavy base is provided with rollers, making for easy handling, and one downward movement of the handle lifts the car instantly. A four-inch toe extension permits using the jack under a car with a broken axle and raising it sufficiently high to place a truck or skids for towing. The auto jack retails for $16 and is guaranteed.

LUTZ HAS NOVEL COMPETITION.

Tool Concern Offering Prizes for Best Answers for Uses to Which Their Product Can Be Put.

The Lutz-Webster Engineering Company, Philadelphia, Penn., has inaugurated a novel scheme to ascertain the uses to which it is possible to apply Lutz compression tools. The company states that its product fits the needs of almost every condition and requirement of mechanics generally. The company offers prizes of $100, $50, $25, five prizes of $10 and 10 prizes of $5 each for the best reports covering: (1) Most interesting account of universal use of Lutz tools; (2) best application of Lutz tools under difficult or unusual conditions, and (3) origination of new uses or ideas having a commercial value.

The Lutz compression wrench is the foundation of the company's line. This tool will grip finished or rough surfaces, on threads, without marring or crushing. This instrument is used interchangeably with Lutz compression ratchets, drill sockets, nut and bolt sockets, etc., making a distinct tool for each purpose at the cost of one. The drill posts combine all the features of a radial drill press, as they provide adjustment in every direction and at any angle by the use of a swivel arm.

By addressing the Lutz-Webster Company, full particulars regarding the prize competition, and the company's latest bulletin, will be mailed.

OPPORTUNITY FOR GARAGES.

Staybestos Manufacturing Company Makes Liberal Offer of S-M-C Improved Brake Lining.

The Staybestos Manufacturing Company, Germantown, Philadelphia, Penn., maker of the S-M-C brake lining, is making an unusual offer to all public garages. The company will send, absolutely free of charge, sufficient S-M-C brake lining to equip a car so that the material may be given the most practical test, that of service, believing that the user of its product is the best judge.

Every sale of S-M-C brake lining is made with the maker's guarantee to the purchaser that it gives the highest degree of satisfaction or the money is refunded. The guarantee is based upon the need of safety first, last and always, and it assures to the owner endurance, economy and dependability, every service requirement.

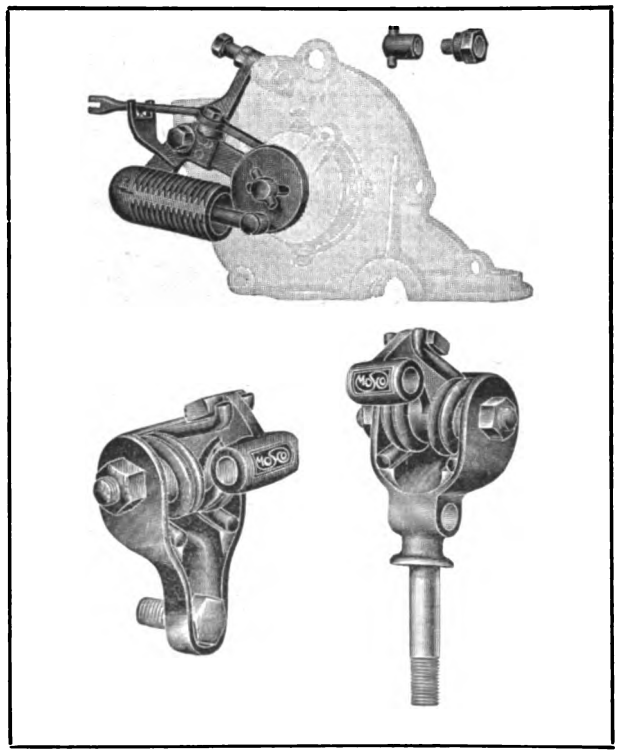
The manufacturing processes of the S-M-C improved brake lining assure absolute uniformity of quality. There is a width and thickness for every purpose; also a special lining for the Ford cars. The Staybestos Manufacturing Company specializes in trade service and quick deliveries and has a broad selling policy. Details and prices will be supplied upon request.

NEW VELVET SHOCK ABSORBER.

The 1915 Model Will Be Ready for Delivery About Jan. 1 and Will Be Exhibited at Shows.

The John W. Blackledge Manufacturing Company, 2110 South Michigan avenue, Chicago, Ill., maker of the Velvet shock absorbers, announces a new 1915 model constructed on the well known Velvet principles, but embodying a number of improvements and refinements, which add considerably to both the efficiency and the appearance of the absorbers. It is expected that the new model will be ready for delivery about the first of January. It will be exhibited at the New York City and Chicago shows.

The company also announces the addition to its line of a new and unique Velvet shock absorber for the Ford car. The Velvet absorbers are handled almost entirely through distributors, who contract for exclusive selling privileges, and it is understood that some changes will be made in the allotment of territory for the coming year. The John W. Blackledge Manufacturing Company calls particular attention to its policy of protecting its representatives, and suggests that concerns not assigned territory write direct to it.



New Mosco Appliances for Ford Car, Including Power Tire Pump and Shock Absorbers.

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BOSCH BRINGS OUT A NEW TYPE OF MAGNETO.

THE Bosch Magneto Company, New York City, is marketing a new magneto which differs from conventional practise in that the usual distributor and armature shaft gears are eliminated, as is the distributor. These components have been replaced by a novel and ingenious construction for distributing the high-tension current.

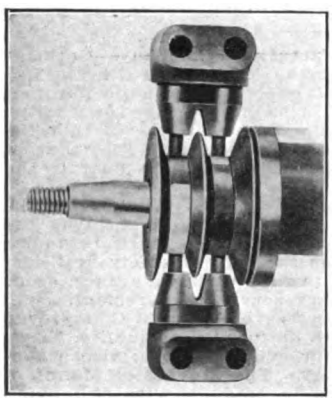


Fig. 1—Bosch Double Slip or Collector Ring.

The new instrument, which is known as the type NU4, is a true high-tension magneto. It is very compact, its small dimensions being due to the elimination of the components above referred to. In place of the usual distributor plate and gears is the slip ring arrangement shown at Fig. 1. This is a double slip ring mounted on the driving end of the armature shaft, and consequently rotates at crankshaft speed. The ring follows Bosch practise in that it is a one-piece construction, but it is provided with two grooves in the hard rubber insulation. Imbedded in the base of each groove of the double slip ring is a metal segment mounted flush with the surface of the material. As may be noted by reference to Fig. 1, there are two segments placed diametrically opposite, or 180 degrees apart. These metal segments are insulated from each other, as well as from the metal of the frame, armature core, etc.

The high-tension current is collected by carbon brushes, four in number. Connecting with each of these brushes by a novel method is a cable which leads to a spark plug, the wires being attached to the plugs according to the firing order of the motor; that is, the timing is such that, when one brush is making a contact to produce a spark in a cylinder ready to fire, the other brush, resting against a segment, leads the high-tension current to a cylinder that is exhausting. From this it will be seen that two sparks occur each half revolution of the armature shaft, and that but one is utilized for igniting the mixture in the cylinder. The surplus spark is, therefore, exactly 360 degrees behind the ignition spark.

In place of the usual distributor plate with its terminals, two brush holders are utilized, these fitting directly into openings in each side of the driving shaft end plate. These holders are marked in white figures, 1 and 2, indicating the pairs of brushes receiving simultaneous contact. The type NU4 is for four-cylinder motors.

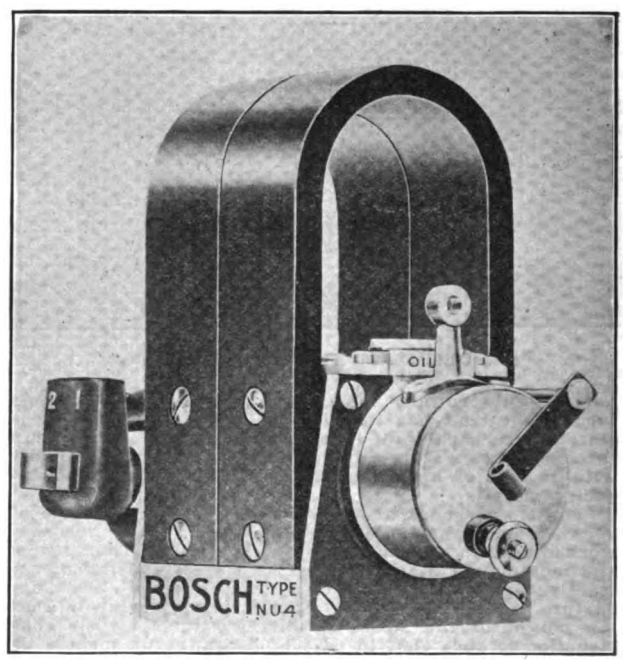


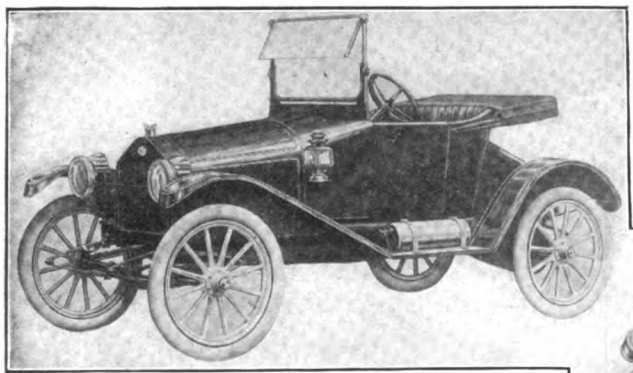
Fig. 2—The Bosch Type NU4 Magneto, a True High-Tension Instrument, in Which the Conventional Distributor Is Replaced by a Double Slip Ring Driven at Crankshaft Speed.

METZ FEATURES NEW FORE DOOR BODY.

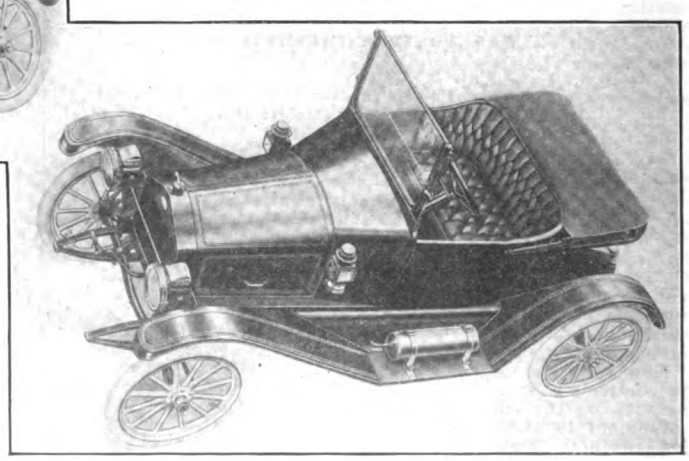
FOR the season of 1915 the Metz Company, Waltham, Mass., will produce its well known model "22", to which will be fitted a new body. The new design not only provides the maximum of comfort and convenience, but the lines are unusually graceful. The seat is roomy and wide, and is so shaped as to give support to the back. The fore doors are 20 inches wide, making for easy entrance and exit of the passengers. The new Metz body makes it possible to drive with safety and comfort in stormy weather, as a heavy plate glass rain vision windshield protects the face, while an extension top with curtains excludes all water and wind.

The friction drive is retained, having demonstrated its practicability and efficiency in hill climbing and road tests. It provides a wide variety of speeds, both forward and reverse.

The Metz is an all around motor vehicle and has demonstrated its efficiency in hill climbing contests and in reliability tours, it having won the classic Glidden trophy. The maker states that 28 to 32 miles to a gallon of fuel are obtained and that 100 miles are secured to a pint of lubricant. Completely equipped the car weighs 1150 pounds. The fittings include cover slip for the top, gas headlights, Prest-O-Lite tank, dash lamps, tail light, pump, jack, complete set of tools and tire outfit. The rear compartment of the body provides ample space for the storing of luggage, and the hinged cover excludes water and foreign elements. The mechanical features of the Metz were presented in a previous issue of the Accessory and Garage Journal. The new model sells for $495, completely equipped.



New Fore Door Body Fitted to the Metz Model 22 Gives Maximum of Comfort and Convenience.



Three-Quarter View of New Metz Body, Noticeable for Its Ample Room and Graceful Lines.

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NEW AND ATTRACTIVE LINES.

LEAK-PROOF PISTON RINGS.

Are Constructed Concentric and So Designed as to Leave No Unsealed Openings for Escape of Gas.

The McQuay-Norris Manufacturing Company, St. Louis, Mo., is marketing the Leak-Proof piston head packing rings, which are a radical departure from conventional types. As may be noted by the accompanying illustrations, the rings are made in two sections and the construction is on the angle iron principle. Consequently, there are no unsealed openings, as the flange of each section completely seals the opening of the other, this obtaining gas tight construction and making for perfect compression. The Leak-Proof rings are made concentric, instead of eccentric, and one of the qualities of the design is their equal tension on the cylinder walls.

Leak-Proof Piston Rings.

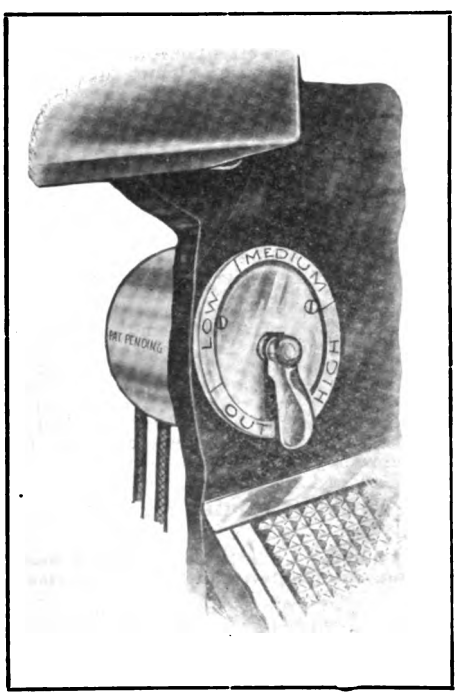
The rings are of particular value in motors where trouble is experienced through oil working up past original members, and they are held to be decidedly efficient where imperfect compression is experienced. They are made in standard sizes. The company will mail free a booklet on piston rings.

It deals specifically with the construction and operation of piston rings in the cylinder of the motor and explains how loss of compression can be remedied. The data are the result of years of experience and will prove of decided value to the garageman and repairman. The Leak-Proof rings are indorsed by thousands of users and can be obtained from supply houses or direct.

CHANEY HEADLIGHT DIMMER.

Enables Driver to Graduate Intensity of Light and Conforms Fully with All Ordinances.

The progressive dealer and garageman anticipates the wants of his customers and stocks material before it is demanded, thereby being able to supply it promptly. The trade in cities prohibiting the use of glaring lights will do well to investigate the merits of the Chaney headlight dimmer shown in an accompanying illustration.



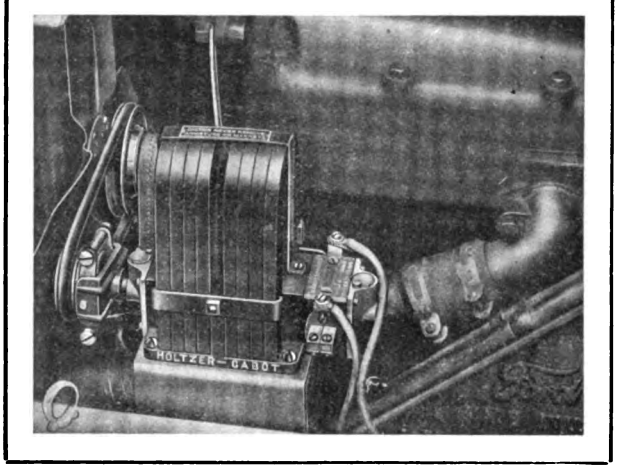
Chaney Headlight Dimmer.

One of its desirable qualities is that it enables the driver to graduate the intensity of the light with a minimum of effort, as the control lever is located on the dash and can be operated by a touch. The device provides complete control of the lights and is noticeable for its simplicity and compactness. It is very neat, being mounted flush with the dash, and the average owner can install it in 10 minutes. The Chaney is a tried and proven headlight dimmer and is guaranteed. It is moderately priced and the discount to the trade is liberal. Complete details and prices will be supplied upon request.

HOLTZER-CABOT GENERATOR.

Charges Battery Through a Cut-Out and Will Supply Current Direct—Designed for Ford Car.

The Holtzer-Cabot Electric Company, Brookline, Mass., one of the oldest electrical concerns in the country, has brought out a magneto lighting system for Ford and other small and medium automobiles. The storage battery is charged through a cut-out, but the generator can be utilized to supply current direct if desired. One of the desirable qualities of the magneto-generator is that it can be run in either direction. It requires but little power to operate and the wiring plan is very simple. The compactness of the design is shown by an accompanying illustration depicting the generator installed on a Ford motor. This system of lighting will appeal to owners, as the current from the battery may be utilized for starting or operating, electric horn, etc. The equipment is moderately priced and the trade discounts are liberal. Complete information and discounts will be supplied upon request.

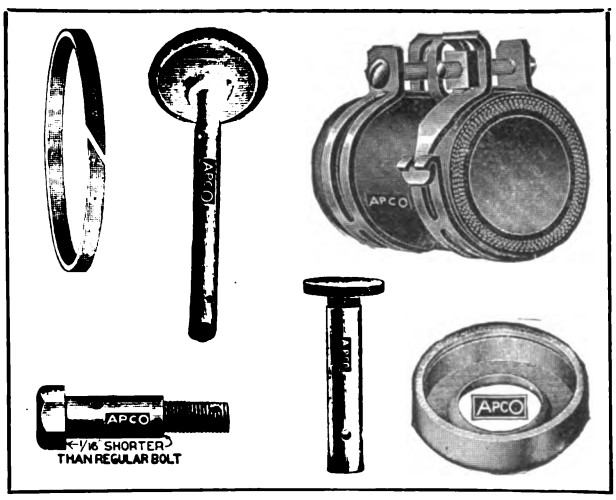


Showing the Holtzer-Cabot Magneto-Generator Installed on Ford Motor.

FORD REPAIR PARTS.

Auto Parts Company Manufacturing a Line in Demand at This Time of the Year.

The Auto Parts Company, Providence, R. I., whose trade name "Apco" is a household word in the trade, calls especial attention to its line of repair parts for the



A Few of the Apco Ford Repair Parts, Including Hose Clamp, Valve, Ball Race, Adjustable Spindle Arm Bolt, Piston Ring and Push Rod.

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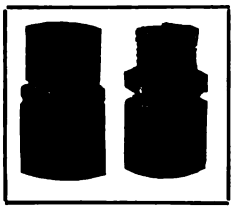
model T Ford car. The company produces a most complete line of parts, all of which are constructed of the best of material and made by skilled workmen, men familiar with the requirements of motor car repairing.

The parts produced by the Auto Parts Company are those subject to the most wear and they are particularly salable at this time of the year when the owners are overhauling their machines for fall and winter service. Some of the parts are shown in an accompanying illustration, but numerous others are produced. The prices are very attractive, the company stating that they are considerably less than factory goods, and that every part is guaranteed. A postal will bring the catalogue, also special discount sheet.

STEVENS TIRE CHECK VALVE.

Saves Time and Labor in Pumping and Is Sold Under a Money-Back Trial of 30 Days.

The Stevens Manufacturing & Supply Company, Fisher building, Chicago, is producing the Stevens auto tire check valve, which is shown in actual size herewith. The maker states that the valve is one of the best and quickest sellers on the market, and is retailed for $1 the set of four, with the guarantee of 30 days' trial and money back if not satisfactory. The Stevens valve is applicable to any tire tube valve stem, and eliminates the hard work of pumping, as the valve mechanism offers little if any resistance to the air. The design is simple and the maker states there is nothing to get out of order. It is also claimed that a tire can be inflated in half the time required with the conventional valve. Agencies are wanted in all unassigned territory. Terms and discounts will be forwarded to all interested.



Stevens Tire Valve.

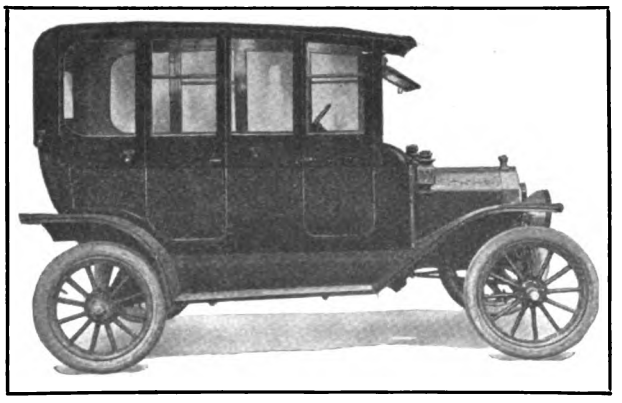
MANDEL LIMOSETTE.

A High-Grade Enclosed Body That Can Be Attached to the Ford Car in 30 Minutes Without Alterations.

To meet the demand for a high-grade enclosed body for the Ford car, one that provides real limousine luxury in every particular, the Mandel Limousine Company, 1455-1457 Congress street, Chicago, has brought out what is termed the Mandel Limosette. It is constructed in two forms, one for the Ford roadster and the other for the touring car.

One of the desirable qualities of the construction is that it can be fitted to the Ford body without any changes other than displacing the regular top and windshield. The design is simple and practical in its application, can be attached in less than 30 minutes, and so fits the body that it is difficult to distinguish between it and the conventional limousine. It is secured by a simple arrangement provided with each body.

One of the features of the Limosette is that the Ford doors are utilized. They are actuated by the handle on the Mandel body and become practically a part of the latter. The roof is of three-ply veneer, one ply on the inside being genuine mahogany. The top is equipped with an adjustable rain vision type of windshield that can be automatically set at any desired angle to provide



Mandel Limosette, a High-Grade Limousine Body for Ford Touring Car That Can Be Attached Without Alterations.

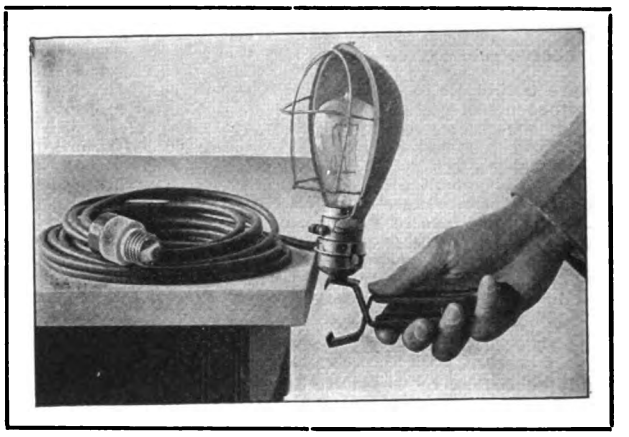
ventilation. The windows are raised and lowered easily, and are weather tight and rattle proof. The interior is fitted with an electric dome light having concealed wiring.

The Limosette for the touring car weighs but 150 pounds and, when attached, adds but 75 pounds, while the roadster adds 40 pounds. As may be noted by the accompanying illustration depicting the touring car construction, the body lines are graceful and conform to the latest accepted enclosed body practise. The finish and trimmings are first-class in every respect. The maker calls attention to the fact that his product is not the so-called "poor man's limousine", one constructed of celluloid and canvas, but a high-grade top, made of carefully selected kiln dried lumber, glass and steel, and reinforced where strength is required. Prices and complete information will be supplied upon request.

MUELLER CLAMP LAMP.

A Handy, Practical, Adjustable Light for the Garage, Repair Shop and the Motorist.

R. S. Mueller, 420 High avenue, Cleveland, O., has brought out a clamp lamp that presents several interesting, as well as practical features. In working about the chassis of a car, on the bench, lathe, etc., or on disassembled components of the machine, much time is lost in securing and adjusting the light to obtain a good illumination. The Mueller lamp is instantaneously adjusted, as it is provided with jaws that grip firmly and which may be fitted quickly to any part, such as a fender, spoke, etc. The reflector rotates, enabling the workman to direct the rays of light to the best advantage, and the construction also economizes time. The complete equipment includes the clamp, socket, reflector with wire guard, two feet of slicked portable cord, and a two-piece



Mueller Clamp Lamp, a Practical and Convenient Device Having Adjustable Reflector, Ample Length of Cord, Socket, Etc.

separable plug. It retails for $3 and the trade discount is liberal. A postal will bring a circular illustrating and explaining the merits of the Mueller clamp lamp.

INTERNATIONAL METAL POLISH COMPANY.

Supplying the Trade in Quantities With Blue Ribbon Cold Cream Soap.

The International Metal Polish Company, Indianapolis, Ind., maker of Blue Ribbon metal polish, nickel polish, auto body gloss and radiator cement, is supplying the trade in quantities with Blue Ribbon cold cream soap, an article brought out some months ago.

This new soap is free from all grit and the use of water is not required. Likewise, it is stated that this cleanser leaves the hands soft and clean and, of course, chapped hands are avoided because of the absence of water. The trade can secure full information regarding terms, etc., as well as a sample, by writing the factory or the New York City office, 335 Broadway. The full size can of cold cream soap retails for 10 cents.

NEW FORD CARBURETOR.

Perkins-Campbell Company Marketing the Johnson Model D in Addition to Complete Line of Accessories.

A carburetor making for easy starting of the Ford motor and which is held to be economic of fuel, is the model D Johnson, marketed by the Perkins-Campbell Company, 603 Broadway, Cincinnati, O. It comes ready to attach and retails for $12. The maker points out that it is a good seller and that it solves many carburetion problems.

The Perkins-Campbell Company also markets a complete and guaranteed line of motor car accessories, including Percama, a top cleaner, which contains no gasoline, benzine or any injurious ingredient.

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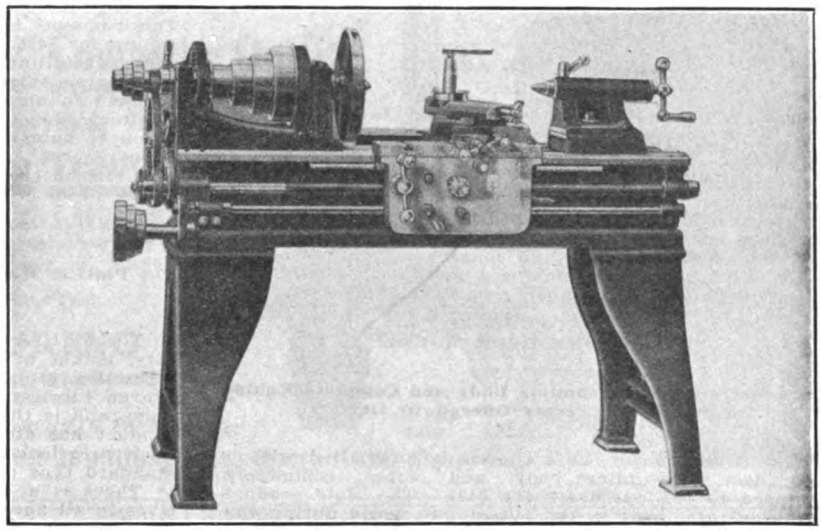
NEW MACHINERY AND EQUIPMENT.

THE Sebastian Lathe Company, Cincinnati, O., is manufacturing the Sebastian 15-inch lathe shown in the accompanying illustration. It is especially designed for the garage and repair shop and can be utilized by the manufacturer. It saves times and money on small and medium sized work and is accurate and rapid. Convenience, rigidity and strength are qualities of the lathe, which has screw, rod and power cross feeds, and cuts standard threads with furnished gears from five to 36.

The dimensions are as follows: Swings over bed, 15 inches; swings over carriage, 9½ inches; length of bed, six feet; takes between centres, 40 inches; front bearings, 2 3/16 by 3½ inches; diameter of spindle nose, eight inches; hole through spindle, 1 5/16 inches; centres, Morse taper No. 3; size of tools, ½ by one inch; ratio of back gearing, 7½ to 1; diameter of tail spindle, 1 9/16 inches; compound rest travels 4¼ inches; capacity of centre rest, 3½ inches.

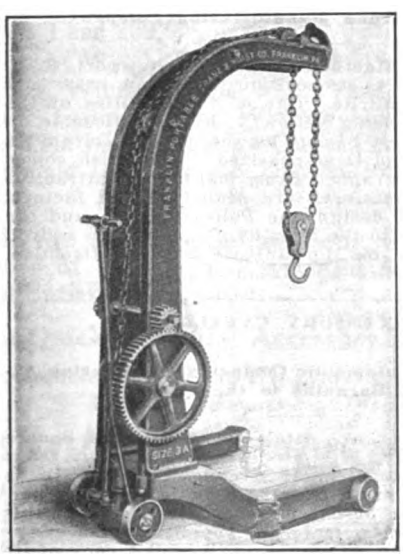
The cones are 3½, five, 6½ and eight inches in diameter, and the width of the driving belt is two inches. The weight is 1200 pounds. A taper attachment is furnished, also a set of 10 tools. A hand rest, extra gears and chuck plate are listed extra. Complete details and prices will be supplied upon request.



Sebastian 15-Inch Engine Lathe Particularly Adapted to the Garage and Repair Shop.

FRANKLIN PORTABLE CRANE.

The Franklin Portable Crane & Hoist Company, Franklin, Penn., manufactures a variety of portable crane hoists, one of which, size 2 A, is shown in an accompanying illustration. This crane has a capacity of two tons and an overhang of two feet, 7½ feet, six inches inches. The height is seven and the height of the hoist six feet, three inches. The dimensions of the bed are: Outside, two feet, 10 inches; inside, two feet, 2½ inches; height, 12 inches. The net weight is 800 pounds. The Franklin portable crane hoists are constructed of the best of material, and complete details and prices will be supplied by the maker upon request.



Franklin Portable Crane.

DRIVER TOOL RACK.

C. H. Driver, Racine, Wis., is marketing the Driver sectional tool rack, which is constructed to keep the cutting tools in order. The rack is provided with sections, each holding a certain sized tool. This enables the workman to locate quickly the desired tool. The rack can be attached to the walls, posts, etc.

KEARNS DRILL PRESS.

The Kearns Tool Machine Company, Hamilton, O., is marketing a drill machine which is provided with a tilting table, allowing the table to be swung at any angle. It is a combination machine, as with it jigs and fixtures can be drilled at different angles without disturbing the original clamping. The machine is practically a combined horizontal and vertical drilling machine. In addition to the table, which is rigidly held to the saddle by four bolts, the machine has a complete equipment such as wheel and lever, back gears, power feed and automatic stop. Details will be supplied upon request.

ADJUSTABLE BORING BAR.

Allen & Curtis, 228 South Main street, South Bend, Ind., is placing upon the market the "Simple" adjustable boring tool for service with millers, lathes, drill presses, etc. It is constructed in two styles, on a plain bar with provision for taking the ¼-inch square cutters, and the other has a small cutter integral with the bar. The first named will bore any hole from one to five inches, the second up to two inches.

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OPPORTUNITIES FOR DEALERS.

BIG CHANCE FOR LARGE SALES.

Sullivan Motor Car Company Has Attractive Proposition for the Next Year.

A broad, liberal and progressive plan that should be of special interest to dealers is being offered for 1915 by the Sullivan Motor Car Company, Rochester, N. Y., maker of the Sullivan 3000-pound motor truck. According to the company the dealer will be enabled to make a large number of sales and big profits.

The Sullivan truck sells for $1600 and the company prides itself upon the high-grade material and workmanship. Every detail of the design makes for simplicity, accessibility, economy of operation and maintenance. The company back of the Sullivan truck is an old and well known concern. Complete details of the dealer proposition will be sent upon request. This is a live wire for the right people.

PANHARD OIL AGENCY.

George A. Haws Offers Interesting Inducement to Representative Members of the Trade.

George A. Haws, 148 Front street, New York City, manufacturer of Panhard oil, has an exceptionally attractive agency proposition open to garages, dealers, etc. The high-grade quality of Panhard oil as a lubricant is well known to the trade and consequently needs no introduction. Mr. Haws' plan is a new one, and full details will be forwarded upon request.

NEW FORE DOOR MODEL.

Metz for 1915 Has Streamline Body and Complete Equipment—Liberal Terms Offered to Dealers.

The well known Metz chassis is now fitted with a fore door, streamline body, and comes completely equipped to the purchaser for $495. The Metz product has been prominent in the automobile world during the past season, having won a number of hill climbing contests against high-powered, expensive machines, and has established a reputation for durability and economy of operation. Among the achievements of the product of the Metz Company is that of winning the Glidden tour. The company offers liberal terms to dealers and invites them to write for particulars and the new catalogue F. The maker points out that the Metz fully meets all requirements for a low-priced, strictly high-grade machine.

DEALERS' OPPORTUNITY.

Territory Open for Remington Light Car with Automatic Gearshift, Electric Lighting and Motor Starting.

An announcement of interest to the trade, particularly those seeking the agency for a high-grade, popular-priced motor car, is that made by the Remington Motor Car Company, 2 Columbus circle, New York City. This company is manufacturing a four-cylinder roadster selling for $495 and having the unusual equipment for a vehicle retailing for less than $500, of electric lighting and motor starting, and automatic gearshift, features confined to high-priced automobiles. The company has territory open for live dealers and an interesting proposition to submit, the details of which will be supplied upon request. A complete description of the Remington is published elsewhere in this issue.

VEEDOL OIL OFFER.

The Platt & Washburn Refining Company Has Attractive Selling Plan for Trade.

The Platt & Washburn Refining Company, New York City, maker of the well known Veedol oil, has a very attractive proposition for the trade. Veedol oil is a proven lubricant, made from pure Pennsylvania petroleum, and is the result of 30 years of experience. This product has stood the test of every method known to modern science, and also in actual service in every standard type of car.

There is a big business opportunity for representatives in all automobile centres of the country. Complete details of the proposition will be supplied on request.

DESIRABLE SUPPLIES THAT ARE IN DEMAND.

ELECTRICAL SPECIALTIES.

Mabey's Line Includes Cigar Lighter, Trouble Lamp, Patching Tool and Other Accessories in Demand.

In these days of the electrically equipped motor car there is a demand for electrical accessories such as a trouble lamp, cigar lighter, patching tool, etc. Mabey's Electric & Manufacturing Company, 940 North Pennsylvania street, Indianapolis, Ind., specializes in such equipment, and not only are the articles moderately priced, but the trade is given a liberal discount. Garages and dealers should send for the descriptive matter issued by this concern, as the information will be of decided value to their customers.

SPARK PLUG DATA.

Pertinent Facts Given in Booklet Issued by A. R. Mosler & Co., Ignition Specialist.

To obtain the best results from the ignition system, the spark plug utilized should be adapted to the motor. If the points are pocketed, the propagation of the flame is not as complete as when they are properly located. These facts and many other interesting ones are explained in the booklet issued by A. R. Mosler & Co., ignition specialist, New York City. The booklet is free for the asking and will be of value in solving ignition troubles.

TOP AND LEATHER DRESSING.

The Product of the Frank Miller Company Comes in Convenient Packages and Is Guaranteed.

There is always a demand for a high-grade water proof dressing for automobile tops, seats and cushions; also a dressing for tops and covers constructed of mohair, pantasote, etc. A dressing for the last named material must impart a velvety finish without hardening the surface and should not contain any traces of varnish or similiar ingredients.

The Frank Miller Company, 349 West 26th street, New York City, has specialized for years in leather and top dressings and its product is well and favorably known to the trade. It comes in quart cans, a convenient container; is easily stocked and is guaranteed. The maker has a proposition for the trade which will be submitted upon request.

MORGANBRITE POLISH.

A Brass and Metal Polish Sold in Cans Sealed at the Factory of the Morgan Manufacturing Company.

The Morgan Manufacturing Company, Newport, R. I., has a profitable dealers proposition in its new brass and metal polish, MorganBrite. One of the qualities of the polish is its color. Being yellow, it is not noticeable on brass should any of it be left on the metal. Durability of the lustre imparted is emphasized. The polish comes in handsomely lithographed cans, making an attractive display, and the containers are sealed at the factory. The can is a special design, the Polisaver type, and the screw cap is secured to the body by a chain and a swivel. The discount offered on MorganBrite is very attractive. Details will be supplied upon request.

NEW ACCESSORY CATALOGUE.

The Times Square Automobile Company Still Offering Attractive Bargains to the Trade.

In its "price wrecker" catalogue, the Times Square Automobile Company, 56th street and Broadway, New York City, and 1210 Michigan avenue, Chicago, Ill., is still offering some very attractive bargains to the trade. There are thousands of cut price articles listed in this book, comprising parts, material, supplies and accessories. The Times Square Company will mail a copy of its latest catalogue upon request.

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Here is Another NEW

Engine Driven KELLOGG Air Pump

YOU WANT A KELLOGG ON YOUR CAR

No. 101---ONE CYLINDER ALL METAL

Price complete with gauge, 15 feet rubber tubing and all attachments carefully machined to fit car easily..... **$15**

THE PUMP FOR 1915 CARS

Fills Tire in 2 Minutes or Less

Guaranteed Not to Spray Oil in the Air That Fills the Tire

Attachments are all ready now for all 1915 cars and over 35 different older models, including **Hudson, Buick, Overland, Reo, Studebaker, Chalmers, Etc.**

"EVERLASTING CONSTRUCTION"

This metal one-cylinder pump with double steel piston rings is made as carefully as any good engine. The brackets and attachments are machined, not only to fit easily, but to make the pump a permanent part of the power plant.

The Price $15 Covers the Complete Outfit

You don't have to wait for attachments or have them made yourself.

Liberal Discounts to the Trade

Every car that runs should have a Kellogg Pump at this price. The name "KELLOGG" is on the pump. It is a sure guarantee that you have a pump *with attachments* that will last as long as your car. Order direct.

Catalog and Special Information Free

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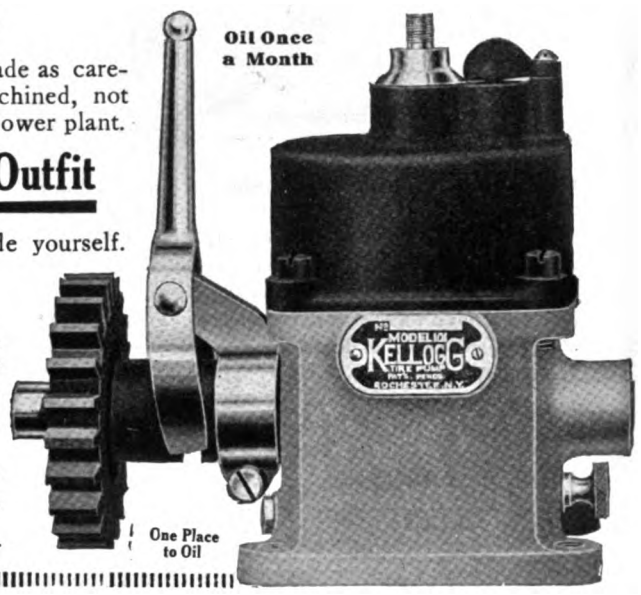
Special Pumps for Garages—Air Starting Units—New 1915 Ford Starter



Stevens Valves

Stevens Auto Tire Check Valve

Actual Size Complete Valve

Patents Issued 1,043,224---1,050,942---1,078,847 and others Pending.

Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve Stem.

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Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Fire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

The Quickest Selling Accessory in the Market.

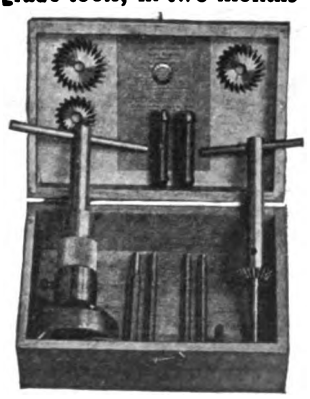
Agencies Wanted in All Unassigned Territory. Write for Terms and Discounts.

STEVENS MANUFACTURING & SUPPLY CO.

Fisher Building Chicago, Ill.

Have you a Fosnacht Valve Reseater in your shop?

If not, you are losing money every day that would more than double the price of one of these high grade tools, in two months' time.



If you don't give attention to the valves of your car, you are not a good engine doctor. A doctor that is not equipped with proper instruments, cannot give good service and consequently don't hold his patronage.

A FOSNACHT VALVE RESEATER will cut the valves and seats both, in a few minutes' time, at identically the same angle, insuring perfect fitting valves. Get one now and be up-to-date.

Agents Wanted.

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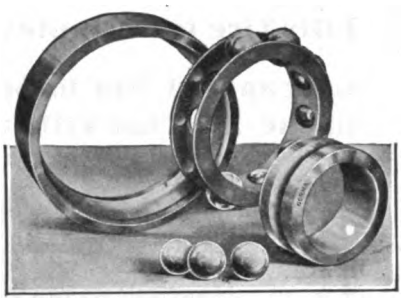
"NORMA"

Ball Bearings



The fact that "NORMA" equipped magnetos have won most of the great automobile races of the past few years is the most conclusive proof of the superiority of "NORMA" Bearings for magnetos, lighting generators and starting motors for any sort of service. Don't experiment. Accept the judgment of the big makers of high-speed machines who use "NORMA" Bearings.

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OF AMERICA
1790 Broadway NEW YORK

"NORMA" Ball, Roller, Thrust and Combination Bearings

Stop the Blinding Headlight Glare!

The law says it must be done —blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street —the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Installed on the dash and operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on the dash of any car. The average car owner can do it himself in ten minutes. It can be operated by a slight kick of the foot, while both hands are on the wheel.

THE L. F. CHANEY CO., SPRINGFIELD, OHIO

Only one form of graphite is fit for auto lubrication.

This rare flake graphite is found only in

DIXON'S

Graphite Automobile Lubricants

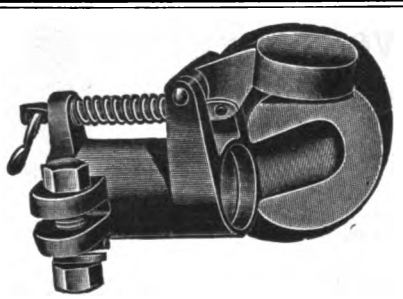
It builds a permanent oily veneer around the bearings and prevents metal-to-metal contact.

Try Dixon's Transmission and Differential Grease No. 677.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827



The Tremo Horn for Ford Cars

A perfect exhaust warning signal at all speeds. Easy to attach, no clogging and cannot get out of order.

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PRICE LIST FOR TREMO HORNS.
No. 1—16 to 25 H. P., $6.00 No. 3—40 to 50 H. P., $7.00
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Dealers, Write for Special Discounts.

D. HENRY BONNER Co., Makers, Cambridge, Mass.

BOSTON STARTER
FOR FORD CARS

The One Practical Mechanical Starter for Ford Machines.

WE WANT DEALERS AND HAVE THE MOST ATTRACTIVE SELLING PLAN EVER MADE TO THE TRADE.

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Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it. $150 to $500 for complete outfit. Write us now.

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Brass and Metal Polish
WITH THE
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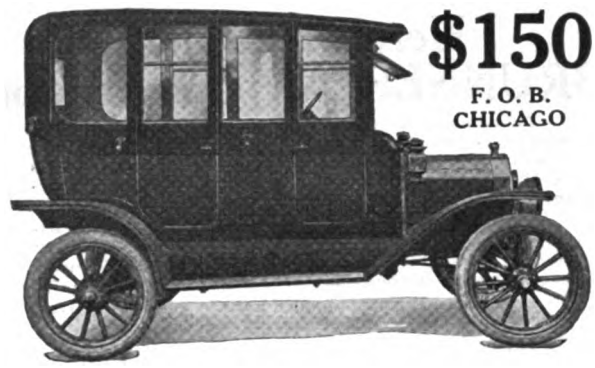
2. Being yellow it is not as noticeable on brass when dry as others.
3. The Lithographed Cans are superior to any on the market, as regards design and color.
4. Cans are of our unique "Pullsaver" type. Screw cap secured to body of can, with chain and swivel. Cannot be lost.
5. All cans sealed at the factory.
6. Profit is good.

MORGAN MFG. COMPANY, DEPT. F. NEWPORT, R. I.

Mandel Limosette

Makes the Ford a Year 'Round Car



$150
F. O. B.
CHICAGO

Limousine luxury, supreme elegance and beauty are embodied in the MANDEL LIMOSETTE. Every Ford Owner will appreciate its many advantages. One small additional investment gives Ford Car owners every convenience of the modern, high priced limousine. The MANDEL LIMOSETTE insures absolute protection from storm and wind. It is a flush-fitting top—made of wood, metal and glass. Built exclusively for 1913-14-15 Ford Touring Cars and Roadsters. Equipped with rain vision wind shield, electric dome light, and handsome cowl dash. The generous overhang in front accentuates the length of the Ford. When attached the LIMOSETTE adds only 75 lbs. to the weight of the Ford Touring Car. Can be attached in less than an hour.

Exclusive Territory to Agents and Dealers

We want live agents to sell LIMOSETTES in exclusive territory. A big money-making proposition.

300,000 Fords

to be "LIMOSETTED." Gives agents a tremendous field. Every Ford owner will want a LIMOSETTE. Write at once.

$100
F. O. B.
CHICAGO

For the Ford Roadster

In design and construction the MANDEL LIMOSETTE for Ford Roadsters is the same as for the touring car. The ROADSTER LIMOSETTE is invaluable for professional and business men who must ride their cars in all kinds of weather. It gives all the comforts and pleasures of the closed car at less than one-half the regular cost. The ROADSTER LIMOSETTE can be attached in about thirty minutes. When attached it adds but 40 lbs. to the weight of the Ford Roadster.

The LIMOSETTE makes the Ford doubly serviceable. Attach it in Winter--detach it in summer

Write for Our Catalogue T

MANDEL LIMOUSINE COMPANY
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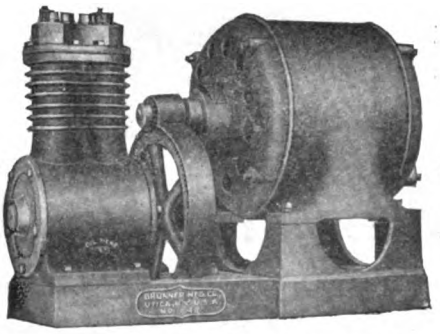

No. 42—Motor Driven Compressor

Here's Another BRUNNER Air Compressor

This one is designed for the larger garages and service stations. Delivers 2½ cu. ft. of air per minute and 150 lbs. pressure and won't overload its ½ H. P. motor. It can be operated from any lighting circuit.

Equipped with a Brunner Airtite Tank and fittings, and a Brunner Model L Pressure Controller, it will give you free air—always "on tap"—with convenience, without interruption.

Especially if your garage houses 50 cars or over, ask to see the Brunner No. 42.

There are many styles and sizes of Brunner Air Compressors to meet ordinary and peculiar conditions.

There is a jobber in your territory that handles the Brunner. Write us for his name.

BRUNNER MFG. COMPANY

Main Office and Factory: UTICA, N. Y.

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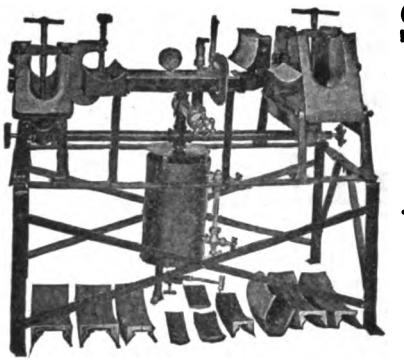

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VANDERPOOL CO.
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CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a ***smooth running engine*** and a ***saving in gasoline.***

Territorial rights open. Address Dept. A.

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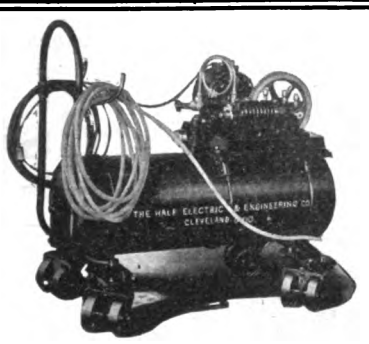
Sole Distributors for U. S. A. and Canada



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Constructed of High Class Materials and Will Give Good Service for Years. Splendid Selling Proposition for Dealers and Jobbers.

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Red or Grey
An excellent Para rubber inner tube fully guaranteed at

40% Off Standard List

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SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

Our selling policy and proposition is the most liberal ever offered to the trade.

One Model, 3,000 Lbs. Capacity Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
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ADJUSTABLE TO ANY LOAD

Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today. Address Dept. M. Established 1872

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1777 Broadway, New York City; 2637 Michigan Ave., Chicago, Ill.; 899 Boylston St., Boston, Mass.; 870 Woodward Ave., Detroit, Mich.; 1216 Van Ness Ave., San Francisco, Cal. Export Representative, Auto Supplies Export Co., 1779 Broadway, New York City.

(When Writing, Please Mention The Accessory and Garage Journal.)

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Reaching Trade

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The certain way is the direct way—for then there is no loss of time and money is well spent.

The Means

This information, supported by positive proof, can be had at request. This story is so candid and so simple that it is absolutely convincing.

There is no cost attached, no obligation attached or implied. The detail, if utilized, can save you thousands of dollars each year.

State your requirements, and a statement will be made that will demonstrate the practicality of increasing your trade service 100 per cent. at 50 per cent. of the present cost.

The Accessory and Garage Journal

Times Building Pawtucket, R. I.

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Automobile Registrations

ANY STATE COMPLETE

Ford owners $2.50 per thousand names—1914 Registration.

OWNERS AUTO LIST COMPANY
CAPITOL - ALBANY, N. Y.

A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $3 per M by states.
Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.
Garages—13,515—$25 or $3 per M by states.
Repairs—8,466—$15 or $3 per M by states.
Supplies—6,964—$12 or $3 per M by states.
Auto Mfrs., U. S. and Canada—626—$3.
544 Auto Dealers, second hand—$4.00.
14,000 Auto Truck Owners—$3.50 per M.
AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.
FORD OWNERS in most states is $3 per M; some states price is higher.
We can furnish 7500 Automobile Owners in Canada—$4 per M.
WRITE US YOUR NEEDS.
All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.
TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1188. Chicago, Ill.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

We Sell Everything

pertaining to the automobile at half regular prices. Send for our great "PRICE WRECKER" No. 5, containing 3000 auto bargains at cut prices. TIMES SQUARE AUTOMOBILE CO. World's largest dealers. S. W. Cor. 56th St. and Broadway, N. Y. 1210 Michigan avenue, Chicago.

The Motor Truck

12 ISSUES $2 THE YEAR

A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . .

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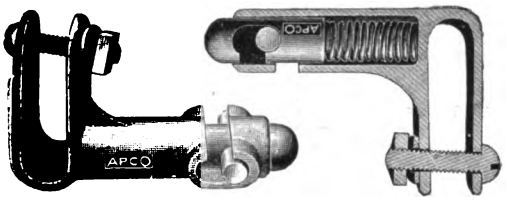
TRADE APCO MARK LEADS

Others Try To Follow

And you've heard about the celluloid dog chasing the asbestos cat thru Hell

TRADE APCO MARK Brake Rod Supports



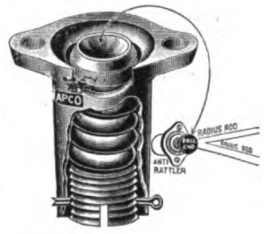
Takes the place of the pressed steel support furnished on the Ford Car. Holds the brake rod rigid but allows it to work freely. Prevents rattle, working loose and breaking. Eliminates excessive wear on brake rod clevis pins. Made from semi-steel, sheradized to prevent rusting. Well machined and guaranteed to outlast the car to which they are applied. This is the only self-lubricating support on the market. Space back of plug is packed with grease and hole in plug allows grease to work through to brake rod. The pressed steel supports that come with the car are continually breaking, working loose and causing all kinds of trouble. The APCO Supports are clamped to the rear radius rods and when fastened in place the plug is forced back with the thumb and the brake rod slipped in, the whole installation requiring less than twenty minutes. Furnished complete ready to attach.

Steel 50c.

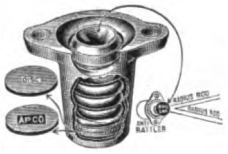
Bronze $1.00

TRADE APCO MARK Anti-Rattling Ball Sockets

Patented Nov. 12, 1912.



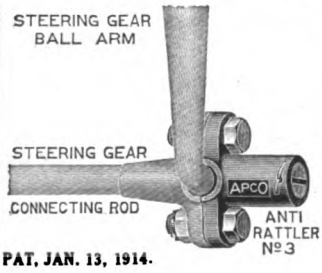
50c.



40c.

Extending back from the front axle of the Model "T" Ford are two rods that meet under the crank case of the engine. Where these rods come together, they form a ball which fits into a socket rigidly fastened to the crank case. When the car leaves the factory this is held in place by a steel cap and is adjusted very carefully so that it is tight enough to prevent rattling and not so tight as to prevent the ball moving in its socket, a condition that would cause the ball to break off from the rods, as they twist considerably when the car is moving over rough roads. Our patented caps are constructed so that when once applied, no further attention is necessary, as the heavy spring automatically takes up the wear as it occurs and to accomplish this result with the steel cap now on the car, it would be necessary to adjust the cap every hundred miles. We make two styles of this cap, one with a screw adjustment, and the other adjusted with discs. They are both made with steel springs and plugs and are guaranteed to prove satisfactory in every respect. Our number one is constructed so that the spring can be put in the shell after shell is bolted to engine case. A very necessary feature, making installation easy.

TRADE APCO MARK Steering Rod Anti-Rattler No. 3



PAT. JAN. 13, 1914.

This device takes the place of the steel cap on both ends of the steering gear connecting rod. It consists of a shell containing a steel stud and a heavy spring adjusted by means of a screw plug in the base of the shell. We anticipate a larger sale for this device than either of our other anti-rattlers as when the balls on the steering rod flatten slightly it is impossible to adjust the steel cap, for the reason that if it is tight where the ball is flat, it would be impossible to turn the wheel as the cap would bind on the round part of the ball. The APCO Steering Rod Anti-Rattler will make your car steer easier, hold the road better, prevent all rattles and vibration. Worth their weight in gold.

40c.

Also Made With Grease Cup 30c. Each

AUTO PARTS COMPANY Providence, R. I.

The Largest Ford Specialty Manufacturers in the World

(When Writing, Please Mention The Accessory and Garage Journal.)

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WAR

ON FORD ANTI-RATTLER INFRINGERS

Due Process of Law is too slow to suit the occasion. The infringers are scattered over several states and it would take some months to clear the atmosphere. We are too busy to spend our time in courts and we do not wish to keep the trade disturbed with patent litigation indefinitely.

We have adopted a more direct and decisive method to "smoke out" the infringers and remove them as a source of annoyance to the trade.

After November 1, 1914, List Prices Will Be As Follows:

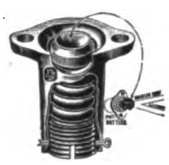
Radius Rod Anti-Rattler, Disc Adjustment, - - -	40c each
Radius Rod Anti-Rattler, Screw Adjustment - -	50c each
Steering Rod Anti-Rattler, Screw Adjustment - -	40c each
Steering Rod Anti-Rattler, with Oil Cup - - - -	30c each

TO JOBBERS AND DEALERS

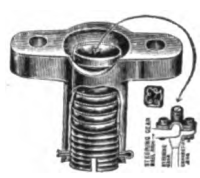
Write for new prices if you have not received our revised quotations.

EMIL GROSSMAN MFG. CO., Inc.,
AUTO PARTS COMPANY
{ Joint Owners of Kirk Patent No. 1,044,468 November 12, 1912

400-S
For Radius Rod
No. 2



400-L
For Radius Rod
No. 1



400-G
For Connecting Rod
No. 3.

UNDER THE TRADE MARK

Everlastingly Good

Emil Grossman Mfg. Co.

Bush Terminal Model Factory No. 20
Brooklyn (New York City), N. Y., U. S. A.
Detroit, 708 Ford Building

These Anti-Rattlers are protected under Patents No. 1,044,468, Nov. 12, 1914 and No. 1,084,567, Jan. 13, 1914.

UNDER THE TRADE MARK

TRADE APCO MARK

AUTO PARTS CO.
PROVIDENCE, R. I.

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CAMPBELL ESTABLISHED 1879 — Guaranteed Motor Car Accessories

"Tailor-made" seat covers that really fit and wear—They're Campbells

Cleans Tops and Seat Covers

Percama restores the new look to tops, seat covers, upholstery, rugs, etc. Really cleans; non-explosive; inexpensive.

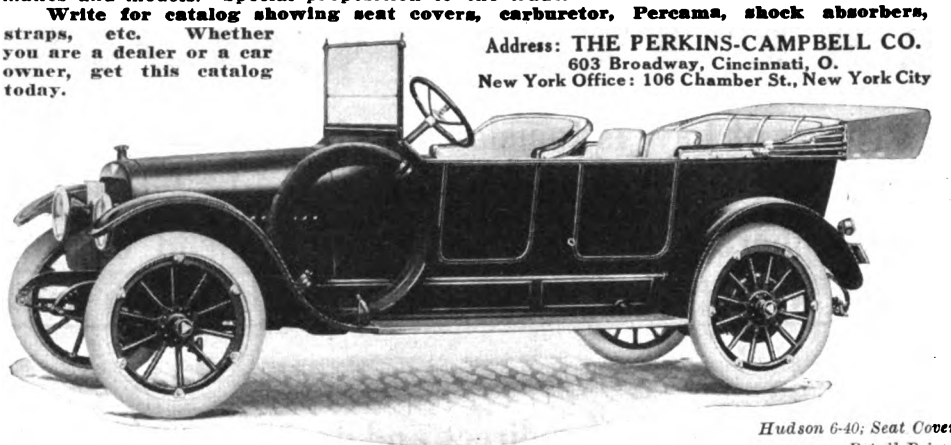
Quart 25c
½ Gal. 40c
Gal. 60c

As a selling proposition Campbell Seat Covers have no equal. They "deliver the goods" in fit, wear and looks. They are the best money can buy, and they're backed by Campbell.

Every set is guaranteed to fit like a glove, to wear well and hold its shape and color. One glance shows the difference between Campbell's and cheaper imitations. One month's wear **proves** the difference. Three grades; stock sizes for all leading makes and models. Special proposition to the trade.

Write for catalog showing seat covers, carburetor, Percama, shock absorbers, straps, etc. Whether you are a dealer or a car owner, get this catalog today.

Address: THE PERKINS-CAMPBELL CO.
603 Broadway, Cincinnati, O.
New York Office: 106 Chamber St., New York City



Hudson 6-40; Seat Covers and Dust Hood; Retail Price $38.00.

For Fords—A New Carburetor

The Johnson Model "D" needs no adjustment, gives greater mileage per gallon, can't choke, throttles down to a whisper and accelerates like a rabbit.

$12 ready to attach.

"Campbell makes sure you're satisfied"

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A COMBINATION TOOL WITH 100 UTILITIES

When magnetized by battery connection it may be used to remove nuts, bolts, tools or metal parts from engine cases, timing gear and gearset cases, cylinders, differential housing, oil reservoirs or other inaccessible places; to remove cuttings from tapped holes and eliminate metal particles from oil. With it valves may be ground without removing the springs.

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W & L Magnetic Tools are sold at retail for $3.00 postage prepaid. Liberal discount to trade.

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The NEW GREENERD No. 15 Arbor Press is the one practical equipment for the average Garage, Repair and Machine Shop.

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Refined from finest Pennsylvania Crude to meet every requirement of gas engine operation, is the standard lubricant of 20,000 dealers throughout the world. Always uniform and of unequalled quality.

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Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated.

HYATT SERVICE STATIONS

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Boston, Mass. Los Angeles, Cal.
Chicago, Ill. New York, (Harrison, N. J.)

SERVICE AGENTS

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HYATT ROLLER BEARING CO.
DETROIT, NEWARK, N. J. CHICAGO

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Contains the **biggest, brightest and best** line of Ford and Overland Specialties ever placed on the market.

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DETACHABLE

Wire Wheels

Made by the largest wire wheel manufacturer in America

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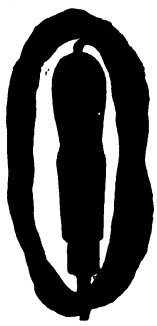
Mabey's Trouble Lamp. Complete with Lamp $1.25 F. O. B. Indianapolis.



Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

Mabey's Electric & Mfg. Company

940 N. Pennsylvania Street, Indianapolis, Ind.

American Made for American Trade
New Departure
Ball Bearings
THE NEW DEPARTURE MFG. COMPANY,
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MAKES OLD TOPS NEW

$3 to $5 will waterproof the outside and re-dye the lining, making any auto top good as new. Send for information.

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"Velos" Portable Garage Compressor

A complete portable electric compressor mounted on a 3 wheel metal base, with long hose and wire connections, pressure gauge, and safety valve. Pumps a 3 inch tire tight from the flat in 3 minutes.

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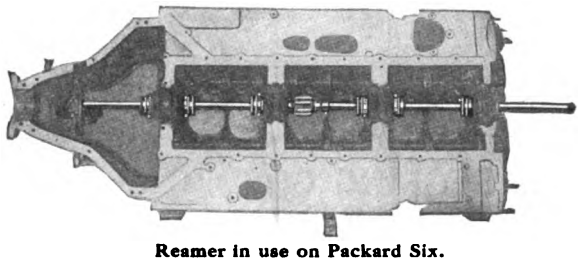

Reamer in use on Packard Six.

A NEW WAY and a BETTER WAY to SCRAPE bearings.

ONE-QUARTER of the time now required and perfect ALIGNMENT assured.

It can be used in ANY MOTOR. It will not only produce PERFECT surfaces in correct ALIGNMENT with each other but will make possible correct mesh of the gears.

The only tool by which a set of bearings can be perfectly aligned.

It is an "Instrument of precision," yet extremely simple to adjust and operate.

ANYONE can use it successfully.

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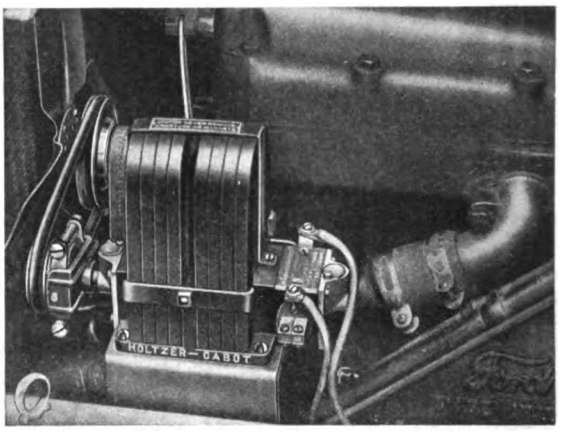
BOSTON, MASS.

"H-C" Magneto Lighting Generators
FOR FORD CARS



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Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Low power consumption.

For FORDS, and other small and medium cars they are unsurpassed. ***Send for Booklet A-1807.***

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Universal Test Clips

Time savers for charging automobile storage batteries—made of copper—indestructible—may be used over and over again—will carry 15 Amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Write for a free sample, using your company's letter head. No attention paid to postals.

Single Lots - Each 15c.
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Buyers' Reference and Guide

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester Mass.
Auto Parts Co., Providence, R. I.
Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.
Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Milwaukee Auto Specialties Co., 705-711 Chestnut St., Milwaukeke, Wis.
Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.
Northwestern Chemical Co., Marietta, O.
Times Square Auto Co., 56th St., at Broadway, New York City.
Waite Auto Supply Co., 81 Exchange place, Providence, R. I.

ACETYLENE TANKS. (See Tanks.)

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)
Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instruments Works, Penacook, N. H.

ARBOR PRESSES.

Bartlett, Edwin E., 326 A St., Boston. (Greenerd.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

American Auto Supply Co., 1741 Broadway, New York City; 1408 Michigan Ave., Chicago.
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1790 Broadway, New York City; 805 Woodward Ave., Detroit.
Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)
Marburg Bros., Inc, 1790 Broadway, New York. (S. R. O.)
New Departure Mfg. Co., Bristol, Conn. (New Departure.)
New York City. (Norma.)
Norma Co. of America, 1790 Broadway,

BATTERIES.

Edison Storage Battery Co., 137 Lakeside Ave., Orange, N. J. (Edison.)
Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.
Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn. (Raybestos.)
Russell Mfg. Co., Middletown, Conn. (Rusco.)
Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)
Staybestos Mfg. Co., Lena and Armat Sts., Germantown, Philadelphia, Penn. (Staybestos.)
Thermoid Rubber Co., Trenton, N. J. (Thermoid Hydraulic Compressed.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Hartford Suspension Co., 147 Bay St., Jersey City, N. J.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)
Zenith Carburetor Co., Detroit. (Zenith.)

CARS—ELECTRIC PLEASURE.

Baker Motor Vehicle Co., Cleveland. (Baker.)

CARS—GASOLINE PLEASURE.

Cartercar Co., Pontiac, Mich. (Cartercar.)
Cole Motor Car Co., Indianapolis, Ind. (Cole.)
Empire Automobile Co., Indianapolis, Ind. (Empire, Little Aristocrat.)
Maxwell Motor Co., Inc., Detroit. (Maxwell.)
Metz Co., Waltham, Mass. (Metz.)
Moline Automobile Co., E. Moline, Ill. (Moline.)
Nordyke & Marmon Co., Indianapolis. (Marmon.)
Paige-Detroit Motor Car Co., Detroit. (Paige.)
Peerless Motor Car Co., Cleveland, O. (Peerless.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Premier Motor Mfg. Co., Indianapolis. (Premier.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Stutz Motor Car Co., Indianapolis. (Stutz.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
White Co., Cleveland, O. (White.)
Willys-Overland Co., Toledo, O. (Overland.)
Winton Motor Car Co., 131 Berea Road, Cleveland, O. (Winton.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)
Alma Motor Truck Co., Detroit. (Republic.)
Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)
Cartercar Co., Pontiac, Mich. (Cartercar.)
Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)
Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)
Independent Motors Co., Port Huron, Mich. (Independent.)
Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)
Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)
Reo Motor Car Co., Lansing, Mich. (Reo.)
Sanford Motor Truck Co., Syracuse, N. Y. (Sanford.)
Signal Motor Truck Co., Detroit. (Signal.)
Studebaker Corp., Detroit, Mich. (Studebaker.)
Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)
Velie Motor Vehicle Co., Moline, Ill. (Velie.)
White Co., Cleveland, O. (White.)
Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

Baker Motor Vehicle Co., Cleveland. (Baker.)
General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)
General Vehicle Co., Long Island City, N. Y. (G. V.)

CEMENTS.

Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)
Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

CIGAR LIGHTERS. (See Lighters.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 42 Broadway, New York City.
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis.
Northwestern Chemical Co., The, Marietta, O. (Carbonox.)
Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Carbon Remover.)

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.
Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

FORD AUTOMOBILE SPECIALTIES.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)
Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHT DIMMERS.

Chaney Co., L. F., Springfield, O. (Chaney.)

HEATERS.

Superior Mfg. Co., N. S. Pittsburg, Penn. (Superior Safe Garage.)

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HORNS.
Bonnet, D. Henry, Co., Cambridge, Mass. (Tremo.)
Garford Mfg. Co., Elyria, O. (Tuto.)

JACKS.
Hartford Suspension Co., 147 Bay St., Jersey City, N. J.

LAMPS.
Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric Trouble.)
Mueller Co., R. S., 431 High Ave., S. E., Cleveland, O. (Clamp.)

LEATHER GOODS.
Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTERS, CIGAR.
Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)

LIGHTING SYSTEMS, ELECTRIC.
Garford Mfg. Co., Elyria, O. (Dynalux.)

LUBRICANTS.
Aisten & Goulding Co., Worcester, Mass. (Alding.)
Continental Asbestos Corp., Worcester, Mass. (Spedolene.)
Dixon Crucible Co, Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Haws, Geo. A., 148 Front St., New York. (Panhard.)
Indian Refining Co., 17 Battery place, New York City. (Havoline.)
New York Lubricating Oil Co., 116 Broad St., New York City. (Monogram.)
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MotoRol, Non-Fluid, Kejex.)
Northwestern Chemical Co., Marietta, O. (Gear-Silence.)
Platt & Washburn Refining Co., 1 Broadway, New York City. (Veedol.)
Standard Oil Co., New York. (Polarine.)
Vacuum Oil Co., Rochester, N. Y. (Gargoyle Mobiloil.)
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.
Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.
Bosch Magneto Co., 223-225 W. 46th St., New York.
Eisemann Magneto Co., 32 33d St., Brooklyn, N. Y. (Eisemann.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Holtzer-Cabot Co., Brookline, Mass.
Marburg Bros., 1790 Broadway, New York. (Mea.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

MAILING LIST.
Owners' Auto List Co., Albany, N. Y.

MEASURES.
Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTOR STARTERS.
Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)
Century Foundry Co., No. Salina St., Syracuse, N. Y. (Century Ford.)
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

PAINT, ANTI-RUST.
Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PATCHES, TIRE.
Braender Rubber & Tire Co., Rutherford, N. J. (Cementless.)

PISTON RINGS.
McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.
International Metal Polish Co., Quill St. and Belt. R. R., Indianapolis, Ind. (Blue Ribbon.)
Morgan Mfg. Co., Dept. F, Newport, R. I. (MorganBrite.)
Northwestern Chemical Co., Marietta, O.
Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

PRESSES. (See Arbor Presses.)

PUMPS, OILS AND GREASE.
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

REAMERS.
Harding Mfg. Co., South Main St., Mansfield, Mass. (Martell Aligning.)

RIMS—REMOVABLE AND DETACHABLE.
Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.
Barrett Manufacturing Co., New York. (Tarvia.)

ROLLER BEARINGS.
Hyatt Roller Bearing Co., Detroit. (Hyatt.)
Norma Co. of America, 1790 Broadway, New York City. (Norma.)

SEAT COVERS.
Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SELF-STARTERS. (See Motor Starters.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.
Boyd, F. Shirley, 903 Boylston St., Boston.
Bresler Wallace Sales Co., 1031 Dime Bank Bldg., Detroit. (Wallace.)
Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Truffault-Hartford.)
Perkins-Campbell Co., 622 Broadway, Cincinnati, O.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.
Colgate & Co., 199 Fulton St., New York City. (Moto-Gloss and Mechanics' Soap Paste.)
Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUG CASES.
Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SPARK PLUGS AND IGNITERS.
Aisten & Goulding Co., Worcester, Mass. (Alding.)
Bosch Magneto Co., 223-225 W. 46th St., New York.
Heinze Electric Co., Lowell, Mass. (Heco Priming.)
Silvex Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

SPEEDOMETERS, RECORDERS, ETC.
Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

SPRINGS FOR AUTOMOBILE SUSPENSION.
Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.
Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

STEEL, ETC.
Ward's Sons, E. T., 25 Purchase St., Boston, Mass. (Seamless.)

TANKS, ACETYLENE GAS.
Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Lite.)

TANKS, TIRE INFLATING.
Prest-O-Lite Company, 226 Speedway, Indianapolis. (Baby Tire Filler, The Emancipator.)

TEST CLIPS.
Mueller Co., R. S., 431 High Ave., S. E., Cleveland, O. (Universal.)

THERMOS CASES.
Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.
Braender Rubber & Tire Co., Rutherford, N. J.
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)
Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens Valves.)

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.
Braender Rubber & Tire Co., Rutherford, N. J.
Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.
Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Lax-Fal Rubber Co., Dept. S, 77 Chambers St., New York City. (Lax-Fal Guaranteed.)
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)

TIRES—SOLID AND COMMERCIAL.
United States Tire Co., Broadway and 58th St., New York.

TOPS AND ATTACHMENTS.
Mandel Limousine Co., 1455-57 West Congress St., Chicago. (Mandel Limosette.)
Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

VALVE LIFTERS AND RESEATERS.
Paro, H. G., Suite 718-719 Michigan Blvd. Bldg., 30 No. Michigan Blvd., Chicago.
W. & L. Mfg. Co., Inc., Buffalo, N. Y. (W & L.)

VALVES, TIRE.
Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens.)

VARNISHES, ETC.
Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.
Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VOLTMETERS. (See Ammeters.)

VULCANIZERS.
Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)
Vanderpool Co., Springfield, O.
Williams Foundry & Machine Co., Akron, O.

WASHERS.
Century Foundry Co., No. Salina St., Syracuse, N. Y. (Wizard.)

WELDING OUTFITS.
Prest-O-Lite Company, 226 Speedway, Indianapolis. (Prest-O-Welder.)
Waterhouse Welding Co., 3 Pelham St., Boston, Mass.

WHEELS, WIRE.
Houk Co., Geo. W., 1709 Elmwood Ave., Buffalo, N. Y. (Houk Detachable.)

WRENCHES AND COMBINATION OUTFITS.
Coes Wrench Co., Worcester, Mass.
Mossberg Co., Frank, Attleboro, Mass.

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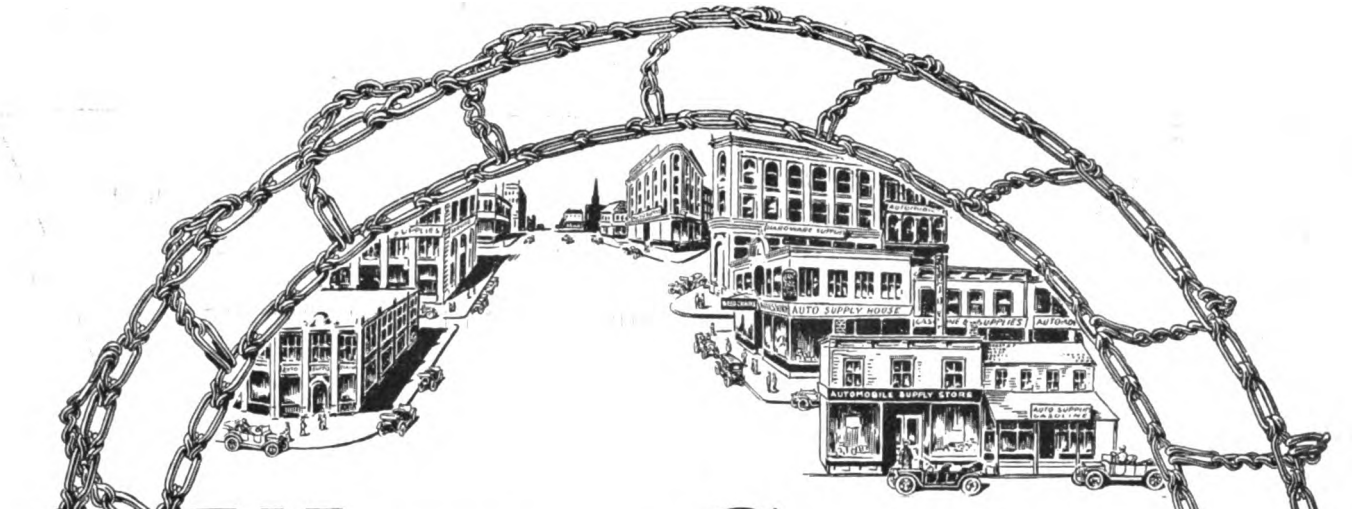

WEED Anti-Skid CHAINS

The Magnet

that draws profitable trade.

DISPLAY WEED CHAINS IN YOUR WINDOWS AND SALES ROOMS AND YOU DISPLAY GOOD SOUND BUSINESS JUDGMENT AS WELL.

You will attract all types of cars to your doors—they all must use Weed Chains for safety's sake.

Post mortems are never held over Weed Chains—they never make dead stock. Even when roads and pavements are dry the experienced motorist will buy—*"In time of sunshine he prepares for rains, stops at his dealer's and buys Weed Chains."*

Don't forget to order a stock of Weed Cross Chains, too. We will send you an attractive board on which you can display our Cross Chains to the best advantage if you will but write for it. Now's the time. Write for it now.

Weed Chain Tire Grip Company

Bridgeport, Connecticut

Manufactured for Canada by

DOMINION CHAIN COMPANY, Limited
Head Office: Shaughnessy Building, Montreal, Canada

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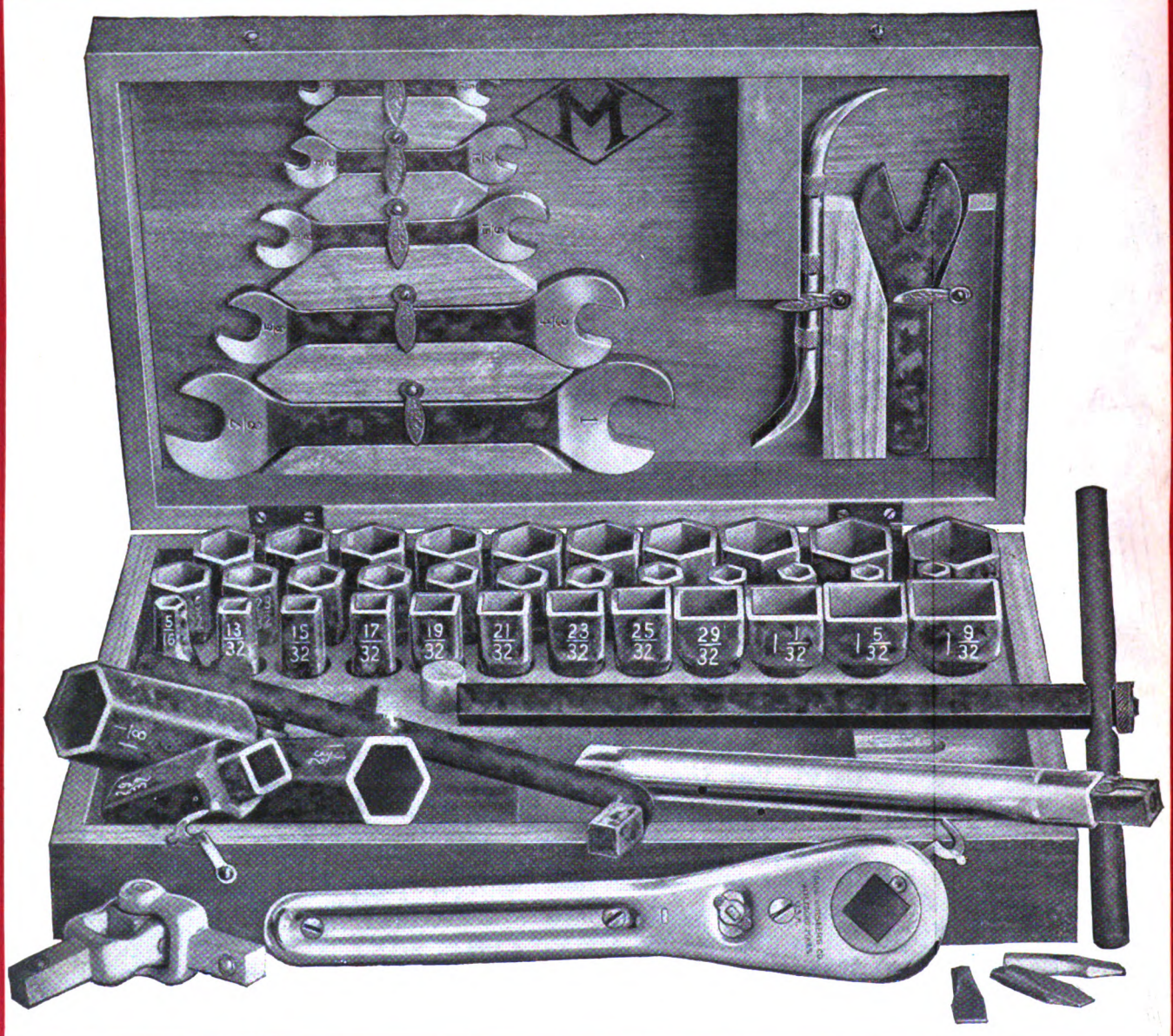
The "Complete-est" Wrench Set No. 14

55 OPENINGS THAT YOU ARE CONTINUALLY NEEDING AND EVERY PART GUARANTEED UNDER ALL CONDITIONS

List price . . $12.00 averages 23½ c per wrench

Some saving



Isn't this plain illustration the best and finest advertising MOSSBERG can do on this No. 14 SET. *IF* it really is guaranteed, isn't it really the most economical set to buy? We will refund your money if you don't say so when you see it. *Has Mossberg ever gone back on YOU?*

FRANK MOSSBERG CO., Attleboro, Mass.

Send for Catalogue No. 17 A of Auto Tools

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DECEMBER 28—NEW YORK SHOW ISSUE.

20 CENTS the COPY

THE ACCESSORY and GARAGE JOURNAL aside from its NATIONAL DISTRIBUTION will reach every listed dealer, jobber, agent and garage in the field that the New York Show will draw from.
GUARANTEED DISTRIBUTION GUARANTEED TRADE SERVICE
A $200 A PAGE ADVERTISING VALUE FOR $60

$2.(th YEA

THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., NOVEMBER, 1914. N(

PANHARD OIL

Panhard Agencies Are Quality Shops

High class business men select stocks with extreme care because they must, to succeed, sell what the people want.

Every buyer wants the greatest value obtainable, and that value is measured by experience or by the reputation for quality.

PANHARD Quality can only be obtained in Panhard Oils, and Panhard Quality has been established by these oils affording better results than all others.

PANHARD Oils are sold with a guarantee of quality, and sold in containers that insure this quality, at shops where quality is the big asset and the buyer takes no chances.

PANHARD Oils are known the world over because of quality. This reputation has made them a standard of lubricants. Panhard Oils have made good in every form of competition and in every service.

PANHARD Oils are not cheap oils, but measured by quality, by economy of thorough and satisfactory lubrication, by high efficiency production, they represent the greatest value that money can buy.

The PANHARD policy of distribution is a worth while proposition. At your request we will advise you fully of the details.

GEORGE A. HAWS, 148 FRONT ST., NEW YORK

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METZ

The Quality Car

Pre-eminently the High Class Car in the Low Price Class

TO DEALERS—

The more real value you can give for a dollar, the easier it is to make sales.

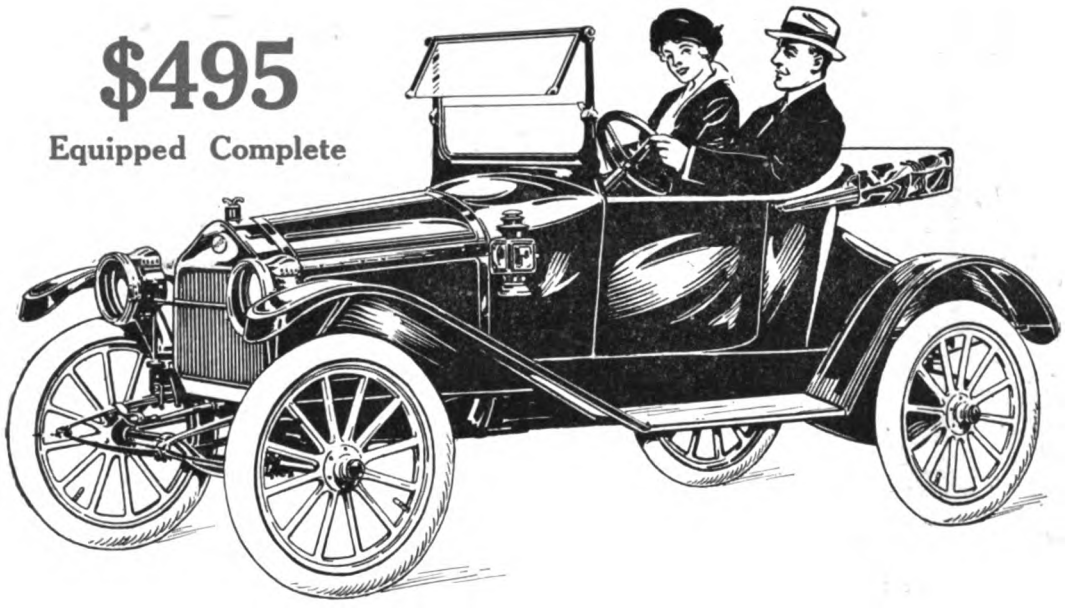
The new fore-door model of the METZ roadster is unequalled in **Style** and **Efficiency.**

It fully meets the popular idea of a low-priced strictly high grade car.

Demonstrating it insures clinching the order.

$495

Equipped Complete



New Fore-Door Model

Stream line body, plate glass rain-vision wind shield, extra wide fore doors, Prest-O-Lite tank carried in closed compartment in rear, leaving running boards free.

Left-hand drive, center control. Fibre grip, gearless transmission—thus eliminating all gear and clutch trouble.

Wide, comfortable seat, luxuriously finished with tufted upholstery, and deep cushions. Full elliptic springs all around.

Four-cylinder 22 1-2 h. p. water-cooled motor, Bosch high tension magneto, artillery wheels, best quality Goodrich clincher tires, extension top, five lamps, tire outfit, jack, tools, complete—$495.

The METZ hasn't a rival, price and quality considered. Let your competitor pick any car he pleases—YOU sell the METZ, and do the big business in your territory.

IMMEDIATE DELIVERIES

WE WANT REPRESENTATIVE DEALERS EVERYWHERE

Write for new catalog "F".

METZ COMPANY, - - WALTHAM, MASS.

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OUR GUARANTEE

RAYBESTOS is guaranteed for one year (365 days) from the date it is placed on a car. If it does not endure the full period it will be replaced without cost. This guarantee applies to all types and weights of pleasure cars and to all light trucks.

Garage Managers and Repairers

You and your customers are entitled to the service this guarantee insures. If all do not receive it the reason is your own indifference. No guarantee could be broader or more liberal. The user decides whether or not the material satisfies him.

This guarantee has been given for nine years. It has never been conditional. It is reiterated to cause a full realization by those whose uniform satisfaction with RAYBESTOS has caused them to be less conscious of the advantage—the quality, service and economy—of specifying and insisting upon RAYBESTOS BRAKE LINING.

RAYBESTOS is better guaranteed than is any tire or other part of car or equipment not made of steel. It is a logical guarantee—a guarantee to give perfect braking efficiency for one year, whether the car is driven 500 or 50,000 miles.

To justify such a guarantee RAYBESTOS must afford its fullest qualities during maximum service that can be given a brake lining.

Gambling is poor pastime, and when safety is made the stake of a gamble, absolute indifference to possibilities is manifested. Why not use RAYBESTOS and be sure?

That you may distinguish RAYBESTOS from other brake linings, both edges are coated with silver, and each yard bears the famed RAYBESTOS trade mark.

THE ROYAL EQUIPMENT COMPANY
BRIDGEPORT CONNECTICUT

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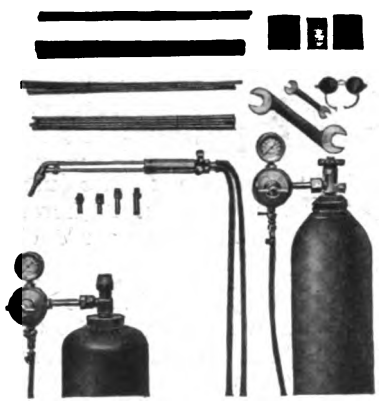
BIG BUSINESS

Read this Great Free Trial Offer

Garagemen, automobile repairmen, machine shop owners and blacksmiths, this is your great opportunity for big and quick returns—a business offer that calls for no first investment in equipment or stock, and once installed immediately commences to bring increased patronage and profits. No concern that does repairing is too large or small to make the Waterhouse welding equipment a big money-making investment.

Analyze the work that can be done. Remember the installation costs you nothing and that the profits made pay for it. There is no other equipment to be compared with the Waterhouse. Sold with an iron-clad guarantee as to quality, material and workmanship. ***Read the great free trial offer.*** Protect yourself by buying a Waterhouse. Establish yourself in the welding business and enjoy profits from this work that are going elsewhere.

Waterhouse Welding apparatus is perfect in construction, simple in operation and 100% safe in use. It enjoys so many superior features over all other apparatus that costs as much, that we can afford to make you the judge and jury. If you want the best, write today.



OUTFIT

$42

Rods and Fluxes $4.50

The WATERHOUSE

equipment makes money in thousands of shops. Let it make money for you.

With a WATERHOUSE welding equipment you get a carbon burning outfit free.

JUNK

Cracked cylinders come with cold weather. Get the WATERHOUSE and turn JUNK into GOLD.

GOLD

FREE TRIAL OFFER

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.

BEFORE

AFTER

WATERHOUSE instructions tell how to weld malleable iron like the above. A story of constant profits.

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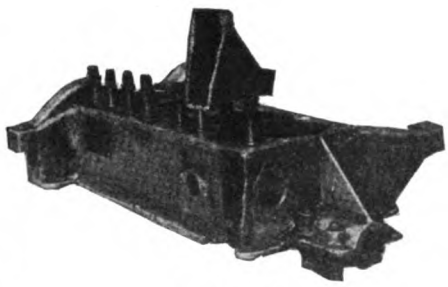
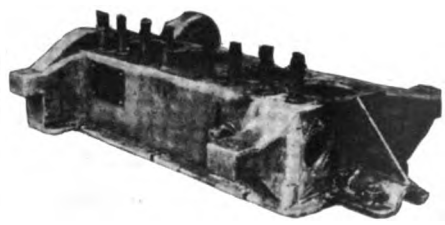
BIGGER PROFITS

CARRYING CASE



BROKEN
Worth Nothing



REPAIRED
Good as new part that is worth $68

WATERHOUSE PRACTICAL INSTRUCTIONS

The car owner has saved lots and you are entitled to something. But to get a good result, first get a good torch. It is easy if you follow WATERHOUSE instructions. They tell how to weld aluminum. Aluminum castings come high and you can make good money saving old ones.

The early bird gets the worm. The first owner of a WATERHOUSE WELDING EQUIPMENT in your community will make the most money. Build up a big welding business before the other fellow wakes up.

Waterhouse Outfit

	Value
1 B-Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50 lb. line pressure gauge	10.25
1 Acetylene Reducing Valve with 50 lb. line pressure gauge	11.00
1 set of Special Welding Hose (20 ft.)	3.00
1 pair of Welding Glasses	.75
1 Carbon Burning Torch	Free
1 set Instructions	Free
Net cost complete	**$42.00**

If you have a regulator for carbon burning, the oxygen regulator with the outfit is unnecessary, and you can deduct the price ($10.25), from the above total price.

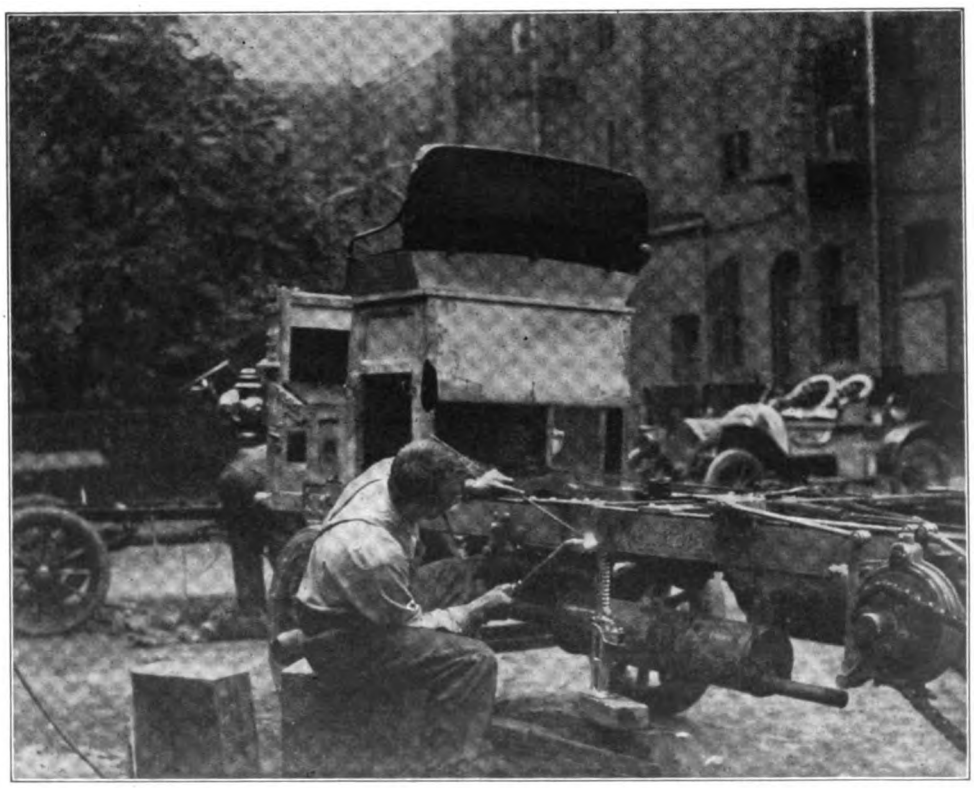
TERMS: 5% discount cash with order or C. O. D., or $20 cash with order, balance in two payments, first of $12 in 30 days, $10 in 60 days after receipt of outfit by you.

Rods and Fluxes $4.50

What you get

- **1 Bottle Aluminum Flux**
- **1 Can Cast Iron Flux**
- **1 Can Copper and Brass Flux**
- **2 Pounds Brass Welding Rods**
- **5 Pounds Cast Iron Welding Rods**
- **2 Pounds Aluminum Welding Rods**
- **2 Pounds of Steel Welding Rods**

If you do not own a welding equipment you should remember when broken down that we weld in our own shop for a whole lot less than the cost of new parts.



WELDING A THREE TON TRUCK FRAME

WATERHOUSE WELDING COMPANY

3 PELHAM STREET, BOSTON, MASS.

Established 1908 **Welding and Cutting Equipments Exclusively**

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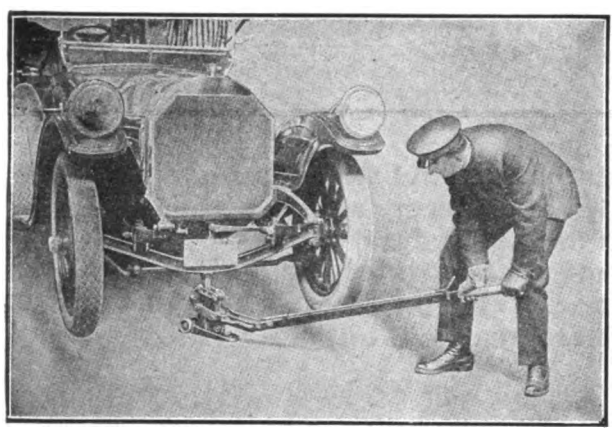
$12.80 PAYS FOR ITSELF $12.80

TIME Saving Is MONEY Saving

Order This EXCEL AUTO JACK TODAY

DON'T Turn This Page Until You Study the Picture and Read My Offer



Raising Front End of Heavy Touring Car in Four Seconds

If I didn't know positively and beyond any possible doubt that each and every garage will eventually have from two to ten EXCEL AUTO JACKS, this advertisement would not be written.

THE EXCEL AUTO JACK is not new—practically every service station and shop in New England uses them—there isn't an untried or unproven feature about them, BUT

I am anxious to place at least *one* EXCEL AUTO JACK in every shop in this country within four months.

Heretofore the selling price of the EXCEL AUTO JACK has been much higher. By manufacturing in huge quantities and the careful checking of our costs I believe we can make our usual percentage of profit and yet sell to the garage at $12.80. (List price $16.)

I believe YOU will recognize the wonderful value we are offering you if you will but study the picture and apply its almost unlimited uses to YOUR garage, but in order to hold this price DOWN I must have your order promptly.

The EXCEL AUTO JACK is an hourly necessity. It does in a second the things it now takes you fractions of hours—and you know that no garage can make money unless they serve their customers quickly.

It weighs 50 pounds---it has a handle over 4 feet long---it's too big to get lost and too strong to get out of order. Its range of adjustment is from four to twenty inches and it will raise 4500 pounds from these or intermediate points 4 1-2 inches in 4 1-2 seconds, by pressing down the lever ONCE.

Most concerns would market this at double our price, but like all our products, we estimate our margin of profit SMALL and our sales BIG. I can hold the price on the EXCEL AUTO JACK down to $12.80 by getting your check for this amount TODAY. Positive money back privilege of course (Mosco guarantee) if not satisfied.

S. K. Campbell.

Sales Manager.

If you have a car and are calling on the trade write to us for attractive agency proposition

MOTOR SPECIALTIES CO., Manufacturers, Waltham, Massachusetts

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Ford Roadster To Coupe In 50 Minutes

11.00
AT THE GARAGE

11.14
REMOVING TOP FROM CRATE

11.40
MOUNTING THE COUPE TOP

11.50
COMPLETELY CONVERTED

Every Ford Dealer Has Hundreds of Live Prospects

HIGHLAND COUPE TOPS

A standard equipment, adaptable to any Ford Runabout, will afford a service equal that of an open and enclosed car, for an investment so small that every Ford owner can be interested.

Highland Coupe Tops are interchangeable with the folding tops of all Ford Runabouts. Removal of the folding top and windshield is the only preparation; no special tools, no change of fittings, no mechanical experience necessary. Every top is guaranteed in every respect.

Highland Coupe Tops are engineering creations, carefully designed, strongly built, handsomely trimmed and finished, perfect in lines and in all details equal to limousine construction. The method for mounting affords adjustments to compensate for variations in original body irons.

Highland Coupe Tops are interchangeable, so that should an owner change cars the top is always serviceable. It does not lose its value for utility. When not in use but little storage space is required.

Highland Coupe Tops are built by one of the oldest and largest body building concerns in the country. Standardization makes practical a stock production from which an order can be filled at an hour's notice.

FORD and OTHER DEALERS

Selling Highland Coupe Tops need make no investment, nor carry stock, nor take risks. The business possibilities with this line are unlimited.

The Highland stock line of commercial bodies for Ford Chassis is complete and the best produced by any concern in America.

Complete detail, catalogues, prices, etc., supplied at request.

HIGHLAND BODY MANUFACTURING COMPANY

STATION P, CINCINNATI, OHIO

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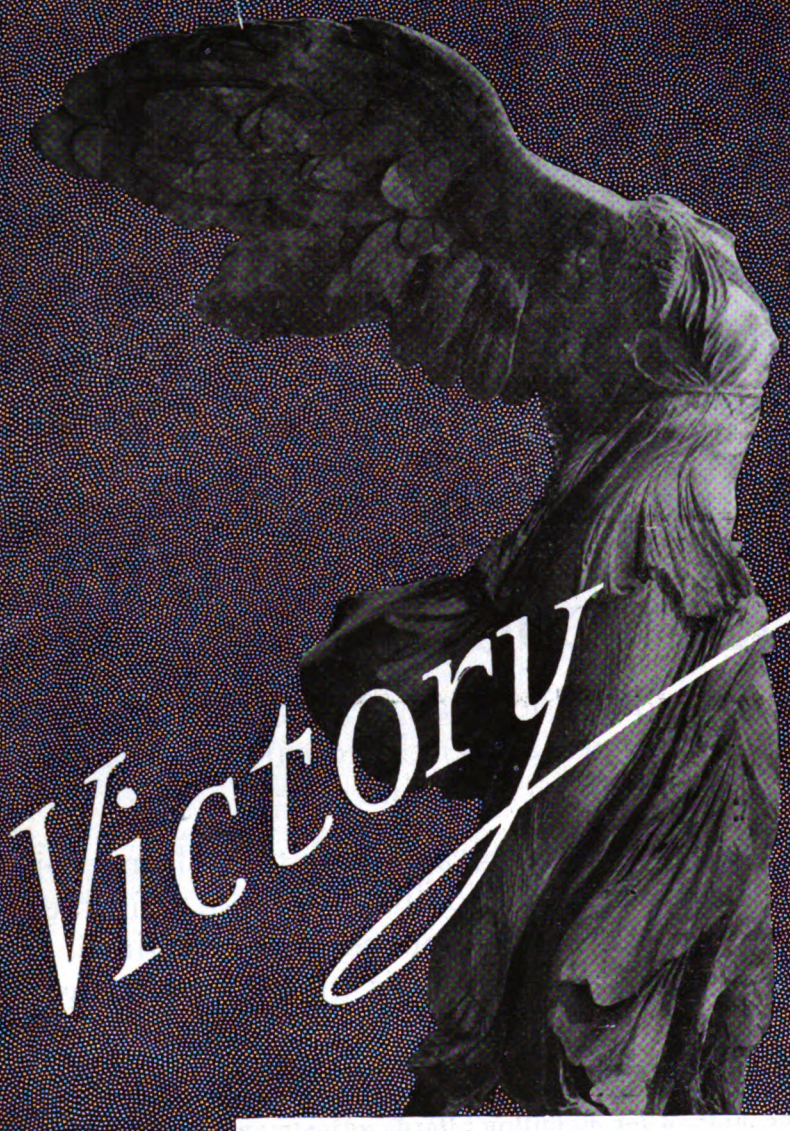

Victory

MULTIBESTOS

WINS ON MERIT NOT TRADITION

THE GRIP MULTIBESTOS BRAKE LINING THAT GRIPS

REG. U.S. PAT. OFFICE

THERE is no question about which is the best brake lining for this is a point which has been proved time and again by engineering tests. Don't take our word for it, but write at once for the signed reports of these tests.

STANDARD WOVEN FABRIC CO.

FRAMINGHAM, MASSACHUSETTS

BOSTON—F. Shirley Boyd, 903 Boylston St. PHILADELPHIA—N. A. Petry Co., Inc., 1427 Vine St.

CHICAGO—F. E. Sparks, 1430 Michigan Blvd. SAN FRANCISCO—Fred Ward & Son, Inc., Cor. First & Howard Sts.

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., NOVEMBER, 1914. No. 7

NEW LAWS COSTLY FOR GARAGE OWNERS.

Other States Following Lead Set by New York and Massachusetts in Compelling Public Garages to Adopt Drastic Fireproof Measures.

THE movement that is spreading throughout the country to regulate public garages, it is estimated, will cost the owners millions of dollars within the next few years. The Massachusetts law has gone into effect and the New York act was to become effective on Dec. 1, but has now been delayed temporarily. In the meantime, Providence, R. I., is modelling an ordinance that follows the lines of the other two.

In all three of these acts the same specifications are incorporated to a greater or less extent. The first change in each one is the requirement that all garage floors must be of cement concrete not less than three inches in thickness. Likewise, all stairways and elevator shafts must be enclosed in partitions covered with metal lath. While there are other slight duplications in the three acts, a resume is given herewith, giving the salient points.

Inspect Fuel Storage.

The Massachusetts authorities are keen in regard to the new act. John A. O'Keefe, fire hazard commissioner, is making a tour of garages and service stations in company with J. S. Hathaway, president of the Massachusetts Garage Association, and Chester I. Campbell, secretary of that association. The commissioner is inspecting the manner in which gasoline is handled, and asking questions about the danger of fire. Secretary Campbell is preparing a draft of about 50 questions to be submitted to every garage and service station proprietor in Boston regarding the condition of their plants, and when these have been answered there will be a conference with Mr. O'Keefe relative to regulations for safety devices. A brief summary of the New York and Massachusetts laws, which are identical, follows:

All existing buildings or other structures in any city or town used as garages, with capacity for housing more than four motor vehicles, shall be made to comply with the following requirements:

Building Requirements.

The floor of the first story shall be covered with cement concrete not less than three inches in thickness. All first-story ceilings of garages that are more than one story in height, if constructed of combustible material, shall be covered with metal lath and hard plaster not less than three-quarters of an inch in thickness. All stairways and elevator wells leading upward from the first story shall be enclosed in partitions covered with metal lath and hard plaster not less than three-quarters of an inch in thickness, or sheet steel well lapped and securely nailed, or with some other fire resisting material. All doorways in said partitions to be fitted with iron frames and standard automatic closing fire doors. All windows in exterior walls, which expose dwelling houses, hotels, mills, factories, or places of public assembly within 20 feet, shall be fitted with wire glass and metal sashes and frames, or closed up solid with fireproof material.

Sprinklers Required.

If the chief of the district police, or the official designated by him, so directs, any building of more than two stories in height, having a wooden interior in which a public garage is maintained, shall have a sprinkler system installed throughout the building, except in such part as may be separated from the garage by unpierced fire walls and floors.

Thomas J. Hearn, state fire marshal of New York, is holding hearings at Albany for the consideration of the code of rules and regulations governing the construction of garages, and changes that should be made in existing garages. The next hearing will take place on Dec. 9, and in the meantime the original order calling for the act to become effective Dec. 1 has been delayed.

Limits Height.

In the case of the Providence bill, this has been submitted to the common council for consideration. This act provides that no garage shall be located within 50 feet of the nearest wall of any school, hospital, church, theatre, place of public amusement, dwelling, tenement or lodging house. It also provides that every building used for a public garage in the future shall be of absolutely fireproof construction, not over one story in height in the first fire district or two stories in the second fire district, and shall cover an area not in excess of 8000 square feet.

Material Defined.

Rigid specifications are also made as to the materials of construction and the equipment of the building. The act is based upon a resolution presented in the common council more than two years ago, and the ordinance committee has been at work on the matter since that time. The section of the bill relative to public garages is in part as follows: "Every such building or structure of mill construction shall have all stairways and elevator walls, leading from the first story, enclosed in partitions covered with metal lath and hard plaster not less than three-quarters of an inch in thickness, or with some other equally fire resisting materials, and all doorways in said partitions fitted with iron frames and standard automatic closing fire doors.

Additional Precautions.

"Every such building or structure of whatever construction shall have all windows in any exterior wall or walls, which windows are within 20 feet of any adjoining lot line or of the nearest wall or part of any building or structure, fitted with wire glass and metal sashes and frames. Every such building or structure of mill construction shall be equipped with a system of automatic sprinklers in accordance with the rules of the National Board of Fire Underwriters.

"The city council of said city from time to time by ordinance may prescribe such reasonable regulations, consistent herewith, governing the equipment and manner of operation and maintenance of either or both public and private automobile garages now or hereafter existing in said city, as it may deem best, to diminish the fire hazard, and to preserve the safety and physical comfort of the portion of the public residing or being about or near the location thereof, or of the public generally."

Compliance with Laws.

All garages will be given six months to comply with the terms after the passage of the ordinance. Other obligations will be the building of all floors of cement concrete at least three inches thick; no forge, boiler or fire pot will be allowed except in a separate room, which has walls of incombustible material.

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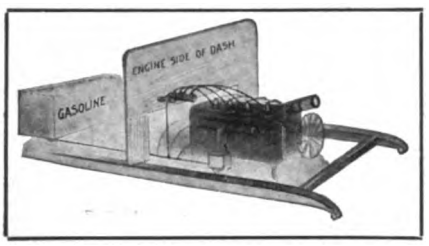
CHANEY SPARK PLUG PRIMER.

Is Operated from the Seat and Forces Charge of Gasoline Spray into Plugs and Combustion Chamber.

The L. F. Chaney Company, Springfield, O., has brought out a new priming device, which presents several interesting as well as practical features, among which is that the cylinders can be primed with fuel from the seat. A desirable quality of the primer is that the fuel is supplied from the main line, as may be noted by accompanying illustration. The gasoline is forced to the cylinders by a plunger pump and the fuel enters the spark plugs and combustion chambers in the form of a fine spray. Priming the plug assures an explosion with each spark and a series of explosions as each cylinder is primed. The Chaney spark plug primer is adaptable to any car and is serviceable with machines electrically started. Dealers are invited to write for particulars and trade discounts.



Chaney Spark Plug Primer.

BALL SOCKET PATENTED.

Danver Accessory Company Granted Claims on Anti-Rattling Device Having Grease Cups.

Letters patent have been granted the Danver Accessory Company, Pawtucket, R. I., maker of the well known line of Daco specialties for the model T Ford car, on a ball socket having a grease cup, a bearing member, a screw plug with a passage for lubricant, a spring and means for regulating the tension between the socket and the ball. The patent number is 1,116,571, and was filed May 11, 1914. The device is marketed as the Daco combination anti-rattler and grease cup, and is designed to replace the ball socket caps of the Ford car.

HIGHLAND COUPE TOPS.

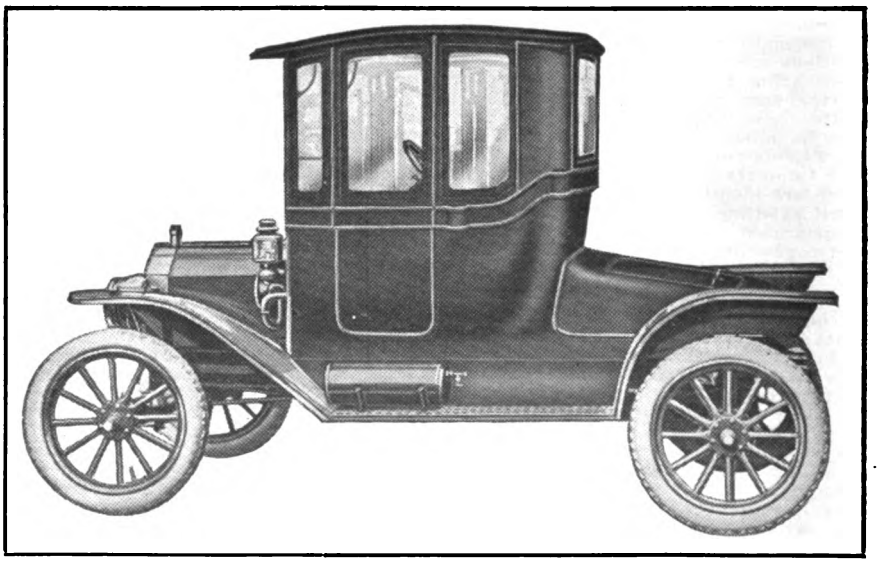
Handsome, Interchangeable Design, Adaptable to Any Ford Runabout, Easily and Quickly Fitted.

An equipment that will convert any Ford runabout into an enclosed two-passenger car has been perfected by the Highland Body Manufacturing Company, Cincinnati, O. One of the desirable qualities of the design is that it is constructed to be interchangeable with the usual top and windshield, and when mounted forms a body that is complete and gives as satisfactory protection as if it were of the limousine construction.

The body is, when converted, handsome in design and equal to the standards of the high-class enclosed vehicles. It is stoutly built, admirably trimmed and finished, and is sightly and pleasing in appearance. The coupe top, as it is known to the maker, is comparatively light in weight and affords every quality that makes for comfort and convenience.

The top is so built that it can be mounted without the use of special tools or fittings, and the means of mounting are provided with adjustments should there be any variations in the runabout body ironing. Aside from lifting the top, all the work can be done by one man, and conversion is practical whenever desired. Being interchangeable with reference to runabout bodies, an owner can change chassis several times and still use the top with equal satisfaction.

Just as the Ford runabouts are standardized, so the Highland coupe top has been designed for use on these machines, so that an owner at a comparatively small expense will have available a vehicle that will be suited for comfortable and satisfactory operation every day of the year. As may be noted by accompanying illustration, it is difficult to distinguish between the Highland body when fitted and the conventional type. Complete details, including prices, will be supplied upon request.



Highland Coupe Body for Ford Chassis, a Construction That Can Be Mounted Easily and Quickly.

ENJOIN DEALER FROM SALES.

Auto Parts Company and Emil Grossman Manufacturing Company Get Injunction Against Harry Weinstein.

Judge Charles M. Hough of the United States district court for the Southern District of New York, on Oct. 31 issued an injunction against Harry Weinstein, enjoining the latter from making or selling thrust bearings covered by the United States patent No. 1,044,468. The appeal was made by Thomas F. Wilson of the Auto Parts Company, Providence, R. I., and the Emil Grossman Manufacturing Company, Inc., Brooklyn, N. Y. Weinstein does business under the trade names of Royal Auto Tire & Supply Company, Liberty Tire & Supply Company and the Union Tire Company. It is alleged by Mr. Wilson and the Grossman Company that he has been infringing on United States letters patent No. 1,044,468, issued on Nov. 12, 1912, to Henry Kirk, Jr., and now owned by them.

SPECIAL TO THE TRADE.

Goodyear Tire & Rubber Company Has Free Show Case Offer Productive of Trade Building.

The Goodyear Tire & Rubber Company, Akron, O., is making a special free offer to the trade of a show case in which to display Goodyear accessories. The use of these cases enables a dealer to show the products to advantage, and the equipment is a silent salesman. By filling out the coupon in the announcement of the company elsewhere in this issue, complete details of the offer will be supplied.

NOW GEORGE A. HAWS, INC.

Firm Marketing Panhard Oil Dissolved and Business Transferred to Reorganized Concern.

The firm of George A. Haws, New York City, maker of the well known Panhard oil, has been dissolved, and the business has been transferred to George A. Haws, Inc. Florence A. Haws and Michael J. Martin composed the former company, and they announce that future business will be conducted along the same broad lines by the new firm.

OPPORTUNITY FOR DEALERS.

Kellogg Manufacturing Company Supplying Agents with Circulars Showing Installation of Tire Pumps.

Announcement is made by the Kellogg Manufacturing Company, Rochester, N. Y., to the effect that motor car dealers will be supplied free with circulars describing the No. 101 single-cylinder, all metal Kellogg engine driven tire pump with attachments for their particular cars. The attachment and its installation are important factors, and the circulars have been carefully prepared to meet the requirements of each individual machine. Dealers will be supplied upon addressing the Kellogg Manufacturing Company. Model of car should be given.

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PERSONAL NEWS OF THE INDUSTRY.

Frank E. Titus, Pittsburg, Penn., has been appointed manager of the local branch of the B. F. Goodrich Company. He has been assistant manager of the Buffalo branch of that company for the past seven years.

R. M. Owen, of the Premier Motor Manufacturing Company, Who Will Develop the Weidely Motor.

E. F. Quimby, South Bend, Ind., has resigned as secretary and general manager of the Colfax Manufacturing Company.

Emmet Scott, Laporte, Ind., has resigned as treasurer of the M. Rumely Company. His successor has has not yet been appointed.

W. W. Bond, Detroit, Mich., has been appointed by the Anderson Electric Company district sales manager for the states of Indiana and Kentucky.

R. M. Owen, George A. Weidely and Harold O. Smith have perfected arrangements with Frank E. Smith, receiver of the Premier Motor Manufacturing Company, Indianapolis, Ind., for the development of the Weidely motor. The plans call for the receiver to turn over the core boxes and patterns and to sell certain parts of the motor to the three men. The plan has been approved by the United States court.

Artemus Ward, Jr., Detroit, Mich., vice president of the King Motor Car Company, states that it is the intention of his company to bring out, in the near future, a two-passenger cabriolet roadster of special design.

D. C. Muhleman, Wilmington, Del., and Henry V. Poor, were elected directors to fill two vacancies on the board at the annual meeting of the Maxwell Motor Company. The other retiring directors were re-elected.

W. H. Cochran, Detroit, has been appointed manager of sales of the Decker Auto Top Company.

F. L. Brown, Hartford, Conn., has resigned as manager of the Stutz Motor Car Company of Connecticut.

John A. Rose, Kenosha, Wis., has been appointed manager of the newly created export department of the Thomas B. Jeffery Company.

H. F. Sundin, Kansas City, Mo., until recently manager of the National Motor Car Company, has been appointed special western representative for that company.

Paul J. Fisher, St. Louis, Mo., has been appointed secretary of the St. Louis Manufacturers & Dealers' Association. He succeeds Robert E. Lee, resigned.

W. A. Allen, Montreal, Que., has become manager of the Gordon Motor Company. He was formerly manager of the Pope-Hartford Motor Company of Canada.

W. M. Mann, Dallas, Tex., is now district manager for S. F. Bowser & Co., Fort Wayne, Ind. His territory is all of the Lone Star state and he will make his headquarters in the Commerce building.

W. F. Siegmund, Kansas City, Mo., has been appointed manager of the Nordyke & Marmon Company's local branch. He was formerly distributor for the Detroit Electric in St. Louis.

H. H. Sturgeon, Toledo, O., has become affiliated with the Willys-Overland Company in the advertising department. He will be located at the company's headquarters. He was formerly assistant advertising manager of the F. B. Stearns Company, Cleveland, O.

James R. Hayes, Detroit, Mich., has been elected president of the Speedway Country Club, which proposes to erect a speedway, club house, administration building, etc., for automobilists. It is understood that a site has been secured in Wyandotte, a suburb of Detroit.

Finley R. Porter, Port Jefferson, N. Y., is at the head of the recently incorporated Finley-Robertson-Porter Company. He was formerly engineer of the Mercer Automobile Company, Trenton, N. J.

Roy R. Chapin, Detroit, Mich., has joined the army of benedicts, having been married to Miss Inez Tiedman of Savannah, Ga. He is president of the Hudson Motor Car Company.

K. W. Pickell, Kansas City, Mo., has been appointed retail sales manager of the Overland Automobile Company.

W. C. Gray, Detroit, Mich., has been appointed manager of the local branch of the Apperson Brothers Automobile Company, Kokomo, Ind.

E. M. Cutting, Boston, Mass., has joined the C. P. Rockwell Company, which handles the Jeffery car. He was formerly assistant treasurer of the Pope Manufacturing Company, Hartford, Conn.

H. M. Snow, Boston, Mass., has been appointed manager of the branch of the Ford Motor Company, opened recently on Copley square.

W. G. Jones, Boston, Mass., has resigned as manager of the Whitten-Gilmore Company.

H. A. Banta, San Francisco, Cal., has joined the staff of the Swan Carburetor Company as sales manager. He had been with the Chanslor & Lyon Company for a number of years.

Al Adams, Worcester, Mass., has become associated with the Auto Sales Company in the capacity of manager for the used car department. He was formerly connected with the Joseph Donovan Company, Boston, in the same capacity.

L. M. Bourne, Auburn, Ind., has been appointed factory manager of the Double Fabric Tire Company. He was formerly production manager of the Goodyear Tire & Rubber Company, Akron, O. He is an expert on rubber.

A. Figman, Marion, Ind., has become sales manager of the Indiana Truck Company, with offices and service station at 250 West 54th street, New York City. He has been with the Garford Company of the latter city for the past six years.

E. Ralph Estep, New York City, has joined the Cheltenham Press, which is an advertising agency. He was formerly associated with the Packard Motor Car Company, Detroit, Mich.

W. Irvine Fickling, New York City, for the last four years sales manager of the R. & L. Company, eastern distributor of the Garford truck, has resigned.

Charles P. Sieder, Detroit, Mich., who is president of the newly organized R-C-H Corporation, announces that definite details regarding the company's new model will be ready in the course of a few weeks.

R. E. McComas, Minneapolis, Minn., has been made secretary and manager of the Owl Electric Garage Company, in which he has purchased an interest. Until recently he was connected with the Chicago office of the Woods Electric Company.

Paul E. Ryan, Cleveland, O., has become sales manager of the Osborn Manufacturing Company. He held the position of manager of publicity and assistant sales manager for the National Acme Manufacturing Company previous to his going with the former company.

A. S. Robinson, Los Angeles, Cal., has severed his connection with the local branch of the Kissel Motor Car Company, for which he has acted as manager since the death of Roger Stearns.

Tom Wilkinson, Los Angeles, Cal., has been appointed manager of the branch of the United States Tire Company. He was formerly manager of the retail branch of the United States Tire Company, San Francisco.

H. W. Kyte, Chicago, Ill., has become western manager for the George W. Houk Company, Buffalo, N. Y. He was formerly vice president and general manager of the Electric Vehicle Company, Hartford, Conn.

J. C. Wilson, Detroit, Mich., has accepted a position as factory superintendent of the Auto-top Inclosure Company. He was formerly connected with the Michigan Buggy Company.

Charles E. Thompson, New York City, a member of the Motor and Accessory Manufacturers, takes care of the space allotments handled directly by the show and allotment committee of which he is chairman. The excellent work that the Motor and Accessory Manufacturers are doing is well known throughout the country. He is also general manager of the Electric Welding Products Company, Cleveland, O.

Charles E. Thompson, Chairman of the New York Show Committee.

C. C. Turley, Indianapolis, Ind., has become connected with the Haynes Motor Car Company as manager. He

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first became associated with the Haynes Company in 1909, when he joined its engineering department. He remained with the concern for three years, when he became agent for another make of car at Logansport, Ind.

Ray Harroun, Chief Engineer of the Maxwell Motor Company, Inc.

Ray Harroun, Detroit, Mich., has been appointed chief engineer of the Maxwell Motor Company, Inc. He was formerly with the Nordyke & Marmon Company, and is the designer and builder of the Maxwell racing cars.

E. J. Bennett, Los Angeles, Cal., has joined the De Vaux Motor Sales Company as sales manager. He is well known to the trade.

Estel Scott, Kansas City, Mo., was elected president of the Kansas City Motor Car Dealers' Association at the annual meeting of that organization held recently.

T. G. Woods, New Haven, Conn., has become sales manager of the White Company. He was formerly connected with the company at Boston and Providence.

E. A. Haskins, Detroit, Mich., has taken charge of the service department of the Federal Motor Truck Company. He was formerly connected with the Packard Motor Car Company.

Herman G. Farr, Springfield, Mass., has resigned as chief engineer of the Knox Motors Company and will open an office as consulting engineer. Mr. Farr is one of the pioneers of the industry having, in conjunction with Harry A. Knox, designed one of the first successful gasoline cars in America.

H. M. Woodside, Indianapolis, Ind., formerly sales manager of the Ball Fintze Company, Newark, O., has become state representative for the Hearsey-Willis Company in Ohio.

John M. Lansden, Pontiac, Mich., has resigned as second vice president and consulting engineer of the General Motors Truck Company. He will go into business on his own behalf.

W. T. Kyle, New York City, has joined the sales force of the Okonite Company at 253 Broadway. For the past six years he has been connected with the Duplex Metals Company as district sales manager.

J. R. Lee, Detroit, Mich., delivered an address recently before the world's first conference on profit sharing, describing the plan as worked out at the Ford Motor Company's plant.

E. Le Roy Pelletier, who is well known to the automobile advertising world, and William Tripp, formerly of Cleveland, O., have formed an advertising agency under the name of Pelletier-Tripp, Inc., with offices in the Fine Arts building, Detroit, Mich.

G. S. Ashbrook, Detroit, has been appointed sales manager of the McClerman Company, the Globe Seamless Steel Tube Company, Worth Brothers and the Phoenix Tube Company. He is located in the Ford building.

W. R. McCulla, Springfield, Mass., has become assistant chief engineer of the Knox Motors Company. He was formerly research engineer of the Packard Motor Car Company, Detroit, Mich.

F. E. W. Howe, Providence, R. I., for some years with Alvan T. Fuller, Boston, Mass., has been promoted to the managership of the Providence branch. Packard cars are handled.

C. W. Heintz, Buffalo, N. Y., for the past five years connected with the sales department of the Republic Rubber Company, has been appointed manager of the local branch to succeed B. F. Morris, resigned.

H. B. Wollaver, Boston, Mass., has accepted a position as manager of the service department of the Henley-Kimball Company, agent for the Hudson car.

T. J. Boland, Council Bluffs, Ia., has become manager of the newly established local branch of the Jackson Automobile Company, Jackson, Mich. He was formerly with the Pioneer Implement Company.

William A. Roby, Indianapolis, Ind., president of the Electric Vehicle Service Station Company, has acquired the interest of H. L. Krieger in that company.

George H. Phelps, Detroit, Mich., has become associated with Dodge Brothers in the sales promotion department. He was formerly manager of the New York branch of the Studebaker Corporation.

A. C. Stevens, Portland, Ore., has been appointed manager of the Winton Motor Car Company's branch in that city. He succeeds Bert Roberts.

Lloyd Tremper, Streator, Ill., has become associated with the L. P. Halladay Accessory Company. He was formerly general purchasing agent for the Western Motor Company, Marion, Ind.

D. D. A. Outcault, Tacoma, Wash., has been elected president of the Tacoma Automobile Club. Edward B. King is vice president.

Edgar O. Hayes, well known in the automobile industry, is now travelling representative of the Pilot Car Sales Company, Richmond, Ind., in New England and the State of New York.

James E. Westrich, St. Louis, Mo., has been appointed manager of the H. E. Wilcox Motor Company, succeeding Frederick E. Hole, who has been transferred to an executive position at the company's factory in Minneapolis, Minn.

T. B. Shoemaker, New York City, who for several years has been secretary to the contest board of the American Automobile Association, has severed his connection with the A. A. A. He has been prominent as an official at many of the automobile contests.

A. H. Collins, Detroit, Mich., vice president of the R-C-H Corporation, has just returned from an extensive trip throughout the West and South. He reports that business conditions are generally good.

George W. Kerr, Chicopee Falls, Mass., for a number of years body engineer for the Stevens-Duryea Company, has resigned.

Ray Tisch, Detroit, Mich., has become associated with the Paige-Detroit Motor Car Company as advertising manager. He was formerly connected with the Haynes Automobile Company, Kokomo, Ind., in the same capacity.

E. R. Maurer, M. E., Detroit, Mich., has been appointed service engineer of the Studebaker Corporation. He has charge of all service parts, orders and claims at the Detroit factory and at the various branches of that company.

Carl H. Clement, Toledo, O., has been appointed travelling sales engineer of the Bock Bearing Company. He was formerly connected with the Metal Products Company, Detroit, Mich., as chief engineer and sales manager.

Z. B. Barker, Detroit, Mich., has become associated with the Monarch Motor Car Company as general sales manager. He was until recently middle western sales manager of the Briggs-Detroiter Company.

R. E. Levers, Dallas, Tex., has been appointed manager of the United Auto Supply Company.

J. H. Carlson, El Paso, Tex., has accepted a position as manager of the wholesale department of the Auto Supply Company.

Abner Powell, San Antonio, Tex., has been appointed local manager of the Krit Motor Car Company.

D. M. Rhodes, Detroit, Mich., has been appointed sales manager of the Abbott Motor Company.

J. J. Gormley, Boston, Mass., has become affiliated with the New England branch of the J. I. Case Threshing Machine Company, Racine, Wis.

C. V. McGuire, Lansing, Mich., has been appointed advertising manager of the Olds Motor Works. He was formerly with the Lozier and United States Tire companies.

R. D. Campbell, Detroit, Mich., has accepted a position as director of sales for the Signal Motor Truck Company. He was formerly associated with the White Company, Cleveland, O.

F. N. Dalton, Los Angeles, Cal., has been appointed local assistant manager of the Studebaker Corporation, Detroit, Mich. He was travelling auditor for the company for some time.

Charles J. Gormley, Boston, Mass., has succeeded G. B. Jeffery as advertising manager of the local branch of the Firestone Tire & Rubber Company.

L. C. Malott, Boston, Mass., has become manager of the wholesale department of the William Small Company, distributor for the Chevrolet car.

F. L. Bragg, Hartford, Conn., has severed his connection with Edward H. Harris, and has joined the Overland-Connecticut Company's sales force.

Homer McKee, Indianapolis, Ind., has become associated with the Mahin Advertising Company and will have charge of the Cole Motor Car Company's publicity campaign.

Homer McKee, Who Conducts the Advertising of the Cole Motor Car Company.

D. B. Webster, Indianapolis, Ind., has become assistant mechanical engineer of the National Motor Vehicle Company. He was formerly experimental engineer of the Hudson Motor Car Company, Detroit, Mich.

Job H. Lippincott of the New Jersey state department of motor vehicles, states that he intends establishing a rogues' gallery for pictures of automobile thieves, receivers of stolen machines and their accomplices.

E. P. Chalfant, New York City, has been appointed secretary of the Electric Automobile Manufacturers' Association. He will open offices in Chicago and devote his efforts to the interests of the organization. Mr. Chalfant is well known to the industry, having been connected with the Packard Motor Car Company and the Thomas Motor Car Company.

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WHAT AMERICA GAINS BY EUROPEAN WAR.

Automobile Industry Will Thrive—Neutrality No Bar to Private Sales to Belligerents—South America's Business—Belgium a Heavy Loser.

THE automobile business in this country has apparently not felt any bad effects from the European war; in fact, it would seem that this branch of the United States industry has received quite an impetus as the result of the conflict. While it was first thought that certain countries would be closed to the American manufacturer, yet it is now seen that the belligerent nations are America's largest purchasers in the automobile, truck and accessory line. This fact was accentuated recently when 3300 to 3500 trucks were sold to England, France and Russia. The total number of trucks exported to every country in the world for the fiscal year ending June 30 last, was 784, valued at $1,181,611. From this it is seen that for one month the exports of trucks to three countries were 500 per cent. greater than they were for the entire world during the past fiscal year.

In view of the President's plea for neutrality, it seemed at first to be generally conceded that the United States manufacturer was barred from selling contraband articles to the warring nations. The idea, however, has been refuted in the official statement recently issued by Robert Lansing, acting secretary of state at Washington. Mr. Lansing points out that this country's neutrality does not prohibit any individual from selling to belligerent governments, even if the articles sold include fire arms, explosives, or the like.

Contraband articles are subject to seizure by an enemy of the purchasing government, the acting secretary points out, and if this occurs it is merely one of the misfortunes of war. The report of Mr. Lansing says in part: "In the first place it should be understood that, generally speaking, a citizen of the United States can sell to a belligerent government any article of commerce he pleases. He is not prohibited by international law, treaty provision or United States statute. It makes no difference whether the articles sold are exclusively for war purposes, such as fire arms, explosives, etc., or are food stuffs, clothing, horses, etc., for the use of the army or navy of the belligerent.

"Furthermore, a neutral government is not compelled, by international law, by treaty or by statute, to prevent these sales to a belligerent. Such sales, therefore, by American citizens do not in the least affect the neutrality of the United States.

"It is true that the articles mentioned are considered contraband and are, outside the territorial jurisdiction of a neutral nation, subject to seizure by an enemy of the purchasing government. It is the enemy's duty, however, to prevent the articles reaching their destination, not the duty of nation whose citizens have sold them. If the enemy of the purchasing nation happens for the time to be unable to do this, that is for him one of the misfortunes of war; the inability, however, imposes on the neutral government no obligation to prevent the sale."

Mr. Lansing then points out that for the government of the United States itself to sell to a belligerent nation would be an unneutral act, but for a private citizen to sell any product of the United States is neither unlawful or unneutral. It is not within the power of the executive to prevent or control.

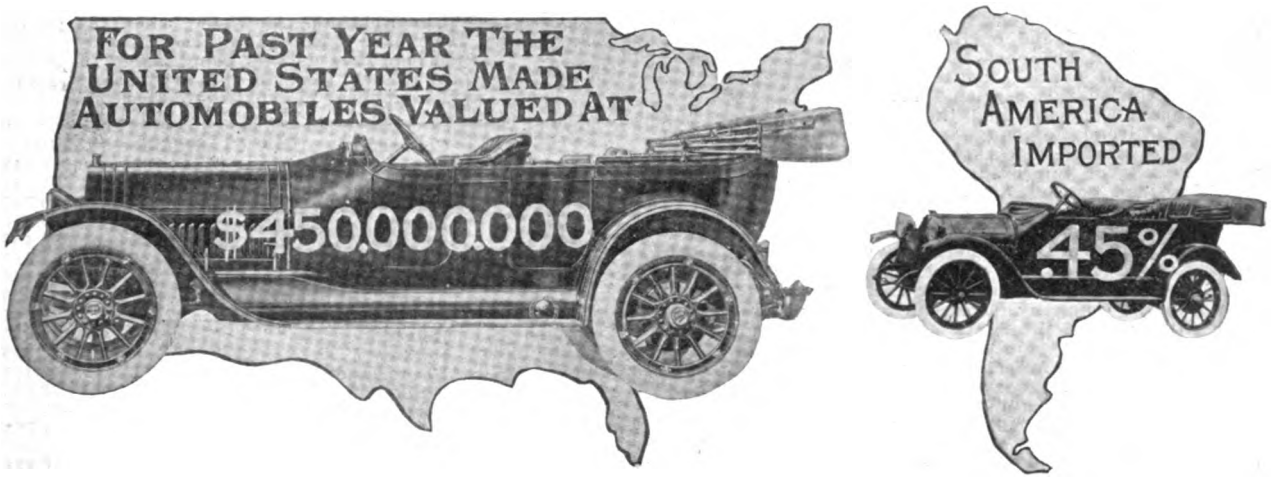
"The foregoing remarks", concludes the official statement, "do not apply to the outfitting or furnishing of vessels in American ports or of military expeditions on American soil in aid of a belligerent. These acts are prohibited by the neutrality of the United States."

Consequently, it is plainly seen from the foregoing that American automobile, truck or accessory manufacturers are not barred from the European markets. In fact, with all of the foreign plants either closed or wiped out of existence, it can easily be seen that, with the war dragging on throughout the winter, the American manufacturer should reap the profit.

The slight effect of the loss in exports from this country caused by the European war will be fully appreciated when it is stated that of the $450,000,000 worth of automobiles produced in this country for the fiscal year ending June 30, 1914, exactly 1.76 per cent. were exported to the countries now engaged in warfare. Consequently, from this viewpoint, it can be stated without contradiction that the European war will mean nothing to the motor car industry of the United States. This loss of a fraction over 1¾ per cent. is more than offset by exports to be gained in other countries.

Of this $450,000,000 worth of automobiles produced in the United States last year, less than one-half of one per cent, were exported to South America. While America was exporting motor cars valued at $1,939,213 to these Latin-American countries for the year ending June 30 last, Europe exported $13,168,508. In other words, the United States has lost its grip on European exports valued at $7,936,506, but has gained a $13,000,000 selling field in one section alone to compensate it for the loss sustained.

South America is not a stranger to the United States in matter of imports. As a matter of fact, the United States ranked second last year in this respect, having exported $317,323,294 worth of goods to that country. Great Britain was first with $322,036,347, Germany third with $216,010,418, and France fourth with $103,220,223. So diverting from the automobile figures for a moment, it is seen that, of the total of $1,304,261,736 of goods imported by South America last year, only $317,323,294 were imported from the United States. The war cuts off $699,040,630 of imports direct, and difficult shipping conditions forces South America to look to this country for practically all of her imports for the current year.



SOUTH AMERICA'S $2,870,188,575 COMMERCE FOR 1913.

	Imports	Exports
United States	$317,323,294	$504,378,212
Great Britain	322,036,347	316,419,914
Germany	216,010,418	192,394,702
France	103,220,223	120,907,415
Italy	55,494,413	27,964,001
Belgium	48,747,164	62,557,566
Austria-Hungary	9,026,478	23,294,991
Netherlands	8,293,859	43,277,631
Switzerland	6,189,050	.....
All other countries	217,390,517	247,722,380
Total	$1,304,261,763	$1,565,916,812

This will mean that America will export about $1,000,000,000 worth of goods to South America this year. Of this amount, approximately $15,000,000 will be automobile exports, exclusive of tires, parts, etc.

The United States would probably not have made much of an impression in South America if it were not

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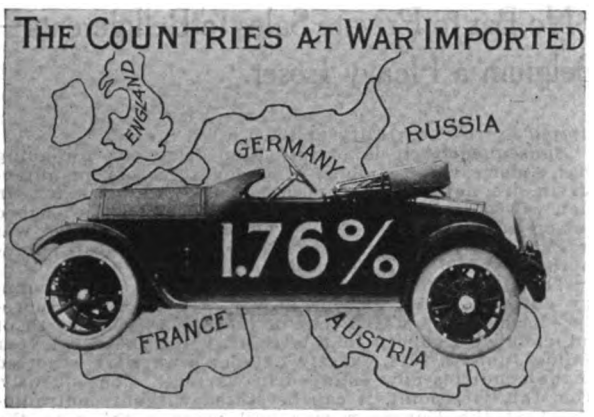
for the European war. For the 12 months ending June 30, 1913, this country exported 2820 automobiles to South America, valued at $3,165,205. This dropped to 1985 cars exported for the 12 months ending June 30 last, valued at



$1,939,212. While no clear explanation is offered for this decrease, yet it might be said that Europe "tightened up."

South America did not recognize the United States in a financial way, and the United States was more or less indifferent to the Latin countries south of its Panama canal. All clearings were made through London, and rubber shipments from Brazil came to this country by way of London. However, this has now been eliminated, and South America has appealed to this country to establish direct steamship communication. This is now being accomplished, and Brazil has turned a large number of her ships into the American service. Direct credits between the two countries must be established at the same time the shipping service is inaugurated, or there will be further complications.

This phase of the work is being handled more rapidly than the shipping end of it. Various American banks are establishing branches in South America, which will permit credits to be handled direct with this section. The American Express Company and the New York Central Railroad Company have sent special representatives to study conditions, with a view of improving transportation facilities in South America. American manufacturers are invited to take advantage of the services of these representatives, and any work within reason will be done by them gratis and reports furnished. Such requests should be made to the American Express Company, 65 Broadway, New York City, care of the South American department.

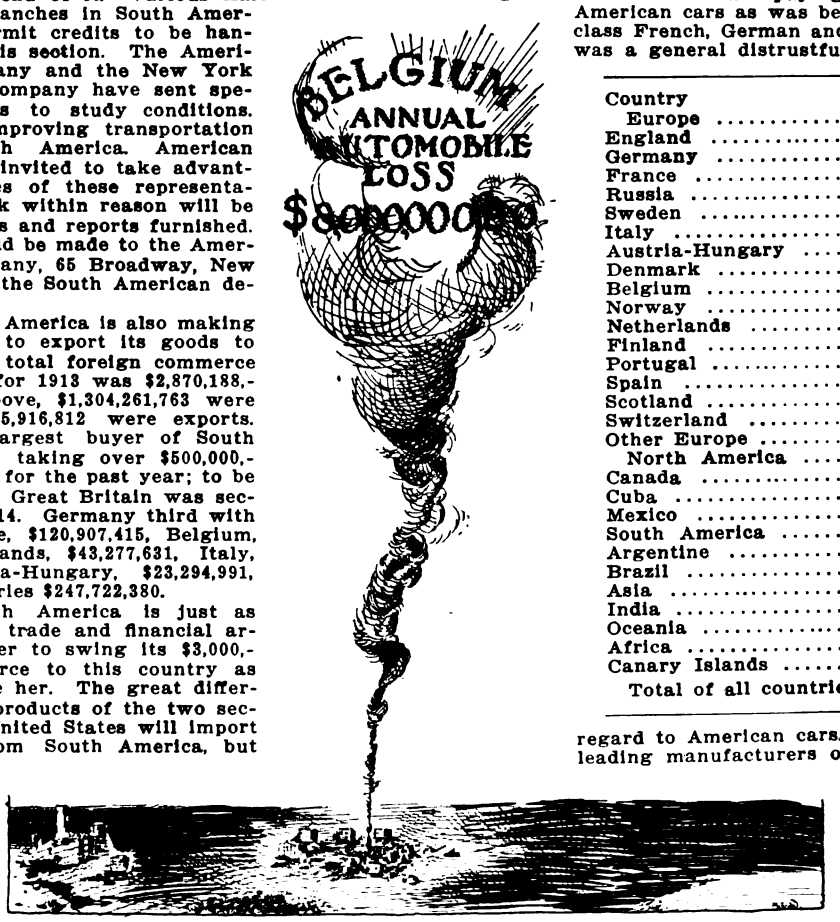
Naturally South America is also making a strenuous effort to export its goods to this country. The total foreign commerce of South America for 1913 was $2,870,188,575. As stated above, $1,304,261,763 were imports and $1,565,916,812 were exports. America is the largest buyer of South American products, taking over $500,000,000 worth of goods for the past year; to be exact, $504,378,212. Great Britain was second with $316,419,914. Germany third with $192,394,702, France, $120,907,415, Belgium, $62,557,566, Netherlands, $43,277,631, Italy, $27,964,001, Austria-Hungary, $23,294,991, and all other countries $247,722,380.

Obviously, South America is just as anxious to perfect trade and financial arrangements in order to swing its $3,000,000,000 of commerce to this country as America is to have her. The great difference between the products of the two sections is that the United States will import raw materials from South America, but will export manufactured articles to it.

America will buy the crude rubber from Brazil and will sell back the same rubber in the form of automobile tires. This will mean a great deal more to the American manufacturer than it will to South America. Brazil furnishes approximately 40 per cent. of the supply of rubber, but heretofore all of this rubber has been brought to this country by foreign vessels, through foreign ports.

Experts, who have analyzed the situation, state that the only reason the European products, especially the European automobiles, were popular in South America, was because of the excellent shipping facilities. The campaign of the American automobile manufacturers could not be as aggressive as that of the foreign makers, and the securing of parts for the American car was naturally more difficult than for the foreign makes. The South American, like everyone else, wants a good, cheap quality car, and it is safe to say that the American manufacturer is the only one who can supply such a demand.

While the larger manufacturers were sitting back and resting on their laurels from business gained in this and European countries, a number of independent traders were fleecing the Latin-Americans on American car sales. Cars that sold for $1000 in this country fully equipped, were palmed off on the South Americans for $2500 to $3000 without the equipment. The duty is 10 per cent. on American cars, and the cost of shipment is not extremely heavy. In 1912 the total imports of automobiles in Argentina were 4281 cars. Of this number, 1651 were imported from France, 708 from the United States, 627 from Germany, 451 from England, 422 from Italy and 295 from Belgium. However, when the public of Argentina discovered it was paying the same for cheap American cars as was being asked for high-class French, German and British cars, there was a general distrustful feeling created in regard to American cars. But now that the leading manufacturers of the United States are taking a hand, the entire situation will be placed on a businesslike basis, with an idea of securing and permanently maintaining commerce between South America and this country.



While the outlook is extremely bright for the United States, yet the war has made a pathetic figure of Belgium. By using this country as one of the principal battlefields of Europe, the warring nations have caused, among other things, the wiping out of the automobile industry of that country. After a hard struggle the Bel-

(Continued on Page 36.)

Belgian automobile and parts exports and imports for the years ending Dec. 31:

EXPORTS.

	1913	1912	1911	1910
Complete cars	$3,658,088	$3,914,507	$3,893,599	$2,134,702
Chassis only..	2,603,649	2,180,203	.....	.....
Car parts.....	236,810	415,867	1,720,266	1,638,225
Motorcycles ..	465,128	392,026	361,953	298,337
Motor parts..	28,882	21,229	23,523	26,332
Total.....	$6,992,557	$6,923,832	$5,999,341	$5,097,696

IMPORTS.

Complete cars	$627,717	$530,520	$431,062	$495,820
Chassis only..	958,717	1,410,315	.....	.....
Car parts	76,804	77,298	1,084,791	828,499
Motorcycles ..	73,325	33,622	14,807	14,501
Motor parts..	16,487	12,421	3,289	3,120
Total.....	$1,753,050	$2,064,176	$1,533,949	$1,342,940

Country	Number	Value
Europe	13,108	$10,168,218
England	6,992	1,615,487
Germany	1,411	1,040,787
France	1,427	919,060
Russia	926	898,458
Sweden	324	253,588
Italy	342	241,466
Austria-Hungary	314	190,199
Denmark	263	176,947
Belgium	244	139,681
Norway	145	118,338
Netherlands	141	117,131
Finland	106	83,835
Portugal	59	65,545
Spain	83	64,758
Scotland	25	46,948
Switzerland	79	56,838
Other Europe	227	139,152
North America	5,190	6,280,042
Canada	4,377	5,445,052
Cuba	297	254,428
Mexico	155	239,166
South America	1,906	1,808,401
Argentine	940	963,586
Brazil	299	264,992
Asia	1,408	1,205,031
India	437	379,954
Oceania	4,833	4,338,977
Africa	1,861	1,591,294
Canary Islands	15	6,956
Total of all countries	28,806	$25,392,963

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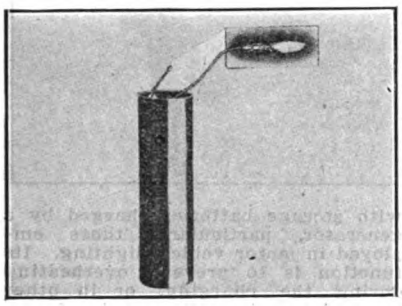
ACCESSORIES, SUPPLIES AND FITTINGS.

(Always Mention the Accessory and Garage Journal When Writing for Prices, Etc.)

PREST-O-TORCH.

Provides Convenient Soldering Equipment Using Acetylene.

The Prest-O-Torch, made by the Prest-O-Lite Company, Inc., Indianapolis, Ind., is a useful and practical



accessory for the motorist, as with it soldering and brazing may be accomplished without resorting to the gasoline torch, etc. One of the desirable features of the Prest-O-Torch is that it can be connected to the Prest-O-Lite tank. The torch is but two inches long and ½-inch in diameter. Its compactness makes for convenience in storing, as well as enables the user to reach places not easily accessible with the usual soldering equipment. The flame of the Prest-O-Torch is small, but it is intensely hot. It is easily controlled, as the supply is taken from the gas tank. It is particularly adaptable to the requirements of the motorist, as it can be used out of doors as well as in the garage.

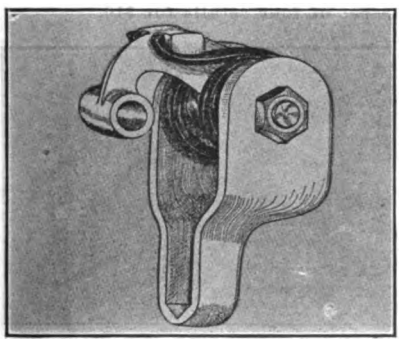
TREMO SHOCK ABSORBER.

Relies upon Torsional Spring to Obtain Resiliency.

The D. Henry Bonner Company, 96 Plympton street, Cambridge, Mass., maker of the well known Tremo exhaust operated horn for all types of gasoline motor vehicles, is marketing the Tremo shock absorber, which comes in sets of four or in pairs, as is desired by the purchaser.

The Tremo is the result of careful experimentation and tests and relies upon the principles of torsional spring action to obtain resiliency, quick action and durability. The maker states that this principle was adopted and applied to the Tremo because the strain comes with the draw of the metal and is not so apt to be affected by a sudden jar.

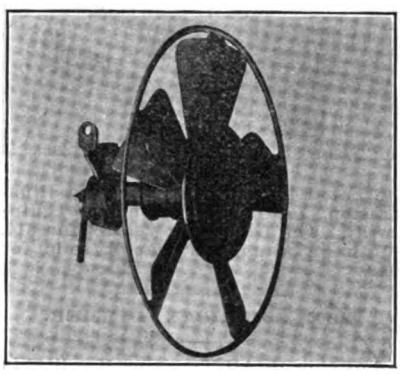
The construction of the Tremo not only permits of easy attachment, but the suspension is such that should an absorber spring break, the journey can be continued, as the car spring is effectually shackled. This permits of operating the machine until it is convenient to replace the spring, which is stated to be accomplished quickly and easily. The Tremo shock absorbers retail for $12.50 a set of four or $7 a pair. Further details will be supplied by the maker upon request.



BEARTONE FAN HORN.

A Mechanical Signal Operative Only When Motor Is Running.

The Oakes Company, Indianapolis, Ind., is marketing the Beartone signal, which is a combination fan and horn. The maker states that it embodies the same mechanical action as the high-grade motor driven horn, but requires no current or wire for operation. It has the same action as a hand horn, but is operated by pressing a button, and one of the features of the new signal is that the volume of sound may be varied by the pressure. A desirable quality of the signal is that the horn cannot be

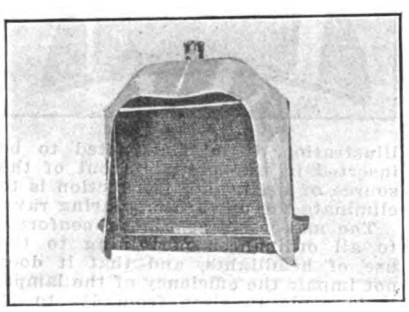


operated when the motor is not running, which prevents tampering.

IDEAL FORD RADIATOR.

Is Provided with a Wind Scoop to Prevent Overheating.

The Ideal Sheet Metal Works, 2807-2809 Michigan avenue, Chicago, Ill., specialist in radiators, has brought



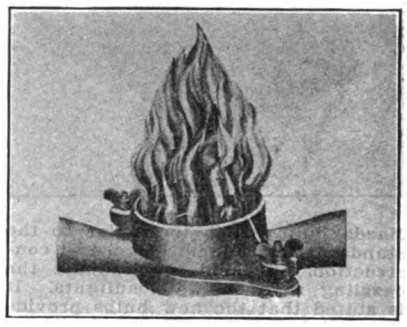
out a unique design for the model T Ford automobile. The radiator embodies the same principles as are used in the larger and standard types produced by this company, the water separating and circulating through every section. All bends are on a slant, preventing the accumulation of sediment.

The corners are rounded and all components carefully soldered all the way through. A feature of the design is the wind scoop, which is intended for those motors having a tendency to overheat. This wind scoop can be applied to any standard Ford radiator and lists for slightly extra.

MODERN VULCANIZER.

Moderately Priced and Adaptable to Tubes and Casings.

The Modern Specialty Company, Racine, Wis., is marketing the Modern vulcanizer, which is adaptable



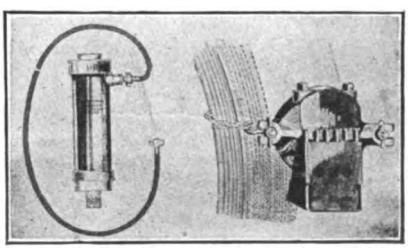
for repairing casings, as well as tubes. The heater is made in four sections and is so arranged that the flames cannot converge and overheat at any one point. The heat is conducted by centre bars, and it is stated that the aluminum surface heats uniformly and to the proper temperature. The Modern vulcanizer is equipped with a clamp arrangement for work on tubes and a chain for repairing tires. It sells for $2.75.

HANDY POWER PUMP.

National Motor Supply Company Producing a Small Design.

The National Motor Supply Company, Cleveland, O., has brought out a small production of its well known National telescope pump for small cars, such as the Ford, Metz, etc. It is also adaptable to cyclecars. The National is constructed similar to the internal combustion engine, having a cylinder of gray iron and a piston. The last named member is turned from a solid steel bar. The National pump is constructed with the same high-grade material and workmanship for which the products of this concern are noted, and will inflate a Ford tire to 60 pounds in two minutes. A pressure of 150 pounds is obtainable if desired. The pump screws into the spark plug opening in the cylinder, has 10 feet of extra heavy, fabric covered hose, with dial pressure gauge in line if desired.

The company is also marketing the G-Wiz steam vulcanizer, a small edition of the Wizard, and intended for tires and tubes 3½ inches and smaller. The water utilized is enclosed in a metal body and the supply does not require replenishing. The heat is automatically controlled, and the vulcanizer can be successfully employed by the most inexperienced. Complete instruction and supplies accompany each outfit, which weighs but two pounds. The price of the G-Wiz vulcanizer is within the reach of all.



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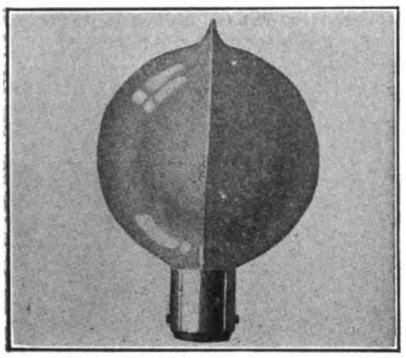
GUIDE NO-GLARE BULB.

Special Lamp Eliminating Dazzling Rays of Headlights.

The Guide Motor Lamp Manufacturing Company, Cleveland, O., is producing what is termed a No-Glare



Mazda bulb, which is similar to the standard Mazda lamp in general construction, but held to eliminate the dazzling rays of the headlights. It is stated that the new bulbs provide a parallel ray, as well as side illumination, but the upward rays are eliminated, preventing glaring. The new design can be utilized in any headlight equipped with an Ediswan socket or fittings, and is made for large machines as well as Ford cars.

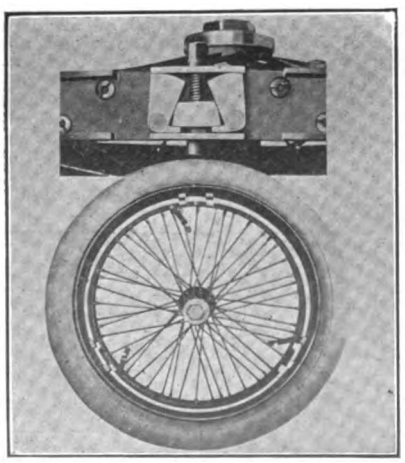
SPRANGER WIRE WHEEL.

Utilises Quick Detachable Rim in Place of Usual Hub.

The Spranger wire wheel is manufactured by the Spranger Rim & Wheel Company, Detroit, Mich., and the construction has several interesting features. The maker states that it is the only wheel made in which the spokes are laced directly to a steel channel felloe, and that the construction obtains extreme rigidity, as well as eliminates any chance of the spokes loosening at the nipples.

The Spranger wire wheel has a patented demountable rim, the feature of which is the positive locking device operated by the loosening of three screws. The only tool necessary to operate the rim is a brace, which is supplied with each equipment. The maker states that the Spranger is the only wire wheel marketed on which any standard quick detachable rim can be employed without changing the construction of the wheel itself.

It is pointed out that the air space between the felloe and the rim assists materially in carrying off the heat from the tires and that, in using a demountable rim in place of a hub, a saving in weight is obtained. For a spare it is only necessary to carry

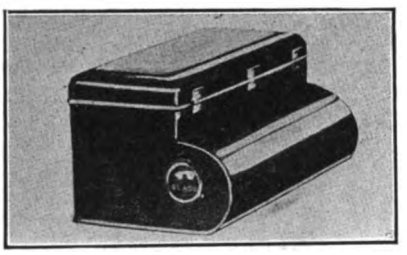


an extra rim, a further saving in weight. Lightness is one of the qualities of the construction emphasized. The factory began operations with a capacity of 75 sets a day, which production will be increased to meet the requirements of the trade.

GLOBE COMBINATION BOX.

Permits Carrying and Locking up Gas Tank, Batteries and Tools.

The Globe Machine & Stamping Company, Cleveland, O., is manufacturing what is termed the style B Globe box. It is a combination affair in that provision is made to carry the type B Prest-O-Lite gas tank, batteries and tools. The box is made compact to conform to narrow running boards, and is particularly adaptable to those boards setting out some distance from the chassis frame. The valve of the tank is protected by a canopy, preventing the clothes from catching and tearing, and the gauge is easily read, as may

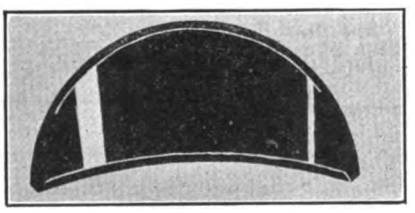


be noted by the accompanying illustration. A lock is standard equipment. The Globe box retails for $10. With an aluminum mat it sells for $12.

THE AMERICAN DIMMER.

Adaptable to All Types of Headlights and Eliminates Glaring.

The American Mantel Company, 910-936 Central avenue, Hamilton, O., is marketing a headlight dimmer for automobiles and motorcycles. As may be noted by the accompanying



illustration, it is constructed to be inserted in the lamp in front of the source of light, and its function is to eliminate the upward or glaring rays.

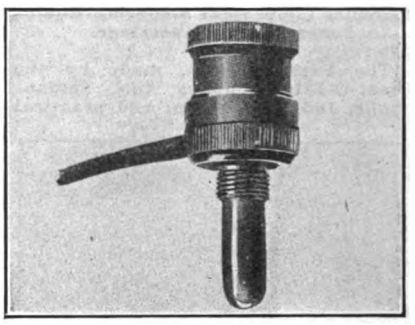
The maker states that it conforms to all ordinances pertaining to the use of headlights, and that it does not impair the efficiency of the lamps. It is made in sizes from 6½ to 11 inches and comes in black and aluminum finishes, or in bronze. The American headlight dimmer retails for 75 cents.

Ed. Note—Manufacturers of motor starters, electrical, mechanical, etc., are invited to forward illustrations and descriptive matter of their products applicable to the used motor vehicle. If cuts are furnished, they should not exceed 2 1/16 inches in width. Devices for making easy the starting of Ford and other small cars are particularly desirable at this season of the year by owners. Give street address when forwarding.

ANDERSON REGULATOR.

Controls Charging of Battery, Preventing Overheating.

The Economy Electric Company, Ambridge, Penn., is marketing the Anderson regulator, a device utilized



with storage batteries charged by a generator, particularly those employed in motor vehicle lighting. Its function is to prevent overheating during the charging, or in other words, it regulates the supply of current.

The maker states that the Anderson will protect the battery from overcharging, as it practically cuts out the current supply when the cells are fully charged. The device is applicable to any standard battery, is very compact, and the maker states that its advantages have been demonstrated in practical tests and not theoretically. It sells for $3.50.

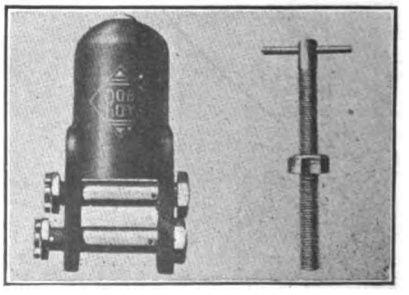
ROB-ROY SHOCK ABSORBER.

Employs Spring Enclosed in Dust Proof Metal Cylinder.

The Rob-Roy shock absorbers are produced for the model T Ford car by the Rob-Roy Manufacturing Company, 259 Willis avenue, East, Detroit, Mich. The effects of vibration and shock are compensated for by a heavy spring enclosed in a dust proof iron cylinder. The spring is retained in the centre of the cylinder by the spring seat, and it is stated that it does not contact with the walls, thereby eliminating friction. The cylinder is attached to the car by two heavy spring shackles and the shackle and cylinder are a unit construction.

High-grade material and workmanship are qualities emphasized in the construction by the maker. The spring is of oil tempered steel and the bolts are hardened and ground. They are lubricated by dust proof oilers and grooved to insure proper lubrication of the bearing surfaces. The cylinder enclosing the spring is black enamel, baked on.

The company states that a set can be installed in 30 minutes by the motorist and that the only tools necessary are a wrench and the special tool supplied with each equipment. It is claimed that it is not necessary to displace the wheels, hangers, tie-rod or other components of the car. A set of four retails for $10.



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DRESSEL SIDE LAMP.

Electric Light Having Ratchet Bracket and Flat Socket.

Equipping used cars with electric lighting involves the employment of side lamps if the headlights are not

provided with dual bulbs. The Dressel Railway Lamp Works, 3860-3880 Park avenue, New York City, specialist in lamps, is marketing a side light which is equipped with a ratchet bracket and flat socket, a construction adapting it to easy installation.

Its dimensions are: Height, 5½ inches; depth, six. Option is given on an Ediswan or Edison socket, and either a tungsten or carbon lamp of four candlepower and any voltage may be utilized. The reflector is of highly polished aluminum, and the glass is a five-inch white optical lens. The finish is black enamel. The maker calls attention to the simplicity and strength of the design and states that it is very economical of current. The Dressel Railway Lamp Works produces a variety of lamps for motor vehicles and issues a complete catalogue of its product.

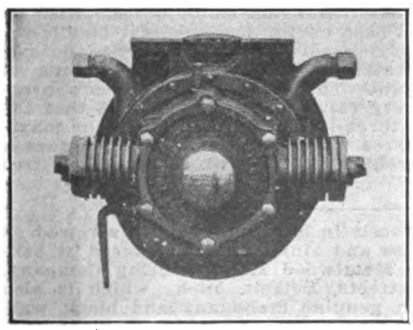
THURBER ROTARY DEVICE.

Combines Starter and Pump and Is Employed for Inflating Tires.

The Northern Engineering Works, Detroit, Mich., is manufacturing the Thurber rotary starter, which is adaptable to any motor vehicle, and it operates on the compressed air principle. Mounted at the front of the chassis is the combined rotary engine and air pump, a unit construction, and the starter proper obtains its energy with a small amount of air by means of reduction gearing.

The starting device operates on the well known rotary principle, and is actuated by placing the foot on the starter button mounted on the footboard of the car. This allows air from a tank to flow to the rotary construction, which includes an automatic clutch, which comes into operation when energy is applied to the engine shaft. Upon the motor starting all parts of the starter become inactive, with the exception of a central shaft, which is mounted on ball bearings.

The supply of air in the tank is

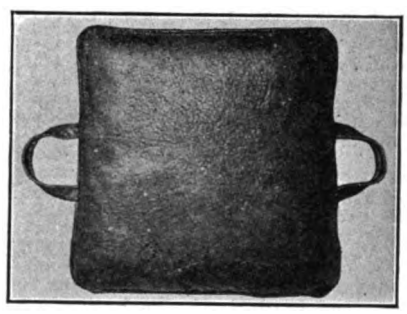


maintained by a pump and a dash gauge indicates the amount on hand. The pump is controlled by a pedal and the supply is renewed as required. Provision is made for utilizing the air for inflating tires, and the maker states that the Thurber double-acting valve absolutely prevents loss of air, assuring positive starting of the motor.

ARSENAL TONNEAU CUSHION.

Constructed to Eliminate Fatigue Experienced on Long Trips.

The Arsenal Varnish Company, Rock Island, Ill., is manufacturing the Arsenal tonneau cushion, which is designed to be utilized as a support to the small of the back, thereby preventing fatigue when the car is traversing rough roads or long tours are undertaken. They are also serviceable in the driver's seat. The tonneau cushions are made in dark green, high-grade upholstery leather, and the maker states that they can be utilized in the home, as well as in the car, as they are attractive in ap-



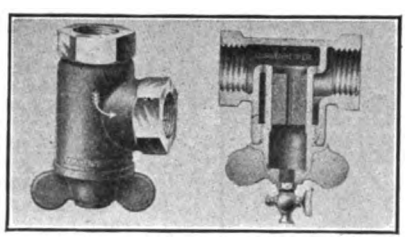
pearance The cushion retails for $3.50. A feature of the tonneau cushion is that it is easily cleaned, and is durable.

LUNKENHEIMER STRAINER.

Has Removable Gauze Filter, Easily Accessible and Displaced.

The Lunkenheimer Company, Cincinnati, O., maker of motor vehicle specialties, produces a number of gasoline strainers, two types of which are shown in the accompanying illustration. That at the right is a longitudinal view of the horizontal filter. This type is for service on motor vehicles and motor boats and is incorporated in the fuel line between the tank and the carburetor.

The device is provided with a

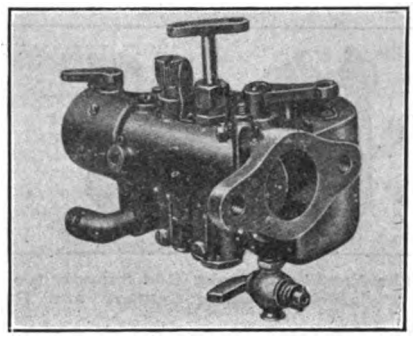


strainer, which prevents water or foreign elements reaching the carburetor, as these materials are collected by the large trap or chamber in the bottom of the filter. One of the desirable qualities of the Lunkenheimer is that, in addition to the usual petcock, means are provided for easily cleaning the strainer proper. A wing shaped cap screws into the main body of the filter, permitting the displacement of the strainer when desired. The Lunkenheimer strainer comes without the petcock, which is furnished upon order. The illustration at the left is that of the angle type strainer. The prices vary according to the size, etc.

MARVEL CARBURETOR.

Model N Is for Ford and Can Be Installed Easily.

The Marvel Carburetor Company, Flint, Mich., whose product is utilized on several well known motor



vehicles, is marketing a carburetor especially constructed for the model T Ford motor. The Marvel is very compact, and one of its qualities is that it can be installed without any alterations. The pipe for utilizing the heat of the exhaust can also be employed.

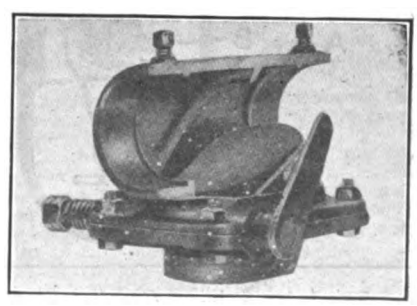
A feature of the Marvel is the simplicity of its construction and the provision made for controlling the supply of air. The air adjustment is conveniently located on the top of the carburetor, and the usual valve for shutting off the air supply when starting is incorporated. This is operated by a rod extending to the front of the radiator. The fuel needle valve is so arranged that the Ford dash control rod is utilized. As previously stated, the Marvel may be installed without any changes. Economy of fuel, flexibility and ease of starting are features of the construction emphasized. The carburetor is known as the model N and operates on the same principle as the well known model E. The Marvel Ford carburetor retails for $8.

G-P MUFFLER CUT-OUT.

Made in Two Sections and Is Attached Without Flanges.

The G-P muffler cut-out, manufactured by the G. Piel Company, 13th street and Boulevard, Long Island City, N. Y., is made in two sections, and the maker states that the construction of the valve tongue and its seat is such, that when the cut-out is open, the line to the muffler is completely shut off. Also, that a correct angle is obtained for deflecting the exhaust gases freely without creating any back pressure.

One of the qualities of the construction emphasized is that when the cut-out is closed the pressure of the gases cannot open it. It is also stated that carbon or soot will not collect on the seat. An advantage claimed in the cut-out is that the area of the sections being greater than any of those of the exhaust line, the volume of sound obtained is intensified. Sizes up to and including 1¾-inch retail for $4.50; others are proportional.



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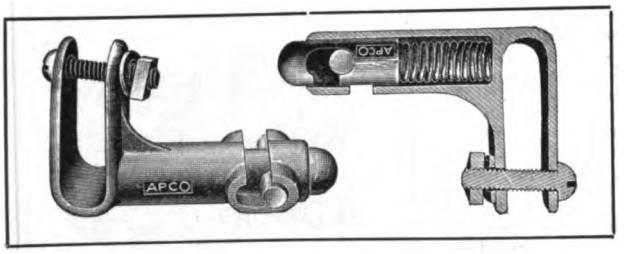
APCO BRAKE ROD SUPPORTS.

Auto Parts Company Brings Out New Design for Ford Car Having Self-Lubricating Feature.

The Auto Parts Company, Providence, R. I., whose trade name Apco is well known to the trade and owners of the model T Ford car, announces a new brake rod support for the Ford machine. It replaces the original supports, prevents rattling and breakage, and reduces wear on the clevis pins to the minimum.



The New Apco Brake Rod Support for Ford Cars, Having Self-Lubricating Feature and Easily Attached.

One of the features of the Apco support is the ease with which it may be fitted by the owner. As may be noted by the accompanying illustrations, a plug is contained within the support proper, and is not removed when fitting the device to the radius rods. This plug is held in proper contact with the brake rod by a spring, and the space back of the plug is packed with grease, which finds its way through a hole in the plug to the friction surfaces. The construction eliminates wear on the parts and insures easy movement of the brake rod in service.

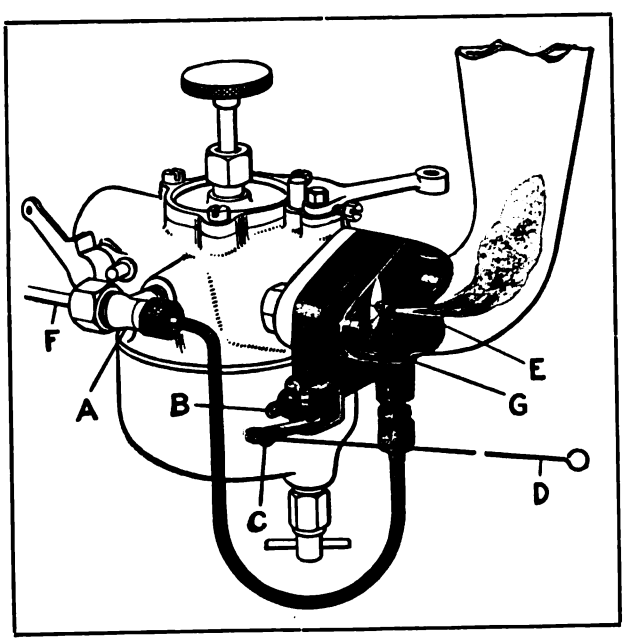
The Apco brake rod supports are made of semi-steel and sheradized to prevent rusting. They are easily attached to the radius rod by removing the threaded bolt and slipping them into place. As is obvious from the illustration, the brake rod is fitted by moving back the plug member. The Apco steel brake rod supports retail for 50 cents and the bronze for $1. The Auto Parts Company has reduced its prices on a number of specialties for the Ford car, and the trade is invited to write for the revised quotations.

THE INJEX PRIMER.

Sprays Gasoline from the Supply Pipe Directly into the Intake Pipe or Manifold.

A very timely device, now that cold weather is here, is the Injex primer, offered to the trade by the Reflex Ignition Company, 211 High avenue, Cleveland, O.

It will be seen, by reference to the illustration which shows the flange type, that connection with the gasoline supply pipe is made through a T marked A, located at the carburetor. From this point a curved pipe runs to the spray nozzle E, located directly in the intake pipe in the flange type, or in the intake manifold in the manifold type. The lever C is operated by a pull wire, terminating in a ring D, which may be brought out either at the radiator or dash. For starting, this ring is pulled, actuating the plunger B, drawing a charge of gasoline into the primer cylinder, this charge being forced through the spray nozzle, on the release of the ring, by the action of a strong spring behind the plunger.



The Injex Primer, Showing Flange Installation.

The primer is manufactured in two types, the flange form being illustrated, which is built in three sizes, for 1⅛, 1¼ and 1½-inch carburetors. The manifold type is built in one size only. The flange primer is installed, as shown, between the carburetor and the intake pipe, and the manifold style may be placed at any convenient point on the intake manifold.

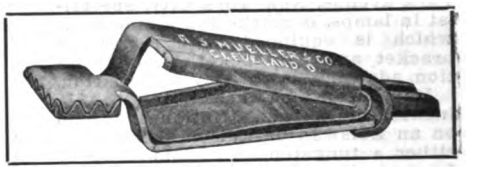
The ease of installation and the low price of $2.50 should make this a very fast selling accessory.

UNIVERSAL TEST CLIPS.

A Practical Time and Labor Saving Device for Charging Batteries Singly or in Series.

The very general use of electric lighting and motor starting systems provides the garage an opportunity to increase its profits by charging batteries. Ordinarily when a battery is placed on the charging table, more or less time is consumed in removing the terminals and connecting the leads from the source of current supply.

R. S. Mueller & Co., 431 High avenue, southeast, Cleveland, O., is manufacturing the Universal test clip shown in the accompanying illustration. With this device considerable time and labor is saved, as the jaws of the clip have a wide spread and the clip can be instantly attached to the battery terminals.



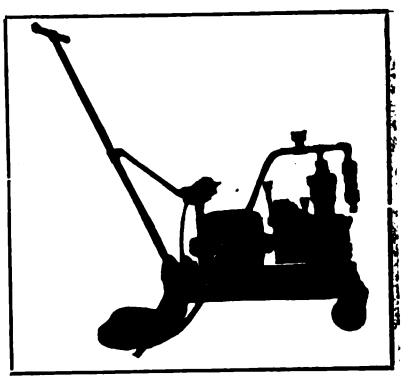
Mueller's Universal Test Clip.

The clips will carry 15 amperes without heating, are made of copper and are indestructible. The design provides means for charging in series, as a number of clips can be wired. The Universal test clip sells for 15 cents in single lots, with a suitable reduction in price in quantity.

VELOS PORTABLE COMPRESSOR.

A Complete Electric Equipment Mounted on a Metal Base and Having an Efficient Pump.

There are several uses to which the compressor can be put in the garage, repair shop and service station. For the garage it is a convenience for the customers, as well as employees, as with it a tire can be quickly and easily inflated at a small cost of upkeep. Where the customer has tire changes made, a compressor affords a garage an opportunity to add materially to its profits. The equipment is also of service in cleaning upholstery, and the air is useful in the repair shop.



Velos Electric Garage Compressor.

The Philadelphia Timer & Machine Company, 51st street and Lancaster avenue, Philadelphia, Penn., specializes in compressors, and the equipment shown in the accompanying illustration is the Velos, a portable electrical outfit. The compressor and motor are mounted on a three-wheel metal base having a convenient handle for moving the apparatus about the building. The hose is of the best grade material and is sufficiently long to meet all requirements. The equipment includes a pressure gauge and safety valve. The maker states that the Velos will inflate a three-inch tire from flat to the maximum pressure in three minutes. The company issues a catalogue of its product, which will be furnished free upon request.

Bent steering wheels in hard maple, with screwed on spiders in both brass and aluminum, are offered at bargain prices by the Metalwood Manufacturing Company, Leib and Wright streets, Detroit, Mich., which is also prepared to furnish genuine mahogany and black walnut wheels with concealed rims and inserted spider.

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NEW CONCERNS AND BUSINESS CHANGES.

AGENCIES AND DEALERS.

E. Briggs, Sacramento, Cal., has opened a tire and accessory business in the garage of the Casey Company on M street.

The Fayetteville Auto Company, Fayetteville, Tenn., is the name of a new concern doing business there. Ford and Dodge cars are carried.

The Morgan & Marshall Tire Company, East Liverpool, O., has opened a branch at 36 16th street, Wheeling, W. Va.

The Panama Tire & Rubber Company, Newark, N. J., located at 231 Halsey street, has taken the agency for Power Gas, a new product, which can be mixed with gasoline, and is said to be free from carbon producing elements.

The Auto Supply Company, Milwaukee, Wis., has opened a branch store for Ford accessories exclusively at 152 Eighth street.

The Tire Shop, Milwaukee, Wis., is the name of a new company conducting a tire business at 88 Biddle street.

The Lewis Automobile Company, St. Louis, Mo., has opened a new showroom at the corner of Walton and Washington avenues.

The Simplex Tire Repair Company, Omaha, Neb., has been formed and opened a store and tire repairing department at 2110 Farnum street.

The W. G. Hirsig Company, Nashville, Tenn., has opened a large automobile supply house at Ninth avenue and Broadway. The company carries a full line of supplies and accessories.

The Broad Oak Automobile Company, Columbus, O., has opened a display room at 172 North Fourth street. The company handles the Pierce-Arrow, Chalmers and Saxon cars.

The McClure Tire & Rubber Company, Columbus, O., has taken the agency for Keaton black tread tires.

M. W. Weil, Toledo, O., has opened a Stewart-Warner service depot at 305 10th street.

The Front-Market Motor Supply Company, Harrisburg, Penn., has opened for business at Front and Market streets. A complete line of supplies is carried.

The Chew-Goucher Company, Washington, D. C., has opened a tire and accessory store at 1620 14th street.

The Hardman Tire & Rubber Company, Jacksonville, Fla., has opened a salesroom at 821 Miami street.

The Everett-Thompson Company, Indianapolis, has been formed to act as distributor of Dayton airless and Dayton pneumatic tires. The company is located at 5 West North street.

L. W. Worsham, Houston, Tex., has opened an automobile store at 1605 Main street and will handle the Chalmers car.

The Vixen Motor Car Company, Chicago, Ill., has opened offices and salesrooms at 2007 Michigan avenue. The Vixen light car is handled.

The J. B. Burwell Supply Company, Oklahoma City, Okla., has opened an automobile supply house at 323 North Broadway.

The Ohio Electric Agency, Louisville, Ky., has opened a salesroom and service station at 602 Fourth street.

L. T. Adams, Taft, Cal., has opened a first-class automobile accessory store on Fourth street. He handles the Lee tire.

Wesley House, Wheeling, W. Va., has opened a bicycle and motorcycle store on Market street. A complete line of accessories and supplies is carried.

Will Austin, Lawton, Okla., has opened a motorcycle shop at 407 Fourth street. He is agent for the Flying Merkel motorcycle.

GARAGES AND REPAIR SHOPS.

B. A. Krandall, Seattle, Wash., has opened a completely equipped service shop and garage at Fifth avenue and Wall street.

C. A. Nelson, Haverhill, Mass., has opened a garage at 212 Main street.

The Blackwell Garage & Auto Supply Company, Blackwell, Okla., composed of Messrs. Clark and Nelson, has opened a garage on East Blackwell avenue.

Henry Blomgren, North Conway, N. H., has opened a garage and repair shop.

The White House Auto Repair Company, Penn Yan, N. Y., has started business in the plant of the Penn Yan Flexible Conduit Company.

The Island Tire Repair Company, Wheeling, W. Va., has started business at 8 South Huron street.

H. Foster, St. Louis, Mo., and G. Hueppner, formerly with the Overland Company, have opened a modern repair shop at 1023 South Vandeventer avenue.

Hubbard's Garage, Bakersfield, Cal., opened recently at 23rd street. A first-class repair shop is conducted.

Elmer Shear, Thawville, Ill., has opened a motorcycle garage.

The Hamilton Garage Machine Company, Stroudsburg, Penn., has commenced business at Sand Hill, in which W. Green and M. Allegar are interested.

Clyde Hoskins, Edwardsville, Ill., operating a welding shop at North Main street, has purchased a half interest in the Broadway Garage and has removed his welding business to that address.

G. H. Falick, Wichita, Kan., has sold his automobile supply business to the Hocakday Auto Supply Company.

A. Jordan, Danielson, Conn., will open a first-class garage and repair shop.

The Bering Tire & Rubber Company, Houston, Tex., has opened a vulcanizing plant.

J. H. Klingbeil, Strawberry, Ia., has opened an automobile tire repair shop in the Blake house, which is being remodelled.

The Independent Auto Repair Shop, Fort Dodge, Ia., has opened for business in the Lanforsweller building.

The St. Louis Auto Inn, St. Louis, Mo., has opened a garage and repair shop at Jefferson street. F. Schwenk and H. E. Schillings are interested in the project.

Jesse Adamson, Chicago, Ill., and Charles Manning have opened an automobile repair shop at 3021 Michigan avenue.

A. S. Benson, Monroe, Wash., has opened the Monroe Garage.

M. S. Clover, Dayton, O., has opened a tire repairing shop at 342 South Main street.

Paul Dalzell, Youngstown, O., has opened a tire supply shop and vulcanizing plant at 9 Chestnut street.

The Universal Motor Car Company, Harrisburg, Penn., has opened an up-to-date garage at 1826 Wood avenue.

Daniel Meehan, Wilkes Barre, Penn., has opened an up-to-date garage at 38 Terrace street. It is of fireproof construction.

S. W. Simpson, Grand Rapids, Mich., has opened a service station.

Mason J. Foft, Kingsley, Ia., has opened a garage.

The Electric Service Company, Indianapolis, has opened a service station at Walnut street.

The Manayunk Empire Garage, Roxborough, Penn., has been opened by Joseph D. Chiorano.

The Auto Service Company, Salisbury, N. C., has opened a garage and repair shop. The company is located at 115 East Council street.

The Raymond Garage, Raymond, Kan., has opened a garage and repair shop. N. J. P. Sendergard is manager.

TRANSFERS.

The Crescent Motor Company, Washington, D. C., is now owned entirely by E. S. Harnden, who recently bought out the half interest of C. M. Dow. The business is located at 1612 14th street, N. W. The company handles the Hupmobile car.

The Missoula Motor Car Company, Missoula, Mo., has been formed and has taken over the business of the Missoula Auto Company at East Main street. The new company will conduct a general automobile business.

Frank C. Perry, Jackson, Mich., has purchased the Briscoe Motor Sales Company and will operate the business. He was formerly with the Cutting Motor Car Company.

Herbert H. Downing, Littleton, N. H., has purchased the interest of his partner in the garage business at Apthorp and will conduct it alone.

M. J. Harman, Milo, Me., has purchased the garage business of W. N. Freeze.

R. B. Cutting, Lyndonville, Vt., has sold his garage to E. C. Monroe.

The Liniger Automobile Company, Omaha, Neb., has bought J. A. McIntyre's interest in the McIntyre Automobile Company.

The Auto Garage, Chillicothe, O., has been purchased by Homer S. Kay and Hugh M. Lynch. Ford cars are handled.

The Hoopeston Auto Company, Hoopeston, Ill., has been bought by B. George Prebe and Frank Ham.

The Hedrick Auto Company, Hedrick, Ia., has been purchased by O. E. Tjorne and he has combined it with his garage.

R. Adrian, Jefferson, Ia., has sold his garage on South Cherry street to August Greiner.

Arthur Brothers Auto Garage, Spirit Lake, Ia., has been purchased by W. W. Stone and William Cramer.

B. R. Mills, Woodbine, Ia., has sold his automobile business and garage to F. C. Krueger.

George E. King, Atchison, Kan., has purchased the business of the Smith Auto Supply Company and has removed the stock to his garage.

J. F. Douthet, Columbia, Ala., has sold his garage business to J. H. Brazeale and C. C. Copham.

Crown & Waldon, Des Moines, Ia., has sold its machine and automobile repair shop to James Gunn.

Kelfer Odum, Lebanon, Tenn., has sold his interest in the City Garage to L. D. Ramsey.

L. A. Mabbott, Palm Beach, Fla., has purchased the motorcycle business of Teder & Hill.

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. NOVEMBER, 1914. NO. 7.

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Publisher of
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Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

SHOW NUMBERS.

As in the past, the show numbers of the Accessory and Garage Journal will be replete with valuable data for the jobber, dealer, garageman and repairman. The December issue will be the advance number of the New York show and will contain detailed information of the new cars, as well as of parts, material, equipment and supplies, many of which will be exhibited for the first time. The January and February issues will be the review numbers of the New York show and these will be of particular interest to the trade inasmuch as they will contain complete information on the Chicago exhibits. One of the many features of the show numbers will be detailed specifications, prices, etc., of all gasoline and electric pleasure and commercial vehicles.

INCREASED PROFITS.

There is an excellent opportunity for the garage to add materially to its profits by specializing in the care of storage batteries. With electric lighting and motor starting standard equipment on the new models, and even on the popular-priced motor vehicles, the services of an expert electrician are not necessarily required when the system develops troubles due to the owner not complying with the instructions of the maker of the battery. Carelessness upon the part of the motorist is largely responsible for battery troubles. Generally a battery giving trouble can be restored to its maximum efficiency by proper charging, and as apparatus adaptable to lighting and starting batteries is not expensive, its installation not only obtains revenue for the garage, but convenience and service for the customer. Many owners of used motor vehicles rely upon the storage battery as a source of current supply for ignition, and this trade could be easily diverted to the garage.

REPAIR SHOP EQUIPMENT.

The equipping of the repair shop requires careful consideration upon the part of the proprietor, especially the selection of tools and machinery. In these days of keen competition, profit is made possible only with the installation of modern time and labor saving devices. While their first cost is more than that of ordinary equipment, they are well worth the increased expenditure and are soon paid for in the profits derived. Motorists are fast learning to analyze the costs of maintaining the motor vehicle insofar as the repair shop is concerned.

VALUE OF SHOWS.

The local automobile show is of distinct value to the dealer, and even the sub-agent will find it to his advantage to be present at the exhibit, as many of his future prospects are likely to be in attendance. In connection with these local shows it is interesting to note that the prospect desires specific information as to the cost of maintenance, fuel economy and practicability of equipment instead of speed. The day is past when a salesman can utilize speed as a selling point in his talk.

STOCKING WINTER SUPPLIES.

Now is the season for the dealer, garageman and repairman to give consideration to winter supplies and equipment. The time is not far distant when the owner will desire a lubricant adapted to his motor in cold weather, anti-freezing solutions, tire chains, etc. In these days the motorist generally desires his orders promptly attended to, and the progressive dealer anticipates these wants.

That there is to be an increasing demand for practical devices eliminating the dangerous glare of headlights, is indicated in the agitation against the use of powerful searchlights upon highways.

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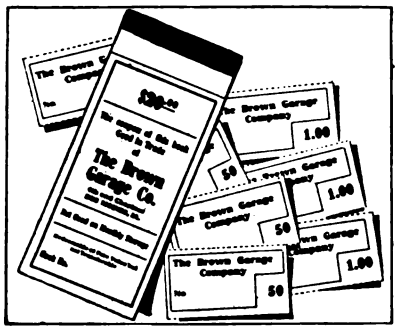
SIMPLE AND EFFECTIVE GARAGE SYSTEM.

How the Brown Garage, Des Moines, Ia., Having a Capacity of 300 Cars, Eliminates Complications and Cares for All Types of Machines,

THE system employed in the Brown garage, Des Moines, Ia., is worthy of description because of its simplicity and manifest effectiveness. Much thought has evidently been spent in eliminating those complications which often make the best systems impracticable in the hands of the ordinary employee.



Coupon Book Sold at a Discount by the Brown Garage.

The garage referred to specializes in service rather than repair work and in its new building, recently opened, provision is made for the care of all types of motor vehicle, commercial, gasoline and electric. The arrangement of space for these purposes is well thought out, and the equipment is of the best. Regular customers are handled on a monthly storage basis, with a schedule of rates for various forms of service, supplies being separately charged, and transients are cared for at fair rates.

Assigning Space.

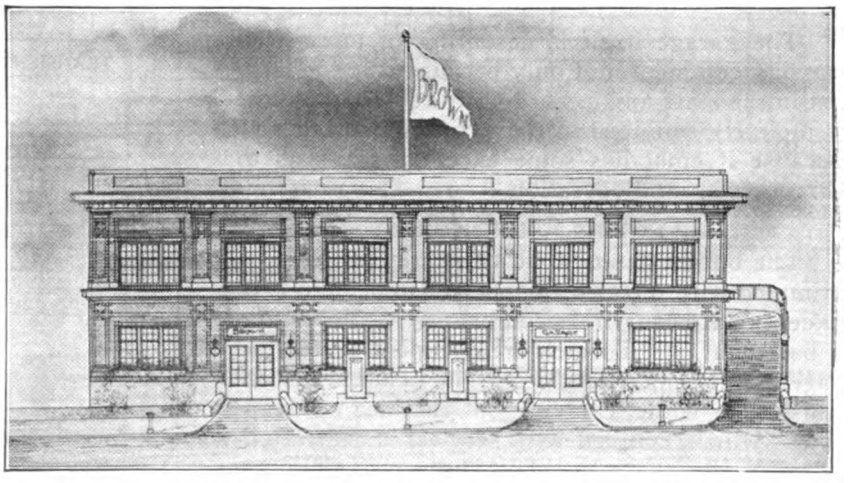
When a car comes in, whether for monthly or transient service, a space is assigned to it and a ticket is made out showing the transaction. If on the monthly basis, the card bears the name and license number of the car, the number of the space assigned, the owner's name, the month, and the rate which is payable in advance. This is signed by the owner, and kept by him. On the back, blanks are provided for use in case he desires to send some one for his car, in which event he fills out and signs the form which is an order for delivery on a specified date, upon presentation of which the garage will deliver the machine to the person designated, and will retain the ticket which has also been signed by the employee making the delivery, returning it to the owner in person. The value of this system in protecting customers from unauthorized use of their cars, without in any way imposing inconvenient restrictions, will be obvious and is an important feature of the system.

The ticket made out for transient service carries the license number, and provides space for the entry of the details and the price of supplies furnished and work done, as well as for the special instructions of the owner to which his signature is attached. The top of the card bearing the same serial number as the body of the ticket, is detached and given to the person bringing the car in, as a means of identification. While the monthly rate for full service covers all charges that are likely to be made, whether this or any of the several alternative rates are the basis of the transaction, a form is used for the entry of the separate items. That employed for electric vehicles is reproduced herewith, the upper half of the illustration being the face of the card, which is 10½ by 7½ inches, and the lower part showing the back. It will be seen that space is provided for a daily record of the details of service, full information being given both as a basis for billing and as a record of the condition and use of the car. The form on the back deals with the conditions of charging, and supplies valuable data as to the battery. Unless the monthly storage rate applies, the customer is billed for current, etc., directly from this record, the card itself being filed for reference.

Use Coupon Books.

For the payment of all items except monthly service, a $20 coupon book, sold at a discount of 2½ per cent. of its face value, may be used. Besides the saving involved, this feature is of value for owners who intrust their garage transactions to the chauffeur, yet hesitate to provide him with cash sufficient for the payment of these charges for any considerable time, or in any large amount.

While repair work is subordinated to service, a considerable volume necessarily comes in, and provision is made in the system for this branch of the business. The nature of the work is entered on a shop order, together with the owner's name and the make and license number of the car, the entry being signed by the person order-



The $100,000 Brown Garage, Des Moines, Ia.

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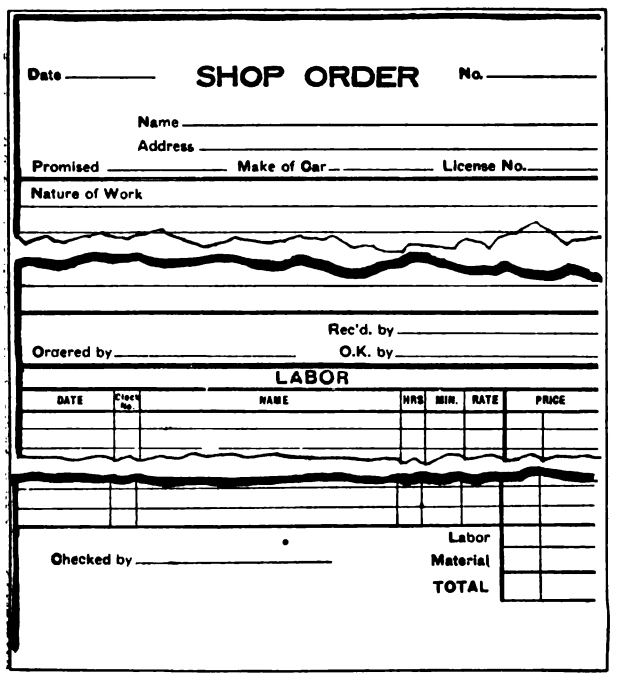

Date _____ SHOP ORDER No. _____

Name _____

Address _____

Promised _____ Make of Car _____ License No. _____

Nature of Work

Rec'd. by _____

Ordered by _____ O.K. by _____

LABOR

DATE	Check No.	NAME	HRS.	MIN.	RATE	PRICE
					Labor	
					Material	
					TOTAL	

Checked by _____

Shop Order Used for Repair Work in the Brown Garage.

ing the job, and the employee by whom it is taken. The space below is arranged for the record of the hours and the price of labor and, on the back, are carried the material items, and any special comment or memorandum not provided for in the other columns. This order, with the necessary copies for the various departments involved, takes full care of the job and provides the complete record necessary for filing and billing. Like all the other forms employed, it is both simple and comprehensive.

Rates for Electrics.

The rates a month in effect for electrics are as follows:

Full live service—according to distance..	$25.00 to $30.00
Full service less delivery.....	15.00
Live storage, with washing and polishing	10.00
Dead storage, with no attention to batteries	5.00
Normal battery charge.....	1.25
Partial and overcharge, a kilowatt.....	.06

The garage itself is deserving of more than passing comment, not only because it is the largest in the state and, according to report, the most completely equipped in the entire West, but also because it embodies some excellent ideas as to arrangement and operation.

Concrete Construction.

The building is of solid concrete construction trimmed with terra cotta and sandstone, and is of exceptional beauty. It comprises two floors and a basement, all of which are occupied by the garage and its appurtenances. The inside walls are finished in white, carrying out the idea of cleanliness which, coupled with service, is the watchword of the business. The absence of unnecessary piers, together with the carefully planned lighting arrangement, adds greatly to the spacious appearance of the floors, as well as facilitating the movement of cars. A novelty in garage construction, copied perhaps from the old time carriage factory, is the use of an incline outside the building for running cars to the second floor, avoiding the necessity of devoting valuable interior space to large elevators.

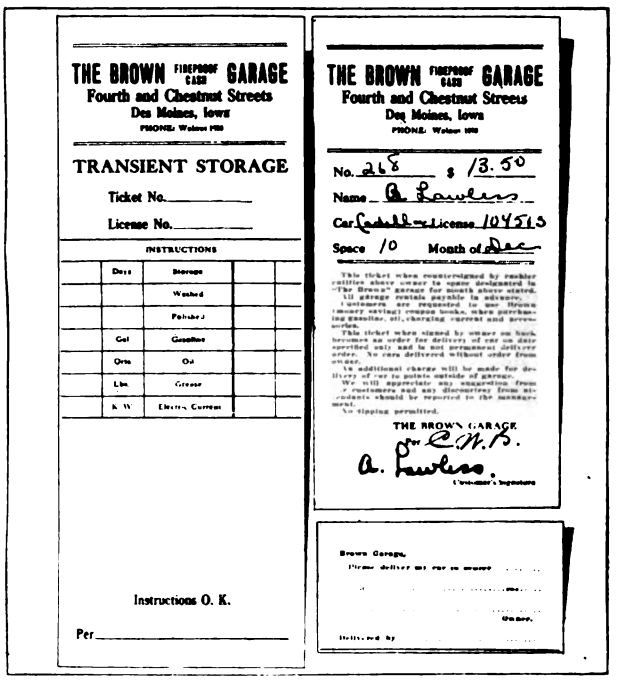
Store Commercial Cars.

The basement is devoted to commercial vehicles, the first floor is especially equipped for handling electrics, and gasoline cars are accommodated on the second floor. For charging, self-regulating devices are used, avoiding danger of injury to storage batteries, and gasoline, air and oil are supplied by the best systems which it was possible to install. Much care was used in placing the various taps and connections, to insure the greatest accessibility and convenience, and the resulting service is said to be the most complete with which a garage was ever equipped. Reasonable prices are charged for gasoline, oil and supplies; air, use of telephone, etc., are free, and comfortable rest rooms are provided for the accommodation of tourists and other patrons, the latter convenience being much appreciated by the ladies. There is also a well equipped waiting room for chauffeurs.

Adequate Facilities.

The accommodations are ample for 300 cars without crowding, and all the facilities are adequate for the care of the full number, or even more in an emergency. The spaciousness and capacity of the building are shown by the fact that its formal opening was in the form of a show, conducted by agents representing 35 makes of cars, all of which were exhibited on the main floor. Several trucks were shown in the basement and a considerable number of accessories on the second floor. The opening was an important event in local automobile circles, and was well attended.

The garage is located at Fourth and Chestnut streets, opposite the Brown hotel and next door to the Y. M. C. A. Its cost is stated as $100.000.


THE BROWN FIREPROOF CABS GARAGE
Fourth and Chestnut Streets
Des Moines, Iowa
PHONE: Walnut 1159

TRANSIENT STORAGE

Ticket No. _____

License No. _____

INSTRUCTIONS

	Days	Storage		
		Washed		
		Polished		
	Gal	Gasoline		
	Qts	Oil		
	Lbs	Grease		
	K. W.	Electric Current		

Instructions O. K.

Per _____

THE BROWN FIREPROOF CABS GARAGE
Fourth and Chestnut Streets
Des Moines, Iowa
PHONE: Walnut 1159

No. 268 $ 13.50

Name A. Fawless

Car Cadillac License 104515

Space 10 Month of Dec

THE BROWN GARAGE

per C.M.B.

A. Fawless

Brown Garage,

Please deliver my car to ..... at .....

.....

Delivered by .....

Transient and Monthly Storage Tickets Used by the Brown Garage.

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NEW EIGHT-CYLINDER CAR.

King Motor Car Company Announces That Model Will Be Ready for the New York Show.

Announcement is made, by the King Motor Car Company, Detroit, Mich., of a popular-priced, eight-cylinder car. The new model is to be fitted with a 40-45 horsepower motor and the equipment will be most complete, including electric lighting and motor starting. The new machine will be exhibited at the New York and Chicago shows, and deliveries are expected to be made after Dec. 30.

MULTIBESTOS BRAKE LINING.

A Material That Originated the Slogan, "The Grip That Grips."

Multibestos brake lining is the result of investigation and experiment and has been proved through many exhaustive tests. Not satisfied with the production of a merely good lining, nor willing to base its reputation on past history, the manufacturer of Multibestos has continually applied engineering tests calculated to show any point of weakness, or any opportunity for improvement. The requirements of brake linings are so varied and exacting and the failure of the braking system so often disastrous, that too much care cannot be exercised in the production of the materials used in the friction surfaces, and the dependable qualities of any lining are of the highest importance.

Realizing that the result of its investigations will be of interest, the Standard Woven Fabric Company, Framingham, Mass., the manufacturer of Multibestos, has prepared signed reports of the tests applied by its engineers, and will gladly send copies free on request.

SPACE FOR COMMERCIAL CAR MAKERS.

While No Trucks Are to Be Exhibited, Manufacturers Are to Have Headquarters at New York Show.

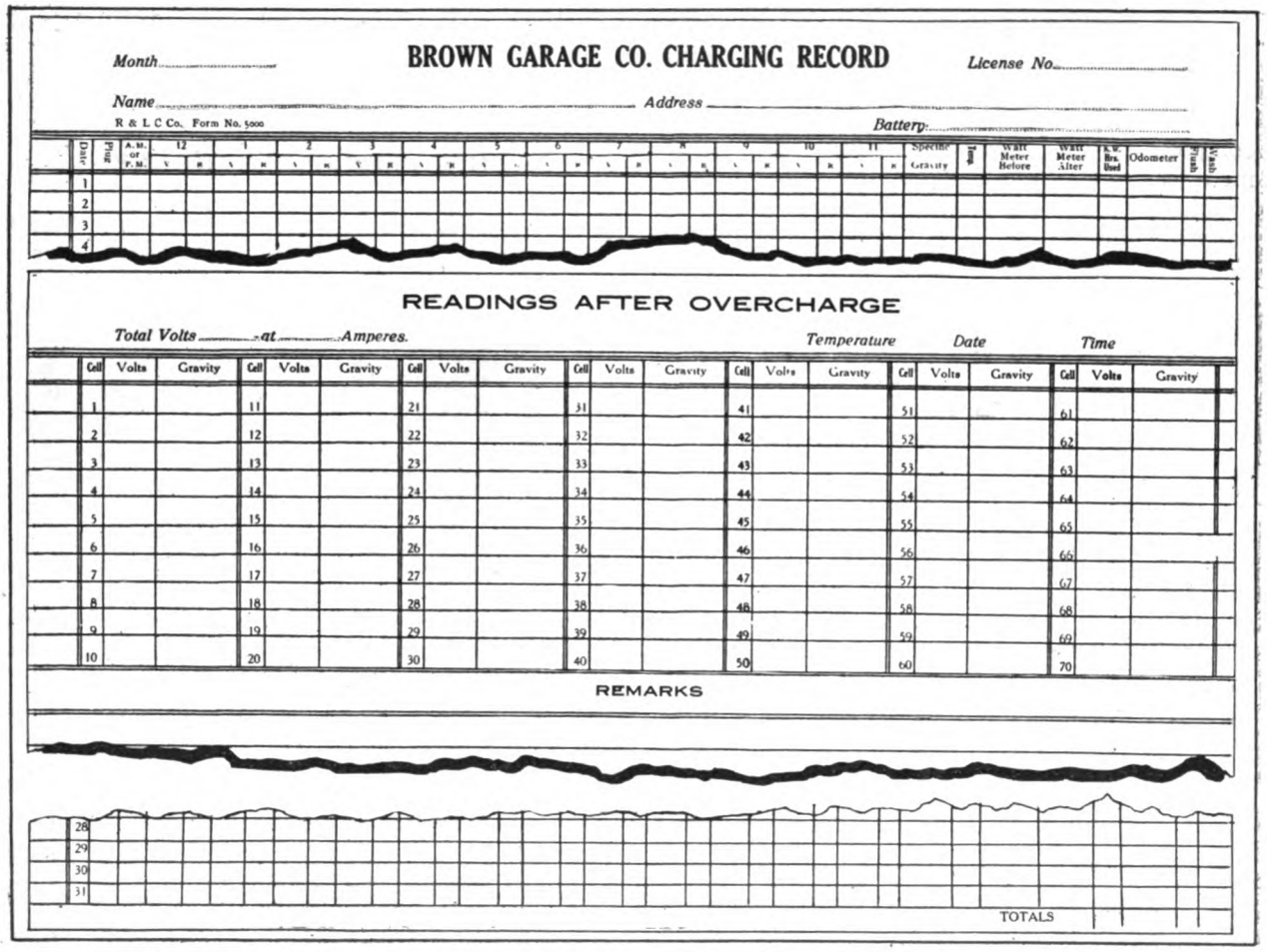
While there will be no display of commercial cars at the New York show, an arrangement has been perfected by the board of directors of the National Chamber of Commerce whereby headquarters will be established in the automobile division, where 31 commercial car makers affiliated with the chamber could meet dealers and those interested in such vehicles.

RHINELAND MACHINE WORKS COMPANY.

War Interferes with Importation of Ball Bearings and Fafnir Company Will Market Its Own Product.

The Rhineland Machine Works Company, New Britain, Conn., announces that inasmuch as the European war has interfered with the importation of Rhineland and R. B. F. ball bearings, it has been arranged that the Fafnir Bearing Company, New Britain, Conn., will market its product direct from the factory in the future. Heretofore the Rhineland Company has been acting as selling agent for the Fafnir concern, and the latter will now have its sales department at the factory.

D. D. Davis, who has been the Chicago manager of the Rhineland Company, will make his headquarters at New Britain, and will take charge of the sales of the Fafnir Bearing Company. The Rhineland Machine Works Company will continue to assist in the sale of the Fafnir bearings in conjunction with the sale of its large stock of imported bearings, and such R. B. F. and Rhineland bearings as are now coming in from Europe. The office of the Rhineland Company is at 1737 Broadway, New York City.



The Brown Electric Vehicle Charging Record.

FORM MOTOR STARTER COMPANY.

Detroit Starter Company, Detroit, Mich., to Manufacture Electric System for Motor Vehicles.

The Detroit Starter Company, incorporated recently at Detroit, Mich., is to market an electric lighting and motor starting system for motor vehicles, and plans a production of 200 equipments daily. The officers of the company are: J. W. Fitzgerald, president; F. J. Lamb, vice president, and A. B. Porter, secretary-treasurer.

The Harding Tire Agency, Hartford, Conn., is now a direct factory branch of the Hardman Tire & Rubber Company, Belleville, N. J., with W. Austin Crockett as manager.

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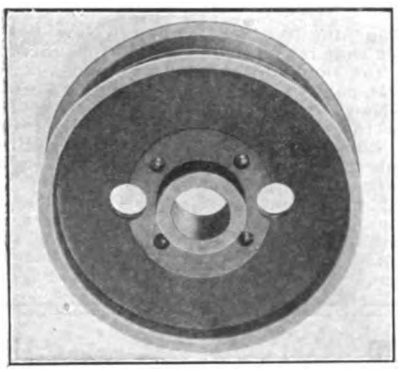
NEW PARTS, MATERIAL AND EQUIPMENT.

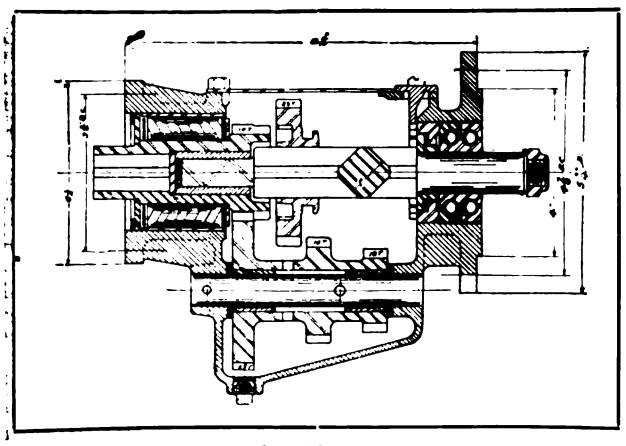
THE Oakes Pressed Steel Company, Indianapolis, Ind., is producing pulleys for motor vehicles, and the standard line includes material for cyclecars and light cars as well. The Oakes pulley is constructed of pressed steel, a material making for light weight, as well as enabling the reducing of cost production to the minimum. The pulley is furnished complete with keyway ready for attachment to the motor. One of the designs produced by the company is shown in an accompanying illustration. The Oakes Company particularizes in pressed steel parts, and metal stampings, plain, machined or assembled into specialties are produced to meet all requirements of the trade. Data and prices will be supplied upon request.



Oakes Pressed Steel Pulley.

LEFEVER TRANSMISSION.

The Lefever Arms Company, Syracuse, N. Y., maker of transmissions and jackshafts for both pleasure and commercial vehicles, is marketing a new line of transmissions for light pleasure vehicles. They are of the rear axle type and are available for assembly to light rear axles recently developed by the prominent axle manufacturers. The Lefever transmissions are very light and compact, and the same high-grade material and workmanship characteristic of the product of this concern are incorporated. The model 0900 is a two-speed and reverse, progressive type, suitable for cars of from 10 to 15 horsepower. That illustrated is the model 1800, a selective, three-speed and reverse design for cars of from 15 to 20 horsepower and not weighing over 1600 pounds.



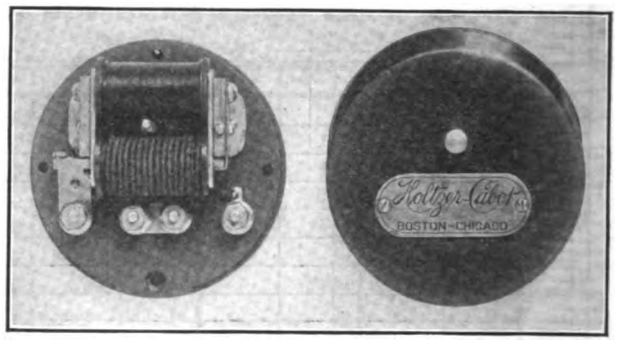
Lefever Transmission for Light Cars of from 15 to 20 Horsepower and Weighing Not Over 1600 Pounds—It Provides Three Forward Speeds and a Reverse.

ADJUSTABLE STEERING GEAR.

V. M. Moore, 5046 Lakeside avenue, Chicago, Ill., is marketing an adjustable steering gear of the worm and sector type. It involves the use of two parallel levers rigidly connected with the shafts of the sectors. These sectors engage with a worm and are operated by it. A right and left hand threaded locking screw is utilized to bring the levers into closer relation to each other, or to separate them, as may be necessary in the adjustment. It is pointed out that by this means the teeth of the sectors are maintained in proper contact with the worm, preventing lost motion. The sectors may be utilized until worn very thin.

HOLTZER-CABOT RELAY.

The Holtzer-Cabot Electric Company, Brookline, Mass., announces that its reverse current cut-out utilized with its magneto generators has been improved by the use of new contracts, larger binding posts and a new cover. The binding posts are now equipped with cupped washers, obtaining firm connections without the use of solder, and a weather proof cover encloses the terminals, preventing injury to the meter, etc. The type 6 magneto generator is improved by employing a larger capacity armature of the same size and by new pole shoes, the last named insuring an average output of five amperes. Complete details of the new equipment and line of generators produced will be supplied upon request.



New and Improved Cut-Out Utilized with Holtzer-Cabot Lighting Generator.

LOPPACKER PUMP.

Albert Loppacker, Bloomfield, N. J., is producing the Eureka combination air compressor and rapid cleaner. It comprises a four-cylinder pump, tank and hose, and the container may be utilized for kerosene, soap suds, or any other cleansing fluid, which is forced out at a high velocity. The flow of the fluid is controlled by a two-way valve. The equipment is designed particularly for the garage and repair shop.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

Alton M. Hatch, 17 Perry street, Cambridge, Mass.; one-story garage, 45x31, $3500.

Anthony J. Weitzer, Chili avenue, Rochester, N. Y.; two-story garage and repair shop, 70x94.

Richard Brennan, Jr., 45 Cleveland avenue, Buffalo, N. Y.; one-story garage, 19x24, $2000.

William Hausler, Yonkers, N. Y.; two-story garage, $2000.

W. J. Mueller, Kingsland avenue, Elmhurst, L. I., N. Y.; one-story garage, 29x40, $4000.

Sadie O. Spopek, 230 Grand street, Brooklyn, N. Y.; one-story garage, 15x17.

James J. Fox, 284 Warren street, Brooklyn, N. Y.; two-story garage, 50x84, $10,000.

Gulf Refining Company, Pittsburg, Penn.; garage and warehouse, $20,000, to be erected at Brooklyn, N. Y.

H. S. Miller, Glencoe, Ill.; one-story garage, 20x22.

Chapin Sacks, Washington, D. C.; three-story garage and wagon shed, $35,000.

Robert G. Bruce, Wilmington, Del.; one-story public garage, 57x87, $10,000.

H. S. Albright, Reading, Penn.; one-story garage, 70x42, to be erected at Orwigsburg, Penn.

Ross & Steele, Latrobe, Penn.; one-story garage, 50x100, $6500.

D. A. Ferro, Elkins Park, Penn.; two-story garage, 12x20, $3000.

Mrs. Charles Hubbard, 617 West Onondaga street, Syracuse, N. Y.; one-story garage, 15x25, $1000.

Maloney Manufacturing Company, Scranton, Penn.; one-story garage, 34x84, $6000.

Walter K. Smith, 123 Oley street, Reading, Penn.; one-story garage, 16x18.

Mrs. S. Young, Sheridan avenue, Pittsburg, Penn.; two-story garage, $2000.

New York Ice Company, 14 Jersey avenue, New Brunswick, N. J.; one-story garage, 40x40, $5000.

C. E. McAvoy, 359 Park avenue, Newark, N. J.; one-story garage, 43x90, $4000.

E. E. Morgan, 421 Main street, Ravenna, O.; two-story garage and apartment house, 44x105.

Max Lee, 2319 East 40th street, Cleveland, O.; one-story garage, 20x56.

Augustus Behrens, 1251 East 115th street, Cleveland, O.; one-story garage, 20x20.

James W. Lee, Seaboard Bank building, Norfolk, Va.; two-story garage, 100x200, $25,000.

H. B. Larson, Manistee, Mich.; two-story garage and flat building, 22x72, $8000.

F. A. Banister, Syndicate building, St. Louis, Mo.; one-story garage, 23x70.

Samuel Ferguson, 851 Prospect avenue, Hartford, Conn.; two-story garage, 25x25.

Packard Motor Car Company, Trenton, N. J.; two-story garage, 62x110.

George S. Idell, Philadelphia, Penn.; one-story stone garage, 26x100, $10,000.

Tattersells Coal Company, Trenton, N. J.; one-story brick garage, at West End avenue, 66x61x48, $10,000.

Cornelius West, 1034 Herbert street, Philadelphia, Penn.; one-story garage at 1525 Overington street, $4000.

E. J. Bushnell, 128 Pleasant avenue, Syracuse, N. Y.; one-story garage, 14x20, $1000.

Richard Fergee, 407 Euclid avenue, Syracuse, N. Y.; one-story garage, 19x20, $1200.

A. H. Casden, 135 Central Park west, New York City; one-story garage, 26x36, to be erected at Southold, L. I.

William J. Muller, Linden street and Fifth avenue, Elmhurst, L. I.; one-story garage, 69x50, $4750.

J. F. E. Fields, Hancock, Md.; one-story garage, 30x125, $3000.

John D. Schaal, Chambersburg, Penn.; one-story garage, 54x100, $3000.

James Omerk, Smethport, Penn.; two-story garage and repair shop, 65x31, $8000.

W. H. Blanchard, Pittsburg, Penn.; one-story garage, 50x180, $15,000.

O. S. Richards, Wolfboro, N. H.; one-story garage, 25x35.

Metz Auto Company, Waltham, Mass.; one-story garage, 50x100.

William Donvroe, 250 Hamburg avenue, Brooklyn, N. Y.; one-story garage, 50x100, $10,000.

J. E. Sonehan, 20 Trowbridge street, Worcester, Mass.; one-story garage, 25x25.

Chase Express Company, 66 Washington street, Brookline, Mass.; two-story garage, 55x65, $20,000.

H. F. McGoldrick, Cambridge, Mass.; one-story garage, 45x39.

F. A. Storer, Cambridge, Mass.; one-story garage, 116x50.

J. J. Arakelian, 65 Wells avenue, Boston, Mass.; two-story garage, 20x23.

William Patterson, 453 State street, Schenectady, N. Y.; two-story garage, 40x70, $5000.

Harry G. McMurtrie, 1012 Walnut street, Philadelphia, Penn.; one-story garage, 60x100, $10,000, to be erected at Merion, Penn.

Edward Callahan, 5206 Webster street, Omaha, Neb.; two-story garage, 66x132, $30,000.

A. L. Dwyer, 2208 Washington street, St. Louis, Mo.; one-story garage, 10x32.

Frank Nirschl, South Milwaukee, Wis.; one-story public garage, 60x60, $5000; lessee, George Nirschl.

F. M. Hoyt, First National Bank building, Oconomowoc, Wis.; one-story garage, 23x30, $1000.

J. Cornsweet, 9404 Adams avenue, Cleveland, O.; one-story garage, 33x19.

CONTRACTS AWARDED.

George H. Seidhoff Construction Company, Finance building, Kansas City, Mo.; one-story public garage, 50x70, $5000, for Mary Harlin, 2310 Benton boulevard.

Rosenbaum Construction Company, 13 East First street, Fond du Lac, Wis.; two-story garage and apartment, 60x92, $18,000, for L. L. Treleven, 304 Linden street.

G. A. Rutherford Company, 2160 East 18th street, Cleveland, O.; two-story garage, 40x90, $4500, for William Downie, 1018 Prospect avenue.

Joseph S. Sands, 491 West Side avenue, Jersey City, N. J.; one-story garage, 25x64, $4000.

Louis Johnson, Worcester, Mass.; one-story garage, 25x27, for A. A. Ridyard, 9 Mt. Pleasant street.

A. R. Griffin, Greenwich, N. Y.; one-story garage, 44x86, $73,000, for McRae Ford Garage Company, Schuylerville, N. Y.

McClintock & Weaver, 24 West Phil-Ellena street, Philadelphia, Penn.; one-story garage, $2000, for W. R. Eisenhower, to be erected at 608 West Upsal street.

Edwin M. Evans, 321 Sansom street, Philadelphia, Penn.; one-story garage, $400, for J. F. Schiller, 50th street and Wyalusing avenue.

J. S. Woodruff, 5545 Kenwood avenue, Chicago, Ill.; two-story garage, $2300.

GARAGES AND REPAIR SHOPS.

Henry B. Ferry, Boston, Mass., contemplates the erection of a brick garage at 21 Central avenue.

Myron E. Tripp, New Bedford, Mass., is erecting an up-to-date cement garage on Cottage street. Gideon Gray is also interested in the enterprise.

Middlesex Motors Company, Lowell, Mass., will erect a first-class garage.

Robert Plant & Son, Brooklyn, N. Y., contemplates the erection of a two-story brick garage at 552 Johnson avenue at a cost of $4000.

James R. Crelin, Philadelphia, Penn., will erect a modern three-story garage, 50 by 80.

W. M. Redding, Bade City, Fla., is erecting an up-to-date garage on Cherry street. With him in the deal is L. B. Bessenger. The company will handle Ford cars.

The United Machinery Company, Beverly, Mass., is erecting a garage for the accommodation of the company's large equipment of automobiles.

Walter P. Brower, Beverly, Mass., is planning to erect a garage on Lake View avenue.

B. H. Moulton, Beverly, Mass., is erecting a fireproof garage at 13 Cross street.

Ernest C. Currier, Ipswich, Mass., will erect a modern garage on South Main street.

The Converse Rubber Shoe Company, Edgeworth, Mass., is erecting a large garage near its factory on Pearl street for the accommodation of its commercial trucks.

The Winchester Auto Company, Winchester, Mass., is building a garage on Converse street.

Joseph Caneelmo, Philadelphia, Penn., is erecting a modern garage at 130 Dock street.

Bigler Brothers, Wyandotte, Mich., is planning to erect a garage on Biddle avenue.

G. A. Tomlinson, Duluth, Minn., is building a garage on Park avenue at a cost of $7500.

George F. White, Lowell, Mass., is erecting a large garage of brick and steel on Middlesex street to cost $8000.

Charles Ross, Little Falls, N. Y., will erect a first-class garage.

Frank Ganson, Urbana, O., proposes to erect a garage at the corner of East Court street.

Busch Auto Repair Works, San Francisco, Cal., will erect an up-to-date public garage at 63 Natoma street.

Moses Williams Estate, Boston, Mass., will erect a garage on Seventh street.

V. V. Goodard, Holyoke, Mass., has purchased property at 124 Chestnut street on which to build a modern garage.

Elmer Day, Gallipolis, O., is building a modern garage on Upper Fifth street. It will be two stories high and of brick construction and will include a machine shop.

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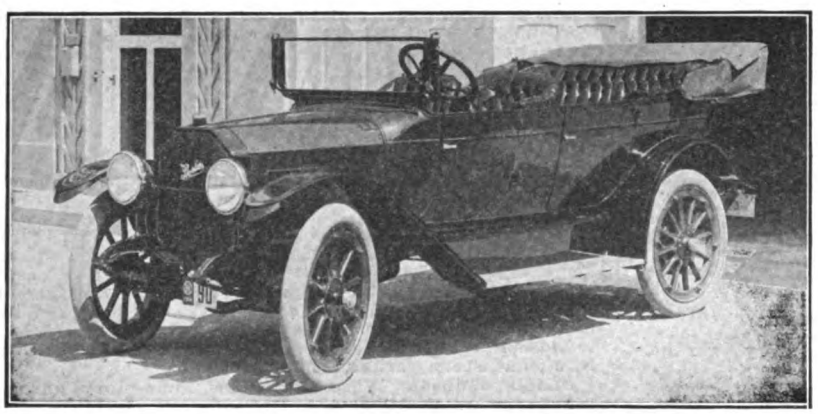
"ALL PURPOSE" PEERLESS.

New Light Four and Six Models Are Very Attractive.

A series of "All Purpose" cars have been announced by the Peerless Motor Car Company, Cleveland, O., for the 1915 season. These will be made in addition to the large sixes, which will be continued this year. The new models include a four-cylinder, 113-inch wheelbase model, selling for $2000, and a light six-cylinder, 122-inch wheelbase car, that sells for $2250. The four weighs slightly less than 3000 pounds and the six weighs just a trifle over that figure.

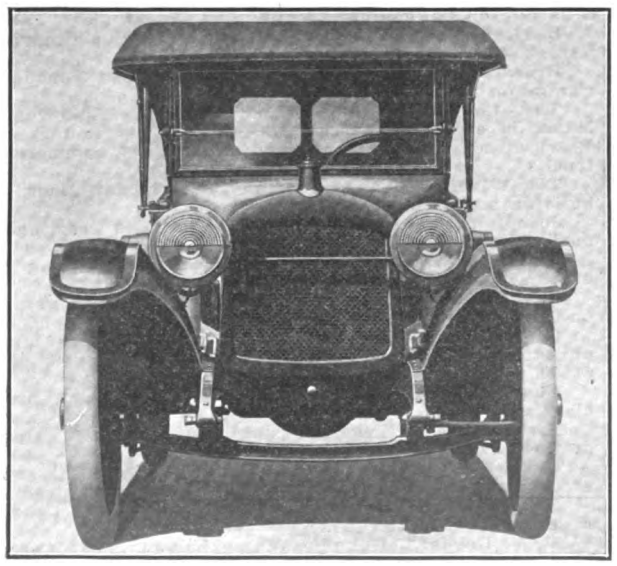


Three-Quarter View of Peerless "All Purpose" Four, Model 54.

With the exception of the bore and stroke, cooling system employed, capacity of oil reservoir, wheelbase and valve port diameter, the mechanical details of the new four and six models are identical. Both L head motors are cast en bloc, the four having a bore of 3¾ inches and a stroke of five, giving it a rating of 22½ horsepower by the S. A. E. formula. However, the manufacturer's rating is 37, which may be considered conservative when the piston displacement of 220.9 cubic inches is considered.

The stroke of the six is the same as the four, and the bore is 3½ inches. It develops 50 horsepower at 2200 revolutions a minute and has a piston displacement of 288.6 cubic inches. The cooling of the four-cylinder motor is by the thermo-syphon system, the Peerless fin and tube radiator having a capacity of six gallons. The capacity of the six radiator is five gallons, and the circulation is by a gear driven pump located at the forward end of the motor. The cooling is further assisted by a five-bladed fan mounted at the forward end of the cylinder block and adjusted by an eccentric. The drive from the pulley is by a V leather belt.

The lubrication is by the force feed and splash system. In the four-cylinder motor the oil is drawn from a compartment completely enclosed by wire gauze,



Front View of 1915 Hupmobile—Note Holophane Headlights and Castor Effect of Front Axle.

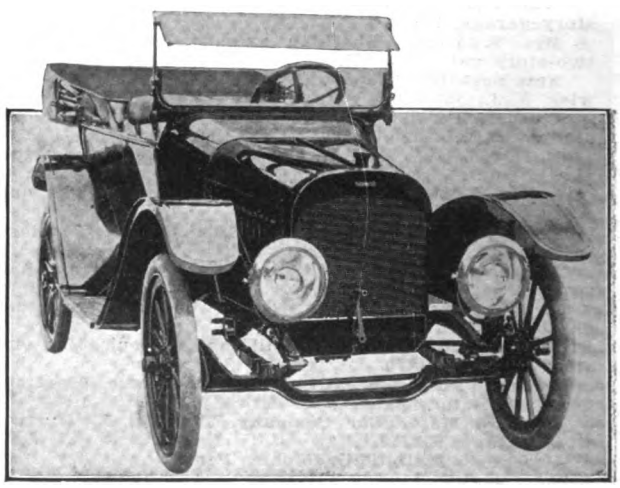
NEW HUPMOBILE MODEL.

Longer Wheelbase and Many Refinements, the Features.

While the Hupp Motor Car Company, Detroit, Mich., has a much larger and more powerful car this year, it has not increased the price. The wheelbase of the new Hupmobile has been increased from 106 to 119 inches, this affording two inches more leg room in the front compartment and seven inches in the tonneau. The price remains at $1200. For an additional $125 the company now furnishes a removable coupe top, and for $165 a sedan can be procured.

The present motor, a four-cylinder, cast en bloc, has a bore of 3⅜ inches and a stroke of 5½. This compares with a bore of 3¾ inches for the 1914 model, with a stroke of the same size. Cooling is by thermo-syphon circulation, and the radiator is of a new cellular type, the cells being hexagonal and extra large.

Ignition is by the Atwater Kent system, battery type. Electric lighting and starting is the Westinghouse, and is included in the regular system. The lubrication is by the centrifugal force of the flywheel, as was the case in the model H. However, slight changes have been made: The face of the flywheel in the new motor is much wider than that of the previous model, which gives a larger volume f oil; also the oil leads to the cylinders have been eliminated.



Three-Quarter Front View of New Monarch Car.

A Zenith carburetor is employed, and this is bolted directly to the cylinders on the opposite side from the valves. Hot air for starting in cold weather is supplied through a passageway in the cylinder casting, which is connected on one side with the carburetor and on the other to a hot air collector, running to the exhaust pipe. The air adjustment is controlled by a short lever on the steering wheel.

MONARCH ADDS TO LINE.

A Four-Passenger Light Car with Complete Equipment.

A four-passenger car selling at $675 is the latest addition to the line of the Monarch Motor Car Company, Detroit, Mich. This car is a four-cylinder model, and the price includes complete equipment, with the single exception of electric cranking, which is $25 extra. There are no rear doors on this model; the front seats being divided and the right hand seat folding up permits adequate entrance to both the front and rear compartments.

The motor, thermo-syphon water cooled, cast en bloc, has a bore of 2¾ inches and a stroke of 4½. A gearless differential is employed in the rear axle. The ignition, of the Connecticut make, is in a unit with the Auto-Lite generator, the latter being regular equipment, and mounted on a bracket on the left side of the engine. This drives through a gear at the front end.

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NEW CONCERNS RECENTLY INCORPORATED.

AUTOMOBILE DEALERS.

Argo Motor Company, Jackson, Mich.; $750,000; Benjamin Briscoe, James R. Findlater, L. E. Latta.

Overland-Louisville Company, Louisville, Ky.; $10,000; G. A. DeWitt, G. A. Daly, L. M. Kotecki.

Edwards Motor Car Company, Milwaukee, Wis.; $10,000; F. J. Edwards, M. A. Mueller, A. Mollerus.

Drown Motor Car Company, Barre, Vt.; $50,000; John G. McLeod, H. D. Graves, John Trow, E. A. Drown, Antoine Burke, W. G. Nye, E. H. Bailey, T. E. Callahan.

Kingsbury & Wetherell, Hartford, Conn.; $20,000; Herbert B. Kingsbury, Elizabeth W. Kingsbury, Wells H. Wetherell.

White-King Motor Company, Henderson, Ky.; $2500; L. White, H. L. King, B. T. White.

Peninsula Motor Sales Company, Lindsay, Ont.; $40,000.

Overland Service Station, New York City; $1000; E. F. Stoeckle, J. Q. Bachman, G. V. Harriman, E. F. Stoeckle.

P. J. Durham Company, New York City; $10,000; to conduct a general automobile business; P. J. Durham, H. A. Maslin, F. C. Wolf.

Electric Service Vehicle Company, Portland, Ore.; $25,000; A. E. Blair, F. S. Robinson, R. A. Leiter.

Back Bay Sales Company, Boston, Mass.; $6000; to conduct a general automobile business; E. P. Fitzgerald, William H. Wheeler, J. F. Hughes.

Harrigan Auto Company, Oak Park, Ill.; $5000; to conduct a general automobile business and repair shop; George Von Moos, T. J. Harrigan, Jr., and others.

Automobile Clearing House, Chicago, Ill.; $10,000; C. E. Hall, R. E. Gray, J. C. Morrow.

Bay City Motor Car Company, Billingham, Wash.; $20,000; W. A. Knight, A. Burgess, C. E. Abrams.

Best Service Auto Truck Company, St. Louis, Mo.; $30,000; to deal in motor trucks and conduct a garage; E. H. Abadie, E. E. Scott, Lewis Perry, Robert B. Snow, E. G. Curtis.

Paddock-Fowler Auto Company, Everett, Wash.; $10,000; W. R. Paddock, G. W. Fowler, Harry B. Gay, A. C. Edwards.

Successful Motor Sales Company, Des Moines, Ia.; $25,000.

Dominion Motor Company, Richmond, Va.; $15,000; to conduct a general automobile business; John B. Swartwout, W. J. Miller.

Chersaw Motor Car Company, Cambridge, Md.; $5000; R. B. May and others.

W. P. Robe Company, Portsmouth, O.; $10,000; to deal in automobiles and conduct a garage; P. Robe, C. Morgan, Carrie R. Morgan, O. R. Robe, H. B. Robe.

Florida Tire Company, Jacksonville, Fla.; $25,000; to deal in motor cars, tires and supplies; George Adams, George M. Hopkins, Claude M. Shine.

Service Sales Company, Norfolk, Va.; $10,000; C. E. Rixford, E. J. Smith.

Norfolk-Buick Motor Car Company, Norfolk, Va.; $15,000; George F. Edwards, Victor de Murguilondon, H. C. Sherritt.

Lone Star Motor Company, El Paso, Tex.; $25,000; Frank T. Pickrell, E. G. Perry, L. J. Trotti.

Flanders Electric Company, Chicago, Ill.; $25,000; John P. O'Shaughnessy, H. L. Tohey, J. P. Rosen.

Middle West Automobile Corporation, Joliet, Ill.; $7000; to deal in automobiles; W. H. Oliver, Erie R. Merrill, August Beltzner.

Steuben Auto Transit Company, Campbell, N. Y.; $10,000; F. R. Aulls, W. A. Shaver, R. C. Turnbull.

Westfield Motor Car Company, New York City; $175,000; to deal in automobiles; D. Dilworth, A. J. Corey, Morgan J. O'Brien, Jr.

Aeon Garage Corporation, New York City; $500; S. Gerard, N. A. Smith, L. A. Scott.

Alamo Packard Auto Livery Company, San Antonio, Tex.; $4500; J. D. Tucker, A. M. Tucker, G. T. Tucker.

Brisco Sales Company, Albany, N. Y.; $10,000; W. J. Jackson, J. Dorr, R. L. Delisser.

Sole Distributing Company, Albany, N. Y.; $15,000; to deal in automobiles, drugs, etc.; N. Stamm, L. S. Davies, H. P. Lowenstein.

Red Line Auto Company, Bloomfield, N. J.; $2000; J. F. Maxfield, R. W. Ashworth, E. A. Ashworth.

Neighbors Motor Company, Cleveland, O.; $10,000; to deal in motor cars; W. C. Sarger, M. T. Flanagan, B. Hall, R. Jamison, R. Ingalls.

Jeffersonville Auto Company, Jeffersonville, O.; $8000; to deal in motor cars; W. W. Williams, F. E. Wilson, J. C. Creamer, G. E. Straley, E. F. Hudson.

E. A. Gilmore Company, Boston, Mass.; $20,000; to conduct a general automobile business; E. A. Gilmore, A. P. Teele, A. G. Gilmore.

Muskogee Buick Sales Agency, Muskogee, Okla.; $30,000; to deal in automobiles; H. Swift, F. H. Swift, W. T. Wisdom.

Silver State Automobile Company, Pueblo, Col.; $50,000; to deal in automobiles.

Keystone Motors Company, Easton, Penn.; $15,000; to deal in automobiles; Newton R. Turner, Horace L. Magee, Charles F. Oldt.

Smith Motor Company, Akron, O.; $5000; to deal in automobiles; E. D. Smith, E. E. Smith, F. W. Hatchel, W. S. Nicodemus, Mary Distel.

L. A. Automobile Works, Los Angeles, Cal.; $10,000; to conduct a general automobile business; Thomas E. Mitchell, John Stintin, C. O. Bacon.

Sphinx Motor Car Company, York, Penn.; $100,000; to deal in automobiles; H. R. Averill, E. T. Gillard, B. F. Posey, T. C. Auman, Milton G. Hellis, H. Rohrer, T. C. Goodwin, Otto Schaeffer, Jacob Rohrer.

Duquesne Motor Truck Company, Pittsburg, Penn.; $25,000; to deal in motor trucks and automobiles; H. G. Putnam, J. H. Cronkright, Joseph Zamechnik, W. W. Cronkright, John Sheehan.

Gamble-Waggener Company, Burlington, Ia.; $25,000; to deal in automobiles and sporting goods; J. M. Gamble and others.

Francis-Murphy Company, St. Paul, Minn.; $3,000,000; to deal in automobiles.

Stoepel Company, Detroit, Mich.; $1000; to deal in automobiles and supplies; H. Robert Stoepel, David M. Whitney, Nathan T. Viger.

Frank X. Smith, Yonkers, N. Y.; $1000; to deal in tires and rubber goods; Frank X. Smith, C. W. Reynolds, Thomas F. MacMahon.

Best Service Trucking Company, St. Louis, Mo.; $30,000; to conduct a garage and do a general automobile business; E. H. Abadie, E. E. Scott, Lewis Perry, Robert R. Snow, E. G. Curtis.

Auto Sales Company, Fort Smith, Ark.; $25,000.

Arthur J. Myers, New York City; $3000; to deal in automobiles; H. M. Greenbaum, William P. Riley, A. R. Rubin.

Madison Motor Car Company, Covington, Ky.; $5000; to deal in automobiles; E. J. Moore, Jr., Charles E. Mardis, Maria Moore.

Greenville Fisk Tire Company, Greenville, S. C.; $5000; to deal in automobile tires and automobile accessories; T. H. Cunningham, M. C. Westervelt.

Cleveland Motor Car Sales Company, Cleveland, O.; $25,000; to deal in automobiles; M. F. Bramley, Harry C. Walker, Arthur Hutt, H. Barthleman, J. C. Simon.

GARAGES AND REPAIR SHOPS.

Central Garage, Wilkinsburg, Penn.; $5000; R. R. Highberger, A. H. Durborrow, E. J. Boyles.

Interstate Garage, Clifton Forge, Va.; $5000; to conduct a garage and deal in automobiles; E. Mathews, L. W. Farrier.

Monmouth Garage, Inc., New York City; $10,000; Adolph Anderson and Albert Stockel.

Kochler-Woodruff Auto Repair Company, St. Louis, Mo.; $2000; F. J. Koehler, L. Woodruff.

Mecca Garage, Wilmington, Del.; $35,000; to manufacture automobile tires and conduct a garage; E. L. Kinsler, C. B. Morrish, G. M. Kinsler.

Port Arthur Garage Company, Port Arthur, Tex.; $3000; R. P. Smith, A. Perkins, T. E. Linn.

Fairmont Garage & Machine Works, Riverside, Cal.; $50,000; A. A. Gamble, W. W. Gamble, R. E. Gamble, L. W. Gamble, Dora V. Gamble.

Bergen Machine & Auto Repair Company, Westwood, N. J.; to conduct a general machine and repair shop; $30,000; J. B. Haskin, H. Belmar, P. S. Schultz.

Tennessee Garage Company, Memphis, Tenn.; $10,000; general garage business; L. H. Friedlander, R. W. Burk, D. L. Killian, A. B. Fearman, J. Friedlander.

Whipple Garage, Brooklyn, N. Y.; $3000; E. Apple, J. G. Wolfe, J. E. McKanna.

Walk Hill Garage, Boston, Mass.; to conduct a general garage business; H. A. Dodge, W. E. Spencer Deming, J. J. Delaney.

Addison Garage Company, Detroit, Mich.; $8000; to conduct a garage; W. F. Nalow, G. C. King, E. E. Esper, W. T. Phillips.

Pocasset Garage & Machine Company, Fall River, Mass.; $15,000; to conduct a garage and machine shop; D. H. Hathaway, J. H. Hathaway, J. T. Swift.

Morris Place Garage Company, Yonkers, N. Y.; $500; H. J. Haeussler, William Haeussler, William H. Haeussler.

Sixth City Tire Repair Company, Cleveland, O.; $10,000; to conduct a repair shop; M. E. Fassnacht, E. J. Sprecht, W. K. Stanley, J. B. Keenan, J. B. Mannis.

Souhegan Automobile & Electric Company, Milford, N. H.; $25,000; to conduct a general garage business.

Indiana Garage Company, Indianapolis, Ind.; $2000; to conduct a garage; R. Kenney, H. N. Siefert, O. Siefert.

Electric Service Vehicle Company, Portland, Ore.; $25,000; to operate a garage and general automobile business; A. W. Blair, T. S. Johnson, R. A. Leiter.

Chadron Garage Company, Chadron, Neb.; $7500; to conduct a garage; Christopher H. Disping, Frank Plummer, Adelia Gilmore.

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Bender's Garage, Nashville, Tenn.; to conduct a garage; W. Crabtree and others.

Ponca City Garage, Ponca City, Okla.; $10,000; to conduct a garage; W. H. McFadden, J. B. Hinkle, B. L. Hobbs.

Ballston Spa Garage, Ballston Spa, N. Y.; $20,000; to conduct a garage; W. Colburn, J. B. White, G. W. Chamberlin.

ACCESSORIES AND SUPPLIES.

Mohawk Supply Company, Akron, O.; $2500; to deal in rubber goods; F. F. McGuiness, W. Hartman, C. P. Bidinger, F. J. Rockwell, G. H. Ovens.

Wagner Resilient Wheel & Tire Company, Detroit, Mich.; $600,000; William F. Wagner, William F. Ferguson, G. H. Karicofe, E. E. Russell, A. C. Baird.

Chicago Auto Equipment Company, Chicago, Ill.; $2500; H. M. Behan, E. Fantana, W. H. Dellenback.

Berry Automobile Pump Company, Detroit, Mich.; $10,000; C. Retter, W. W. Gunn, H. J. Berry.

Boska Manufacturing Company, New York City; $100,000; to manufacture automobile tires, resilient auto tire fillers, etc.; C. F. Saunders, R. N. Mason, S. F. Peavey, Jr.

Gas-O-Company, Chicago, Ill.; $20,000; to deal in gasoline.

Non-Pneumatic Suspension Tire Company, Cincinnati, O.; $10,000; to manufacture tires; A. Schemel, G. Wehorfritz, F. H. Goosman, G. W. Mackenback, M. Serowich.

Lyon Tire & Rubber Company, Chicago, Ill.; $10,000; to manufacture and deal in tires; L. Harris, A. W. Lemke, W. B. Lathrop.

Silver Ray Lamp Company, Cleveland, O.; $30,000; to manufacture lamps; C. J. Fuller, O. M. Hock, C. C. Stevens, P. H. Peters, W. W. Stephens.

Harrisburg Williams Tire & Rubber Company, McKeesport, Penn.; $5000; H. J. McAllister, T. Young, J. A. Statler, S. R. Birch.

Holt-Welles Company, New York City; $50,000; to deal in automobile supplies; C. Holt, E. H. Stickels, P. Welles.

B. & K. Specialty Company, Trenton, N. J.; $50,000; to manufacture rubber goods, electrical appliances, etc.; L. W. King, S. Berman, U. G. King.

Paragon Lubricating Company, Brooklyn, N. Y.; $10,000; to deal in oils and greases; S. R. Stone, B. N. Velie, C. G. Paige.

Teschner Tire Company, South Bend, Ind.; $1000; to deal in automobile tires; F. A. Teschner, Z. P. Teschner, C. F. Roth.

Gerdelman Auto Supply Company, St. Louis, Mo.; $10,000; to deal in automobile supplies; Benjamin Rudolph, Lotta Gerdelman.

Jackson Cover & Bag Company, Jackson, Mich.; $12,000; to manufacture automobile covers.

F. O. Small Company, Boston, Mass.; $25,000; to manufacture and deal in rubber and rubber substitutes; W. B. Farr, E. N. Chase.

Goodyear Tire & Rubber Company, New York City; $1000; to deal in tires and rubber goods; J. W. Hobbs, George Norris, F. K. Raynor.

Western Auto Subcasing Company, Seattle, Wash.; $100,000; Hiram S. Nettleton, Marius S. Williams.

Akron Tire & Rubber Company, Akron, O.; $10,000; L. L. Hunsicker, L. E. Hunsicker, W. C. Diemer, J. Diemer, C. E. Smith.

Jiffy Apron Company, Detroit, Mich.; $5000; to manufacture automobile aprons; A. B. Porter, Bernard Stroh, Jr., D. Seymour, F. M. Randall, R. Jackson, Jr., H. B. Lee.

Warwick Wheel Company, London, Canada, $100,000; to manufacture and deal in accessories.

Motor Devices Company, New York City; $30,000; motor car accessories; W. A. Allen, B. Gordnor, D. Wills.

Toledo-Ford Tire Company, Toledo, O.; $300,000; to manufacture tires; W. Dunbar, R. F. Teall, L. F. Eichenberg, C. E. Taggart, E. F. Felton.

Noble Air Pump Company, Toronto, Canada; $25,000; to manufacture pumps and accessories.

Standard Tire & Rubber Company, Willoughby, O.; $100,000; to make motor car tires; C. E. Shaw, C. F. Groth, E. A. Williams, J. W. Smith, J. A. Smith.

Superior Tire & Rubber Company, Akron, O.; to manufacture tires and tubes, and deal in rubber goods. G. S. Andrus, president; K. W. Andrus, secretary.

Scientific Tire Filler Company, Swift Current, Sask., Can.; $5000.

CAR MANUFACTURERS.

The Motokart Company, Trenton, N. J.; $1,000,000; F. C. Sievers, E. A. Powers, E. M. Moore.

Sterling Automobile Company, New York City; $10,000; to manufacture and deal in automobiles; E. Erickson, W. C. Lohse, H. Meier, C. M. Hall.

Universal Tractor Company, Brooklyn, N. Y.; $15,000; F. O'Sullivan, Charles Roessle, J. Woodcock.

Spencer Manufacturing Company, Spencer, O.; $50,000; C. R. Aldrich, J. J. Christy, J. H. Firestone, P. J. White, G. W. Hartman.

Blair Motor Truck Company, Newark, O.; $100,000; to manufacture motor trucks; J. P. McCune, C. A. Smith, R. W. Smith, C. H. Spencer, W. S. Wieant.

American Standard Automobile Company, Edwardsville, Ill.; $100,000; to manufacture automobiles and machinery; P. Bernhardt, C. H. Gerling, L. Kirsch.

Sharp & Rush Bros., Wilmington, Del.; $15,000; to manufacture automobiles and power wagons; S. C. Seymour and others.

McKenney-Devlin Company, Detroit, Mich.; $10,000; to manufacture automobiles; George A. Devlin, Lyle A. Devlin, Paul R. McKenney.

PARTS AND FITTINGS.

Magneto Parts Company, New York City; $30,000; to manufacture automobile accessories, ignition products, parts for magnetos, etc.; E. W. Lowy, L. L. Lowy, A. S. Hecht.

Disco Electric Starter Company, Detroit, Mich.; $60,000; J. Dornbus, Henry Dornbus, C. J. Carpenter.

National Electric Starter Company, Detroit, Mich.; $10,000; T. S. Murton, H. K. Murton, F. Guy.

Cincinnati Precision Lathe Company, Detroit, Mich.; $12,500; to manufacture lathes and special machine tools; Albert M. Fariner, G. McHenry.

Johnson Pneu-Metal Tire Company, Fitchburg, Mass.; $1,000,000; F. I. Johnson, J. H. Duffy, William P. Meehan.

Modern Stamping & Manufacturing Company, Milwaukee, Wis.; $150,000; to manufacture tools, machinery, etc.; J. P. Foley, A. C. Jorgensen, H. F. Friedrich.

Shipman Carburetor Company, Sunbury, Penn.; $5000; J. H. Lenker.

Rob Roy Manufacturing Company, Detroit, Mich.; $20,000; to manufacture automobile parts and shock absorbers.

Ford Starter Manufacturing Company, San Francisco, Cal.; $20,000; to manufacture automobile starters; E. P. de Berry, W. L. Hoyt, F. L. Dreber.

Boller Insulated Wire Company, Chicago, Ill.; $20,000; to manufacture motors, electrical appliances, machinery, etc.; Peter Boller, William N. Boller, W. H. Bentley.

Shasta Machine Company, Chicago, Ill.; $21,000; to manufacture motors, etc.; Edward J. Carey, Helen Dias, Charles C. Mull.

Gasoline Protectometer Company, Newark, N. J.; $100,000; to manufacture meters, etc. W. Reppein, C. A. Alliston, L. Olschewski.

Toledo Auto Tool Company, Toledo, O.; $10,000; to manufacture automobile tools and supplies; John C. Jones, R. E. Calkins, M. D. Merrick, Frank P. Close, A. Allen.

Apex Carburetor Company, Boston, Mass.; $75,000; G. E. Parker, K. F. Parker, J. C. Thompson.

Housel Sales Company, Buffalo, N. Y.; $10,000; manufacture and deal in starters and accessories; William E. Housel, M. C. Burns, C. Cunningham.

Economy Parts Company, New York City; to manufacture parts; C. K. Erb, A. D. Morrow, J. W. Mahlstedt.

Peckham Brothers Company, Providence, R. I.; $10,000; to manufacture automobile parts; Josiah F. Peckham, Jr.

Herfurth Engine Company, Richmond, Va.; $15,000; to manufacture engines, automobile machinery, etc.; Hugo Herfurth and others.

Kellogg-Mackay Company, Portland, Me.; $1,250,000; to manufacture engines, boilers, etc.; A. F. Jones, T. L. Croteau.

S. I. L. Electrical Company, New York City; $250,000; to manufacture self starters, electrical devices, etc.; G. H. Mallory, H. T. Lilliendahl, F. C. Duey.

MISCELLANEOUS.

Hartman Top Company, Indianapolis, Ind.; $5000; Lawrence Hartman, L. M. Hartman.

Automobile Trail Blazing Association, Minneapolis, Minn.; $50,000; A L. Meigs, Ira Farr, L. C. Meigs.

Letts Auto & Taxi Company, Saginaw, Mich.; $7500; to conduct an automobile livery. A. H. Letts, C. D. Letts.

American Motorists' Protective Association, Boston, Mass.; $50,000; Frederick L. Keith, Richard R. Snow, Alfred P. Goodell.

Imperial Improvement Company, Toledo, O.; $100,000; to manufacture road building machinery; C. H. Oliver, R. D. Logan, J. A. Mosier, C. B. Kenely, E. V. Anspach.

Famous Packard Auto Renting Company, New York City; $5000; C. J. Clavin, T. V. Moore, J. Clavin.

American Auto & Transfer Company, Ogden, Utah; $25,000; P. W. Madsden and others.

Russell Taxi Company, Des Moines, Ia.; $10,000; M. Russell, J. A. Gottstein.

Shears Selling Organization, New York City; J. E. Taylor, T. C. LeFevre, M. H. Briggs.

Haverhill Motor 'Bus Company, Haverhill, Mass.; $10,000; E. S. Atwood, E. H. Wood, H. M. Crittenden.

Sterling Auto Exchange, Brooklyn, N. Y.; $10,000; Charles Erickson, William C. Lohse, H. Meier.

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GENERAL NEWS OF THE MANUFACTURERS.

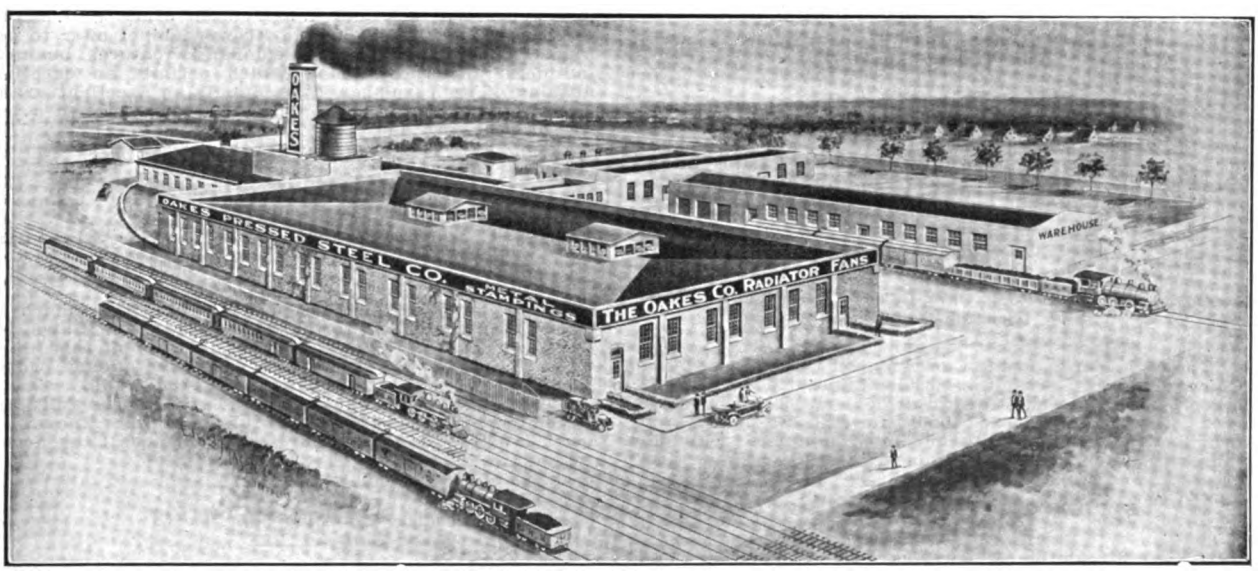
The United States Light & Heating Company, Buffalo, N. Y., is said to have received an order for 3000 electric starters from one of the largest manufacturers of automobiles in England, who has been obtaining starters from Germany. The company was placed in receivership a few months ago, but its business is continuing satisfactorily and is working 65 per cent. capacity.

The Motor & Accessory Manufacturers, New York City, has elected the following concerns to membership: Ball Bearings Company of America, Lancaster, Penn.; Bock Bearing Company, Toledo, O.; Dreadnaught Tire & Rubber Company, Baltimore, Md.; Golde-Patent Manufacturing Company, New York City; L. P. Halladay Company, Streator, Ill.; Robert H. Hassler, Indianapolis, Ind., and Sloan & Chace Manufacturing Company, Newark, N. J.

The Fafnir Bearing Company, New Britain, Conn., announces that its present selling arrangement with the Rhineland Machine Works Company, New York City, has been terminated. The ball bearings of the former company will be marketed direct from the factory at New Britain.

The Williams I. X. L. Tire & Rubber Company, Buena Vista, Penn., has purchased a site and plans to build a plant there for the manufacture of motor vehicle tires and commercial rubber articles. The company has a capital of $300,000.

The Oakes Pressed Steel Company, Indianapolis, Ind., is to make a new line of motor vehicle products. The company is especially prepared to manufacture light metal stampings of all descriptions. An accompanying illustration shows the plant of the company, which is equipped with modern conveniences for the production of pressed steel parts.



Plant of the Oakes Pressed Steel Company, Indianapolis, Ind., Specialist in Light Metal Stampings.

The New Departure Manufacturing Company, Bristol, Conn., is constantly establishing new distribution centres. Practically all parts of this country are now taken care of, so that a dealer anywhere in the United States may secure bearings for his replacement or repair work within two hours time. The following additional distribution houses were established recently: Ahlberg Bearing Company, Los Angeles, Cal.; Chapin Company, Calgary, Alberta; Western Rubber & Supply Company, San Francisco, Cal.

The Ford Motor Company, Detroit, Mich., in co-operation with the Y. M. C. A., is establishing English classes for its foreign employees desiring to learn that language.

The Marathon Rubber Company, Akron, O., is to erect a plant at St. Catharines, Ont., at a cost of $50,000, and will employ a maximum of 100 hands at the start. The rate payers of St. Catharines have passed a by-law to grant the company a five-acre site and a fixed assessment of $10,000 for 10 years.

The Ahlberg Bearing Company, Chicago, Ill., has opened an office and factory at 325 West Pico street, Los Angeles, Cal. The new plant will handle all of the business west of Denver, and all of the trade east of that city will be taken care of by the Chicago factory and the branches at New York City, Detroit and Cleveland.

The Fisher Body Company, Detroit, Mich., plans an addition of two stories to its factory, which will be 30 by 137 feet, and will cost $10,000.

The W. H. McIntyre Company, Auburn, Ind., is offering $100 to the person who suggests the best name for its two new models of two-passenger and four-passenger cars, electrically lighted and started, and listing between $400 and $600. The company produces the well known Imp cyclecar.

The Endurance Tire & Rubber Company, New Brunswick, N. J., is having plans prepared for a factory, 80 by 250 feet, one story, of brick construction, at an estimated cost of $50,000.

The Auto Wheel Company, Lansing, Mich., held its annual meeting recently and re-elected the following officers: President, E. H. Porter; vice president, H. E. Bradner; secretary and treasurer, D. L. Porter.

The Packard Motor Car Company, Detroit, Mich., has increased its shipments for the last two months 75 per cent over those during the corresponding time of last year.

Blood Brothers, Kalamazoo, Mich., will remove to Allegan, Mich. A factory building, $75,000 in stock subscriptions and an additional $25,000 for removal expenses have been offered by the inhabitants of Allegan. The company manufactures the Cornelian cyclecar.

The U. S. Metal & Manufacturing Company, New York City, has been appointed a resident purchasing agent in America for the following companies: Underground Electric Railways Company of London, Ltd., London General Omnibus Company, Ltd., Metropolitan District Railway Company, London Electric Railway Company, Central London Railway Company and City and South London Railway companies.

The Chevrolet Motor Company, Flint, Mich., is planning to build 10,000 cars for the 1915 season at its Flint plants. The factories located in New York City and Tarrytown, N. Y., will take care of all the New England states and the export business, and are expected to manufacture 5000 cars. The working force will be greatly increased at all the plants.

The Premier Motor Manufacturing Company, Indianapolis, has been put in charge of Frank E. Smith as receiver, by the United States district court of Indiana. This action was deemed necessary to prevent threatened proceedings by a number of creditors. It is stated that plans are being made for the continued manufacture of the Premier car.

The Maxwell Motor Company, Detroit, through its president, Walter E. Flanders, has made report to the stockholders of the company for the year ending July 31, 1914, in which a net profit of $1,505,467.09 is shown, which has been set aside as a surplus. He also states that the company's business for the first two months of the new year, July and August, is double that for the same period last year.

The Lozier Motor Company, Detroit, has been declared bankrupt. The Detroit Trust Company was appointed a receiver Sept. 23 and was authorized to take possession of all the assets of the company. According to the receiver, the total assets, including land and buildings, are $4,912,717.97, and the total liabilities are placed at $6,709,141.88.

The Studebaker Corporation, Detroit, has issued a statement to the effect that during September its sales of Studebaker fours and sixes amounted to nearly $5,000,000.

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OPPORTUNITIES FOR DEALERS.

THERMOID RUBBER OPPORTUNITY.

New Jersey Company Is in Market with Proposition That Should Prove Interesting.

The Thermoid Rubber Company, Trenton, N. J., manufacturer of the Thermoid hydraulic compressed brake lining, has a proposition for dealers that should bring forth big sales. This company, with its characteristic guarantee of "Thermoid will make good—or we will", will send full details of its selling plan on request.

SPEDOLENE AGENCIES OFFERED.

Continental Asbestos Corporation Desires Representatives for Its Product.

The Continental Asbestos Corporation, 7-11 Summer street, Worcester, Mass., maker of Spedolene, has territory open for distributing agencies, and progressive dealers are invited to write the company for details. Spedolene is a lubricant for gearsets, differential gears, universal joints, etc., and one of its desirable qualities is that it is not affected by heat. It is a combination of high-grade mineral oil and asbestos, will not pack or harden, and makes for economy in lubrication. It comes in sealed packages. Prices and particulars of the distributor proposition will be supplied upon request.

KOEHLER MEN DEMONSTRATE.

Travelling Representatives Show Dealers What the One-Ton Truck Can Do.

Every travelling representative of the H. J. Koehler S. G. Company, New York City, has one of the Koehler one-ton trucks with him, and is ever ready to demonstrate its powers to prospective dealers. Parties interested should write to the company for complete catalogue and selling plan.

MANDEL LIMOSETTE.

Enclosed Body for Ford Cars Offers Unlimited Possibilities for Dealers.

The Mandel Limousine Company, 1455 Congress street, Chicago, Ill., maker of the Mandel Limosette, has a selling proposition interesting to all dealers. The Limosette is a high-grade enclosed body for the Ford car, and provides real limousine luxury in 30 minutes. Full details will be furnished on request.

STRONG INDUCEMENTS IN METZ.

New 1915 Streamline Model Has Fore Door Body and Complete Equipment at a Moderate Price.

With a string of hill climbing records behind it, not to mention the winning of the Glidden tour, the Metz car offers exceptional value. The 1915 model, produced by the Metz Company, Waltham, Mass., is fitted with a fore door, a streamline body, and comes completely equipped. The price is $495. This concern is making liberal terms to dealers, and a special invitation is extended to all interested parties to write for full details.

BEARINGS FOR ALL PURPOSES.

Norma Company of America Carries Complete Line of Ball, Roller, Thrust and Combination Members.

The Norma Company of America, 1790 Broadway, New York City, carries a complete line of Norma ball, roller, thrust and combination bearings, and is prepared to supply the trade on short notice. The company also has in stock bearings for magnetos, lighting generators, starting motors, etc. Correspondence on bearings will receive prompt attention.

MONOGRAM SELLING POLICY.

New York Lubricating Oil Company Presents a Profitable Selling Scheme to Dealers.

The New York Lubricating Oil Company, New York City, maker of the famous Monogram line, is offering a selling policy to dealers that is along exceptionally broad and liberal lines. Monogram oils and greases have been used satisfactorily for years in all classes of motor cars, and are sold in sealed containers that give the same protection to dealers and consumers. Correspondence relative to agencies is invited, and full details will be furnished on request.

TUBING CONCERN SALE PLAN.

Edgar T. Ward's Sons Is Co-Operating with Dealers with a View to Producing Large Sales.

Edgar T. Ward's Sons, 25 Purchase street, Boston, Mass., maker of cold drawn seamless teel tubing, is co-operating with representatives of the trade, and attractive offers are being made to dealers, etc. The company invites all interested to write for its monthly stock list, and its special analysis for parts, such as jigs, bushings, dies, etc., where extreme durability and great hardness are required. The full details of the selling plan will be mailed on request.

RUB-ON CABINET OFFER.

Maker of Auto Top Renewer and Other Specialties Has a Strong Business Building Device.

The Rub-On Manufacturing Company, Buffalo, N. Y., maker of the Rub-On auto top, Sta-Fix radiator mend, the auto turn jack and a half-dozen other well advertised specialties, is making a liberal cabinet offer to garages and dealers. This company features business builders, and the cabinet, which permits an excellent display of its varnishes, dyes, etc., is an excellent example. Full particulars will be mailed on receipt of a letter or post card addressed to the company.

PANHARD OIL QUALITY.

George A. Haws Has Aggressive Plan for Stimulating Business.

With its reputation for quality behind it, Panhard oil needs no introduction to the trade. George A. Haws, 148 Front street, New York City, manufacturer of this lubricant, is offering an exceptional attractive agency proposition to representative members of the trade.

This plan is an aggressive one, and will be fully appreciated by dealers when the full details are known. A post card to the above address will bring all the necessary data.

FREE TRIAL OF OUTFIT.

Waterhouse Welding Company Grants Garages and Dealers Two Weeks' Use of Equipment.

A great profit producer in every garage, repair and machine shop is being offered on a two weeks' free trial by the Waterhouse Welding Company, 3 Pelham street, Boston, Mass., maker of the well known Waterhouse welding outfit. There are no strings to the company's offer and, in the event the outfit is not adaptable, it may be returned and it is not necessary to give reasons. Full terms and details of free offer will be sent to any interested party.

VEEDOL OIL APPEALS TO TRADE.

Platt & Washburn Refining Company Makes Alluring Offer to Representatives.

A very attractive proposition is being offered to the trade by the Platt & Washburn Refining Company, New York City, maker of the widely advertised Veedol oil. As is well known in the automobile industry, Veedol is a proven lubricant, made from pure Pennsylvania petroleum, and is the result of 30 years' experience on the part of this company.

Complete details of the proposition offered by the Platt & Washburn Company will be forwarded on request. The business opportunity afforded is a big one for representatives in all the automobile centres of the country. Veedol oil has been tested by every method known to science and also in actual service in every standard type of car.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as those prevailing at the beginning and ending of that period, for purposes of comparison. Taken as a whole, the commodities market was fairly stable and consistent during the past month, the fluctuations were light. Bessemer and open hearth steel both fell $1 on the ton, duplicating the decrease of the previous month. Para rubber prices have settled, and war prices are now unknown. Owing to the continued closing down of the stock exchanges, stock quotations are, of course, eliminated, as during the past three months.

	Oct. 19		Oct. 26		Nov. 2		Nov. 9			
	High	Low	High	Low	High	Low	High	Low	Oct. 15	Nov. 15
Antimony	13	10½	14	13	14	13⅛	13½	13½	10½	13⅛
Iron, fdy., S., ton	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Iron, fdy., N., ton	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Iron, Bessemer, ton	14.00	13.75	13.75	13.75	13.75	13.60	14.45	13.60	14.00	14.45
Steel, Bessemer, ton	19.50	19.00	19.00	18.50	18.50	18.50	18.50	18.50	19.50	18.50
Steel, open hearth, ton	19.50	19.00	19.00	18.50	18.50	18.50	18.50	18.50	19.50	18.50
Beams and chan., 100 lbs	1.26	1.26	1.26	1.21	1.21	1.21	1.21	1.21	1.26	1.21
Copper, elec., 100 lbs	11.15	11.12½	11.30	11.12½	11.20	11.15	11.40	11.20	11.30	11.20
Copper, lake, 100 lbs	11.62½	11.37½	11.50	11.25	11.30	11.25	11.50	11.30	11.50	11.30
Lead, 100 lbs	3.50	3.50	3.50	3.50	3.50	3.50	3.60	3.37	3.50	3.37
Tin, 100 lbs	31.75	28.75	31.25	30.25	34.00	31.87½	34.20	33.50	28.50	33.50
Petroleum, Kan. cr., bbl	55	55	55	55	55	55	55	45	55	45
Petroleum, Penn. cr., bbl	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Linseed oil, raw	49	47	47	45	45	45	47	45	49	45
Rapeseed oil, refined	82	82	82	73	73	73	73	73	82	73
Lard oil, prime	92	91	90	90	90	90	90	90	92	90
Fish oil, Menhaden, br	40	40	40	40	40	40	40	40	40	40
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	25	25	25	25	25	25	25	25	28	25
Cottonseed oil, bbl	5.15	4.75	5.05	4.60	5.50	5.00	5.35	5.30	5.15	5.30
Sea Island cotton	....	....	....	....	....	....	....	....	....	....
Silk, raw, Japan	3.57½	3.57½	3.57½	3.52½	3.52½	3.52½	....	....	3.65	....
Silk, raw, Italy	4.30	4.30	4.30	4.25	4.25	4.25	....	....	4.40	....
Rubber, fine up-river Para	66	64	66	66	66	66	66	65	64	65
Tire, scrap	5	5	5	5	5	5	5	5	5	5

CRUDE OIL PRICES.

The price of crude petroleum at the wells during the middle of the month of October were as follows:

Pennsylvania dark	$1.45	Somerset 32°	.85
Second Sand	1.45	Ragland	.65
Tiona	1.45	Illinois above 30°	.89
Cabell	1.05	Kan. & Okla.	.55
Mercer black	1.02	Corsicana light	.60
New Castle	1.02	Corsicana heavy	.50
Corning	.85	Electra	.60
Wooster	1.15	Henrietta	.60
North Lima	.93	Caddo, La., 38°	.80
South Lima	.88	Caddo, La., heavy	.45
Indiana	.88	Spindletop	.40
Princeton	.89	Canadian oil	1.33

California.

21 to 23.9 grav	40	29 to 30.9 grav	55
24 to 26.9 grav	42½	31 to 32.9 grav	60
27 to 28.9 grav	45		

Naphtha.

	10-gallon drums Under 100 cases	100 cases and over	*100 gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	23½

*Drums extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	a	15
Refined, barrels	12 a	13
Tank wagon delivery	a	9
Fuel, 31°	8 a	..
Fuel, 34°	9 a	..

Naphtha.

Auto in wood	a	17
Auto in garages, steel bbls	a	13
V. M. & P. deod., in steel	a	9
V. M. & P. deod., in wood	a	11

Gasoline.

86°	a	26
74-76°	a	25
67-70°	a	22

NEW BRAENDER "BULLDOG" NON-SKID TIRE.

Has Six Heavy Webs of Rubber Placed Between Fishtail Cross Bars, Providing Greater Wearing Surface, Etc.

The Braender Rubber & Tire Company, Rutherford, N. J., is marketing a new and improved type of non-skid tire which promises to equal, if not to exceed, the popularity of the well known Braender "Bulldog" non-skid tires, which established an enviable reputation in racing events for endurance. As may be noted by the accompanying illustration, the tread of the new shoe is of the combined raised and depressed type. It retains all the advantages of the original Braender "Bulldog" non-skid, with the well known fishtail cross bars, but has, in addition, six heavy webs of rubber so placed between the cross bar projections as to provide considerably more rubber on the tire, as well as obtaining a larger tread surface.

New Braender "Bulldog" Non-Skid Tire.

The webs overcome the tendency to side skidding on muddy roads and wet pavements and, in combination with the cross bars, insure a continuous, smooth riding surface. The maker states that this construction effectually prevents the wear that rounds the edges of ordinary projections, without sacrificing the advantages of the non-skid features. The webs, moreover, are so placed as to relieve the strain heretofore borne by the cross bars alone, strengthening them and distributing the wear evenly over the tread. It is further pointed out that each depression between the bars and the webs provides a vacuum grip on the road, formed and released by the rolling tire and without waste of power.

The new Braender "Bulldog" non-skid tire will be produced in all sizes, and the material and workmanship will be of the same high grade as has characterized the product of the company. The new casing will be exhibited at the New York City and Chicago shows.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

MOTORCYCLE AGENCIES.

118—New Jersey Dealer is in the market to represent motorcycles ranging in price from $150 to $300.

CYCLECAR AGENCIES.

1782—New Jersey Firm wants information relative to cyclecars selling from $350 to $500.

1786—Indiana Dealer is in the market to represent a line of cyclecars selling from $300 to $600.

1789—Massachusetts Company wants to secure the agency for cyclecars ranging in price from $350 to $500.

ELECTRIC PLEASURE CAR AGENCIES.

520—Indiana Concern is in the market to secure the agency for electric pleasure cars selling from $700 to $2000.

523—Ohio Firm is anxious to represent a line of electric pleasure cars ranging in price from $1500 to $3000.

526—Indianapolis Concern is in the market to represent a line of electric cars selling from $1750 to $3200.

GASOLINE PLEASURE CAR AGENCIES.

3027—New Jersey House wants information relative to securing the agency for pleasure cars selling from $500 to $2500.

3035—Indiana Company wishes to secure an agency for pleasure cars selling from $400 to $2200.

3038—Ohio Dealer is in the market to represent a line of pleasure cars ranging in price from $300 to $600.

3041—Indianapolis Company wants the agency for a line of pleasure cars from $1550 to $7200.

3044—New York Dealer wants information relative to pleasure cars selling from $700 to $4000.

3048—Pennsylvania Firm wants to represent a line of pleasure vehicles selling from $400 to $2000.

3049—Illinois Dealer wants to secure the agency for pleasure cars ranging in price from $800 to $1250.

3052—Ohio House wants information relative to a line of pleasure cars selling from $400 to $1200.

3054—Massachusetts Dealer is in the market to represent pleasure cars selling from $400 to $1500.

3057—New York Company wants to represent a line of gasoline pleasure cars selling from $950 to $1250.

3058—Iowa Dealer is in the market to secure the agency for pleasure cars selling from $450 to $1965.

3061—Kentucky House wants information pertaining to pleasure cars ranging in price from $795 to $2750.

3064—Arkansas House is desirous of securing the representation for pleasure cars selling from $500 to $800

3067—Tennessee Dealer wants to represent a line of pleasure cars selling from $400 to $500.

COMMERCIAL CAR AGENCIES.

6132—Indiana House wants information relative to gasoline commercial vehicles selling from $400 to $2800.

6135—Virginia Dealer is in the market to represent a line of gasoline commercial cars selling from $700 to $1500.

6138—Alaska Dealer is anxious to secure the agency for gasoline and electric trucks.

6141—New Jersey Company wants to hear from a line of gasoline commercial trucks selling from $500 to $2500.

6143—New York Dealer wants to represent a line of commercial cars on consignment only.

6146—New York House is in the market to represent a line of gasoline trucks selling from $700 to $4000.

6149—Indiana Company wants to secure the agency for a line of gasoline commercial vehicles selling from $1500 to $4500.

6152—Massachusetts Concern would like to represent gasoline commercial trucks from $700 to $2000.

6153—Illinois Firm wants to represent a line of gasoline commercial cars ranging from $1000 to $2000.

6156—Pennsylvania Company is anxious to establish a line of gasoline trucks selling from $1000 to $3000.

6158—Kentucky Company would like to represent gasoline commercial trucks at $1350.

6161—Illinois Dealer is anxious to secure the agency for gasoline commercial cars selling up to $2500.

6163—New York Company wants information from a reliable manufacturer of one, 1½ and two-ton trucks, who wishes to build up or enlarge his trade in Spanish speaking countries.

6166—Tennessee House is in the market to secure the agency for two-ton trucks.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

548—Ohio House is anxious to secure air pumps, bumpers, carburetors, clutches, cones, curtains, cushions, cylinders, dimmers, fans, gaskets, gears, goggles, graphite, headlights, horns, hose, lamps, maps, mechanical starters, mufflers, nuts, patches, plugs, rims, speedometers, starters, timers, tire accessories, tools, tops and parts, waste and windshields. The goods to be used for general repair work.

551—California Concern is in the market for arbor presses, axles, bearings, bodies, brakes, cans, carburetors, castings, chains, clutches, connectors, couplings, cranes, cups, cutters, cylinder machines, cylinders, dashes, discs, drills, drums, emblems, engines, fans, fenders, forgings, gear cutting machines, gears, grinders, headlights, hose, hubs, ignition, jacks, jigs, joints, knuckles, lathes, levers, machinery, magnetos, mechanical starters, metal parts, motors, mufflers, nuts, pans, pinions, pistons, plugs, presses, printed matter, pumps, races, radiators, reamers, rims, rods, rubber, scrapers, screws, seats, shapers, shims, soaps, speedometers, spokes, springs, stampings, starters, steel, steering wheels, switches, tanks, tape, terminals, tire accessories, tires, tools, tops and parts, transmissions, trimmings, tubing, upholstery, valves, varnishes, vises, vulcanizers, washers, waste, wheels, windshields, wire and wrenches. The products to be used for manufacturing cars.

554—Ohio House wants bolts, cans, chains, coils, engines, furnaces, gasoline, gear cutting machines, headlights, horns, ignition, machinery, mechanical starters, motors, nuts, paints, platinum, polishes, printed matter, separators, shock absorbers, speedometers, springs, starters, tanks, tire accessories, tires, tools, valves, vises, vulcanizers, whistles, wire and wrenches. The above goods to be used in the retail trade.

557—New Jersey House wants everything pertaining to automobile supplies and machine shop equipment.

558—Louisiana Dealer wants prices on machinery for building automobile tires and tubes.

560—Arizona House is in the market for arbor presses, gear cutting machines and wheels, to be used for a garage.

562—Texas Firm is interested in charging apparatus, clutches, commutators, cups, cylinders, fenders, fire extinguishers, gears, guns, jacks, magnetos, motor controllers, pans, pistons, pumps, radiators, seats, springs, steering wheels, tanks and transmissions.

564—New Jersey House wants information relative to air compressors, arbor presses, autogenous welding equipment, hoists, lathes, paints, turntables, vulcanizers and washstands.

FOREIGN TRADE OPPORTUNITIES.

No. 14,150. Automobiles—An American consular officer in South America advises that a merchant in his district, who now has the agency for a European automobile, wishes to represent, directly, in his market a cheap American automobile ranging in price from $400 to $600. Correspondence should be in Spanish. Agency conditions and prices f. o. b. New York should be given.

No. 14,199. Sewing Machines, Bicycles, Automobiles, Etc.—A firm in Russia has requested that an American consular officer furnish the names and addresses of American manufacturers of and dealers in sewing machines, bicycles, automobiles, typewriters, and all kinds of agricultural machinery. Correspondence may be in Russian, French or English.

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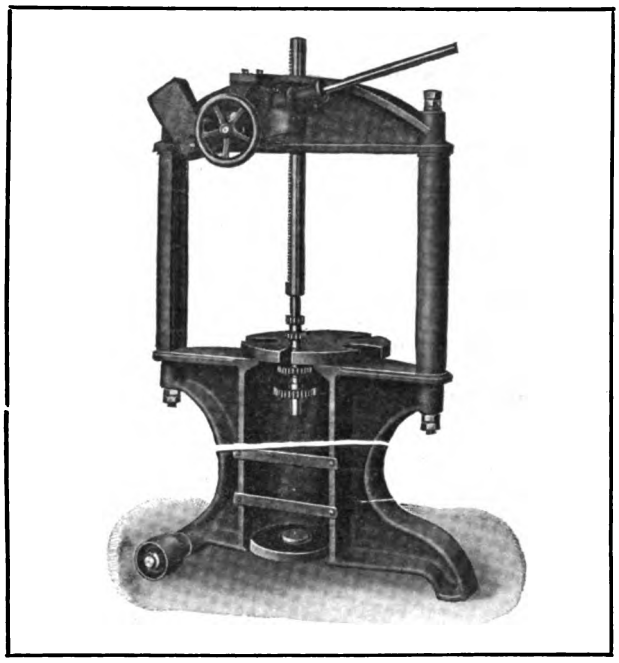
GREENERD ARBOR PRESSES.

Edwin E. Bartlett Offers Number of Sizes of Varying Leverage and Capacity.

An arbor press is a necessary adjunct to the repair shop, as it permits of a wide variety of work being performed, including operations generally requiring considerable time by ordinary methods. Edwin E. Bartlett, 326 A street, Boston, has specialized in the manufacture of arbor presses for years and the product of this concern is indorsed by manufacturers and machine shops.



The No. 15 Greenerd Arbor Press, Manufactured by Edwin E. Bartlett.

The Greenerd is built in 14 sizes, with a leverage ranging from 25 to one to 250 to one, or a pressure of 35 tons. The pinions and rams are made of a special steel with well proportioned teeth, having an angular pressure of 22½ degrees. The pressure is direct by a lever on the end of the pinion shaft on the small presses, and the large ones are provided with a pawl and a ratchet, so that the lever can be utilized where most effective. The frames are designed to withstand heavy strains. The Greenerd presses take work from 3½ to 36 inches in diameter, depending upon the size. Sizes Nos. 4, 5 and 7 have an adjustable knee, which can be operated by a crank handle. While small presses are manufactured, the maker states that the larger sizes are more serviceable and economical in the end. A postal addressed to Edwin E. Bartlett will bring complete details, illustrations and trade discounts of the Greenerd arbor presses.

MODERATELY-PRICED VULCANIZER.

High-Grade Tire Repair Equipment Suited to Garages and Repair Shops.

The Mapes & Maburn Manufacturing Company, 19 Fulton avenue, Rochester, N. Y., is producing a vulcanizer adapted to the requirements of repair shops and garages, a complete equipment, including heater, being furnished. The device is of the steam vulcanizing type, and is very compact, yet capable of a great variety of work, being adapted to all forms of vulcanizing and handling all tires of less than four-inch diameter, including motorcycle. The profits in this class of work are very attractive, and the addition of the vulcanizer described will add to the money making possibilities of any garage. Full particulars will be furnished on application, including an offer which is being made to the trade.

SPLITDORF MAGNETO FOR FORDS.

The New Model Is Provided with Movable Circuit Breaker Housing.

The Splitdorf Electrical Company, Newark, N. J., after considerable experiment, has produced a new high-tension magneto for Ford cars, meeting the requirements of the Ford high-speed engine and creating an exceedingly intense spark, which contributes to easy starting.

A feature of the new equipment is the fact that it may be installed by the car owner, no machining or alteration whatever being required. This and all other details are fully described in a new booklet issued by the Splitdorf Electrical Company, Newark, N. J., outlining the system and containing much valuable information on ignition. This booklet will be mailed free on request.

FOSNACHT VALVE RESEATER.

A Tool That Rapidly Cuts Both Valve and Seat at Exactly the Same Angle.

In the reseating of valves, a frequent and important repair, accurate and rapid work is necessary, and a suitable tool is an important addition to the equipment of any garage. Such a tool is provided in the Fosnacht valve reseater, manufactured by H. G. Paro, 30 North Michigan avenue, Chicago, Ill. By its use, both the valve and seat may be cut in a very few minutes to the same angle, and with absolute accuracy, insuring perfectly fitting valves, a result hard to attain with many other methods. Too much attention cannot be given to valve fitting, and a tool especially designed for this purpose should meet with general approval. Agencies are being arranged and full information will be given on request.

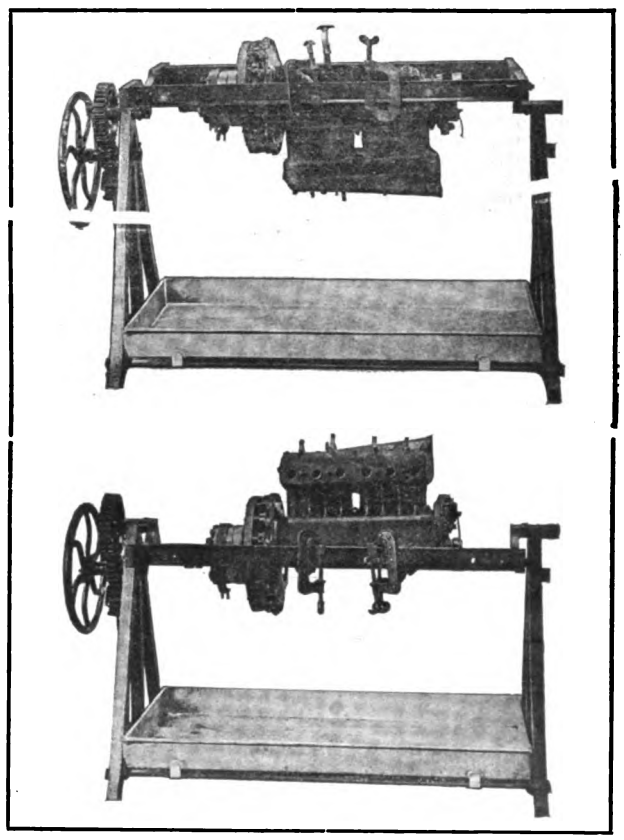
THE ST. ALBANS ENGINE RACK.

An Adjustable Work Table for the Convenient Handling of Repairs and Adjustments of Automobile Motors.

A valuable piece of shop equipment is the automobile engine rack, just brought out by the St. Albans Foundry and Implement Company, St. Albans, Vt.

A pivoted table is provided, large enough for any six-cylinder motor and adjustable in a few minutes to the smaller sizes, mounted on a frame and turned by a hand wheel. It may be locked in any of 32 positions by the action of a simple foot mechanism, leaving both hands free. The whole construction is iron, and practically indestructible, yet not of excessive weight, and the design is very compact, occupying a floor space five feet nine inches by 37 by 30. A removable galvanized drip pan is provided.

With this equipment the work can always be set in the most convenient position, and many adjustments can be made without disassembling the engine, and at a great saving of time. The price quoted is $38.50, including the pan, and $35 without the pan, f. o. b. St. Albans, Vt., subject to discounts to the trade.



The St. Albans Automobile Engine Rack, Showing Adjustable Table Carrying Engine in Horizontal Position and the Table Reversed, Bringing Engine Bottom Up.

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DESIRABLE LINES THAT ARE IN DEMAND.

THE MILLER DRESSINGS.

Guaranteed Preparations for Use on Leather and Other Fabrics.

The Bright dressing for leather tops, cushions, straps, etc., is produced by the Frank Miller Company, 349-351 West 26th street, New York City, which also makes a similar dressing for mohair, pantasote and the like. The latter is not a varnish, and produces a perfect finish without hardening the surface, and is particularly adapted to tops and covers. The quart can, which sells for $1, is sent by parcel post, and full information will be given to the trade upon application.

MOSSBERG WRENCH SET NO. 14.

Has 55 Openings, Meeting All Requirements of the Repairman, Garageman and the Trade.

The Frank Mossberg Company, Attleboro, Mass., calls the special attention of the trade to its new wrench set No. 14. It is most complete in every particular and the equipment, which includes socket and other types of wrenches, provides 55 openings that are continually needed. This outfit lists for $12.90 to the trade, an average of 23½ cents a wrench. The workmanship and material incorporated are of the same high-grade as characterizes all products of this company, and all are guaranteed.

CHANEY HEADLIGHT DIMMER.

A Practical and Inexpensive Device That Controls the Headlight.

Most city ordinances, to say nothing of a common sense consideration for the safety of night driving, require the obviating of the headlight glare, and the installation of some equipment for that purpose is a matter of necessity. The Chaney dimmer, beside meeting these requirements, has the further advantage of reducing the consumption of gas when the lights are down, a distinct advantage over the screen, which is often used and which simply shuts off the light without reducing it. The dimmer is mounted on the dash, the handle being conveniently placed for operation from the seat by a slight kick of the foot. The installation is very simple and the cost of the device is low. Further information will be promptly furnished by the manufacturer, the L. F. Chaney Company, Springfield, O.

McQUAY-NORRIS LEAK-PROOF.

A Piston Ring Which Positively Prevents Any Possibility of Leakage.

To provide a continuous ring without break in the circumference, but with the same flexibility as the usual cut ring, the McQuay-Norris Manufacturing Company, St. Louis, Mo., has produced the Leak-Proof, a packing ring of novel design. Two flanged sections are used, the flanges interlocking and closely fitted together. Each section is diagonally cut, the laps being at opposite sides of the circumference. Since the sections are free to move upon each other, the ring conforms to the cylinder bore as easily as the single ring, but each joint being covered by a solid portion of the other section, there is no possibility of leakage. The ring is concentric, instead of eccentric, giving uniform pressure on the cylinder wall. The construction and use of piston rings is thoroughly discussed in a booklet, issued by the McQuay-Norris Manufacturing Company, which will be sent free on request.

BROOKS VALVE TOOL.

Efficiency, Economy and Merit Are Qualities of This Well Known Line.

The demand for an adjustable tool for refacing and reseating valves has been met by the production of the Economic equipment, made especially for that purpose by the J. W. Brooks Manufacturing Company, Stamford, Conn. The tool, which is equipped with a double cutter, one end for standard 45-degree angles and the other for standard 60-degree angles, may be adjusted for any diameter up to three inches and is so designed that the valve is certain to come absolutely true with the stem. Garages and repair shops equipped with this tool will be fitted for rapid and accurate work, and the owners of all shops doing automobile work are advised to investigate it.

ELECTRICAL SPECIALTIES.

Mabey's Electric & Manufacturing Company Marketing a Number of Attractive Accessories.

Mabey's Electric & Manufacturing Company, 940 North Pennsylvania street, Indianapolis, Ind., is marketing a number of electrical specialties that are in demand in these days of the electrically lighted and started automobile. The specialties produced by this company are not novelties, but practical conveniences such as a cigar lighter, trouble lamp, vulcanizing tool, etc. A line to the manufacturer will bring complete descriptions, illustrations and trade discounts.

BLUE RIBBON COLD CREAM.

A New and Agreeable Cleanser with Which Water Is Not Necessary.

A cleanser that may be used without water, and on this account does not produce chapped hands, although removing all dirt and leaving the skin perfectly clean, has recently been brought out under the name Blue Ribbon cold cream. This soap is free from grit or irritating chemicals, and leaves the hands soft and smooth after application. It is made by the International Metal Polish Company, Indianapolis, Ind., which also manufactures Blue Ribbon metal polish, nickel polish, auto body gloss and radiator cement. Full information and a sample package of the new soap can be obtained by writing the manufacturer either at Indianapolis or at the New York office, 395 Broadway, New York City.

COXAJUSTO SHOCK ABSORBER.

Spring Type Featuring Easy Adjustment, Adopting It for Any Load.

The Coxajusto is claimed to be the only spring shock absorber on the market having an adjustment feature permitting it to be adapted to any load. The construction is very strong and consists of tapered helical springs of the best Swedish steel, working in manganese bronze cylinders. The method of attachment is easy but of such a character as to insure stability and long service. Shock absorbers not only contribute to the comfort of the user, but are profitable accessories to handle and install.

The Coxajustos are fully described in an attractive folder, which will be sent free on request by the maker, the Cox Brass Manufacturing Company, Albany, N. Y. Address Dept. M.

HENRICKS LINE OF MAGNETOS.

The Comet Instrument Is Efficient, and Reasonable in Price.

The Comet magneto, which has been built for 15 years by the Henricks Novelty Company of Indianapolis, Ind., is a very light and compact machine for the production of a constant supply of electric current for ignition purposes. It is made in four types, adapted to installation on any gasoline motor, and may be driven by belt or friction, as may be found most satisfactory, the governor with which it is equipped automatically adjusting it to varying speeds. The output is such that the engine may be started without the use of batteries, the current production, even when motor is turned over by hand, being ample for the purpose. A very complete catalogue of the Henricks line is issued by the manufacturer.

TIMES SQUARE "PRICE WRECKER."

The Price Wrecker No. 5, issued by the Times Square Automobile Company, 56th street and Broadway, New York City, offers 3000 automobile bargains, many of them at half regular prices. This company sells everything pertaining to the motor car at cut prices, and its catalogue is practically a complete list of automobile accessories. A branch is maintained at 1210 Michigan avenue, Chicago, Ill., at which will be found the same complete variety of bargains, and to which inquiries from that part of the country may be addressed. The catalogue referred to, the Price Wrecker No. 5, will be sent free by either branch.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham—Marathon, Turner Elec. & Sup. Co.
Oldsmobile, Highland Garage Co.
Dothan—Oldsmobile, Douglass Baker.
Montgomery—Oldsmobile, Cole Motor Co.
Union Springs—Oldsmobile, O. L. Hayes and S. P. Rainer, Jr.

ARIZONA.

Phoenix—Jeffery, McArthur Bros.
KisselKar, Ball Auto Co.
Paige, George Hageman.
Tucson—Oldsmobile, S. Bowyer.

ARKANSAS.

Little Rock—Chandler, Butler Auto Co.
Malvern—Maxwell, J. W. Alexander.
McCrory—Oldsmobile, Riggs Bros.
Russelville—Saxon, Neal & Butler.

CALIFORNIA.

Eureka—Haynes, Mercer & Way Garage.
Fillmore—Oldsmobile, John Opsahl.
Fresno—Oldsmobile, California Investment & Auto Starter Co.
Hollywood—Oldsmobile, F. C. Ford.
Long Beach—KisselKar, Mission Garage.
Oldsmobile, James R. Ricketts.
Los Angeles—Chandler, Peacock Motor Sales Co.
Herff-Brooks, De Vaux Motor Car Co.
Krit, Bekins-Speers Motor Co.
Moon, Hawley & King Co.
Oldsmobile, Oldsmobile Co.
Saxon, J. C. Buxton.
†Argo, Mission Motor Car Co.
Marysville—Haynes, Merles Garage.
Oakland—Lozier, Frank Bartels.
Metz, Coole Motor Co.
Pasadena—Oldsmobile, O. F. Broadway.
Pueblo—Oldsmobile, Pueblo Auto Co.
Redding—Moon, Adolph Bystle.
Oldsmobile, Adolph Bystle.
Riverside—Oldsmobile, Stever & McCulley.
San Diego—Dodge, C. W. McCabe.
Oldsmobile, McQuigg Bros.
San Francisco—King, Reliance Automobile Co.
Maxwell, Pearson Motor Car Co.
Oakland, Calvin C. Eib.
Oldsmobile, Oldsmobile Co.
Overland, Ollinger Automobile Co.
San Jose—Oldsmobile, Granger & DeHart.
Santa Ana—Oldsmobile, C. F. Isaacson & Son.
Santa Cruz—Oldsmobile, Hubbs & Brisac.
Stockton—Oldsmobile, Jake F. Meyer.
Ukiah—Haynes, Cowen Bros.
Woodland—Oldsmobile, Simpson Bros.
Yuba City—Oldsmobile, Sutter Garage.

COLORADO.

Boulder—Oldsmobile, Wolcott & Son.
Canon City—Moon, J. J. Armstrong & Son.
Colorado Springs—Chandler, Marksheffel Motor Co.
Moon, C. S. Wolfe.
Oldsmobile, Marksheffel Motor Co.
Denver—Apperson, Thorney Auto Co.
Briscoe, Cadillac Co.
Chandler, A. T. Wilson Auto Co.
Henderson, Mid-West Auto Sales Co.
Hupmobile, George A. Estabrook.
Ohio, George E. Hannan.
Oldsmobile, W. W. Barnett.
Saxon, Colorado Motor Car Co.
Fort Morgan—Oldsmobile, Wittwer & Wittwer.
Pueblo—Moon, Western Motor Car & Truck Co.
Trinidad—Franklin, W. G. Hall.
Walsenburg—Hudson, Adolph Unfung.

CONNECTICUT.

Bridgeport—Cole, West End Auto & Carriage Co.
Oldsmobile, F. H. Luford and L. S. Ferris.
Greenwich—Oldsmobile, Greenwich Garage.
Hartford—Stutz, Stutz Motor Car Co.
†Detroit, Detroit Elec. Car Co.
New Haven—Oldsmobile, Burns-Thomas Co.
South Norwalk—Cole, Vaast Bros. Garage.
Wethersfield—Allen, J. M. Macdonald Co.
Winsted—Buick, Roscoe Benjamin.
Cadillac, Roscoe Benjamin.
Ford, Roscoe Benjamin.
Haynes, John and Nelson Secor.
Oldsmobile, Roscoe Benjamin.

DISTRICT OF COLUMBIA.

Washington—Hudson, Semmes-Kneessi Co.

FLORIDA.

Eustis—Chandler, Harry S. Jones.
Miami—Oldsmobile, W. W. Charles.
Regal, W. W. Charles.

GEORGIA.

Atlanta—Chandler, John W. Smith.
Dodge, Pegram Motor Co.
Regal, Harry Holland and Henry Collier.
Augusta—Oldsmobile, J. G. Ivey.
Columbus—Oldsmobile, James A. Lewis, Jr.
Cordele—Oldsmobile, Webster Motor Co.
Dawson—Oldsmobile, Lamar Auto Co.
Dublin—Oldsmobile, J. B. Glover.
Hawkinsville—Oldsmobile, Mobley & Parsons.
Richland—Oldsmobile, Alston & Cannon.
Rome—Oldsmobile, Louis Wright.
Sycamore—Oldsmobile, Dr. H. W. Harris.
Valdosta—Haynes, John T. Roberts & Son.

IDAHO.

Burley—Haynes, Dr. Carl Snodgrass.
Twin Falls—Oldsmobile, Western Auto Co.

ILLINOIS.

Alton—Oldsmobile, W. E. Winters.
Aurelia—King, Julius Jordan.
Barry—Haynes, McVay & Lake.
Chicago—Haynes, Julius Debits.
Regal, G. E. Holmes.
Columbia—Moon, Weinel Auto Co.
Danville—R-C-H, John P. Agan.
East St. Louis—Haynes, East Side Overland Auto Co.
Granville—Haynes, Excelsior Garage Co.
Henning—Haynes, T. T. Cornell.
Jerseyville—Apperson, W. F. Shepard.
Kankakee—Oldsmobile, Frank Miller.
Kewanee—Maxwell, E. J. Mosier.
La Salle—Oldsmobile, Leonard Travis.
Lincoln—Oldsmobile, Frank R. Woland.
Marion—Oldsmobile, Hosea W. Cagle.
Newton—Moon, Woody Auto Co.
Pekin—Haynes, Heckman & Spongler Co.
Peoria—Vulcan, J. H. Pfanz.
Plainfield—Moon, Goodwin & Hill.
Ridgefarm—Haynes, D. A. Jones.
Rushville—Haynes, A. C. Tomlinsen.
Springfield—Oldsmobile, L. Lee Savage.
Spring Valley—Cole, Miller & Co.
Tuscola—Haynes, Douglas County Auto Co.

INDIANA.

Auburn—*Hercules, Charles Kinsey.
Baxter—Cole, Hager Bros.
Butler—Haynes, J. C. Brown & Son.
Converse—Haynes, W. McDaniel.
Evansville—Chandler, L. A. Reitz.
Mitchell, Vanderburg Automobile Co.
Fort Wayne—Westcott, D. H. Harris.
Fowler—Haynes, Sleeper Co.
Frankfort—Cole, Model Machine Works.
Haynes, W. F. Kernodle.
Gary—Haynes, Dorman & Sykes.
Hartford City—Oldsmobile, A. W. Tindell.
Highland—Oldsmobile, Highland Garage.
Indianapolis—Dodge, Steinhart-Eckler Auto Co.
Haynes, Indianapolis Haynes Motor Car Co.
Regal, Peterson-Keyes Auto Co.
Lawrenceburg—Haynes, Lawrenceburg Garage & Automobile Co.
Logansport—Haynes, B. F. Conwell.
Marion—Haynes, E. O. Nelson.
Milford—Haynes, F. M. Neff.
Muncie—Haynes, A. E. Needham.
Oakland City—Paige, Campbell Garage.
Remington—Franklin, C. B. Johnston & Son.
South Bend—Dodge, Cadillac Motor Sales Co.
Haynes, J. W. Nikart.
Tipton—Haynes, K. C. Motor Co.
Warsaw—Haynes, Earl W. Conrad.
Wolcottville—Oldsmobile, F. P. Sanders & Sons.

IOWA.

Alta Vista—Oldsmobile, Alta Vista Auto Co.
Baxter—Cole, Hager Bros.
Bellevue—Herff-Brooks, H. H. Lanmeyer.
Cedar Rapids—Moon, Motor Sales Co.
Center Point—Haynes, Haverly & Knight.
Challes City—Herff-Brooks, C. M. Hansel.
Clinton—Saxon, Saxon Motor Car Co.
Vulcan, Andrew Payson.
Colo—Moon, R. W. Bronhard.
Creston—Cole, L. M. Butts.
Moon, J. F. Russell & Sons.
Davenport—†Woods, Mason's Carriage Works.
Dayton—Cole, Carl Johnston.
Deep River—Herff-Brooks, H. W. Hatter.
Dennison—Oldsmobile, Dennison Auto Co.
Des Moines—Davis, Olsen Auto Co.
Dubuque—Dodge, Byrne Bros.
Eddyville—Buick, Wells & Garett.
Grand Junction—Cole, E. A. Caswell.
Hampton—Herff-Brooks, A. C. Bird.
Independence—Oldsmobile, J. H. Wright.
Keosauqua—Moon, E. W. Peacock.

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Kiron—Oldsmobile, Kiron Auto Co.
Madrid—Briscoe, Jones Automobile Co.
Melrose—Herff-Brooks, L. D. Lemley.
Nevada—Chandler, Knudson Auto Co.
Red Oak—Moon, B. Peterson Garage.
Riverside—Haynes, H. F. Griffith.
Sioux City—Cole, Cole Motor Co.
King, E. A. Christianson & Co.
Oldsmobile, H. E. Shoberg Motor Co.
Studebaker, Holliday Motor Car Co.
Sully—Haynes, W. H. Holdsworth.
Tama—Moon, Thompson & Graham.
Thurman—Oldsmobile, Thurman Motor Car Co.
Waterloo—Oldsmobile, Wagner Wood Auto Co.
Regal, Peverill Motor Sales Co.
Waukon—Studebaker, E. R. Smith & Co.
Webster City—Moon, Parkhurst & Lavender Auto Co.
Williamsburg—Herff-Brooks, H. A. Dunlap.

KANSAS.

Ellsworth—Overland, C. B. Flora and Charles Hackenberger.
Hutchinson—Dodge, Hutchinson Motor Car Co.
Lawrence—Cole, C. R. Varnum.
Paola—Cole, C. C. Hoover.
Wichita—Cadillac, Callender Cadillac Co.
Chevrolet, Arkansas Valley Automobile Co.
Haynes, Wahl Motor Car Co.
Regal, Regal Motor Car Co.

KENTUCKY.

Covington—Haynes, Madison Motor Car Co.
Louisville—Oldsmobile, Kentucky Automobile Co.
Providence—Buick, Ford Sales Co.
Versailles—Westcott, Cleveland & Co.

LOUISIANA.

New Orleans—Maxwell, Louisiana Motor Car Co.
Shreveport—Regal, Crawford Jenkins & Booth.

MAINE.

East Millinocket—Haynes, Charles H. Pennings.
Fort Fairfield—Cole, Hopkins Bros.
Haynes, W. G. Richard & Son.

MARYLAND.

Baltimore—Saxon, S. S. Greenwall.
Cumberland—Oldsmobile, W. E. Robosson.

MASSACHUSETTS.

Belchertown—Herff-Brooks, M. C. Baggs.
Boston—Empire, Empire Motor Sales Co.
Oldsmobile, Wheelock-Jeffery Co.
Regal, W. L. Russell Co.
Saxon, Saxon Motor Co. of Mass.
Brockton—Detroiter, Franklin Motor Co.
Regal, City Garage.
Charlton—Haynes, Frank Knight.
Dorchester—Oldsmobile, Proctor Bros.
Egypt—Oldsmobile, Egypt Garage & Sales Co.
Everett—Oldsmobile, Outlet Furniture Co.
Fitchburg—Cadillac, Iver Johnson S. G. Co.
Haverhill—Oldsmobile, Renton Motor Car Co.
Lowell—Oldsmobile, Arthur J. Cummiskey Motor Car Co.
Pittsfield—Chandler, City Garage & Sales Co.
Rockport—Oldsmobile, A. Carl Butman.
Springfield—Dodge, P. A. Williams, Jr.
Oldsmobile, Forest Park Garage.
Saxon, Baxter-McKenzie Co.
Winton, August Van der Wolk.
South Deerfield—Oldsmobile, E. C. Gibson.
Worcester—KisselKar, E. J. Kehoe.
‡Trumbull, Edward E. Allen.

MICHIGAN.

Alpena—Studebaker, C. F. Steele.
Bay City—Saxon, D. K. McKerlie.
Charlotte—Saxon, Shaull & Lamont.
Detroit—Franklin, William Daughty.
Saxon, Wetmore-Quinn Co.
*Denby, Transportation Eng. Co.
‡Gadabout, Gadabout Sales Co.
Holland—Overland, Westrate & Brouwer.
Howell—Saxon, R. E. Silsbee.
Ionia—Buick, Benedick-Buick Co.
Ford, Benedick-Buick Co.
Jackson—R-C-H, Weber Bros.
Kalamazoo—Saxon, H. J. Cooper.
Lakeview—King, C. C. Bollinger.
Lansing—Saxon, P. H. Edmonds.
Saginaw—Franklin, Fred H. Witters.
Saxon, J. P. Beck.
St. Johns—Briscoe, W. M. Luecht.

MINNESOTA.

Albert Lea—Maxwell, A. E. Bassett Co.
Brainerd—Haynes, Sharlund Co.
Duluth—Cole, Johnson Motor Car Co.
Eagle Lake—Haynes, John Casper.
Kasson—Oldsmobile, Otterness & Son.
Minneapolis—Detroiter, Velie Motor Vehicle Co.
Maxwell, Martin Motor Sales Co.
Oliver—Haynes, Kvech & Jamsen.
St. Paul—Cole, Martin Motor Sales Co.
Moon, Selby Motor Car Co.
Winona—Cole, Nevins Livery & Trans. Co.
Wykoff—Haynes, Olsen & Lentink.

MISSISSIPPI.

Columbus—Oldsmobile, Columbus Auto Co.
Regal, S. L. Wright.
Pertshire—Chandler, S. D. Knowlton.
Vicksburg—Haynes, B. J. Johnson Machine Works.

MISSOURI.

Arbela—Herff-Brooks, J. L. Racey & Son.
Columbia—Cole, Columbia Auto Co.
Moon, W. C. Bowling.
Hamilton—Oldsmobile, F. A. Hawkes.
Hannibal—Moon, Long Mfg. Co.
Joplin—Moon, Joplin Supply Co.
Kahoka—Oldsmobile, Triple Star Garage.
Kansas City—Car-Nation, Apple Motor Co.
King, J. F. Jones.
Krit, Western Motor Co.
R-C-H, J. A. Garnier & Son.
Marshall—Cole, Blooser Bros.
Memphis—Oldsmobile, H. V. Smoat.
Mexico—Saxon, Fred A. Morris.
Mound City—Franklin, C. N. and J. Scott.
Oregon—Oldsmobile, Auto Sales Co.
Pleasant Hill—Oldsmobile, Manuki & Wester.
Poplar Bluff—Cole, J. A. Quinn.
Ravenwood—Haynes, E. F. Bishop.
Ridgeway—King, Curtis & Francis.
Springfield—Regal, Sam Herrick & Son.
St. Charles—Oldsmobile, F. J. Tainter & B. K. Stumberg.
St. Louis—Briscoe, Briscoe Motor Sales Co.
Davis, Cherokee Automobile Co.
Dodge, Frank R. Tate.
Empire, Coller-Reitz Motor Car Co.
Haynes, James E. and L. E. Newell.
Oldsmobile, De Luxe Automobile Co.
Regal, Anselm-Ganahl Motor Car Co.
*Wagenhals, Wagenhals Motor Car Co.
St. Marys—Moon, J. F. Bartells.

MONTANA.

Bridger—Haynes, Dowdle & Hough.
Sheridan—Haynes, H. R. Marsh.

NEBRASKA.

Beatrice—Moon, Mercantile Co.
Fremont—Oldsmobile, John Monnich.
Omaha—Elk-Hart, Nebraska Crow-Elk-Hart Co.
Oldsmobile, Drummond Motor Co.
Regal, T. G. Northwall Co.
Scottsbluff—Oldsmobile, Edwards & Morse.

NEVADA.

Ely—Oldsmobile, Ely Garage & Supply Co.

NEW HAMPSHIRE.

Berlin—Franklin, R. B. Wolf.
Deming—Oldsmobile, Deming Auto Co.
Dover—Oldsmobile, Central Garage.
Groveton—Oldsmobile, E. C. Brown.
Laconia—Oldsmobile, Lougee-Robinson & Co.
Littleton—Ford, Downing's Garage.
Oldsmobile, Downing's Garage.
Studebaker, Downing's Garage.
Manchester—Maxwell, Maxwell Motor Sales Co.
Oldsmobile, Hanover Street Garage.

NEW JERSEY.

Delaware—Franklin, Quig Bros.
Elizabeth—R-C-H, Franklin Auto Co.
Franklin—Oldsmobile, Franklin Garage.
Jersey City—Oldsmobile, Krone & Minnerly.
Long Beach—Oldsmobile, John F. Bradley.
Morristown—Oldsmobile, W. H. Dutton Co.
Netcong—Oldsmobile, A. A. King.
Newark—Oldsmobile, Essex Automobile Co.
Newburg—Oldsmobile, Meyer & Berg.
Paterson—Oldsmobile, Oscar Peterson.
Peapack—Oldsmobile, John Burd's Garage.
Union Hill—Oldsmobile, Union Automobile Co.

NEW MEXICO.

Alamogordo—Oldsmobile, George B. Bent.
Carlsbad—Oldsmobile, R. O. Ohnemus & Son.
Las Vegas—Oldsmobile, Charles Olfeld Co.
Roswell—Oldsmobile, H. T. Bailey.
Silver City—Oldsmobile, Jones, Downes & Co.
Taos—Oldsmobile, Dr. T. P. Martin.
Wagon Mound—Oldsmobile, B. P. Robinson.

NEW YORK.

Attica—Oldsmobile, E. J. Seagert.
Auburn—Moon, Moon Garage.
Avon—Oldsmobile, H. W. Spencer.
Brooklyn—Moon, Putnam Motor Car Co.
Buffalo—R-C-H, George C. Barone.
Velie, Monroe Motor Sales Co.
Westcott, Buffalo KisselKar Co.
†Rauch & Lang, Daw Electric Car Co.
Flushing—Oldsmobile, J. B. Bleecker.
Freeport—Oldsmobile, Columbia Brass Foundry.
Fulton—R-C-H, George M. Ives.
Groton—Regal, J. H. Waterman.

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Little Neck—Oldsmobile, George M. Cornell.
Marathon—Regal, W. E. Seamans & Son.
Monroe—Oldsmobile, Monroe Garage Co.
Mt. Vernon—Cole, Central Garage Co.
New York—Briscoe, Briscoe Auto Co.
Dodge, Colt-Stratton Co.
Herff-Brooks, Dimond-Warren Motor Co.
Krit, De Lamater Byrnes Automobile Co.
Moline, Minerva Motors Co.
Oldsmobile, Oldsmobile Co. of N. Y.
Pullman, Drouet & Page Co.
Plattsburg—King, L. G. Barton.
Quogue—King, Louis Muley.
Redding—Oldsmobile, Martin V. B. Burr.
Rochester—Oldsmobile, George W. Henner.
R-C-H, A. V. Hart.
Sayville—Oldsmobile, O. M. Rogers Co.
Skaneatles—Oldsmobile, G. A. Chamberlain & Co.
Troy—Herff-Brooks, East Side Garage.
Utica—Buick, I. R. Gardiner.
Washingtonville—Oldsmobile, Nicoll's Garage.
Watertown—R-C-H, A. E. Lawyer.
Wellsville—Franklin, Brown & Duke.

NORTH CAROLINA.

Coleridge—Haynes, Howard Morrison.

NORTH DAKOTA.

Fargo—Cole, C. H. Reineke & Son.
Grafton—Franklin, J. W. McKay.

OHIO.

Akron—Oldsmobile, Middlebury Auto Garage.
Regal, Main Auto & Supply Co.
Saxon, Prospect-Buick Co.
Alliance—Oldsmobile, George H. Judd.
Regal, Main Auto & Supply Co.
Bristolville—Oldsmobile, Miller & Dilley.
Bucyrus—Haynes, H. A. Paxton.
Overland, Kroegel & Parsel Bros.
Cambridge—Oldsmobile, Cambridge Motor & Storage Co.
Canal Dover—Maxwell, W. C. Hardesty.
Canton—Lozier, Canton Buggy Co.
Cedarville—Allen, Magley Bros.
Centerburg—Westcott, I. S. Greek.
Cincinnati—Chandler, Peerless Garage.
Dodge, Lincoln Motor Car Co.
Herff-Brooks, Herff-Brooks Motor Sales Co.
King Avon Garage & Sales Co.
Cleveland—Dodge, Neighbors Motor Co.
King, Dunham Motor Car Co.
Moon, Dunham Motor Car Co.
Oldsmobile, Windemere Euclid Garage.
Columbus—Auburn, Pausch & Selbach Wagon & Auto Co.
Briscoe, Auto Inn & Exchange.
Cadillac, Curtin Williams Automobile Co.
Chalmers, Broad Oak Automobile Co.
Franklin, Barr Motorcycle Co.
Imperial, Warren-Southwick Co.
Inter-State, Twyman Motor Car Co.
Mitchell, G. E. Thomas.
Oakland, Oscar Lear Motor Co.
Ohio, Craighead Motor Sales Co.
Oldsmobile, W. W. Muzzy.
Packard, F. E. Avery & Son.
Pierce-Arrow, Broad Oak Automobile Co.
Regal, Ohio Auto Sales Co.
Saxon, Broad Oak Automobile Co.
Velie, Winders Motor Car Co.
†Baker, Michael Abel.
‡Cricket, Central Ohio Paper Co.
‡Dayton, Buckeye Cyclecar Co.
‡Scripps-Booth, Buckeye Cyclecar Co.
‡Trumbull, R. E. Klages.
‡Zip, C. F. Wege, National Bank Bldg.
Dayton—Detroiter, F. C. Moody.
East Liverpool—Oldsmobile, Lincoln Motor Car Co.
Findlay—Briscoe, Decker & Finchbaugh.
Chevrolet, Decker & Finchbaugh.
King, Decker & Finchbaugh.
baugh.
Fostoria—Herff-Brooks, A. C. Ash & Son.
Fremont—Krit, John P. Smola.
Glenford—Westcott, H. R. Carmican.
Greenville—Oldsmobile, Central Auto Co.
Hamilton—Buick, A. B. Shetter.
Hebron—Westcott, C. A. Pence.
Huron—Oldsmobile, C. E. Rhinemiller.
Overland, Lima Overland Co.
Kenton—Oldsmobile, Arnett Auto Co.
Lancaster—Cadillac, Leroy Huddle.
Lima—Buick, W. F. Bryan.
Moon, H. L. Sherrick.
Overland, Lima Overland Co.
Logan—Ford, C. R. Luts.
Hupmobile, Main Motor Car Co.
Reo, F. E. Bright.
Lorain—Oldsmobile, F. F. Burrer.
Mansfield—Oldsmobile, Pat Gatton & Sons.
Marietta—Cadillac, Court Motor Car Co.
Chalmers, Marietta Motor Car Co.
Ford, Marietta Motor Car Co.
Medina—Oldsmobile, Western Reserve Garage.
Nelsonville—Oldsmobile, Frank Minner.
Newark—Cadillac, Spellman Bros.
Oldsmobile, Fred W. Simpson.
New Carlyle—Westcott, Ullery & Forgey.
Norwalk—Oldsmobile, H. C. Newman.
Piqua—Westcott, Mong & Dietrick.
Pleasantville—Westcott, C. F. Cloud.
Portsmouth—Haynes, Hill Top Automobile Co.
Springfield—Allen, Eaton Motor Service Co.
Westcott, E. L. Ensign.
Steubenville—Haynes, Steubenville Motor Car Co.
Oldsmobile, Oldsmobile Sales Co.
Tiffin—Oldsmobile, C. F. Fifer.
Toledo—R-C-H, E. W. K'Burg.
Regal, Auto Distributing Co.
Westcott, Baumgardner & Kibby.
Washington C. H.—Westcott, W. C. Sturgeon.
Woodsfield—Oldsmobile, Troutman Garage.
Wooster—Oldsmobile, Warren Garage.
Youngstown—Herff-Brooks, Cartercar Sales Co.
Oldsmobile, Youngstown Auto & Repair Co.
Regal, Regal Sales Co.
Zanesville—Cadillac, Valley Motor Co.
Packard, Wedge Garage.

OKLAHOMA.

Blackwell—R-C-H, J. D. Winfield.
Hinton—Regal, James A. Knox.
Tulsa—Oldsmobile, New State Auto & Supply Co.

OREGON.

Pendleton—Oldsmobile, B. F. Trombley.
Portland—Briscoe, Francis & Kadderly.

PENNSYLVANIA.

Allentown—Haynes, Krause Auto Co.
Altoona—King, R. E. Bell.
Bloomsburg—Oldsmobile, J. W. Wright.
Braddock—Oldsmobile, Copeland Garage.
Cannonsburg—Cole, Globe Garage & Machine Co.
Columbus—Herff-Brooks, Scholton & Fuller.
Emporium—Oldsmobile, Emporium Machine Co.
Erie—Chandler, Erie Penn Auto Co.
Harrisburg—Oldsmobile, East End Automobile Co.
Houtzdale—Oldsmobile, H. J. Wagner.
Johnstown—Westcott, S. N. Hayes.
Lancaster—Haynes, Union Garage & Supply Co.
McKean—King, F. X. Bowman.
Meyersdale—Oldsmobile, Keystone Garage.
Monongahela—Hayes, Monongahela Livery & Garage.
Mt. Union—Haynes, City Garage.
Newcastle—Cadillac, Elton Auto & Repair Co.
Norristown—Haynes, F. Kenneth Moore.
Pen Argyl—Oldsmobile, Joel F. Batt.
Philadelphia—Dodge, Thornton-Fuller Automobile Co.
Moon, Stearns Motors Co.
R-C-H, Colonial Motor Co.
Regal, Regal Sales Organization.
Pittsburg—Apperson, Pittsburg Apperson Co.
Chandler, Vestal Motor Car Co.
Dodge, McAlister Bros.
King, W. W. Bennett Motor Car Co.
Oldsmobile, Oldsmobile Co. of Pittsburg.
Regal, Buhl Regal Car Co.
Rummel—Moon, Rummel Auto Co.
Scranton—Franklin, Hill & Lydick.
Sharon—Oldsmobile, Greer Auto Co.
Spangler—Saxon, M. J. Kirsch & Son.
St. Marys—Franklin, Elk Engineering Works.
Tyrone—Haynes, W. H. & J. R. Davis.
Uniontown—Saxon, J. Y. Binns.
Washington—Haynes, H. L. Robinson.
Oldsmobile, Washington Automobile Co.
West Newton—Oldsmobile, McKenery & Britton.
Wilkes Barre—Dodge, Frank E. Mathesen.
Haynes, Frank E. Mathesen.

RHODE ISLAND.

Arctic—Oldsmobile, B. F. Tefft, Jr.
Pawtucket—Oldsmobile, James A. Welch.
Providence—Herff-Brooks, Joseph A. Pigeon.
Oldsmobile, Peckham Bros.
Hudson, R. W. Powers.
Hupmobile, L. B. Lorimer Co.
Partin-Palmer, Alfred O. Poirier.
Woonsocket—Herff-Brooks, Fuller Bros.
Oldsmobile, H. F. Burdick.

SOUTH CAROLINA.

Spartanburg—Oldsmobile, Elwood F. Bell.

TENNESSEE.

Knoxville—Oldsmobile, Cadillac Sales Co.
Nashville—Oldsmobile, Hager Motor Car Co.
Rogersville—Oldsmobile, Kenner & Co.

TEXAS.

Amarillo—Dodge, W. E. Groendycke.
Oldsmobile, Frank W. Hays.
Austin—Partin-Palmer, Deen's Garage.
*Koehler, S. E. Kinney.
Balmorhea—Oldsmobile, Will J. Rhea.
Beaumont—Moon, M. F. Yount Auto Exchange.
Dallas—*Koehler, W. T. Keaton.
Electra—Oldsmobile, Pioneer Implement Co.
El Paso—Oldsmobile, Western Woodenware Co.
Galveston—Haynes, Texas Garage.
Houston—Dodge, A. C. Burton & Co.
Maria—Oldsmobile, D. C. Wease.
Pecos—Oldsmobile, Landrum & Lynch.
San Angelo—Oldsmobile, Cain Bros.
San Antonio—Oldsmobile, Lawton Motors Co.

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*Koehler, C. H. Dean.
Tyler—Oldsmobile, O. M. Boren.
Wichita Falls—Oldsmobile, Motor Supply Co.

UTAH.

Ogden—Oldsmobile, Lawrence P. Wright.
Salt Lake City—Chandler, Frank Roueche.
Dodge, Tom Botterill Automobile Co.

VERMONT.

Brattleboro—Oldsmobile, Mosher & Tucker.
Burlington—Oldsmobile, P. T. Donovan.
Northfield—Oldsmobile, Cross Bros. Co.

VIRGINIA.

Norfolk—Moon, Norfolk Garage & Machine Shop.
Pulaski—Haynes, City Auto Corporation.

WASHINGTON.

Aberdeen—Oldsmobile, L. A. Poulson.
Bellingham—Oldsmobile, A. Burgess.
Ellensburg—Oldsmobile, A. M. Wright and W. C. Westcott.
Everett—Oldsmobile, L. S. Cannon and S. F. Sherrod.
Grafton—Oldsmobile, Grafton Motor Co.
Seattle—Dodge, Eaton & Campbell.
Kelly-Springfield, E. T. Clarke.
Spokane—Chevrolet, Moylan-Reilly Automobile Co.
Lozier, Moylan-Reilly Automobile Co.
Tacoma—Oldsmobile, E. H. McClellan.
‡Woods Mobilette, Progressive Motor Co.

WEST VIRGINIA.

Blue Field—Chandler, John L. Crockett.
Glen Jean—Herff-Brooks, Robert Essex.
Huntington—Oakland, Kentucky Motor Car Co.
Packard, A. T. Love.
Logan—Chandler, J. A. Washington.
McMechen—Alter, W. R. Baumberger.
Newburg—Briscoe, J. T. Logsdon.
Metz, J. T. Logsdon.
Wellsburg—Oldsmobile, Charles H. Beal.
Wheeling—Haynes, Everybody's Garage.

WISCONSIN.

Brodhead—Herff-Brooks, Fleek & Knezel.
Eau Claire—Cole, Tanberg Auto Co.
Fond du Lac—Oldsmobile, John D. Giddings.
Johnson Creek—Buick, J. C. Shekey Co.
La Crosse—Oldsmobile, Moll Savage Motor Co.
Manitowac—Briscoe, Olson-Pauly Motor Co.
Ford, Dicke Motor Car Co.
Oldsmobile, Charles A. Streich.
Milwaukee—Apperson, Creek Motor Sales Co.
Chandler, Schreiber-Borse Motor Car Co.
Locomobile, Harry F. Krueger.
Maxwell, Johnson Automobile Co.
R-C-H, Creek Motor Sales Co.
Waukesha—Oldsmobile, R. E. Knowlton.

WYOMING.

Casper—Oldsmobile, Earl C. Boyle.
Cody—Haynes, Adam Hogg.
Douglas—Moon, Rice. Hdw. & Motor Sales Co.

What America Gains by European War.

(Continued from Page 12.)

gian motor car manufacturers achieved the pinnacle of their ambition when they exported $6,258,737 worth of cars and chassis for the past year, the record of the industry. Adding motor parts and motorcycles, the total exports of the Belgian automobile trade for last year were $6,992,557.

According to a recent report received from the seat of war, the plants of the Minerva Motor Works in Antwerp were completely destroyed. These consisted of two large four-story buildings, and from the meager news now at hand, it would seem that the Belgians blew up the buildings rather than let them fall into the hands of the Germans.

At the beginning of the war crisis Belgium stood third in importance among the car producing countries of Europe, France and England being first and second respectively. Among the well known cars manufactured in Belgium were the Minerva, Metallurgique, Nagant, Springuel, Sava, Germain, Pipe, Excelsior, F. A. B., Dasse, Elge, Fif, F. N., Linon and La Moderne.

While the total exports were record breaking for the year ending Dec. 31st last, yet Belgian automobile manufacturers were greatly handicapped owing to the strike that prevailed in the automobile trade during the early part of the year. Following this a general increase in the price of gasoline caused dissatisfaction throughout the country, and was instrumental in holding back sales.

However, the total output of the Belgian automobile industry exceeded the $7,000,000 mark by far for the last fiscal year period. This merely embraces the exports of the country, and does not allow for cars, parts, etc., that were sold in the home market. As Belgium imported $1,753,050 in cars and parts for the same period, it is only natural to assume that the natives patronized their home industries to the extent of $1,000,000 at least. Consequently, the minimum figure at which the business of the Belgian automobile industry could be placed would be $8,000,000.

In addition to the rapid strides that were being made by the manufacturers in respect to the pleasure cars, they were also making a name for themselves in regard to commercial vehicles. The Minerva Company was manufacturing a delivery lorry of a type accepted by one of the leading London express companies. Pipe, another Belgian truck manufacturer, was exhibiting an excellent three-ton truck before the war, and several other manufacturers in that country were turning out trucks during the first part of the year.

While the foregoing deals principally with the future, so far as the United States is concerned, yet the actual results of the past year in exports must not be overlooked. The last fiscal year saw a record high total of $40,000,000 worth of automobiles, trucks, parts, etc., exported from this country. Europe imported 13,108 cars valued at $10,168,218; 249 motor trucks, with a value of $248,716, and $1,830,560 worth of parts. Taken as a whole, Europe was the largest customer of the United States. The largest individual country purchaser was England, who took 6992 pleasure cars, worth $5,615,487; 203 trucks with a value of $189,099, and parts worth $1,282,388. Canada was the next largest purchaser, taking 4377 automobiles, worth $5,445,052. A tabulation showing the countries purchasing the largest number of American made motor cars, and their value, during the 12 months ending June 30 last, is printed on page 12.

In addition to the 28,306 automobiles exported last year, valued at $25,392,963, as shown by this table, there were $8,624,232 worth of parts and $1,181,611 represented by truck exports. Under all other Europe are included: Greece, one commercial, $1800; 25 motor cars, $28,256. Turkey, one commercial, $2000; 35 automobiles, $21,052. Also the following passenger cars: Azores and Maderia, 20, $10,771; Bulgaria, 43, valued at $21,679; Gibraltar, 64, $33,030; Iceland, five, $2488; Malta, etc., one, $422; Roumania, 28, $17,018; Servia, four, $2843, and Ireland two, $1593. Under other North America: Newfoundland, one commercial, $1221; five others, $2761; Dutch West Indies, one commercial, $595; 13 others, $9605; Santo Domingo, one commercial, $1800; 11 others, $15,195, and a total of nine passenger cars valued at $8368 to British Honduras, Hayti and the Danish West Indies.

MOTOR CAR EQUIPMENT COMPANY.

Boston Concern Absorbs the Bi-Motor Equipment Company of the Same City.

The Motor Car Equipment Company, Boston, Mass., has acquired the stock, good will and business of the Bi-Motor Equipment Company, likewise of Boston. James A. Abels, secretary of the Motor Car Equipment Company, announces that the new concern will continue the business at 180-182 Massachusetts avenue, along the same lines as the company's New York City house, and in conformity with the latter's policy of selling at wholesale only.

Catalogues and discount sheets will be mailed out shortly, and the company's monthly bulletins, comprising everything in accessories, tools and hardware pertaining to motor cars, will be mailed upon request. It is the intention of the new company to carry one of the largest and most complete stocks in New England, and to make the name of the Motor Car Equipment Company synonymous with service.

POWER TIRE PUMPS.

Kellogg Manufacturing Company Marketing Complete Equipment for the Used Automobile.

Many owners desiring to equip their car with a power tire pump have abandoned the idea because of the cost of installing it, as generally this involves considerable expense and alteration.

The trade will be interested to learn that the Kellogg Manufacturing Company, 128 Circle street, Rochester, N. Y., is manufacturing complete attachments for its well known single-cylinder air pump for standard makes of cars. This enables the dealer and garageman to install a power driven tire pump at a price that will interest his customers.

The Kellogg Manufacturing Company carries the attachments above referred to in stock and the complete equipment, including the No. 101 one-cylinder pump, retails for $15. Liberal discounts are offered to the trade. Catalogue and information will be supplied upon request.

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Engine Driven KELLOGG Air Pump

Complete with rubber tubing, air gauge and attachments carefully fitted and easily installed on your car

$15

We can supply you with a Kellogg pump complete with attachments prepared for any of these cars:

Abbott-Detroit	Flanders	Marmon	Reo
American	Hudson	Maxwell	Simplex
Buda Motors	Hupmobile	Moon	Singer
Buick	Imperial	National	Speedwell
Cartercar	Jackson	Oakland	Stearns
Chalmers	Jeffery	Olds	Studebaker
Chandler	King	Overland	Stutz
Cole	Kissel	Packard	Velie
Davis	Krit	Paige-Detroit	Westcott
Elkhart	Lexington	Patterson	

Write today for printed matter and special information. Give us name and model of your car and name of your dealer. As our pumps are guaranteed, you save time by sending your check with above information. Satisfaction guaranteed or money back.

The Only All-Metal Pump Which Will Not Spray Oil

Compare the Kellogg with any other pump and you will appreciate its superiority.

The reason why there are more Kellogg pumps in use today than all other makes combined is that over 60,000 are serving their owners faithfully and most satisfactorily.

Our six years' experience in building pumps has taught us to make pumps better than others consider necessary.

Kellogg pumps stand up because we select the best material and insist upon accurate workmanship.

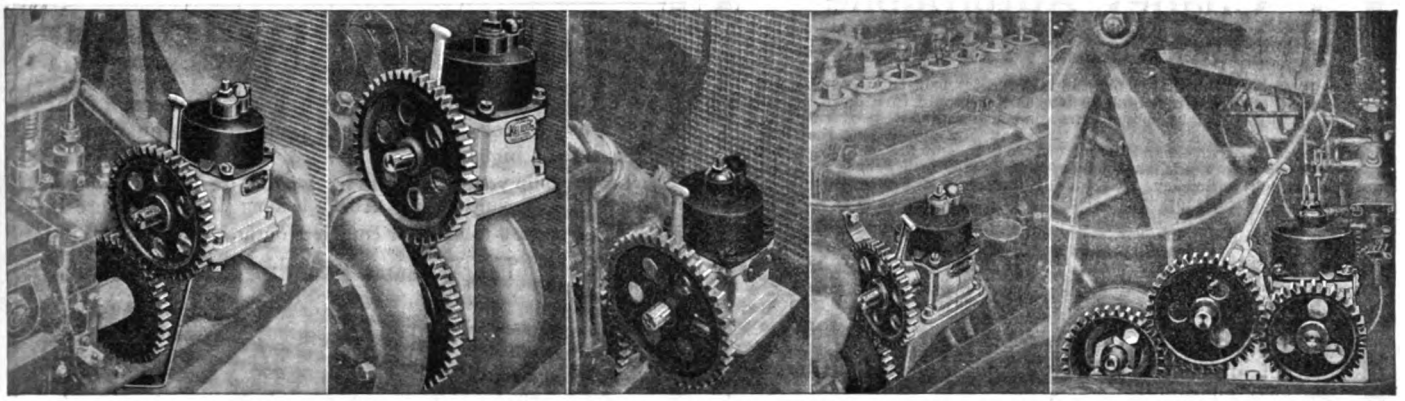
Do not forget that you do not have to wait for attachments to be made or pay extra for them.

Dealers: Write us for discounts and get busy. Every car owner can afford this pump.

KELLOGG MANUFACTURING COMPANY

Main Office and Factory: 128 Circle St., Rochester, N. Y.
Branches: Boston, New York, San Francisco, Detroit, Chicago.

Special Pumps for Garages—Air-Starting Units—New 1915 Ford Starter—4 Cylinder Pumps.



Reo the 5th | Buick 36 & 37 (Model C & D) | Overland 80 and 81 | Studebaker 4 Cyl. 1914 & 1915 | Hudson 6-40

(Note different methods of Attachment. These Attachments are also of "Everlasting Construction".)

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A COMBINATION TOOL WITH 100 UTILITIES

When magnetized by battery connection it may be used to remove nuts, bolts, tools or metal parts from engine cases, timing gear and gearset cases, cylinders, differential housing, oil reservoirs or other inaccessible places; to remove cuttings from tapped holes and eliminate metal particles from oil. With it valves may be ground without removing the springs.

We Want Agents Everywhere. Liberal Selling Proposition

W & L Magnetic Tools are sold at retail for postage prepaid. Liberal discount to trade. **$3.00**

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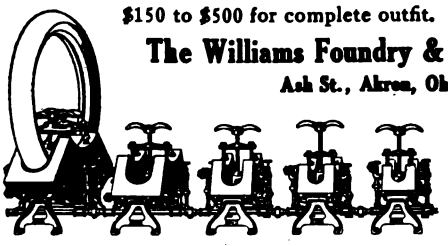

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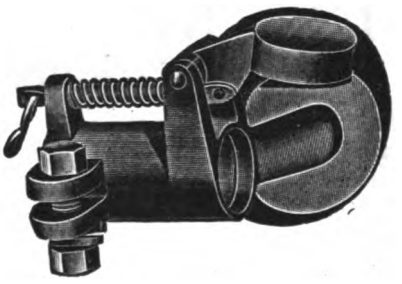

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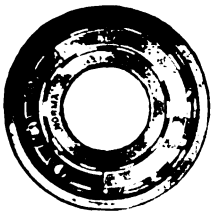

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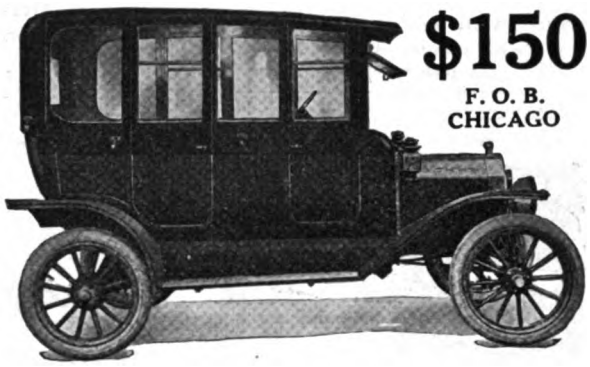

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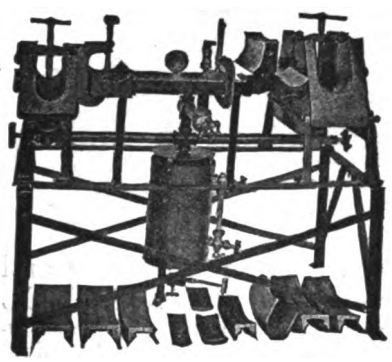

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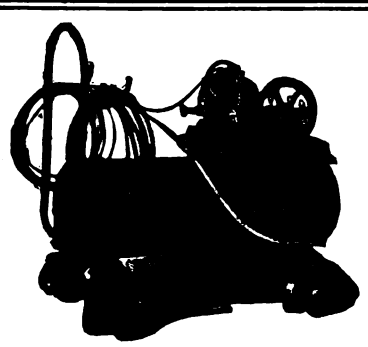

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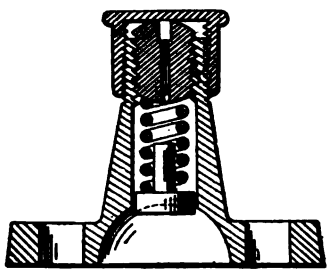

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ANY STATE COMPLETE

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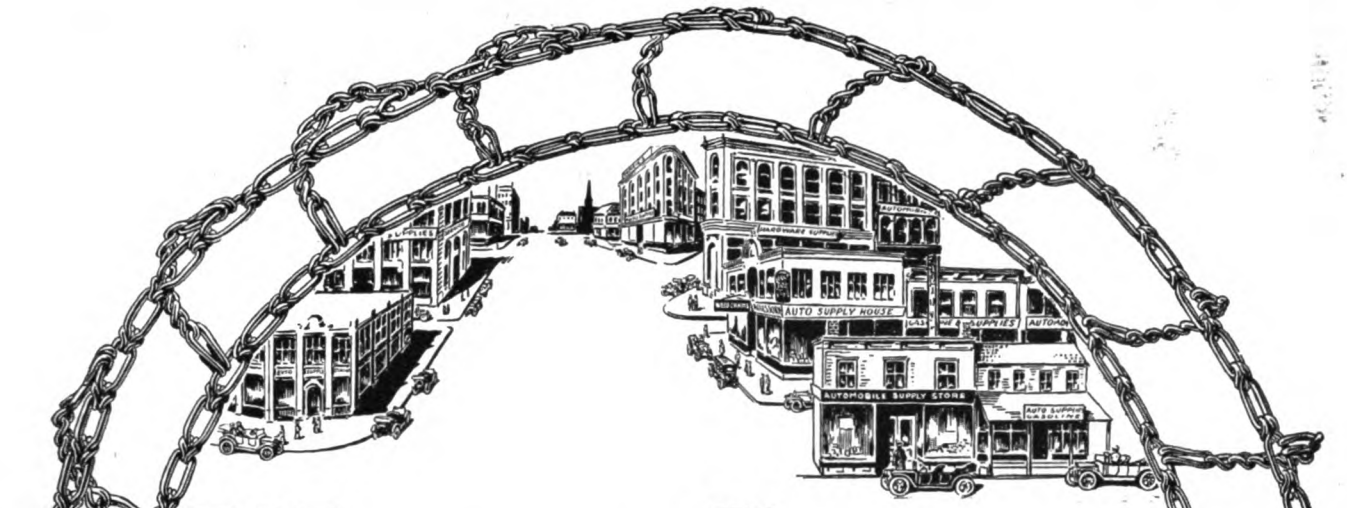

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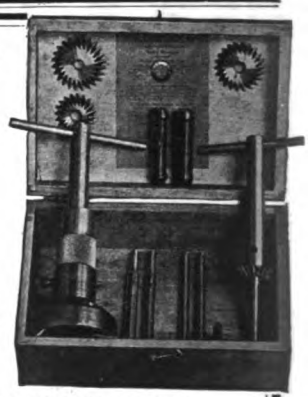

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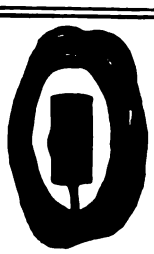

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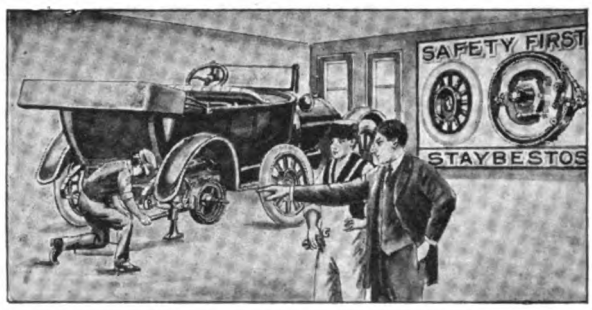

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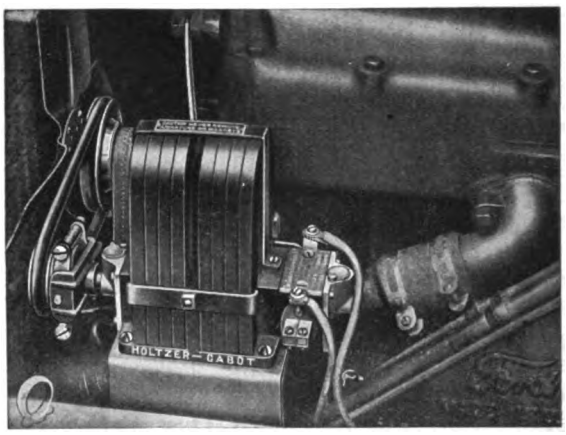
FOR FORD CARS



Some Reasons For Their Success

Battery charged through cut-out—Can supply current for lighting direct—No field coils—No failure to generate—Run in either direction—Wiring is simple—Low power consumption.

For FORDS, and other small and medium cars they are unsurpassed. ***Send for Booklet A-1807.***

THE HOLTZER-CABOT ELECTRIC Co.
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1003 UNION TRUST BLDG. BALTIMORE

Universal Test Clips

Time savers for charging automobile storage batteries—made of copper—indestructible—may be used over and over again—will carry 15 Amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Write for a free sample, using your company's letter head. No attention paid to postals.

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431 High Ave., S. E., Cleveland, Ohio

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Buyers' Reference and Guide

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.

Auto Parts Co., Providence, R. I.

Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.

Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.

Northwestern Chemical Co., Marietta, O.

Times Square Auto Co., 56th St., at Broadway, New York City.

Waite Auto Supply Co., 81 Exchange place, Providence, R. I.

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)

Williams Foundry & Machine Co., Akron, O.

AMMETERS AND VOLTMETERS.

Hoyt Electrical Instruments Works, Penacook, N. H.

ARBOR PRESSES.

Bartlett, Edwin E., 326 A St., Boston. (Greenerd.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

American Auto Supply Co., 1741 Broadway, New York City; 1408 Michigan Ave., Chicago.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1790 Broadway, New York City; 805 Woodward Ave., Detroit.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)
New York City. (Norma.)

Norma Co. of America, 1790 Broadway,

BATTERIES.

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

Waite Auto Supply Co., 81 Exchange place, Providence, R. I. (Success.)

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn. (Raybestos.)

Russell Mfg. Co., Middletown, Conn. (Rusco.)

Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)

Staybestos Mfg. Co., Lena and Armat Sts., Germantown, Philadelphia, Penn. (Staybestos.)

Thermoid Rubber Co., Trenton, N. J. (Thermoid Hydraulic Compressed.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)

Zenith Carburetor Co., Detroit. (Zenith.)

CARS—GASOLINE PLEASURE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Cole Motor Car Co., Indianapolis, Ind. (Cole.)

Inter-State Motor ., 804 West Willard St., Muncie, Ind. (Inter-State.)

Maxwell Motor Co., Inc., Detroit. (Maxwell.)

Metz Co., Waltham, Mass. (Metz.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Peerless Motor Car Co., Cleveland, O. (Peerless.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Stutz Motor Car Co., Indianapolis. (Stutz.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Overland.)

Winton Motor Car Co., 131 Berea Road, Cleveland, O. (Winton.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Alma Motor Truck Co., Detroit. (Republic.)

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Independent Motors Co., Port Huron Mich. (Independent.)

Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Sanford Motor Truck Co., Syracuse, N. Y. (Sanford.)

Signal Motor Truck Co., Detroit. (Signal.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)

General Vehicle Co., Long Island City, N. Y. (G. V.)

CEMENTS.

Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

CIGAR LIGHTERS. (See Lighters.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 42 Broadway, New York City.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

FORD AUTOMOBILE SPECIALTIES.

Russell Mfg. Co., Middletown, Conn.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHT DIMMERS.

Chaney Co., L. F., Springfield, O. (Chaney.)

HEATERS.

Superior Mfg. Co., N. S. Pittsburg, Penn. (Superior Safe Garage.)

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BUYERS' REFERENCE and GUIDE—Continued

HORNS.

Bonner, D. Henry, Co., Cambridge, Mass. (Tremo.)
Garford Mfg. Co., Elyria, O. (Tuto.)

JACKS.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J.

LAMPS.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric Trouble.)
Mueller & Co., R. S., 431 High Ave., S. E,. Cleveland, O. (Clamp.)

LEATHER GOODS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTERS, CIGAR.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)

LIGHTING SYSTEMS, ELECTRIC.

Garford Mfg. Co., Elyria, O. (Dynalux.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)
Continental Asbestos Corp., Worcester, Mass. (Spedolene.)
Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)
Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)
Haws, Geo. A., 148 Front St., New York. (Panhard.)
Indian Refining Co., 17 Battery place, New York City. (Havoline.)
New York Lubricating Oil Co., 116 Broad St., New York City. (Monogram.)
New York & New Jersey Lubricant Co., 165 Broadway, New York. (MotoRol, Non-Fluid, Kejex.)
Northwestern Chemical Co., Marietta, O. (Gear-Silence.)
Standard Oil Co., New York. (Polarine.)
Vacuum Oil Co., Rochester, N. Y. (Gargoyle Mobiloil.)
Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.
Eisemann Magneto Co., 32 33d St., Brooklyn, N. Y. (Eisemann.)
Heinze Electric Co., Lowell, Mass. (Heco.)
Holtzer-Cabot Co., Brookline, Mass.
Marburg Bros., 1790 Broadway, New York. (Mea.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

MAILING LIST.

Owners' Auto List Co., Albany, N. Y.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

METERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)
Century Foundry Co., No. Salina St., Syracuse, N. Y. (Century Ford.)
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.
Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

PAINT, ANTI-RUST.

Northwestern Chemical Co., Marietta, O. (Never-Rust.)

PATCHES, TIRE.

Braender Rubber & Tire Co., Rutherford, N. J. (Cementless.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

Northwestern Chemical Co., Marietta, O.
Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

PRESSES. (See Arbor Presses.)

PUMPS, OILS AND GREASE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

REAMERS.

Harding Distributing Co., Boston. (Martell Aligning.)

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)
United States Tire Co., Broadway and 58th St., New York. (Continental and Whittlesey Demountable.)

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)

ROLLER BEARINGS.

Hyatt Roller Bearing Co., Detroit. (Hyatt.)
Norma Co. of America, 1790 Broadway, New York City. (Norma.)

SEAT COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SELF-STARTERS. (See Motor Starters.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.
Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Truffault-Hartford.)
Perkins-Campbell Co., 622 Broadway, Cincinnati, O.
Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SOAPS.

Northwestern Chemical Co., Marietta, O. (Dermalene.)

SPARK PLUG CASES.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)
Bosch Magneto Co., 223-225 W. 46th St., New York.
Heinze Electric Co., Lowell, Mass. (Heco Priming.)
Silvex Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)
Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

SPEEDOMETERS, RECORDERS, ETC.

Northwestern Chemical Co., Marietta, O. (Hydrometers and Thermometers.)

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

TEST CLIPS.

Mueller & Co., R. S., 431 High Ave., S. E., Cleveland, O. (Universal.)

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIRE ACCESSORIES.

Braender Rubber & Tire Co., Rutherford, N. J.
Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)
Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens Valves.)

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Braender Rubber & Tire Co., Rutherford, N. J.
Northwestern Chemical Co., Marietta, O. (Tire-Lac.)

TIRES—CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)
Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)
Lax-Fal Rubber Co., Dept. S, 77 Chambers St., New York City. (Lax-Fal Guaranteed.)
United States Tire Co., Broadway and 58th St., New York. (Continental, G & J, Hartford, Morgan & Wright.)

TIRES—SOLID AND COMMERCIAL.

United States Tire Co., Broadway and 58th St., New York.

TOPS AND ATTACHMENTS.

Highland Body Manufacturing Co., Station P, Cincinnati, O. (Highland Coupe.)
Mandel Limousine Co., 1455-1457 West Congress St., Chicago, Ill. (Mandel Limosette.)
Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

VALVE LIFTERS AND RESEATERS.

Paro, H. G., Suite 718-719 Michigan Blvd. Bldg., 30 No. Michigan Blvd., Chicago.
W. & L. Mfg. Co., Inc., Buffalo, N. Y. (W & L.)

VALVES, TIRE.

Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens.)

VARNISHES, ETC.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.
Valentine & Co., 456 Fourth Ave., New York City; 343 S. Dearborn St., Chicago; 74 Pearl St., Boston.

VOLTMETERS. (See Ammeters.)

VULCANIZERS.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)
Vanderpool Co., Springfield, O.
Williams Foundry & Machine Co., Akron, O.

WASHERS.

Century Foundry Co., No. Salina St., Syracuse, N. Y. (Wizard.)

WELDING OUTFITS.

Waterhouse Welding Co., 3 Pelham St., Boston, Mass.

WHEELS, WIRE.

Houk Co., Geo. W., 1709 Elmwood Ave., Buffalo, N. Y. (Houk Detachable.)

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.
Mossberg Co., Frank, Attleboro, Mass.

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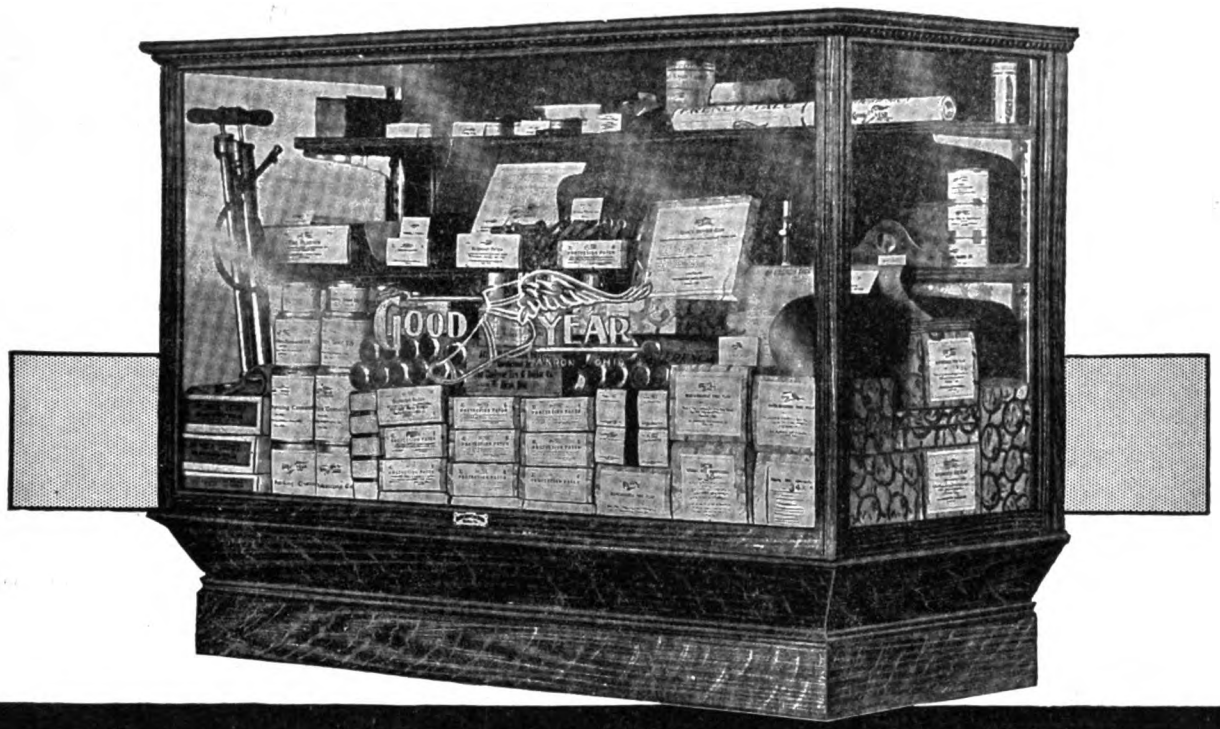

Build on Confidence

Why It Pays to Sell Goodyear "Tire-Savers"

Trade sometimes is won, held and built on little things like a tube patch. Failure of such a small item through inferior quality works to your disadvantage just as much as if it had been a costly tire.

Confidence in the line you carry and in the service you give is the factor that wins for you all the time. And fullest confidence goes with Goodyear Accessories.

All Goodyear products are up to the master-standard set by No-Rim-Cut Automobile Tires, rulers of Tiredom. Which means that Goodyear "Tire-Savers" have a double duty to perform: (1) to be worthy the name from a standpoint of quality and workmanship; (2) to measure up to the name from a standpoint of value and service rendered.

GOODYEAR
AKRON, OHIO
Accessories

A Winning Line

Goodyear Accessories come to you—if you desire—in beautiful, free show-cases that set them off to the best advantage. The one shown above is a fair example of how these show-cases add to the attractiveness of any store, while serving as "Silent Salesmen" as customers come and go.

The quality is there; the demand is there; the profit is there. The name Goodyear itself insures satisfaction. Other lines may pay a little more on paper; but in real dollars and cents, as a result of increased aggregate sales, Goodyear "Tire-Savers" win—not forgetting the assurance of *service* that goes with them.

Send the Coupon

Send the coupon and learn how easily you can secure magnificent show-cases that would cost you money elsewhere. Sending the coupon binds you to nothing. It will bring you information about Goodyear "Tire-Savers" that will surely show you a way to add to sales, profits and prestige.

Send the coupon now. It holds a real opportunity for you.

THE GOODYEAR TIRE & RUBBER CO., AKRON, O.
Makers of Goodyear No-Rim-Cut Automobile Tires

(1974)

The Goodyear Tire & Rubber Co.
Akron, Ohio, Desk 18

Without any obligation on my part, send me full particulars of your accessory proposition to dealers. Also tell me how I can obtain, free, my choice of the show-cases you offer.

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Business .....

Address .....

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No. 30

Mossberg "Safety First" Set of Socket Wrenches

Surely, the most complete **Ford** set of wrenches on the market for **$2.00.**

Contains: No 355 Ratchet Handle
One Long Extension Tube
One Universal Joint
One Screw Driver Bit
Ten Pressed Steel Sockets
(heaviest made)
$\frac{17}{32}$" $\frac{19}{32}$" $\frac{21}{32}$" $\frac{23}{32}$"
$\frac{25}{32}$" $\frac{29}{32}$" $\frac{31}{32}$" Hex.
$\frac{15}{32}$" Square, Oval, main bearings socket and spark plug wrench.

Price $4

Ten Socket Wrenches for $2.00

HONEST, CAN YOU BEAT IT?

Hex. $\frac{17}{32}$" $\frac{19}{32}$" $\frac{21}{32}$" $\frac{23}{32}$" $\frac{25}{32}$" $\frac{29}{32}$" $\frac{31}{32}$"
Square $\frac{15}{32}$" (1915 main bearing nuts)
Spark Plug Socket $\frac{31}{32}$"
Oval Socket (main bearing nuts)

In Canvas kit $2.00

All Steel Monkey Wrench No. 100

Your "life-insurance" against loose adjustments, and resulting accidents. Polished, mechanics' finish, each wrench packed in carton, thoroughly hardened and absolutely guaranteed.

Price each $ .60

10 inches long

No. 10 Set of

FORD Engineers' Wrenches

Thin-model, guaranteed, open-end wrenches, thoroughly hardened and excellent finish. Five wrenches—10 openings. Packed in enamel duck case.

Price, per set, $1.27

Reverse and Brake Pedal Tension Spring Wrenches

No. 645

Ratchet Wrench designed especially for reverse and brake pedal springs. Saves 30 minutes every time you use it.

Price, each - - 50c

No. 640

Goose neck, plain open end, for reverse springs.

Price 10c each

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—FOR—

Ford Automobiles

Frank Mossberg Co.

ATTLEBORO, MASS.

Send for Catalog No. 17 A

Be MASTER of Your FORD!

The most discouraging trouble with motors is the need of frequent grinding of valves. If you will take the trouble to investigate No. 605 Grinder of **Mossberg** brand, you will be surprised to know how easy the valve troubles are entirely obviated.

Price, each 25c

No. 605 **Mossberg** Valve Grinder

The cleverest ever invented for **Ford** cars is the wrench No. 630, designed for cylinder head nuts and rear axle housing nuts. You know yourself how hard it is to get in on these nuts that are "shouldered" into the casings.

Price, each - - - - 26c

No. 630 Cylinder Head Nut Wrench

This shape of a valve grinder is preferred by some of the "boys". We can supply you.

Price, each - - 25c

No. 606 Valve Grinder

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10 CENTS the COPY

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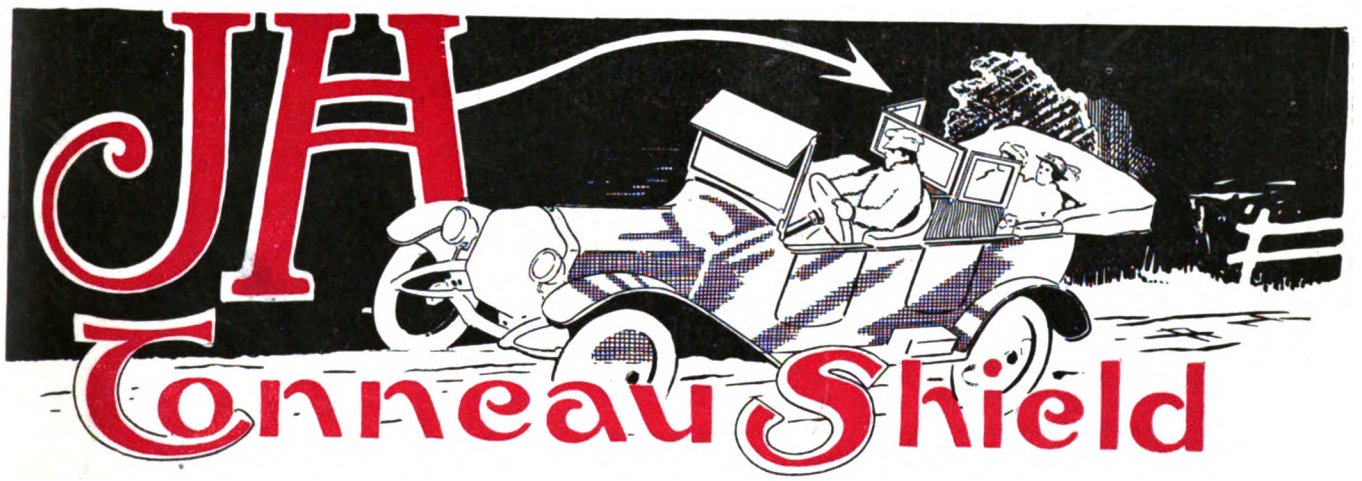
$2.00 the YEAR

THE ACCESSORY —AND— GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., DECEMBER, 1914. NO. 8



JH Tonneau Shield

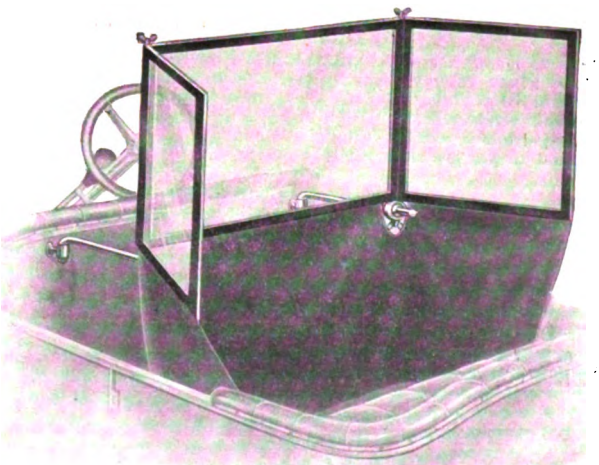
THE LAST WORD

IN MOTOR CAR REFINEMENT, CONVENIENCE AND COMFORT.

The J. H. Tonneau Shield protects the rear seat from wind, dust, rain, cold or snow. Attached to any car gives all the advantages of the limousine, minus its cost.

The J. H. is adjustable to almost any position, permits lady passengers to motor without goggles or veils and to wear the finest clothes.

The J. H. can be folded to take no more room than a robe. When raised it does not interfere with entering or leaving the rear seat. It can be operated by a child with hardly any effort.



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MUTUAL AUTO ACCESSORIES CO. OF AMERICA

58-60 West 65th St., New York, N. Y.

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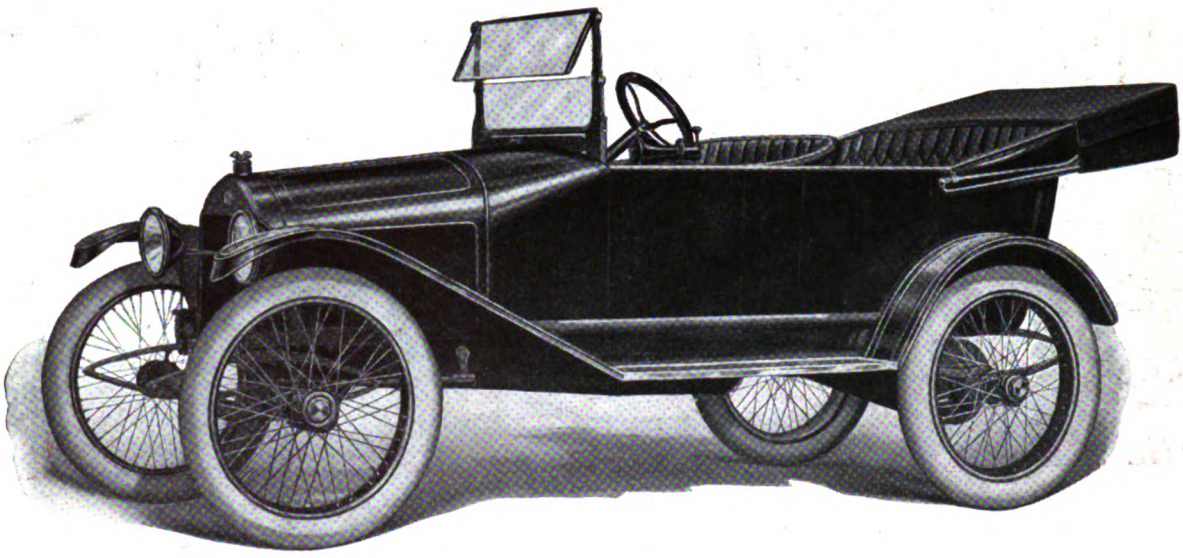

METZ "25"

The Quality Car

TOURING MODEL

$600 Equipped Complete, Including Electric Starter and Electric Lights

To Dealers:

The new METZ Touring Model, illustrated above, will prove a *big* seller and a *quick* seller.

Its equipment includes every up-to-date improvement that has been found worthy and practicable. Nothing is lacking on this car that adds to the completeness of motoring pleasures.

It is just the car that the average man wants, because, while it possesses the *style* and all the fine points that are so much admired, it insures to him and his family the luxury of motoring *at a price that he can easily afford.*

FEATURES OF SPECIAL INTEREST

Gray & Davis Electric Starter and Lighting system.
Plate glass rain-vision, built-in wind shield.
Stream line body, instant "one man" top.
32-inch wire wheels.
32x3½-inch Goodrich clincher tires.
Tufted unpholstering, deep cushions.
105-inch wheel base, standard tread.
All standard equipment, including 25 h. p. water-cooled motor, Bosch magneto, Hyatt roller bearings, speedometer, built-in gasoline gauge, signal horn, jack, tools, etc.

In addition to meeting fully the existing general demand, this new METZ model will make live prospects of people who heretofore have never thought of purchasing a car. We want a representative dealer *in your territory.*

Write for new Catalog "F" and particulars.

METZ COMPANY - - - WALTHAM, MASS.

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Raybestos
REG. U.S. PAT. OFF.
SERVICE

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Every shrewd business man will appreciate the trade service we have built up to take care of the distribution of RAYBESTOS.

Nearly one hundred leading distributors with headquarters in fifty-seven big cities carry RAYBESTOS BRAKE LINING in stock at all times ready for immediate shipment in large or small quantities.

No better prices, no more favorable terms and no better business treatment can be obtained from the factory than each and every one of our distributors is prepared to afford those who have dealings with them.

RAYBESTOS is not consigned---it is too high grade a product for that kind of merchandising.

Any automobile dealer, garageman or repair man who is not inclined to invest the amount of money a good working stock of RAYBESTOS requires, or who has not facilities for stocking it, can by telephone, telegraph or mail fill his requirements by dealing with the nearest RAYBESTOS distributor.

Upon request we will mail the business names and addresses who handle RAYBESTOS in any particular town or section.

All matters of making good our guarantee ---"If RAYBESTOS fails to last one full year from the time it is placed on the car, we will furnish new lining without charge, which guarantee applies to all types and weights of pleasure cars and to light trucks"---are handled direct with the factory, thus relieving the trade of any burden on that score.

Automobile manufacturers have found our system of distribution to be a most practical trade service.

By far the greatest number of cars are RAYBESTOS equipped.

THE ROYAL EQUIPMENT COMPANY
1378 Bostwick Avenue
BRIDGEPORT CONNECTICUT

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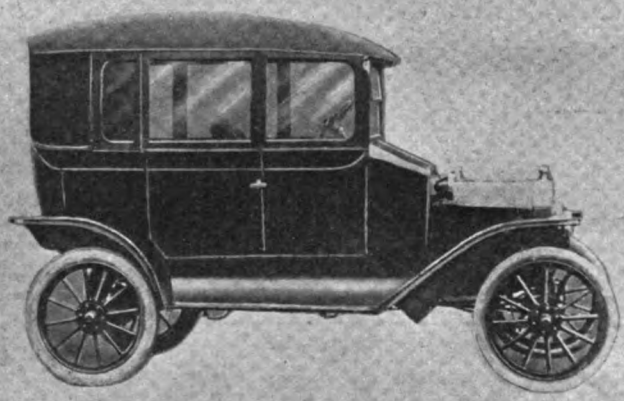
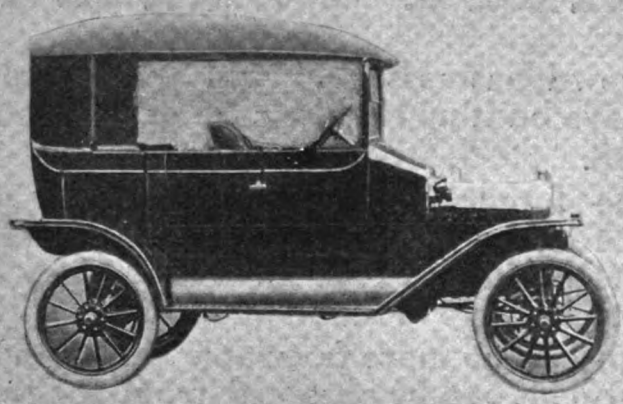
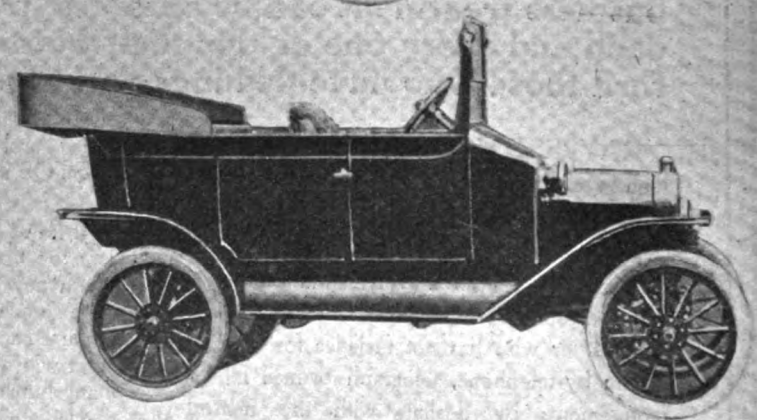
SPRINGFIELD







FROM SUMMER TOURING CAR TO WINTER LIMOUSINE OR SEDAN, ANYTIME, ANYWHERE, INSTANTLY WITH A

SPRINGFIELD CONVERTIBLE BODY

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CONVERTIBLE BODIES FOR FORD CARS

$350

A splendid all year body ready to attach to Ford Cars.

¶ The three pictures opposite represent our new convertible body for Ford cars. They show it first with the top up and glass windows in place, as used in winter or rainy weather. The next view is the same body with the glass folded and top up for sun protection. The third view shows the top down. It is now an open touring car.

¶ Will be first shown at our space at the New York Show. We will then be ready to assign territory.

SPRINGFIELD METAL BODY COMPANY
SPRINGFIELD, MASS.

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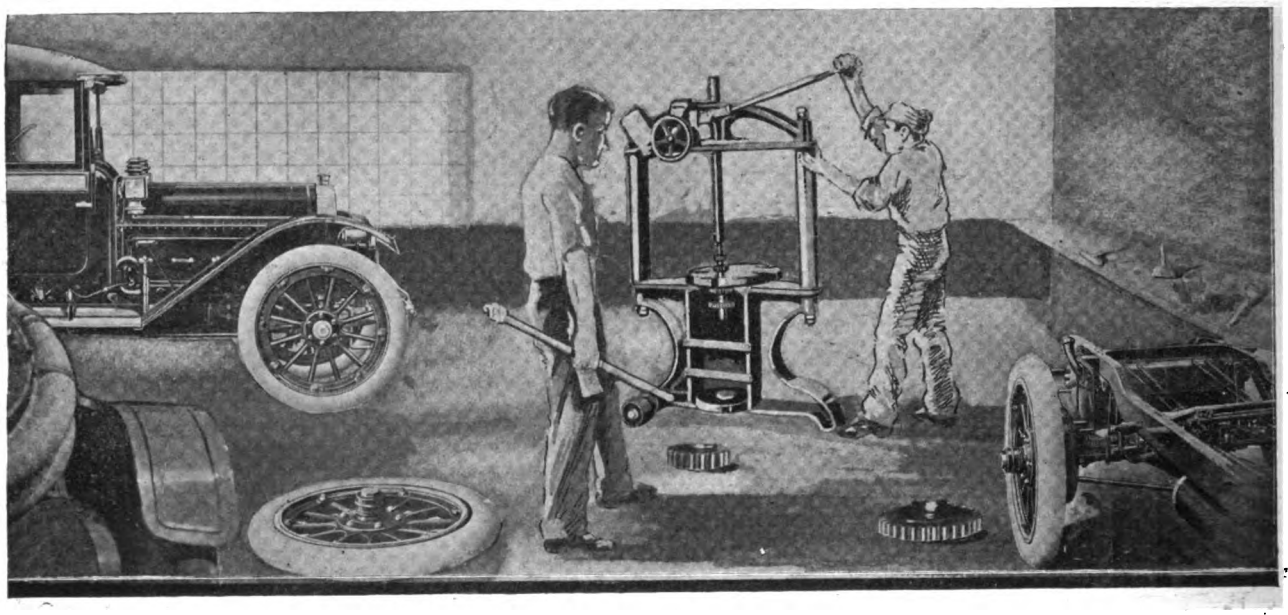

PRACTICAL SHOP EQUIPMENT IS YOUR BIG ECONOMY

The New GREENERD No. 15 ARBOR PRESS

Can do any job to its pressure capacity,—10 tons with one man and 16 tons with two men.

The jobs that require good equipment, that pay good prices and earn good profits, go to those who can handle them. The garages, repair and machine shops that are making profits and having continuous work, are equipped to do big work.

The Greenerd No. 15 Arbor Press is the economical equipment because of the great diversity of work you can do with it. The press that will do all work is economical because its earning power is unlimited. The smaller press is an extravagance in comparison because of its limitations.

The difference in price between a Greenerd No. 15 Arbor Press and a small press is the best investment that can be made. The short cut to big work is a No. 15 Greenerd Arbor Press.

We build Greenerd presses for all work. ***Prices and details at request.***

Edwin E. Bartlett

322 A Street **Boston, Mass.**

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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THE LARGEST MANUFACTURERS OF FORD SPECIALTIES IN THE

GUARANTEED FORD SPECIALTIES

The Auto Parts Company are the largest manufacturers of Ford Car Specialties in America. All APCO Specialties are proven to meet the precise requirements for which they are designed. The manufacturing and distributing resources of the company are such that any demand can be met at any time.

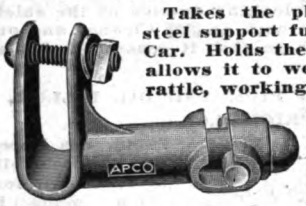
APCO Specialties are standard with all owners of Ford Cars. They are sold with the broadest guarantee that can be given. The APCO trade mark guarantees to the dealer and the owner, the world over, the highest quality of material, workmanship, endurance and satisfaction, and the LOWEST PRICES known for grades that are unequalled.

The APCO catalogue for 1915 for Jobbers and Dealers is ready for distribution. The co-operative policy of the Auto Parts Company means the support of its selling organization to Jobbers, wherever located.

Every Jobber in the country is in a position to supply APCO goods. If he will not it is because he makes more profit on imitations.

Some of the APCO Ford Car Specialties are illustrated and described in the following four pages.

APCO **BRAKE ROD SUPPORTS.**
STEEL 50c. BRONZE $1.00.



Takes the place of the pressed steel support furnished on the Ford Car. Holds the brake rod rigid, but allows it to work freely. Prevents rattle, working loose and breaking. Eliminates excessive wear on brake and clevis pins. Made from semi-steel, sheradized to prevent rusting. Well machined and guaranteed to outlast the car to which they are applied. This is the only self-lubricating support on the market. Space back of plug is packed with grease and hole in plug allows grease to work through the brake rod. The pressed steel supports that come with the car are continually breaking, working loose and causing all kinds of trouble. The APCO Supports are clamped to the rear radius rods and when fastened in place the plug is forced back with the thumb and the brake rod slipped in, the whole installation requiring less than 20 minutes. Furnished complete set of two ready to attach.

APCO **SPEED GRADUATOR. PRICE 50c.**

The notches under the Ford throttle rod are very coarse and far apart. This means that every time the throttle is opened a notch the speed increases about 3½ miles per hour. Most owners find that this adjustment is not fine enough and the APCO Graduator fastens over the old graduator, as shown in cut, and one notch represents one mile, so that practically any speed can be obtained within the range of the motor. All the high priced cars have this fine adjustment and there's a reason. On old cars, where quadrants are worn smooth, this eliminates throttle vibrating open. You will enjoy running your car more with one of these on it. Installed in ten minutes.

APCO **RADIUS ROD ANTI-RATTLERS.**
NO. 1 50c. NO. 2 40c.
Patented Nov. 12, 1912.

NO. 2. NO. 1.

Extending back from the front axle of the Model "T" Ford are two rods that meet under the crank case of the engine. Where these rods come together, they form a ball which fits into a socket rigidly fastened to the crank case. Ordinarily this is held in place by a steel cap and is adjusted very carefully so that it is tight enough to prevent rattling and not so tight as to prevent the ball moving in its socket, a condition that would cause the ball to break off from the rods, as they twist considerably when the car is moving over rough roads. Our patented caps are constructed so that when once applied, no further attention is necessary, as the heavy spring automatically takes up the wear as it occurs, and to accomplish this result with the steel cap now on the car, it would be necessary to adjust the cap every hundred miles. We make two styles of this cap, one with screw adjustment, and the other adjusted with discs. They are both made with steel springs and plugs and are guaranteed to prove satisfactory in every respect. Our number one is constructed so that the spring can be put in the shell after shell is bolted to engine case. A very necessary feature making installation easy. Number one is screw adjusted and number two is disc adjusted.

APCO **SPEEDOMETER GEARS. PRICE 20c.**

The small gears on the end of the speedometer shaft are made from fibre and they wear out frequently. We can supply duplicates of gears for the Stewart Speedometer and they come in two styles. New Style fastens with nut, and Old Style with cotter pin. Be sure and specify which style is wanted when ordering.

AUTO PARTS COMPANY, Providence, R. I.

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APCO CLUTCH RELEASE. PRICE 50c.

A simple device that automatically releases the clutch on the model "T" Ford when the foot brake is applied. Pressure on the brake pedal releases the clutch before the brake is applied, and if you wish to coast, you simply push the brake pedal forward, which releases the clutch, and pushing the brake pedal further forward applies the brake and brings the car to a standstill without the use of the emergency brake or the clutch pedal. This device will be found a great help to amateurs, as with it, it is impossible to apply the brake without first throwing out the clutch. In reversing, the foot is always on the brake pedal to stop the car instantly without stalling the engine. Applying the brake without first throwing out the clutch wears the brake out quickly and puts a strain on the clutch that will cause it to slip after a few weeks' use. Our first release was rather hard to install, but by using a chain construction we have eliminated this trouble and anyone can make the installation in ten minutes with a screw driver and a wrench. Furnished complete ready to install.

APCO FORD STARTER. PRICE $15.00.

The APCO Starter is the latest effort of the inventor of the only successful mechanical starter ever marketed for the FORD and the improvements over his original starter are very marked. The APCO is Ball Bearing throughout, requires one-quarter the time for installation, requires only one-half the power to turn the motor over, is lighter in weight and its cost is less, and it will meet with the Ford Owner's approval we know. The APCO Starter will not start a motor that cannot be started by hand, but if hand cranking will start it the APCO Starter will with less effort and less danger. The price of effective starters has been prohibitive heretofore, but with the advent of the APCO price ceases to be an object. The construction is pressed steel throughout and this not only reduces the cost and weight, but makes an unbreakable article. The application is extremely simple and can be done without machine work, drilling of holes or mutilating dash or other parts of the car, and no parts of the car have to be removed. When applied the only visible part is the handle on the dash. We have eliminated the chance of a back kick, and guarantee that your car will start with less effort than when cranked by hand. The modern car carries the crank in the tool box. Make your Ford modern and put your crank there too.

APCO FORD ROBE RAILS. BLACK 50c. BRASS 75c.

Cut shows one end of our Robe Rail specially designed for Ford Cars. It fits at the top of the front seat and is the only one that can be put on the car successfully. The rod is 5/8" and when not in use can be folded down against the seat. Made in two finishes, black enamel and polished brass, both having black enamelled ends. Furnished complete with screws.

APCO STEERING ANTI-RATTLER.

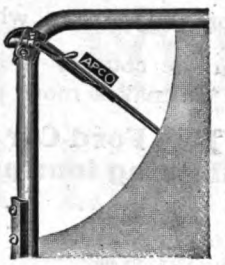
NO. 3 40c. NO. 4 30c.

NO. 4.

NO. 3.

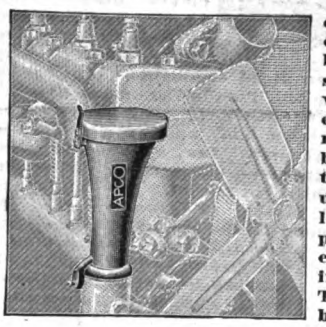
These are designed to take the place of the steel cap on the steering gear connecting rod. The shells contain a spring and cupped stud and the spring holds the steering arm ball under tension at all times and prevents rattle as well as eliminating all play in steering wheel. These have always been better sellers than the radius rod anti-rattlers, as when the balls on the steering rod flatten slightly, it is impossible to adjust the steel cap, for the reason that if it is tight where the ball is flat, it would be impossible to turn the wheel, as the cap would bind on the round part of the ball. The APCO Steering Rod Anti-Rattlers will make your car steer easier, hold the road better, prevent all rattle and vibration. Worth their weight in gold. Made in two styles. Number Three being adjustable with screw in bottom. Number Four not adjustable, but fitted with oil cup for lubrication. This is an improved type and much better than a grease cup lubricating device owing to the difficulty of procuring grease that will not harden.

APCO WINDSHIELD CLEANER. PRICE $1.00.



This device clamps to the upper left hand corner of windshield as shown in cut and is guaranteed not to rattle, which is the main trouble encountered in most cleaners now on the market. Ours does not clean off the entire shield, but does clear off enough so the driver can get perfect vision, and if desired the cleaner can be fastened to the top of shield and this makes the cleaned space slightly larger. There is no need of looking outside of the shield to get a clear view with an APCO Cleaner and our price is low enough so that it ceases to be an object.

APCO BREATHER PIPE AND OIL FILLER. PRICE $1.00.



This has been one of our best sellers, and it is now being made in semi-steel with a very fine black enamel finish. This makes a stronger, better looking article and permits us to make a much lower price. It is permanently fastened into the original breather pipe. There is a fine brass screen located near the bottom through which all oil must pass. Prevents oil spilling over the motor and makes it easy to put oil into the car. Also eliminates the chance of dirt getting into the motor with the oil.

APCO VALVE COMPOUND. PRICE 25c.

Grinding valves without proper grinding compound is a very unsatisfactory proposition. Some compounds grind quickly, but leave a poor finish, while others give a good finish but require too much labor. The APCO Compound is the genuine Carborundum and only one grade is necessary to obtain a perfect finish in a very short time. There is nothing better than Carborundum for this purpose and our large can will last a long while.

AUTO PARTS COMPANY, Providence, R. I.

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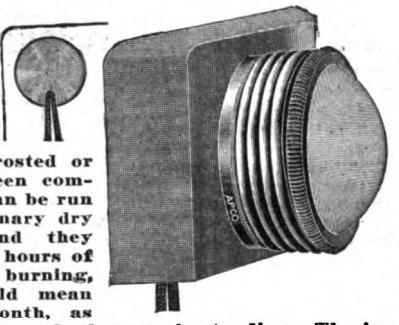
BATTERY OUTFIT NO. 3. PRICE $2.

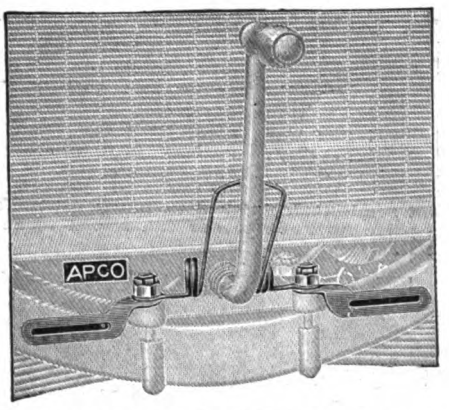


This outfit is designed to take the place of the oil lights on Ford cars and is furnished in frosted or red and green combinations. Can be run on two ordinary dry batteries and they will give 24 hours of continuous burning, which should mean one full month, as they are only used when car is standing. The installation is extremely simple: bore holes in dash and insert lamps. Furnished with two complete lamps, wire and switch ready to attach.

MASTER VIBRATOR. PRICE $10.00.

Furnished in a handsome imported mahogany case 4½" x 5" overall. The lugs that hold it to the dash are heavy cast brass dull finished. The cover is held in place by patent snap catches. The platinum points are liberal in size and the screw is provided with a ratchet arrangement to prevent it unscrewing. The construction is mechanically perfect and the material the best money can buy. Provided with single adjustment, which eliminates chance for improper regulation. Large kick switch for battery and magneto with removable key.

STARTING CRANK HOLDER. PRICE 25c.



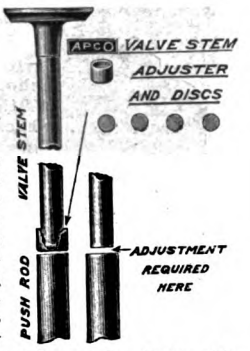
Ford Owners have been looking for an Automatic Starting Crank Holder and here it is. Made from one piece of spring steel. Easily applied, positive in action and requires no attention. Does not interfere with spinning of the car and holds the crank out of the mud and stops the rattle. Application is simple. Remove two nuts from spring clips and put on holder pointing up as shown in cut. After cranking car, lift crank to position shown in cut and it will stay there. It is invisible ten feet from car.

FRONT NUMBER HOLDER. PRICE 25c.

Designed especially for Ford Cars, made from high grade stamped steel, sheradized to prevent rusting. The lightest, strongest, neatest and best holder ever put on the market and the large production allows a reduction in price. Complete with screws, washers and nuts.

The Crank and Number Holder can be used in combination and make an excellent accessory.

VALVE STEM ADJUSTERS. PRICE 40c.

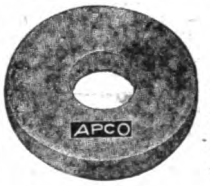


If you do not keep your valve stems adjusted properly your car will lose power, and as the valves are intended to open at a certain time, even a fraction of a second late means a great loss. The valves on a Ford car open about ⅜ of an inch and if there is ⅛ of an inch play between push rod and valve stem the valve only opens ¼ of an inch, or in other words, you lose one-third of the power. Still another thing to be considered is the noise caused by this play and 90% of motor noises arise from this source. Note the quietness with which the large cars run, due to the fact that the push rods are adjustable. The Valve Stem Adjusters consist of hardened caps made from high grade steel and a quantity of very thin hardened steel discs. To apply the adjusters all that is necessary is to raise the valve slightly and slip an adjuster on the end, and if this is not sufficient put enough discs in the cap to reduce the play to the thickness of a newspaper. The whole set can be put on in less than a half an hour and wear can be taken up very easily by inserting discs. All the high priced cars have an adjustment and if our price was $10.00 you could not afford to be without them. State model and year of car or diameter of valve stems when ordering. Made in three sizes, 5-16 in., ⅜ in., 7-16 in. Set includes eight adjusters and a quantity of discs to take up wear as occasion requires. The price is nominal, the improvement is phenomenal.

DASH OIL GAUGE. PRICE $1.50.

This device fills a long felt want and it possesses features that will instantly appeal to Ford Owners. Our low price crank case gauge will do the work, but it is not as convenient as this one. To attach simply remove lower pet cock and put our fitting in place, connect reservoir to pipe, fasten stand pipe to dash with clip and gauge is ready for business. Made from solid brass throughout. Swaged and soldered joints, ⅝ inch brass stand pipe. Red indicator with white background enclosed in glass tube that is removable for cleaning. This is the only gauge we know of that has a reservoir drain and the oil entrance at the side, and both of these features are very important. Each gauge is packed in a mailing tube and weighs about one pound.

FELT WASHER.
PRICE 6 for 25c.



Fits on the rear axle shaft before wheel goes on. Made of specially prepared felt that will positively prevent grease working out around brake drum.

FORD OAK RUNNING BOARDS, PRICE $6.

This is the latest Ford Specialty, and it will meet with a ready sale. The boards are made from heavy selected white oak painted on the under side and the top is covered with green battleship linoleum, which will outwear the car. The edges are trimmed with heavy aluminum moulding and fastened with nickel-plated brass screws. These boards make a handsome addition to the car and prevent all rattle where the guards and running boards come together. The best cars built cannot have better material for this purpose. The bolts are all under the linoleum and do not show from the top.

AUTO PARTS COMPANY, Providence, R. I.

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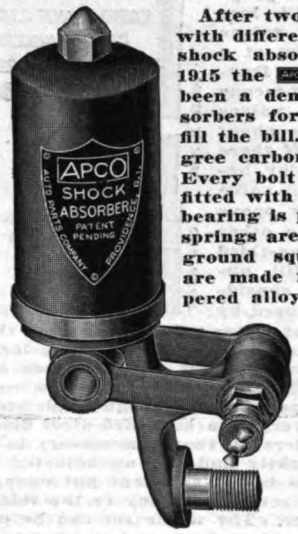
APCO FORD SHOCK ABSORBERS. PRICE $7.50 PAIR.



After two years experimenting with different types and styles of shock absorbers, we offer for 1915 the APCO. There has always been a demand for quality absorbers for Fords and ours will fill the bill. All parts are 30-degree carbon steel drop forgings. Every bolt is a lubricating bolt, fitted with a grease cup. Every bearing is phosphor bronze. The springs are square in section and ground square on ends. They are made from the finest tempered alloy spring steel and are guaranteed not to settle or break during the life of the car to which they are attached. The cantilever side links prevent all side sway, reduce skidding, and by using these links, the center suspension is free and therefore it requires no lubrication. The casing or shell is attached so that it goes down with the car and prevents the shell from being crushed by the front mud guard bracket, a trouble met with by practically every other absorber on the market. The shell is fastened in place by the top nut and can be removed easily, but will not drop off on the road. The APCO Shock Absorbers have no internal strains within themselves to contend with and in action they are as free and resilient as the air itself. They contain all that is good and efficient in shock absorber construction and resilient suspension. There are no castings of any description used in their makeup. They will prevent spring breakage, increase tire mileage, reduce upkeep and lengthen the life of the car. Sold on a 30 days free trial. They cost more, but are worth more, and when you realize that a broken shock absorber would turn your car over, we think you will pay the difference and be sure.

OUR GUARANTEE.

We guarantee the APCO Shock Absorber for life and will replace any defective parts absolutely free of charge, including transportation charges and COST OF MAKING THE CHANGE. This is the most liberal guarantee ever made and we know there will be no replacements or we should not make the offer.

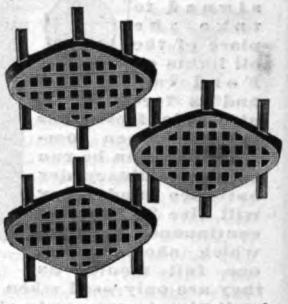
APCO SPRING LEAF SEPARATOR. PRICE 50c.

You will be surprised to see how much easier a car rides when the springs are lubricated, but it is nearly impossible to lubricate the springs without a tool to hold the leaves apart. The APCO Separator is made from steel, the screw has machine cut threads, the thumb nut is electrically welded to the screw, and the points are hardened tool steel, the one on the screw being pivoted so that it does not turn when the screw does. Put one in your kit and cut out the squeaks.

APCO RADIATOR CAP. PRICE 50c.

As shown in the cut the APCO Radiator Cap is of the dumb bell pattern and is cast in solid brass highly polished. It is an ornament to the car, as well as a useful accessory. Never gets too hot to handle.

FORD RUBBER PEDAL PADS. PRICE 50c SET.

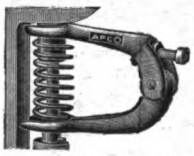


This is one of the most useful and appreciated accessories we have ever offered. The Pads are made from real, live, soft rubber, not composition or papier mache. They eliminate the vibration that comes from the engine and prevent the feet slipping off the pedals. They act a good deal like rubber heels and they fasten in place by simply clamping the steel strips around the foot pedals.

APCO SOCKET WRENCHES. SINGLE 30c, DOUBLE 40c, TRIPLE 50c.

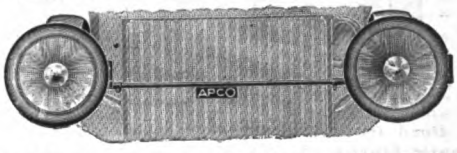
It is impossible to remove the cylinder head bolts on the Ford Car without a special wrench. The ones we offer are made from steel and blued. SINGLE END has one socket for cylinder head bolts, DOUBLE END has two sockets, one to start the bolt with and the other to spin it out with. TRIPLE END is same as the double with the addition of a socket to fit the rear axle housing nuts. The only wrenches on the market that are guaranteed against breaking.

APCO VALVE SPRING REMOVER. PRICE 25c.



A brand new remover that will remove the valve spring easily and quickly without danger of bending, and it is also built to replace the spring. It weighs but a few ounces and can be carried in the vest pocket. Made from semi-steel, finished in black rubber and at the price no Ford Owner can afford to be without it.

APCO HEADLIGHT BRACE. PRICE 50c.



A large percentage of bulb breaking is due to the excessive vibration of the headlights and our brace prevents this vibration and improves the appearance of the car. Finish is our regular black and the brace is made adjustable to fit any car.

APCO REAR NUMBER HOLDER. PRICE 35c.

Designed especially for the Ford Touring Car, but will fit any Ford with the flat bracket. Lowering the number support prevents plate from rattling against body of car, and this will be appreciated by owners. Made of semi-steel and provided with an adjustment to allow for variation in regular light brackets. Finished in our regular hard rubber finish. Complete with screws and washers.

AUTO PARTS COMPANY, Providence, R. I.

TRADE APCO MARK

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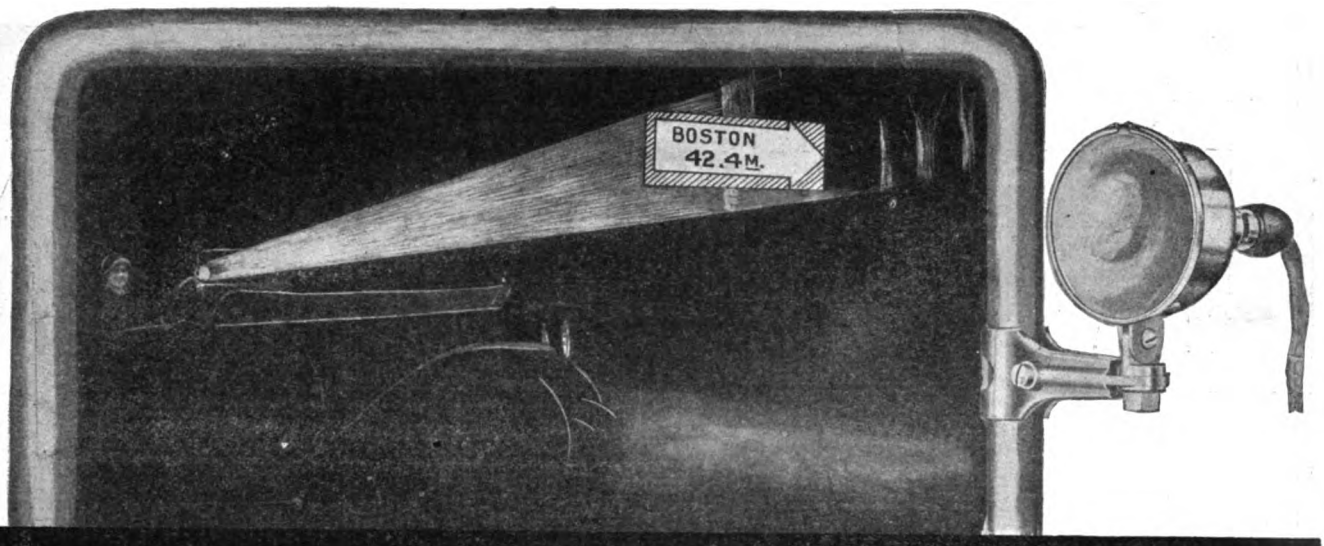

One Flash Shows the Way

No car is fully equipped unless it is fitted with a C-S Hand Lamp. Swivelled on the windshield, or wherever placed, it can be operated at any time by the driver. It is the most powerful lamp of the kind ever made, has a focusing device to efficiently project the rays, and a self-contained switch for instant operation when desired.

It has a three-inch diameter lens, which fully protects the reflector, and is of heavily nickel plated metal. It is regularly furnished for double contact, but with a special plug can be used with a one-wire system. Bulbs are provided for use on any lighting system.

Regular equipment includes a 10-foot extension cord, attachment plug, and a six-volt, eight-candlepower concentrated filament tungsten bulb.

The list price is $2.50. Dealers, discount sheets and catalogue are ready!

Culver-Stearns Mfg. Company

WORCESTER MASS.

C S MFG. CO.

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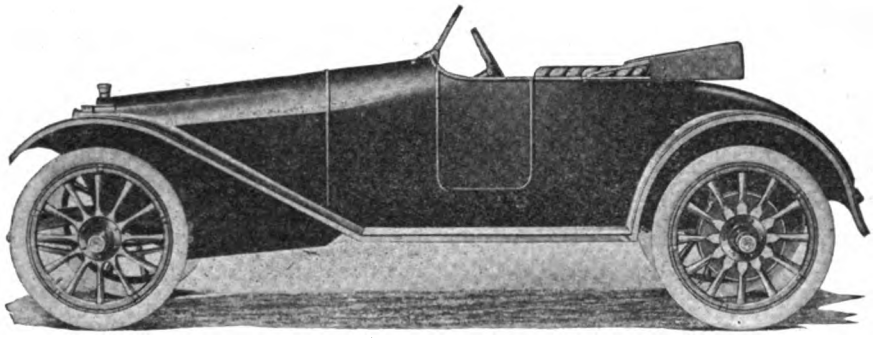
A NEW REMINGTON CREATION AS GOOD AS ITS NAME



Remington Roadster, 25 Horsepower, 106 Inch Wheelbase.

WHAT THE NAME "REMINGTON" MEANS ON A GUN ---WHAT IT SIGNIFIES IN THE TYPEWRITER WORLD ---NOW IT GUARANTEES IN AN AUTOMOBILE.

BIG FEATURES:

FULLY EQUIPPED
ELECTRICALLY STARTED
ELECTRICALLY LIGHTED
AUTOMATIC GEAR SHIFT

Touring Car or Roadster $695

Now, Mr. Dealer, what do you want? Results---the greatest possible results for the minimum of effort? This can always be obtained by offering the greatest quality at the lowest price. This is your opportunity to join the REMINGTON forces and offer just that. You will be supported by the REMINGTON way of doing things. The REMINGTON fairness in business dealings is exemplary of the REMINGTON method of doing things.

When you sell a REMINGTON car, you make your customer your friend for life. This is the kind of business that you want to do.

There is still some very desirable territory open. We would like to hear from those dealers who appreciate what REMINGTON means. Ask for the territory that you want.

THE CATALOG WILL TELL YOU ALL---ASK FOR IT

You Will Not Have to Sell a REMINGTON Car---It Will Sell Itself

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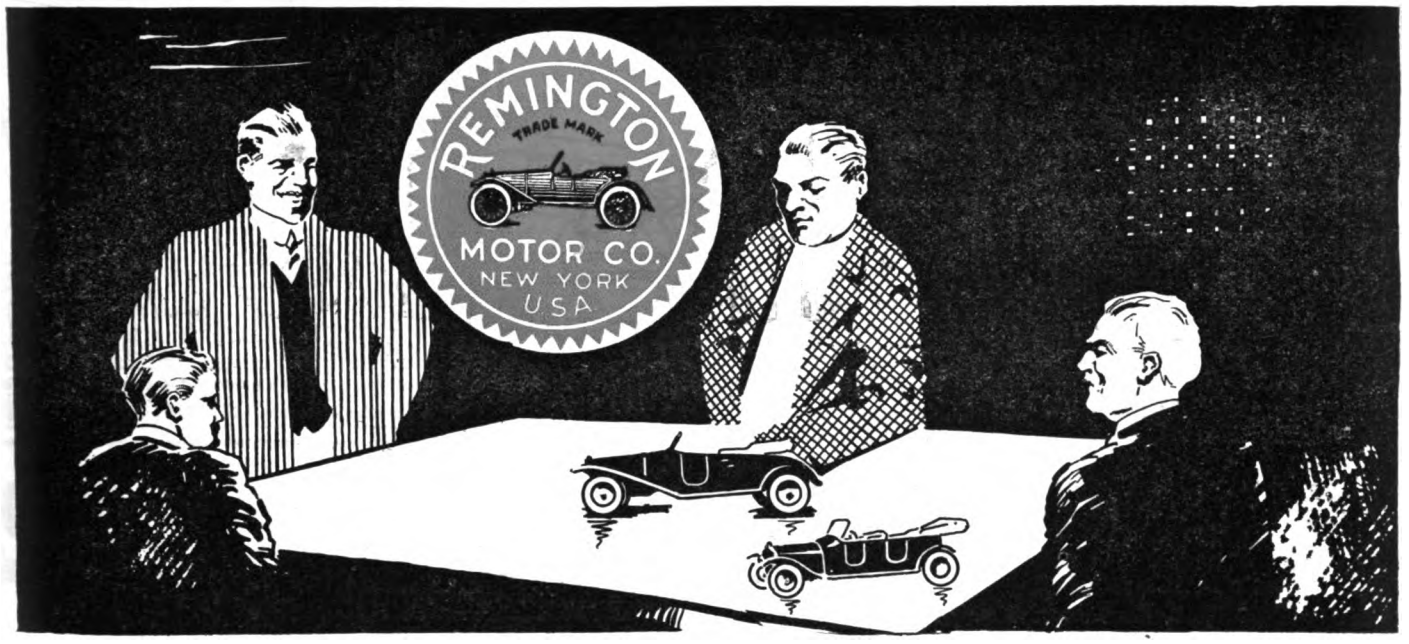

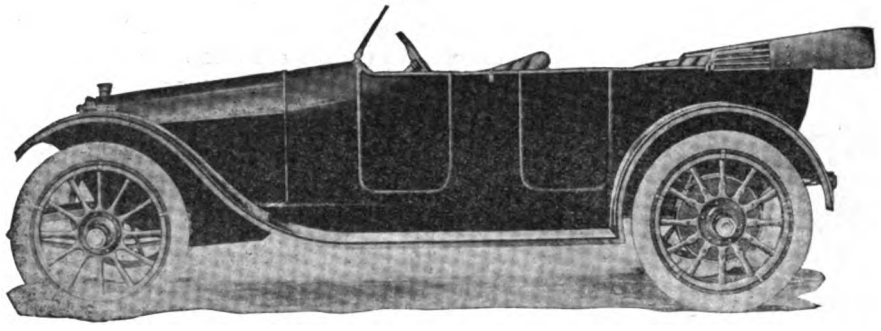

Narragansett Model, Fully Equipped Touring Car.

A CAR BUILT TO A STANDARD

The REMINGTON was first built and built as good as it was possible to build an automobile with all the up-to-date improvements and equipment that go to make a complete modern car. It was then given the acid test and came out a TRUE REMINGTON PRODUCT. REMINGTON engineers have held strictly to standard practise and modern methods, which have been accepted both in this country and abroad as representing the most advanced principles of automobile construction.

REMINGTON Cars Are Honestly Built—Honestly Sold—Honestly Guaranteed

Designed to please the most fastidious. Built to satisfy the astute critic. Sold to meet the requirements of every man. Every purchaser of a REMINGTON receives his car with that confidence and pride of knowledge that comes to one who knows he has an elegant, dependable, satisfying car—a car that will fulfill his requirements to the utmost and give that fullness of service to be expected in a quality production.

REMINGTON CHASSIS SPECIFICATIONS:

AXLES—Front I beam drop forged. Rear ¾ floating bevel and pinion and differential; gears of special nickel steel specially heat treated.
BEARINGS—Front wheels ball bearings—special construction. Rear axle, Hyatt high duty extremely quiet roller bearings.
BODY—Special Remington design—streamline.
BRAKES—Service foot pedal control—external contracting on rear wheel drums. Emergency center control hand lever, internal expanding on rear wheel drums, adjustable for wear directly at the brake, retaining same leverage under all adjustments.
CARBURETOR—Float feed type.
CLUTCH—Cone clutch.
COLORS—Brewster green.
CONTROL—Spark and throttle on steering wheel.
DRIVE—Shaft drive with double universal joints.
DASH—Leather covered instrument board.
FRAME—Pressed steel channel section, 3", with heavy cross members.
GASOLINE TANK—Ten gallons capacity, carried in the cowl.
HORN—Electric, concealed under the hood.
IGNITION—Atwater Kent automatic advance ignition.
LAMPS—Adjustable focusing incandescent electric bulbs and dimming device for headlights.
LUBRICATION—Splash feed and pressure feed—very efficient.
MOTOR—Four-cylinder, cast en bloc, water cooled, thermo-syphon. Extremely large valves with low lift, insuring quietness of operation. All valves on right hand side and enclosed. Belt driven fan.
PAINT AND VARNISH—Applied by hand, of Remington quality.
RIMS—Demountable—quick detachable.
ROBE RAIL—Adjustable strap.
SPRINGS—Front, semi-elliptic, 1½" wide, 32" long. Rear, cantilever, 1½" wide, 37½" long.
STARTER—Disco electric system.
STEERING WHEEL—Left drive, 17" in diameter.
TOP—One-man top, mohair.
TOOL KIT—Standard equipment, with tire pump, jack, etc.
TRANSMISSION—Three speeds forward—one reverse. Center control. Operated by Remington automatic gear shift. All gears nickel steel, mounted on Hyatt high duty, specially quiet roller bearings.
UNIVERSAL JOINTS—Spicer.
WHEELBASE—106 inches.
WHEELS—Hickory spokes, natural finish, demountable rims.
WINDSHIELD—Special design.
Fully equipped with top, windshield, speedometer, electric horn, electric lighting and starting outfit and automatic gear shift.
WEIGHT—Touring car, 1500 pounds; roadster, 1350 pounds.
PRICE—Narragansett Touring Car—30x3½" tires—$695.
Roadster, Model E—30x3½" tires—$695.

We will exhibit in space C 9, Third Floor, Grand Central Palace, New York, and in Space 1, Coliseum Basement, in the Chicago Show.

REMINGTON MOTOR COMPANY

2 COLUMBUS CIRCLE - - - - - - - - - - NEW YORK, N. Y.

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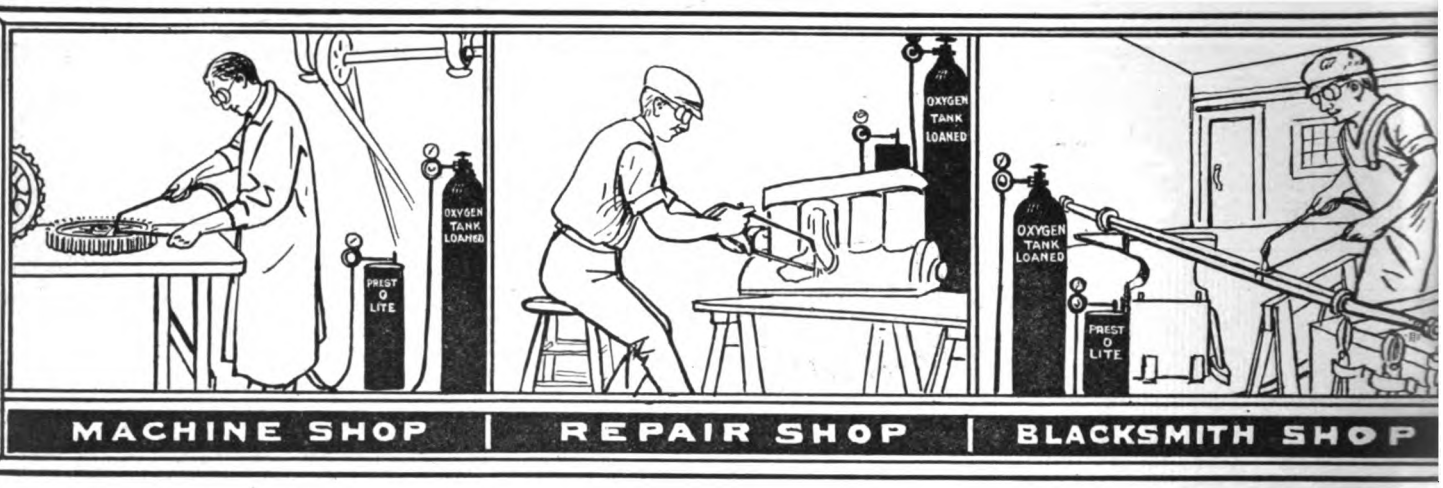
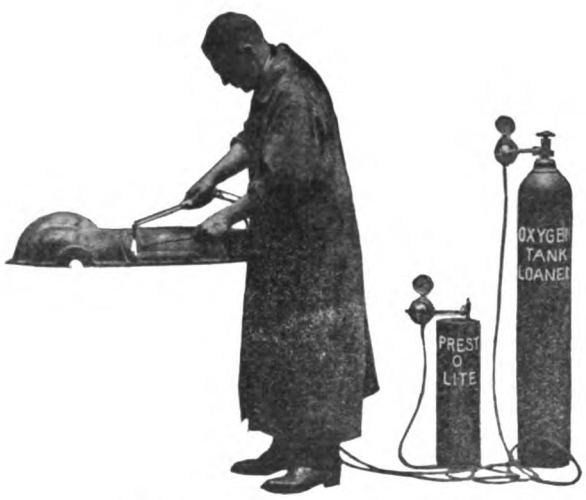


A BUSINESS FOR $42



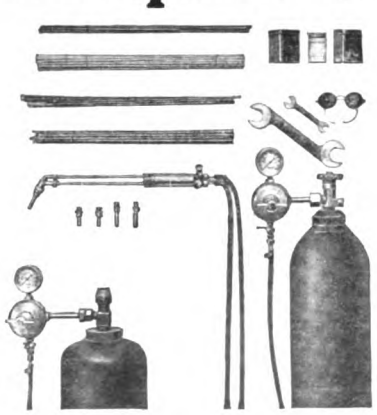
When you own a Waterhouse Welding Outfit you are established as a business man. You can then do work that no other concern can do unless it has a Waterhouse Welding Outfit. Its practical utilities are almost unlimited. It can be used for the repair of all metal constructions, and can be efficiently operated by any intelligent mechanic.

With the Waterhouse Welding Outfit there is great economy of time, metal, labor and machine and hand work after the welding process.

An established business can start a Waterhouse autogenous welding department for the bare cost of the outfit—No additional space or equipment is required. A new business needs but a small space to successfully operate on the largest work. A Waterhouse Outfit can be placed in a corner or carried anywhere.

The Waterhouse Outfit is highly economical because there is no waste of time or fuel—the torch will not flash—it can be used all the time it is needed, and it is absolutely safe.

Complete Waterhouse Welding Outfit $42



Waterhouse Outfit

	Value
1 B Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50 lb. line pressure gauge	10.25
1 Acetylene Reducing Valve with 50 lb. line pressure gauge	11.00
1 set of Special Welding Hose (20 ft.)	3.00
1 pair of Welding Glasses	.75
1 Carbon Burning Torch	Free
1 set Instructions	Free

Net cost Complete $42.00

Rods and Fluxes $4.50

What you get

1 Bottle Aluminum Flux
1 Can Cast Iron Flux
1 Can Copper and Brass Flux
2 Pounds Brass Welding Rods
5 Pounds Cast Iron Welding Rods
2 Pounds Aluminum Welding Rods
2 Pounds of Steel Welding Rods

With every Waterhouse Welding Outfit is given free a carbon-burning torch with which carbon can be removed from the cylinders of any car---an incidental but a substantial source of profit.

If you have a regulator for carbon burning, the oxygen regulator usually sent with the outfit is unnecessary, and a deduction of the price ($10.25) can be made from the total price of the outfit quoted.

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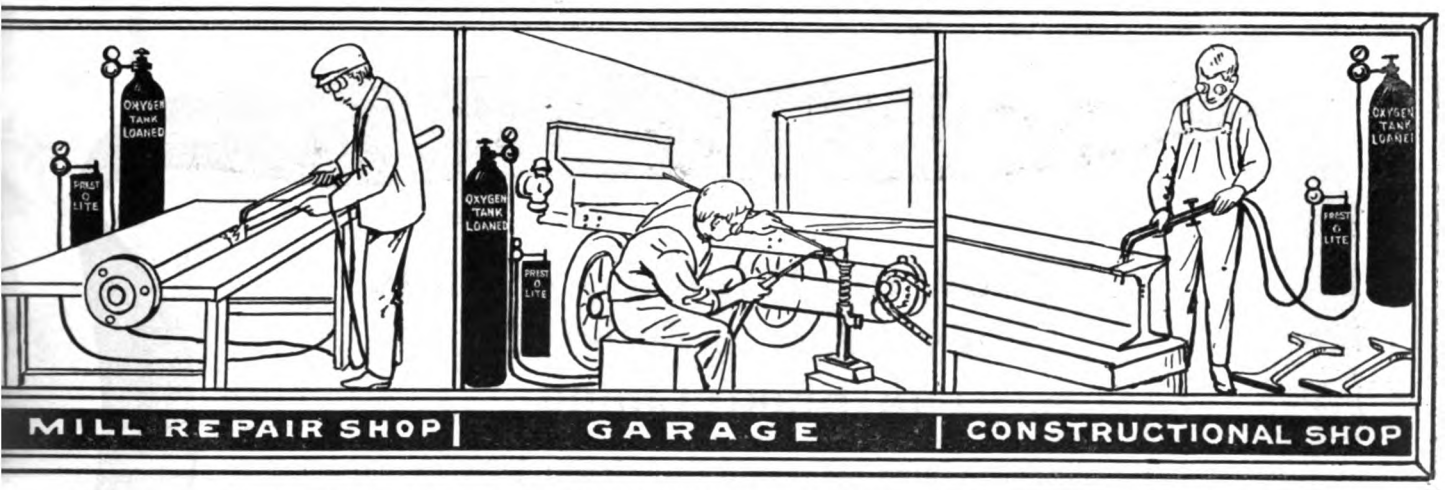


PROFITS FROM THE TRIAL PERIOD WILL PAY FOR IT

$42

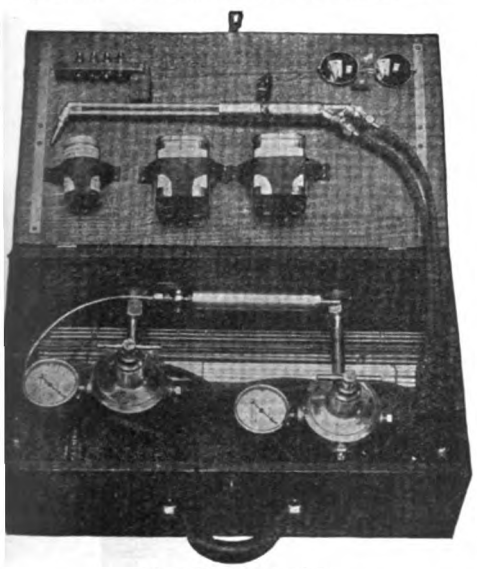
FREE TRIAL OFFER

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money IN FULL. No strings to this offer. Not necessary to give any reasons.

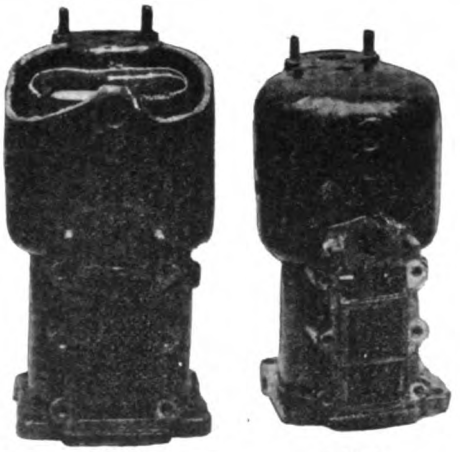
$42

TERMS: 5% cash discount with order or C. O. D., or $20 cash with order, balance in two payments, first of $12 in 30 days, $10 in 60 days after receipt of outfit by you.

With the practical instructions furnished free with every Waterhouse Outfit any mechanic can do satisfactory work from the start. These instructions deal with the treatment and repair of all kinds of metal.
Be the first owner of a Waterhouse Welding Outfit in your community. Secure the welding business, and the profits that can be made from it.

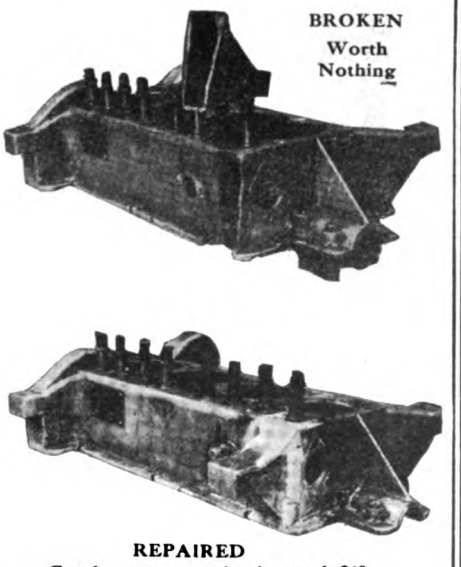


CARRYING CASE



JUNK GOLD

Cracked cylinders come with cold weather. Get the WATERHOUSE and turn JUNK into GOLD.



BROKEN
Worth Nothing

REPAIRED
Good as new part that is worth $68

If you do not have at your service a welding shop, we will undertake to make repairs and restoration for prices that will be much less than the cost of new parts.

WATERHOUSE WELDING COMPANY

3 PELHAM STREET, BOSTON, MASS.

Established 1908 **Welding and Cutting Equipment Exclusively**

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Follow the White Foot Prints They Lead to Satisfaction in Brake Lining

Tireless study, labor and experiment have taught us that Multibestos stands today unequaled—a brake lining meeting every requirement of the hardest service.

With this perfection of quality we have aimed to provide protection to the car owner and special service to the trade. This we have done by marking Multibestos with plain white lines across the fabric exactly one foot apart.

These White Foot Prints are exclusive with Multibestos and will always identify it from other brake linings. And they also afford a great saving of time and inconvenience to the men in the trade who are handling Multibestos, for the marks are spaced exactly and can be used for measurement when cutting from stock to fill orders.

This sales service and protection backed by the supremacy of the goods themselves make Multibestos in every way the logical lining for every live dealer.

Standard Woven Fabric Company

FACTORY, FRAMINGHAM, MASSACHUSETTS

SALES BRANCHES

Boston—F. Shirley Boyd, 903 Boylston Street
Chicago—F. E. Sparks, 1430 Michigan Boulevard
Philadelphia—N. A. Petry Co., Inc., 1427 Vine Street
San Francisco—Fred Ward & Son, Inc., Corner First and Howard Streets

The picture is good but we wish you could see the cabinets themselves—a perfect blend of the useful with the ornamental.

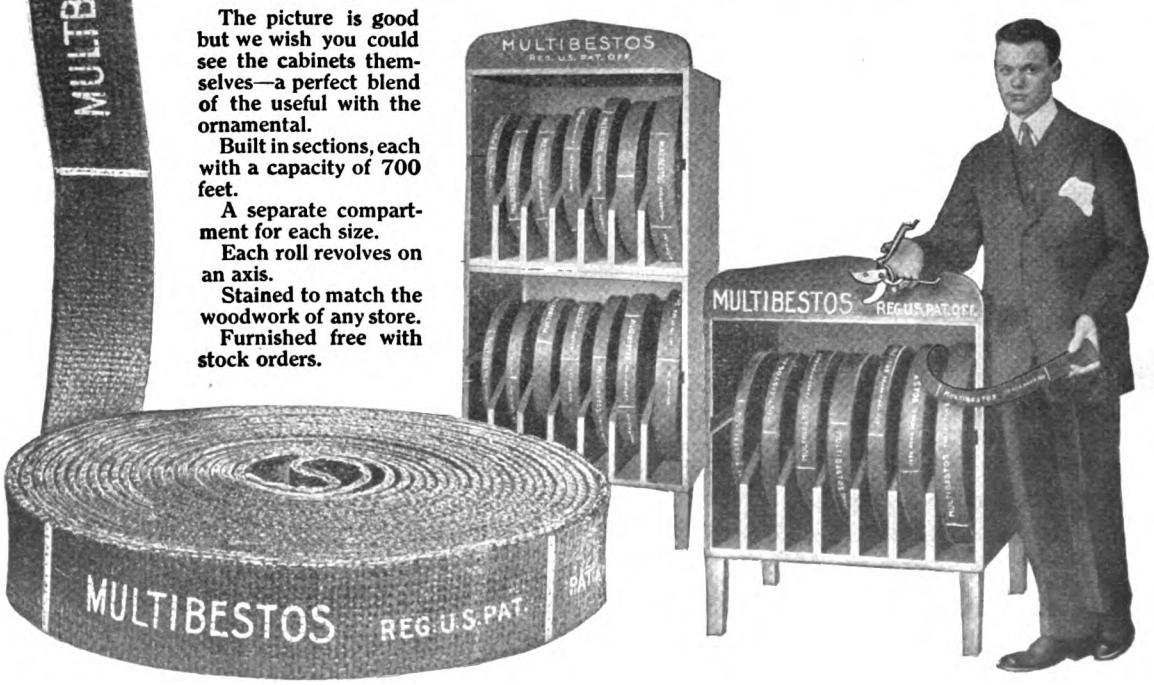
Built in sections, each with a capacity of 700 feet.

A separate compartment for each size.

Each roll revolves on an axis.

Stained to match the woodwork of any store.

Furnished free with stock orders.



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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., DECEMBER, 1914. No. 8

BOSTON GARAGES WIN SEPARATOR FIGHT.

Massachusetts Garage Association Makes Acceptable Suggestions to Authorities—Dealers and Accessory Men in Several States From Organization.

BOSTON garages and dealers have apparently won their fight against the adoption of separators in all their places of business as proposed under the new fire hazard law, and outlined by John A. O'Keefe, the commissioner in charge of that work. If the places are conducted so as to minimize the hazard, separators will not be necessary. If not they will be ordered installed.

The successful termination of the fight made by the trade is largely due to J. S. Hathaway, president of the Massachusetts Garage Association, who appointed a committee to formulate regulations to be presented to the commissioner, who gave the motor interests a hearing.

Blanks containing 30 questions were sent to 250 garages and service stations in Boston and these were filled out. From the replies, data were carefully compiled, suggestions made and submitted to Mr. Hathaway. These were referred to the commissioner and were as follows:

We would suggest that, when any person purchases gasoline in small quantities from a garage to be used outside a garage, a record be kept of the name and address of said purchaser.

Make it unlawful to use gasoline for any other purpose in garages than the filling of tanks in automobiles.

No gasoline to be used by industrial institutions, tailors, cleansing establishments, dyers, etc., without a special permit from the fire commissioner, and a record to be kept showing in what manner the gasoline is disposed of.

Upon investigation we find that there is more danger from gasoline used by industrial institutions, cleansing establishments, etc., than that used by garages.

A printed card, approved by the commissioner, should be placed upon the floor of every garage, public and private, stating that the use of gasoline other than for motors is prohibited. This card to be signed by the fire commissioner.

If clause 66 of the laws and regulations governing such fluids is enforced, there will be no need of installing a separator, in our opinion.

Garages to be supplied with a complete set of these laws and regulations regarding the use of gasoline, etc.

We would suggest that a law be put into effect to prohibit the storage of gasoline in garages other than that kept in the tanks of automobiles, storage tanks and portable tanks.

The storage of gasoline in cans to be kept in a vault outside the garage building, the same distance as that required for gasoline tanks. This vault to be kept locked except when in use.

Commissioner O'Keefe intends to promulgate a set of regulations, to go into effect Jan. 15, covering this matter. Although these have not been fully determined, separators will not be insisted upon as previously explained.

KRIT COMPANY BANKRUPT.

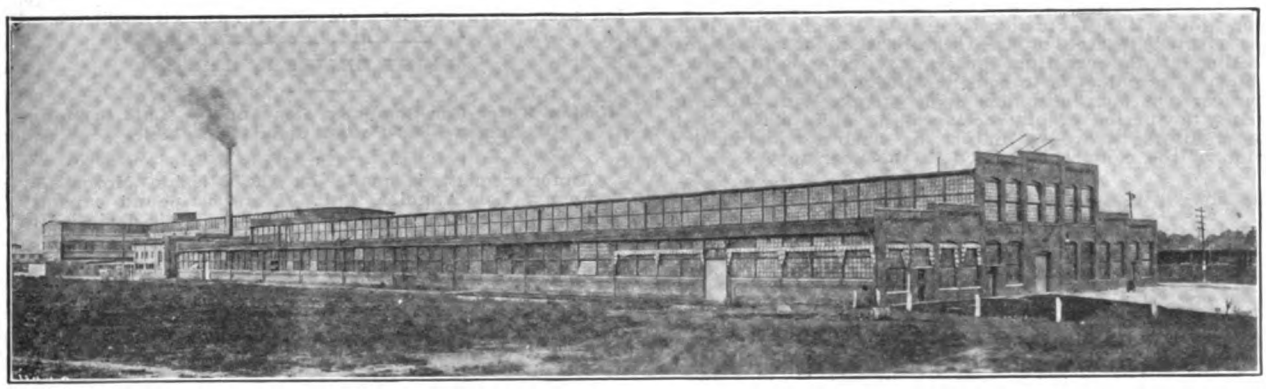
Krit Sales Company, Formed to Render Financial Assistance, Also Involved in the Failure.

According to advices received from Detroit, the Krit Motor Car Company and the Krit Sales Company of that city have filed a petition in bankruptcy. The liabilities of the motor company are said to be $881,088, with assets of $662,533. The liabilities of the sales company, as appearing in the petition, are $256,814. The sales company was formed to render financial assistance to the motor company about a year ago.

CODE TO BE REVISED.

New York Garage Building Rules to Be Suspended at Request of Automobile Trade Association.

As a result of a conference between the directors of the Automobile Trade Association of New York State and Fire Marshall Thomas J. Ahearn, held on Dec. 9



The Big Plant of the Inter-State Motor Company, Muncie, Ind. Which Concern Succeeds the Inter-State Automobile Company.

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last, at which the garage building rules, which were to have gone into operation Dec. 1, were discussed, the association has been requested to redraft the regulations. This redraft is to be in the hands of Mr. Ahearn, and will form the basis of another draft which will be made by him. In the meantime the earlier rules have been suspended and will so remain pending the result of the conferences on the new draft.

NEW INTER-STATE MODEL.

Successor to Inter-State Automobile Company Producing Five-Passenger Car to Sell for $1000.

The Inter-State Motor Company, Muncie, Ind., which purchased the assets and factory of the Inter-State Automobile Company, is producing a new five-passenger car which sells for $1000. The new organization, which took over the business last February, is composed of men of long and successful experience in large industrial affairs, and the active management is in the hands of those thoroughly conversant with the automobile trade. The new concern has ample backing. F. C. Ball, president of the Ball Brothers Glass Manufacturing Company, maker of the Mason fruit jars, is president, and B. W. Twyman is general manager.

The plant in which the new model is to be produced is not only thoroughly equipped for a large production, but the various departments are in charge of men entirely familiar with the manufacture of motor vehicles on a large scale.

The plant in which the new model is to be produced is not only thoroughly equipped for a large production, but the various departments are in charge of men entirely familiar with the manufacture of motor vehicles on a large scale.

CONCENTRATE PRODUCTION.

United States Rubber Company to Operate Two Plants for Pneumatic Tires, Detroit and Hartford.

Beginning with the new year the United States Rubber Company, New York City, will produce all of its pneumatic automobile tires at Detroit and Hartford. All solid tires will be built at Providence, R. I., and bicycle and motorcycle tires will be made exclusively at Indianapolis. Each of these plants will specialize in its own particular line, the result being that, on the important item of pneumatic pleasure car tires, there will be one large factory in the East and another in the West, obtaining efficient distribution and service.

UTICA AGENTS IN SESSION.

Form an Active Organization, Discuss Prospects for Show and Elect Officers for 1915.

With an attendance of over 80 per cent. of the automobile dealers of the city, the Utica, N. Y., association was formed recently. While the prospects for a show were discussed, nothing definite was decided. The tentative plans of the organization will be considered at a meeting of the board of directors in the near future. The following officers were elected: President, Frank P. Miller; vice president, A. A. Ledermann; secretary, George C. Donohue; treasurer, William F. Carroll.

FRANK E. SMITH, TRUSTEE.

Receiver of Premier Motor Manufacturing Company Makes Excellent Showing and Company May Continue.

Frank E. Smith, who has been receiver of the Premier Motor Manufacturing Company, Indianapolis, Ind., was elected trustee of the organization at a recent meeting of the creditors before the referee in bankruptcy. The object is to continue the production of Premier cars, as Mr. Smith has made an excellent showing during the period of his receivership. It is stated that the creditors favor continuing the business and a decision of the court is expected in the near future.

RECEIVER FOR HASSLER.

Creditors and Robert H. Hassler Ask That Shock Absorber Sales Company Be Adjudged Bankrupt.

Two petitions have been filed with the United States court at Indianapolis, Ind., in behalf of the Hassler Shock Absorber Sales Company of that city. Robert H. Hassler has petitioned for a receiver, and Robert H. Hassler, Inc., Asa P. Robertson and the Advertisers' Press, creditors, ask that the concern be adjudged bankrupt. The court has appointed Homer L. Archer receiver.

ADMIT ACCESSORY MEN.

New Orleans, La., Dealers' Association Amend By-Laws and Many Supply Houses Join.

The by-laws of the Automobile Dealers' Association of New Orleans, La., was amended at the annual meeting so as to permit the admittance of local dealers in automobile accessories. Practically every accessory house was represented at the meeting. The following officers were elected: President, Lucien Lyons; vice president, W. A. Shuler; secretary-treasurer, George E. Dick. The report of the treasurer showed a balance of $1000.

VICTOR TO SELL DIRECT.

Gasket Manufacturer Discontinues Its Selling Arrangements and Will Market Its Own Products from Now On.

The Victor Manufacturing and Gasket Company, Chicago, Ill., will sell direct from its factory from now on, having discontinued the selling arrangement with Stevens & Co., New York City. Victor gaskets will now be handled direct from the factory through jobbers only, and dealers will find it convenient to place their orders with the nearest jobbers.

DALLAS DEALERS COMBINE.

The Dallas Automobile and Accessory Dealers' Association Interested in Legislative Matters.

Prominent dealers, accessory and supply men of Dallas, Tex., met recently and formed the Dallas Automobile and Accessory Dealers' Association. The club will have for its purpose legislative activity in addition to protecting the interests of its members. The association was launched at a banquet at which the guests were attired as chefs. The menu was unique.

ATLANTIC MOTORS BANKRUPT.

Failure of Atlantic Motors Company Affects Agents Who Made Deposits on Cars.

A voluntary petition in bankruptcy has been filed by the Atlantic Motors Company, Savannah, Ga. It is stated that the liabilities of the concern are $12,229 and assets $13,566. Among the assets is $5390, most of which was deposited by dealers or as part payment on cars. The concern has been in existence less than a year.

MUST REPORT TO POLICE.

Dealers in Second-Hand Cars, Parts, Accessories, Etc., of Indianapolis, Ind., Must File Sales.

The city council of Indianapolis, Ind., has passed an ordinance compelling dealers in second-hand cars, parts and accessories, to report all purchases within 24 hours to the police department. It is believed that this will result in the recovery of much stolen property.

ST. LOUIS AUTO MEN DINE.

Annual Banquet of Automobile Manufacturers' and Dealers' Association a Notable Success.

The recent annual banquet of the Automobile Manufacturers' and Dealers' Association of St. Louis, Mo., was a notable success. Not only was the attendance large, but there were present several state and city officials.

LIGHT DELIVERY CAR.

Mission Motor Car Company, Los Angeles, Cal., to Manufacture 800-Pound Capacity Vehicle.

Announcement is made by the Mission Motor Car Company, Los Angeles, Cal., of an 800-pound capacity light delivery car termed the Crescent. It is designed to meet the requirements of tradesmen.

MANY NEW GARAGES.

Over $100,000 Worth of New Buildings Erected at Grand Rapids, Mich., During 1914.

The total garage construction for Grand Rapids, Mich., during 1914, amounted to $100,000. Approximately 246 permits were also granted for private garages.

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FIFTEENTH ANNUAL NEW YORK SHOW.

In the Beauty of Its Decorations, and the Number and Variety of Exhibits, the 1915 New York Show Will Surpass All Previous Automobile Expositions.

WHEN the doors of the Grand Central Palace, New York City, are opened for the 15th national automobile show, on Saturday, Jan. 9, the greatest display of motor cars and accessories set in the most effective scheme of decoration in the history of the trade will be offered for inspection and approval. This year, as last, the exhibit will be under the auspices of the National Automobile Chamber of Commerce, the successor of the old Association of Licensed Automobile Manufacturers, and the Automobile Board of Trade, which was amalgamated with it. The general management will also remain in the hands of S. A. Miles, who last year demonstrated that he was able to live up to the very enviable reputation which had preceded him from the middle West, the scene of much of his long experience. Entering the Palace, the lobby will be found to have been converted into a California garden or rather a huge pergola whose walls, composed of mirrors, give the effect of great space. There will be bay trees and creeping vines, with lighting fixtures in the form of tulips, effectively placed. Passing to the interior of the building, the visitor enters a Persian garden, the effect of broad area being given by great mirrors, 19 by seven feet, set in gold frames, alternating with decorative sun bursts. Persian draperies hung in numerous sections of the building, and oriental hangings and cartouches will adorn the upper halves of the white marble pillars, which rise from a green carpeted floor. The great court will be strung with garlands of roses and wistaria, set off by brilliant green foliage and ivy, and crystal chandeliers, 10 feet in diameter, hung from the ceiling will afford brilliant illumination. This year, too, instead of painted signs designating the spaces of exhibitors, the names will be worked out in electric light tubes, so that the whole effect will be as brilliant as it will be beautiful.

The Show Committee of the N. A. C. C. and S. A. Miles, Who Is Managing the Show This Year for the Second Time.

Each national automobile show is the index of the progress of the industry from year to year, both in the extent and value of its output, and in the advance in the quality of the automobiles themselves. The enormous increase in production, from less than 700 cars in 1899 to 515,000 in 1914, is no more striking than the changes in construction and design that have marked the development of what is probably the most rapidly advancing branch of engineering in the history of that science. While the user, actual or prospective, will take advantage of the opportunity afforded for comparison along the lines of his knowledge and his needs, the dealer, the garage owner, and the technical man will find, for his inspection, the many details that indicate the steps that are being taken and the improvements that are being made. Not only in the cars themselves, but among the accessories, will be found much of interest and of value to the owner, the garage man and the dealer. The exhibits in this department will number approximately 225, as compared with displays of between 90 and 100 lines of cars, both probably exceeding the number shown last year.

The National Automobile Chamber of Commerce, aside from its service as the central organization of the trade, is doing a very valuable work along many lines in fostering a spirit of cooperation which is already making itself felt in ways that are of direct benefit to the car user and which are important factors in the progress of the industry. Automobiles are being made better, more reliable and safer, because the engineers are being united in the work of development and standardization rather than competing

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along lines where competition can only do harm. However keen the desire for individual features, ideas have been interchanged to the end that the automobile might become a better machine, and now a cross licensing agreement is in contemplation which will eliminate litigation on patents which is so often a bar to progress. This exemplifies the spirit of the N. A. C. C. in its activities for the betterment of all branches of the industry, but the accomplishment must and does depend upon the individual manufacturers, and their support of the policies which are determined upon. The evidence of this co-operative work will without doubt appear in the similarity of many details, and the many signs of standardization shown in the 1915 cars. This does not mean that individuality has been sacrificed, or that there is less worth seeing than in previous years, but it does mean that features of construction and design which experience has shown to be correct, are coming into universal use.

One of the biggest things of its kind in the world, the national automobile show can give but a faint suggestion of the extent of the industry which it represents—an industry whose history goes back a little more than 15 years. Some idea of the wonderful advance is shown by the statistics of the N. A. C. C., which give the value of the cars produced in this country in 1914 as approximately $485,000,000, the number of manufacturers as 450 and the number of cars registered in the United States as 1,500,000. There are 15,500 dealers, 13,630 garages, 1280 repair shops and 680 supply houses handling the cars which stay in America, to say nothing of the business agencies involved in the disposal and care of the cars exported, which, for the year ending in June last, amounted to $34,500,000.

The total number of exhibits at the Grand Central Palace will be very close to 350, of which seven will be electrics, 12 motorcycles, about 90 gasoline cars and the balance accessories. Complete automobiles will be shown on all four floors, which are available for the purpose, and accessories will be found on the third and fourth floors, in such spaces as are not occupied by automobiles, the decorative arrangement being the same for either class of exhibit. M. A. Singer is in charge of the many details of the decorative scheme. While the main purpose is to afford surroundings which will display the cars to the best advantage, it is believed that exceptional beauty will be attained as well, and that even the magnificent building in which it is carried out will have an added attractiveness.

As compared with previous shows, both cars and accessories will probably exceed in number not only those of last year, but also the representation in 1913. The cyclecars will not be in evidence as such, the name having been abandoned by nearly all manufacturers in favor of the designation, "Light Car", none of those who stick to the old nomenclature being included in the list of exhibitors. There are 16 manufacturers listed to show cars who have not exhibited before, and a greater proportion of the accessory lines will be new. Commercial cars will not be shown, although their representatives will be assigned space for headquarters, at which customers may be met.

A Glimpse at the Interior of the Grand Central Palace, New York City, Where the 1915 Show Is to Be Held.

MILWAUKEE DEALERS ORGANIZE.

At a recent meeting of the automobile and supply dealers of Milwaukee, Wis., held at the Hotel Pfister, it was decided to form an association for protection against dead beats, the maintenance of prices, and united action on legislation. The meeting was attended by about 100, and was addressed by Francis L. Plummer of the American Fair Trade League.

ZENITH ADMITTED TO M. A. M.

The Zenith Carburetor Company, manufacturer of the well known Zenith carburetor, has been elected to membership in the Motor and Accessory Manufacturers, New York City.

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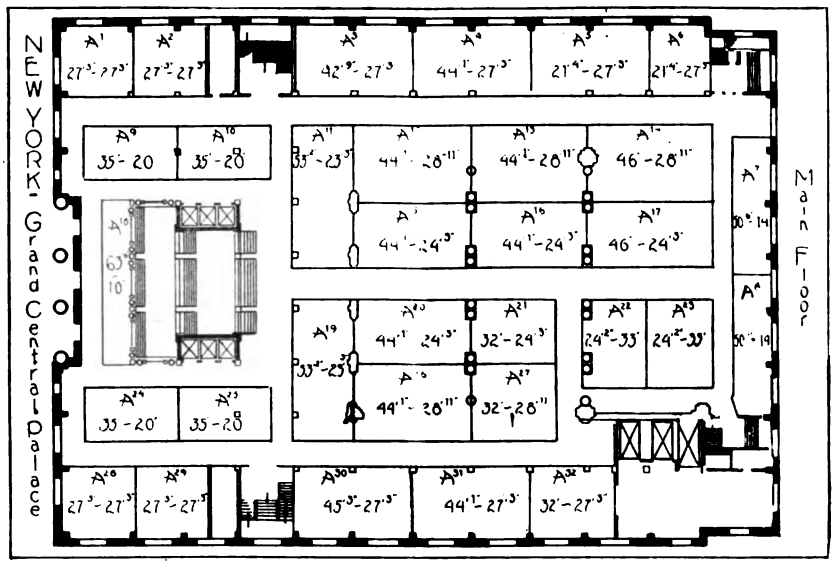
LIST OF EXHIBITORS AT THE NEW YORK SHOW.

THE accessory manufacturers will have their greatest year at the forthcoming 15th annual automobile show in the Grand Central Palace, New York City, Jan. 2-9. While the number of automobile exhibitors will far surpass last year, yet the increase in accessory makers is one of the features of the year. These total 236, as compared with 104 in New York in 1913.

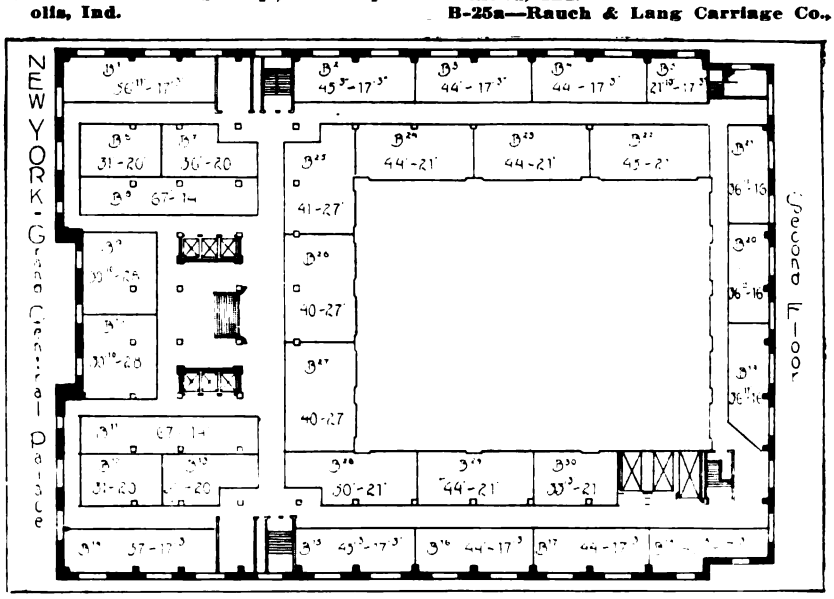


Main Floor, Section A, Where Gasoline Cars Will Be Exhibited.

When the first announcement of the list of exhibitors was made the National Automobile Chamber of Commerce reported a total of 188 exhibitors for New York, including both automobile and accessory manufacturers. However, the following week saw an additional list of 118 accessory manufacturers for both the New York and Chicago shows. A list of car and accessory manufacturers that will exhibit at the New York show includes the following:

Pleasure Cars.

C-22—Allen Motor Co., Fostoria, O.
B-26a—Anderson Electric Co., Detroit, Mich.
B-29—Apperson Bros. Auto Co., Kokomo, Ind.
C-7—Argo Motor Co., Jackson, Mich.
B-15—Auburn Automobile Co., Auburn, Ind.
B-27—Baker Motor Vehicle Co., Cleveland, O.
B-4—Briggs-Detroiter Co., Detroit, Mich.
B-12—Briscoe Motor Co., Jackson, Mich.
A-15—Buick Motor Co., Flint, Mich.
A-20—Cadillac Motor Car Co., Detroit, Mich.
A-6—Cartercar Co., Pontiac, Mich.
A-10—Case Threshing Machine Co., J. I., Inc., Racine, Wis.
A-16—Chalmers Motor Co., Detroit, Mich.
B-23—Chandler Motor Car Co., Cleveland, O.
C-5 and 6—Chevrolet Motor Car Co., Flint, Mich.
A-5—Cole Motor Car Co., Indianapolis, Ind.
D-14—Crawford Auto Co., Hagerstown, Md.
B-16—Cunningham Son & Co., James, Rochester, N. Y.
C-14—Davis Motor Car Co., Geo. W., Richmond, Ind.
B-1—Dodge Brothers, Detroit, Mich.
C-13—Durant-Dort Carriage Co., Flint, Mich.
C-1—Enger Motor Car Co., Cincinnati, O.
B-17—Fiat, Poughkeepsie, N. Y.
C-5—Fischer Motor Corp., New York City.
A-32—Franklin Mfg. Co., H. H., Syracuse, N. Y.
B-2—Garford Co., Elyria, O.
C-2—Grant Motor Car Co., Findlay, O.
B-22—Haynes Automobile Co., Kokomo, Ind.
C-20—Herff-Brooks Corp., Indianapolis, Ind.
A-17—Hudson Motor Car Co., Detroit, Mich.
A-14—Hupp Motor Car Co., Detroit, Mich.
B-25—Imperial Automobile Co., Jackson, Mich.
B-7—Inter-State Motor Co., Muncie, Ind.
A-18—Jackson Automobile Co., Jackson, Mich.
A-31—Jeffery Co., Thomas B., Kenosha, Wis.
B-11—King Motor Car Co., Detroit, Mich.
A-23—Kissel Motor Car Co., Hartford, Wis.
B-13—Kline Motor Car Corp., Richmond, Va.
A-22—Krit Motor Car Co., Detroit, Mich.
C-19—Lexington-Howard Co., Connersville, Ind.
A-27—Locomobile Co. of America, Bridgeport, Conn.
C-21—L. P. C. Motor Co., Racine, Wis.
B-8—Lyons-Atlas Co., Indianapolis, Ind.
B-5—McFarlan Motor Co., Connersville, Ind.
B-6—McIntyre Co., W. H., Auburn, Ind.
A-12—Maxwell Motor Co., Inc., Detroit, Mich.
B-9—Mercer Automobile Co., Trenton, N. J.
B-19—Metz Co., Waltham, Mass.
A-25—Mitchell-Lewis Motor Co., Racine, Wis.
B-30—Moline Automobile Co., East Moline, Ill.
A-8—Moon Motor Car Co., St. Louis, Mo.
B-14—Motor Car Mfg. Co., Indianapolis, Ind.
A-7—National Motor Vehicle Co., Indianapolis, Ind.
B-3—Nordyke & Marmon Co., Indianapolis, Ind.
A-30—Oakland Motor Car Co., Pontiac, Mich.
B-26—Ohio Electric Car Co., Toledo, O.
A-28—Olds Motor Works, Lansing, Mich.
C-3—Owen & Co., R. M., New York City.
A-26—Packard Motor Car Co., Detroit, Mich.
A-21—Paige-Detroit Motor Car Co., Detroit, Mich.
A-29—Peerless Motor Car Co., Cleveland, O.
A-4—Pierce-Arrow Motor Car Co., Buffalo, N. Y.
C-18—Pilot Car Sales Co., Richmond, Ind.
B-25a—Rauch & Lang Carriage Co.,



Second Floor, Section B, for Gasoline and Electric Cars.

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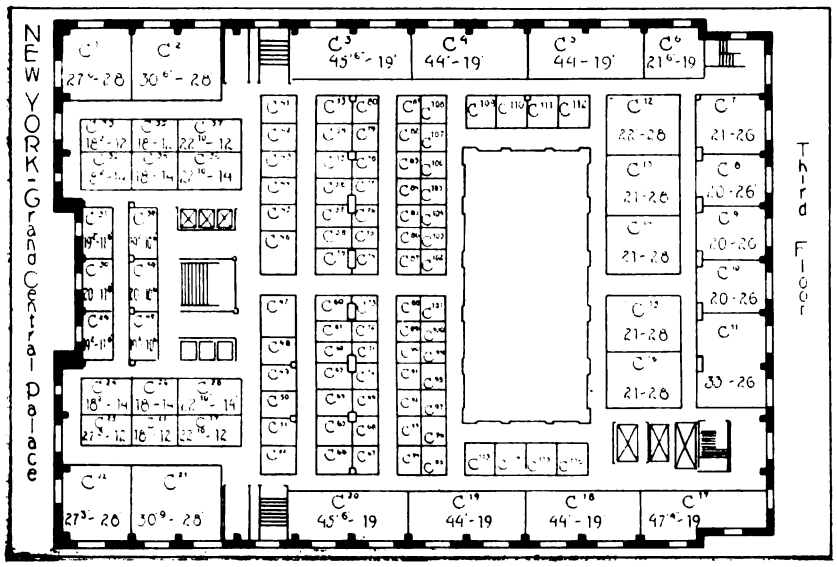


Third Floor, Section C, for Cars, Light Cars, Accessories and Motorcycles.

Cleveland, O.
B-24—Regal Motor Car Co., Detroit, Mich.
C-9—Remington Motor Co., New York City.
A-13—Reo Motor Car Co., Lansing, Mich.
B-28—Saxon Motor Co., Detroit, Mich.
C-8—Scripps-Booth Co., Detroit, Mich.
A-9—Stearns Co., F. B., Cleveland, O.
A-1—Stevens-Duryea Co., Chicopee Falls, Mass.
A-11—Studebaker Corporation, Detroit, Mich.
B-10—Stutz Motor Car Co., Indianapolis, Ind.
B-20—Trumbull Motor Car Co., Bridgeport, Conn.
C-13—Twombly Car Corp., New York City.
A-2—Velie Motor Vehicle Co., Moline, Ill.
B-27a—Waverley Co., Indianapolis, Ind.
B-21—Westcott Motor Car Co., Richmond, Ind.
A-3—White Co., Cleveland, O.
A-19—Willys-Overland Co., Toledo, O.
A-24—Winton Motor Car Co., Cleveland, O.

Accessories

Adams & Co., Henry T.
Ajax Trunk & Sample Case Co.
American Bronze Co.
American Die & Tool Co.
American Express Co.
American Taximeter Co.
Apple Electric Co.
Armstrong Cork Co.
Arnold, N. B.
Asch & Co., Inc.
Ashland Mfg. Co.
Ashley Steel Building Co.
Ashley Wire Wheel & Rim Co.
Atlas Automatic Jack Corp.
Auto Air Appliance Co.
Automobile Journal Pub. Co.
Automobile Supply Mfg. Co.
Auto Rescue Mfg. Co.

B. & L. Auto Lamp Co.
Badger Brass Mfg. Co.
Baum's Castorine Co.
Baush Machine Tool Co.
Bearings Co. of America.
Benford Mfg. Co.
Benjamin Electric Mfg. Co.
Berg Auto Trunk & Spec. Co.
Bicycling World Co.
Blackledge, J. W., Mfg. Co.
Bock Bearing Co.
Bontempi Rust Proofing Co.
Bosch Magneto Co.
Braender Rubber & Tire Co.
Brown Company, The
Brown-Lipe-Chapin Co., The
Brown Trailog Co.
Brown, William H.
Byrne, Kingston & Co.

Carr Co., F. S.
Champion Ignition Co.
Champion Spark Plug Co.
Chicago Electric Spec. Co.
Chilton Co.
Class Journal Co.
Cleveland Worm & Gear Co.
Clincher Tire Plow Co.
Coes Wrench Co.
Commercial Lubricating Co.
Cowles, C., & Co.
Cox Brass Co.
Cramp & Sons, Wm., Ship & Eng. Co.
C. R. G. Mfg. Co.
Curtis Pneumatic Machinery Co.
Cutler-Hammer Mfg. Co.

Daniels, Smalley
Dann Oil Cushion Spring Insert Co.
Davis Mfg. Co., D. L.
Dayton Rubber Mfg. Co.
Detroit Lubricator Co.
Detroit Steel Products Co.
Dixon, Joseph, Crucible Co.
Doehler Die Casting Co.
Double Fabric Tire Co.
Dreadnaught Tire & Rubber Co.
Dunham, M. L.
Dunlop Wire Wheel Corp.
Dujardin Rubber Co.
Dykes Co., John L. G.
Dyneto Electric Co.
Eclipse Machine Co.
Electric Storage Battery Co.
English & Mersick Co.
Essex Rubber Co.
Eugene Bournonville Welding Co.

Faw, Inc., J. H.
Fentress-Newton Mfg. Co.
Findeisen & Kropf Mfg. Co.
Fitzgerald Mfg. Co.
Flentje, Ernst
Forest City Electric Co.
Frasse & Co., Inc., Peter A.
Frazer Lubricator Co.
Fulton-McCutcheon Co.

Gabriel Horn Mfg. Co.
Garage Equipment Mfg. Co.
Garford Mfg. Co.
Gemmer-Detroit Starter Co.
General Rim Co.
Globe Machine & Stamping Co.
Globe Rubber Tire Mfg. Co.
Golde-Patent Mfg. Co.
Gray & Davis.
Grossman Mfg. Co., Inc., Emil

Halladay & Co., L. P.
Hampton Kerosene Carburetor Co.
Hans Motor Equipment Co.
Harris, A. W., Oil Co.
Hartford Machine Screw Co.
Hartford Suspension Co.
Hassler, Robert H.
Haverford Cycle Co.
Haws, Geo. A.
Hayes Mfg. Co.
Heinze Electric Co.
Hers & Co.
Hoffecker Co.
Holt-Welles Co., Inc.
Horseless Age Co.
Houpert Machine Co.
Hydraulic Oil Storage Co.
Hydraulic Pressed Steel Co.

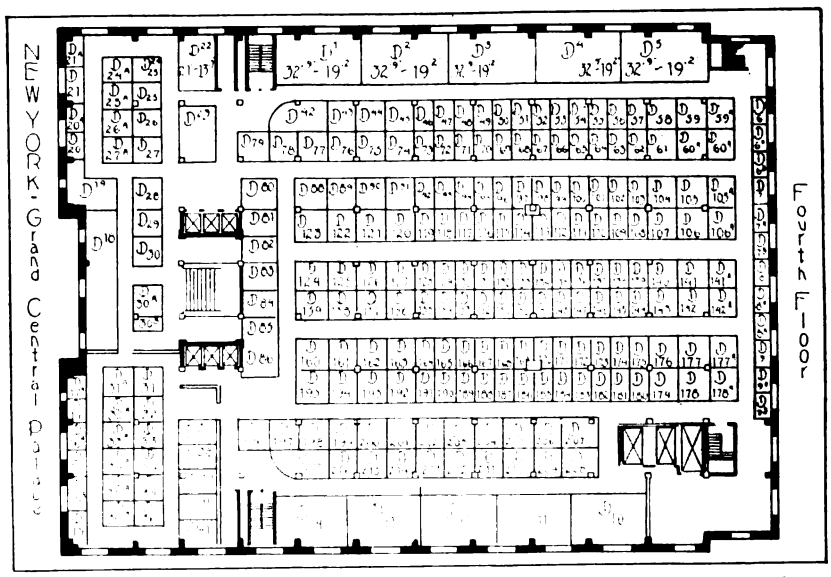
International-Acheson Graphite Co.

J. M. Shock Absorber Co.

Kales-Haskel Co.
Kellogg Mfg. Co.
Kemco Electric Mfg. Co.
Kent, Atwater, Mfg. Co.
Kokomo Electric Co.
Krupp (Thos. Prosser & Son.)
K-T Lever Spring Co.
K-W Ignition Co.

Laidlaw Co., Inc.
Lane Bros. Co.
Lawrence & Co., L.
Leather Tire Goods Co.
Leece-Neville Co.
Light Car Pub. Co.
Lipman Air Appliance Co.
Lovell-McConnell Mfg. Co.

McQuay-Norris Mfg. Co.
Manufacturers Foundry Co.



Fourth Floor, Section D, Where the Majority of the Accessory Manufacturers Will Hold Forth.

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Marathon Tire Sales Co.
Marvel Auto Supply Co.
Massnick-Phipps Mfg. Co.
Master Carburetor Distributors.
Mathieson Spring Cushion Wheel Co.
Mayo Mfg. Co.
Max Machine Co.
Merritt Co., S. Whyte C.
Mesinger, H. & F., Mfg. Co.
Metal Specialties Co.
Metal Stamping Co.
Mezzatesta & Fortier Co.
Micro Piston Ring Co.
Miller, Charles E.
Morrison-Ricker Mfg. Co.
Mosler & Co., A. R.
Motor Cycling.
Motorcycling Pub. Co.
Motor Magazine.
Motor Parts Co.
Motor Vehicle Pnb. Co.
Motsinger Device Mfg. Co.
Mutual Auto Accessory Co.
Mutty, L. J., Co.

National Oil & Supply Co.
National Screw & Tack Co.
National Tube Co.
Newmastic Co.
New York Coil Co.
New York Sporting Goods Co.
N. Y. & N. J. Lubricant Co.
Northeast Electric Co.

O'Bannon Corp.

Pantasote Co.
Peacock, Clarence N., Co.
Peerless Motor Specialty Co.
Pennsylvania Shafting Co.
Perfection Spring Co.
Perkins-Campbell Co.
Picard & Co., A. J.
Pittsburgh Model Engine Co.
Platt & Washburn Refining Co.
Positive Supply Co.
Power Gas Products Co., Inc.
Pyrene Mfg. Co.

Randall-Faichney Co.
Reading Saddle & Mfg. Co.
Reilly, P., & Son.
Rose Mfg. Co.
Royal Equipment Co.
Rutherford Rubber Co.

Sager, J. H., Co.
Schrader's Son, A., Inc.
Schwartz Wheel Co.
Scoville, E. U., Co.
Shakespeare Co., Wm., Jr.
Shaler & Co., C. A.
Sharrer Patent Top Co.
Sheppard, W. S.
Silvex Co.
Sipp Machine Co.
Sloan & Chase Mfg. Co.
Sparks-Withington Co.
Spicer Mfg. Co.
Spitter, B. W.
Splitdorf Electrical Co.
Springfield Metal Body Co.
Standard Roller Bearing Co.
Standard Thermometer Co.
Standard Welding Co.
Standard Woven Fabric Co.
Stanley Co., Inc., John T.
Steel Pneumatic Tube & Tire Co.
Stevens & Co.
Stewart-Warner Corp.
Stewart & Co.
Stromberg Motor Devices Co.

Taylor Instrument Co.
Tingley & Co., Chas. O.
Triple Action Spring Co.

Universal Car Equipment Co.
Universal Shock Eliminator.
U. S. Air Compressor Co.
U. S. Light & Heat Co.

Vacuum Oil Co.
Valentine & Co.
Van Norman Machine Tool Co.
Van Sicklen Co.
Veeder Mfg. Co.
Vesta Accumulator Co.
Victor Lamp Co.
Voorhees Rubber Mfg. Co.

Waldt, Ralph
Waltham Watch Co.
Ward Leonard Electric Co.
Warner Gear Co.
Warner Mfg. Co.
Wasson Piston Ring Co.
Wayne Oil Tank & Pump Co.
Welding & Cutting Co., K. G.
Western Tire & Rubber Co.
Westinghouse Elec. & Mfg. Co.
Wheeler & Schebler.
White & Bagley Co.
Willard Storage Battery Co.
Willey, C. A., Co.
Woodbridge Chemical Co.

Zenith Carburetor Co.

NOVEL SPRING OILING DEVICE.

Brown Trailog Company Marketing Oil Box That Automatically Lubricates Motor Vehicle Springs.

The Brown oil box, a new device for automatically lubricating the leaves of pleasure and commercial car springs, has been brought out by the Brown Trailog

Brown Oil Box, a Device for Lubricating and Cleaning the Springs.

Company, Cleveland, O. It stops squeaks in the springs, makes the car ride easier and saves wear upon both tires and springs. The Brown oil box bolts on to the springs, just inside of the rebound clips. The box contains two heavy felt pads, which carry the oil, which is fed between the leaves of the spring by capillary attraction. The feathering action of the springs forces the oil the entire length of the leaves, removing rust and polishing the bearing surfaces. The Brown device can be attached with an ordinary screw driver and requires no attention after installation other than occasionally renewing the supply of oil. A set of four will fully equip a Ford, while other makes require six or more. The introductory retail price is $1. The oil box is sold through the regular trade. Details of the Brown device will be supplied on request.

BROWN COMPANY INCREASES LINE.

The Brown Company, Syracuse, N. Y., has purchased the rights, plans and good will of the Lewis-Sanford Pump Works, Boston, Mass. This company manufactured several types of pumps, including one for the Ford and other cars.

NEW MOSCO SPECIALTIES.

A Complete Line of High-Grade, Practical Accessories, Parts and Equipment for Ford Cars.

The Motor Specialties Company, Waltham, Mass., manufacturer of motor car specialties under the well known trade name of Mosco, has brought out a number of new devices for the model T Ford car, some of which are shown herewith.

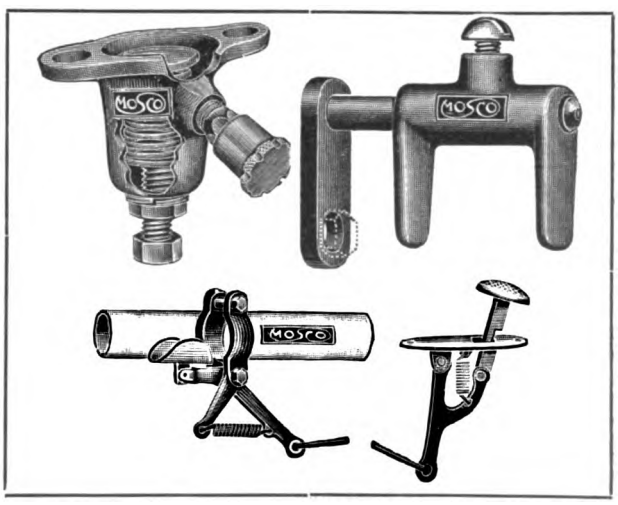
The Mosco muffler cut-out is a very light, compact construction and is very useful for noting the explosions of the motor when testing it for a skip, etc. A desirable quality of the cut-out is that it comes ready to install and does not require any alterations to fit. It can be easily fitted by the owner and retails for $1.

The Mosco anti-rattling ball sockets are for taking up lost motion in the radius and steering rods. They replace the usual parts and being accurately made, do not require any fitting. They are equipped with compression grease cups, and the tension of the spring is adjustable, a desirable feature. The design for the radius rod sells for $1; that for the steering rod for 75 cents.

The Mosco fan belt guide is a device that should appeal to the owner, as it is a safeguard against the belt slipping on the pulley. The guide is attached to the side of the timer gear housing without requiring an extra bolt or hole. The device is made of semi-steel and retails for 50 cents.

Two adjustable wheel pullers are produced for the Ford car, the No. 1 and the No. 2. The first-named will fit all cars having the tapered rear axle and, because of a variation in the diameter of the hub thread, the Mosco will fill a long felt want of Ford owners, as provision is made for over and under sized threads. The Mosco wheel puller is easily used. It is screwed on the hub, the clamping bolt tightened and turning the centre bolt will remove the most obstinate wheel. The Mosco wheel puller retails for 50 cents.

The Motor Specialties Company produces a large number of devices for the Ford machine, and particulars and trade discounts will be mailed upon request.



Some of the Mosco Ford Specialties, Including Anti-Rattling Ball Socket for Radius and Steering Rods, Fan Belt Guide and Muffler Cut-Out.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as those prevailing at the beginning and ending of that period for purposes of comparison. Southern iron dropped 50 cents, while northern iron rose $1 for the month. Bessemer and open hearth steel fell 50 cents on the ton. Copper showed a tendency to rise, electrolytic advancing $1.92½ and lake $1.95 for the month.

The New York Stock Exchange reopened Dec. 12 after being closed for a period of 19 weeks owing to the European war and the financial condition of the country. Accordingly restricted measures have been taken by the governors of the exchange and dealings in stock as such shall be specified by, and be under the supervision and regulation of, a committee of five, shall be for cash or in regular way only and not below the minimum prices authorized by the committee from time to time. Transactions at prices below those allowed by the committee, or in evasion of its rules, will be prohibited.

	Nov. 16		Nov. 23		Nov. 30		Dec. 7			
	High	Low	High	Low	High	Low	High	Low	Nov. 14	Dec. 15
Antimony, lb	13½	13½	13½	13½	13½	13½	13½	13	13½	12
Iron, fdy., S., ton	10.00	10.00	10.00	10.00	10.00	9.50	9.50	9.50	10.00	9.50
Iron, fdy., N., ton	12.00	12.00	12.75	12.50	13.00	12.75	13.00	13.00	12.00	13.00
Iron, Bessemer, ton	13.60	13.60	13.60	13.60	14.75	14.70	14.70	14.70	14.45	....
Steel, Bessemer, ton	18.50	18.50	18.50	18.00	18.00	18.00	18.00	18.00	18.50	18.00
Steel, open hearth, ton	18.50	18.50	18.50	18.00	18.00	18.00	18.00	18.00	18.50	18.00
Beams and chan., 100 lbs	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
Copper, elec., 100 lbs	12.67½	11.62½	12.37½	12.25	12.80	12.37½	13.12½	12.70	11.20	13.12½
Copper, lake, 100 lbs	12.25	11.75	12.50	12.37½	13.00	12.50	13.25	12.80	11.30	13.25
Lead, 100 lbs	3.90	3.80	3.90	3.90	3.80	3.80	3.80	3.80	3.37	3.80
Tin, 100 lbs	33.25	32.00	34.00	33.37½	33.60	33.00	34.50	32.62	33.50	34.60
Petroleum, Kan. cr., bbl	55	55	55	55	55	55	55	55	45	55
Petroleum, Penn. cr., bbl	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Linseed oil, raw	47	47	47	47	47	47	47	47	45	47
Rapeseed oil, refined	73	71	71	71	71	71	71	71	73	71
Lard oil, prime	90	90	90	90	90	90	90	90	90	90
Fish oil, Menhaden, br	40	40	38	38	38	38	38	38	40	38
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	25	25	25	25	23	23	23	21	25	21
Cottonseed oil, bbl	5.60	5.25	5.90	5.55	5.85	5.85	5.85	5.76	5.30	5.65
Sea Island cotton	....	....	....	....	....	....	....	....	....	....
Silk, raw, Japan	....	....	3.45	3.45	....	....	3.45	3.45	....	....
Silk, raw, Italy	....	....	4.00	4.00	....	....	3.90	3.90	....	3.90
Rubber, fine up-river Para	67	63	71	67	71	70	72	71	65	71
Tire, scrap	5	5	5	5	5	5	5	5	5	5

CRUDE OIL PRICES.

The price of crude petroleum at the wells during the middle of the month of December were as follows:

Pennsylvania dark	$1.45	Somerset 32°	.85
Second Sand	1.45	Ragland	.65
Tiona	1.45	Illinois above 30°	.89
Cabell	1.05	Kan. & Okla.	.55
Mercer black	1.02	Corsicana light	.55
New Castle	1.02	Corsicana heavy	.50
Corning	.85	Electra	.55
Wooster	1.15	Henrietta	.55
North Lima	.93	Caddo, La., 38°	.80
South Lima	.88	Caddo, La., heavy	.45
Indiana	.88	Spindletop	.40
Princeton	.89	Canadian oil	1.33

California.

21 to 23.9 grav	40	29 to 30.9 grav	55
24 to 26.9 grav	42½	31 to 32.9 grav	60
27 to 28.9 grav	45		

Naphtha.

	10-gallon drums: Under 100 cases	10-gallon drums: 100 cases and over	*100 gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	23½

*Drums extra, $8.50.

	In cans and cases: Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	15
Refined, barrels	12	a	13
Tank wagon delivery	..	a	9
Fuel, 31°	8	a	..
Fuel, 34°	9	a	..

Naphtha.

Auto in wood	..	a	17
Auto in garages, steel bbls	..	a	13
V. M. & P. deod., in steel	..	a	9
V. M. & P. deod., in wood	..	a	11

Gasoline.

86°	..	a	26
74-76°	..	a	25
67-70°	..	a	22

GARAGE REGULATION HEARING.

Many Proprietors and Property Owners Present and Majority Object to Its Provisions.

The hearing on the proposed ordinances regulating public and private garages in Providence, R. I., resulted in considerable opposition being manifested against the measure, particularly the clause requiring that within six months after the passage of the bill owners of public and private garages shall make such alterations as would conform to the law. It was pointed out that if the measure became a law it would entail an unreasonable amount of expense to the owners, upon too short a notice. Many suggestions were made, and the committee has taken these under advisement.

RAYFIELD FORD EQUIPMENT.

A Special Outfit for Ford Motors That Are Fitted with Gear Driven Magnetos.

Announcement is made by the Findeisen & Kropf Manufacturing Company, 21st street and Rockwell avenue, Chicago, Ill., maker of the well known Rayfield carburetor, that a special outfit is being produced for the Ford car, one that can be easily and quickly installed on Ford motors equipped with a gear driven high-tension magneto. This should prove of interest to all dealers handling Ford equipment. Particulars and prices of the new carburetor and fittings will be supplied upon request.

OPENS LONDON OFFICE.

A. Schrader's Son, Inc., to Establish an Office and Factory to Produce Tire Valves and Gauges.

A Schrader's Son, Inc., New York City, maker of tire valves and gauges, is to establish an office and factory at London, England, with W. H. Cole in charge. The machinery and equipment has been shipped and the factory is expected to be in operation before the end of the month.

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CIRCULARS FOR DEALERS.

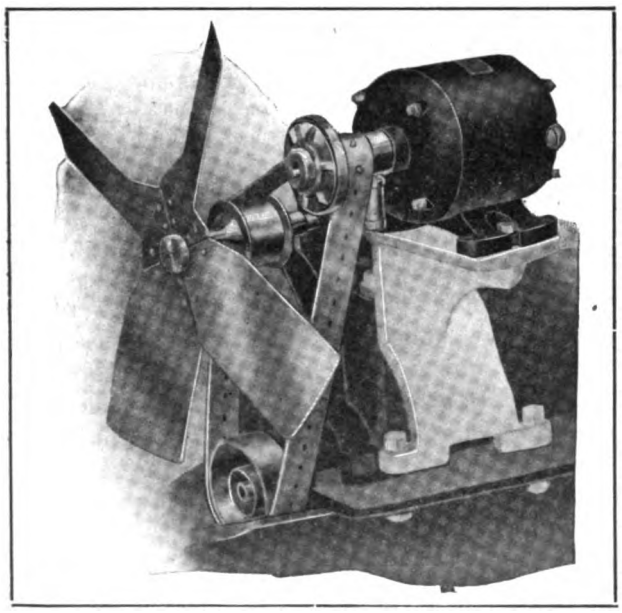
Kellogg Manufacturing Company Will Supply Free Printing Matter of Interest to All Owners.

An announcement of unusual interest to the trade is that of the Kellogg Manufacturing Company, Rochester, N. Y., maker of the well known line of Kellogg pumps, etc. The company is prepared to furnish automobile dealers with circulars describing the No. 101 single-cylinder, all metal Kellogg engine driven air pump with attachments for the makes of cars represented by the agent. The attachment and method of installation are most important in the application of the power driven tire pump. The circulars are carefully prepared, and describe the pump with its fittings for all standard makes. For example, there is a folder for the owner of a Reo car and the data will interest the prospective purchaser as well. These circulars can be utilized to a good advantage in the publicity matter mailed by the dealers. Agents are invited to write to the Kellogg Manufacturing Company for particulars, and it is suggested that the number of circulars required be stated.

NEW LIGHTING EQUIPMENT.

Carleton Company Marketing Complete Electric Outfit for Used and New Cars with "Porcupine" Device.

The Carleton Company, 170 Summer street, Boston, Mass., has brought out a new drive, termed the "porcupine", for the No. 68 Carleton dynamo, which is retailed



Illustrating the "Porcupine" Drive Now Supplied with the Carleton Generator for Ford Cars.

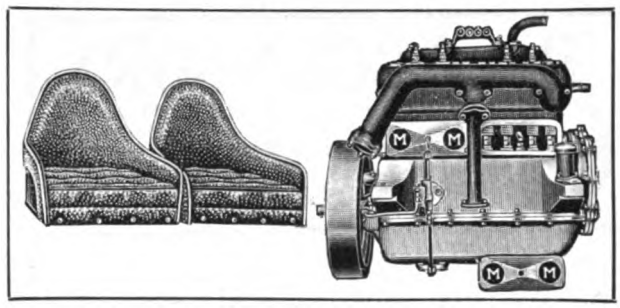
for $15. As may be noted by the accompanying illustration, the generator pulley is provided with spurs, which fit into holes in the belt. The maker states that always three or more holes are occupied by the spurs, obtaining a practical drive, one free from the possibility of slipping. The new drive permits using a small pulley, and wear on the bearings is reduced to the minimum, as the tension is very light.

The Carleton Company carries in stock brackets for standard models, enabling the installation of the dynamo with no tools other than a screw driver and a wrench. Every bracket is accurately made, and a special design is produced for the Ford car. The complete outfit includes, in addition to the dynamo, an automatic cut-out, ammeter and storage battery. The Carleton equipment should prove an attractive proposition to the owner of a car not fitted with electric lighting, and dealers and the trade are invited to write for particulars and discounts.

ATTRACTIVE BARGAINS.

Auto Parts Company Makes Special Offer on Racing Seats and Four-Cylinder Motor Complete.

The Auto Parts Company, 737 West Jackson boulevard, Chicago, Ill., manufacturing jobber and dealer in motor vehicle parts, material, supplies and equipment, is making a special offer on racing seats. They are made of heavy gauge leaded steel, with rolled edges, and are very durable and comfortable. The seats are 16



Complete Motor and Racing Seats Offered at Attractive Prices by the Auto Parts Company, Chicago, Ill.

inches wide, 17 deep and 21 high, and are upholstered with a high-grade leather. They are particularly adaptable to an old car in that they will bring the machine up to date.

The Auto Parts Company is offering a Michigan 40-horsepower motor, complete with fan, oiler, pump and supporting arms, at a reasonable price. The bore is 4¼ inches, stroke 5¼, and the power plant comes complete for installation.

The company carries a large stock of all kinds of parts and supplies, and garages and repair shops rebuilding cars that have been wrecked or remodelling old types, will do well to get in touch with the Chicago concern. It can supply about everything needed, and its prices are very attractive.

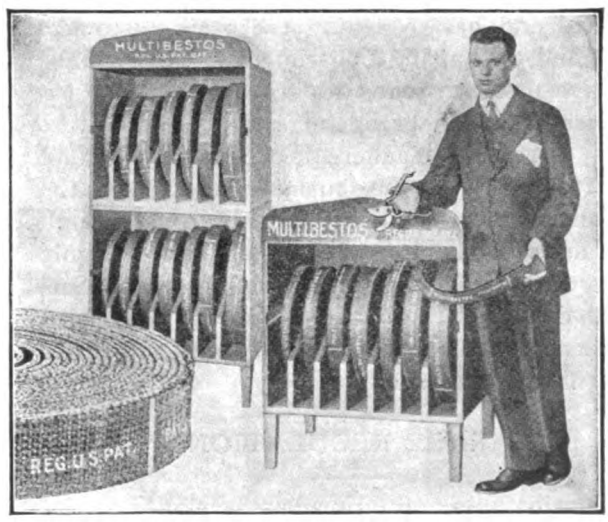
BRAKE LINING CABINET.

Standard Woven Fabric Company, Maker of Multibestos Friction Material, Supplying Stand.

The Standard Woven Fabric Company, Framingham, Mass., manufacturer of the well known Multibestos brake lining and friction material, announces a new cabinet for stocking and displaying its product. The new stand is termed the "Automatic Salesman" and is constructed to hold 700 feet of brake lining. Each roll has a separate department and revolves on a separate axis, so that the desired quantity may be obtained easily and quickly.

The cabinets are built along the lines of sectional bookcases, and as many as are needed can be provided, so that the requirements of the small, as well as the large dealer, are fulfilled. The cabinets are in the natural wood, but the Standard Woven Fabric Company offers to stain them to match the wood work in the dealer's store and they are loaned without cost.

An innovation that is being introduced, one that marks an advance in brake lining, is a new system of marking the material with plain white lines at intervals of exactly one foot. These marks are termed "white foot prints" and the company has filed an application for a patent on the method This arrangement will be of great assistance to the dealer, as it will enable him to obtain the desired lengths easily and quickly. Both the cabinets and the new method of marking the Multibestos brake lining will be displayed at booth D, space 202, at the New York show. Particulars of the cabinet offer will be supplied dealers upon writing.



Automatic Sales or Brake Lining Cabinet Supplied Dealers by Standard Woven Fabric Company, Maker of Multibestos Friction Material.

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. DECEMBER, 1914. NO. 8.

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CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

SATISFYING CUSTOMERS.

The dealer, garage man or repair man obtains his livelihood by supplying the people in his vicinity with material and equipment that are of value to them. To prosper he must sell goods that give the customer complete satisfaction. On the other hand, if he fails to do so, he will lose custom. And it should be borne in mind that the dealer, garage man or repair man is permanently located and has to sell to the same customers over and over again. Consequently, he is obliged to give them a square deal every time they patronize him. The garage man or repair man who does not strictly adhere to this policy, cannot achieve success in his business. Similarly, the manufacturer who fools the dealer and through him deceives the consumer, loses that desirable opportunity in business, the repeat order. Satisfied customers purchase the second and third time and continue to buy the supplies and material that give satisfaction.

GARAGE REGULATIONS.

Considerable opposition has developed to the proposed bill regulating garages in Providence, R. I., the features of which ordinance were published in the November issue of the Accessory and Garage Journal. Many garages were represented at the hearing and practically all speakers for and against the measure were unanimous in stating that they believed the provisions of the bill, as it affects buildings to be erected in the future, were on the whole reasonable. Many protests, however, were made against the section which calls for compliance within six months after the passage of the ordinance. There is no doubt that it would mean the expenditure of large sums on the part of the garage owners, and that a certain class would be severely handicapped. It is to be hoped that the committee having the bill under advisement will give consideration to the small garage, as well as the large one.

THE NATIONAL SHOW.

All indications point to the most successful show ever held in New York City. When the doors of the Grand Central Palace open on Saturday, Jan. 2, it is estimated that the number of exhibits, particularly those of accessories, supplies and equipment, will exceed all previous records. The national show serves several useful purposes. It not only provides those contemplating the agency of a motor vehicle an opportunity to inspect the machine, but brings the prospect in close touch with the manufacturer and the sales organization. One of the features of the show will be the large number of makers exhibiting garage and repair shop equipment, including the most modern time and labor saving devices. The national show is not only educational, but it is a business promoter.

EQUIPPING THE GARAGE.

The equipping of the garage and repair shop requires careful consideration, for in these days of keen competition the service obtained by the customer is a most important factor. And the average motorist is quick to discern between the shop employing old methods and the new utilizing time and labor saving equipment. The liberal selling policy of the manufacturer or garage and repair shop equipment permits the small concern to install modern tools, machinery, etc., without any great first expenditure. A number of makers allow 30 days' trial of their product, enabling the user to derive profits that in some instances will practically pay for the equipment.

A practical garage and repair shop system not only prevents leaks and losses, but instills confidence in the customer. If the business is loosely conducted the customer is apt to believe that he is not being given a square deal.

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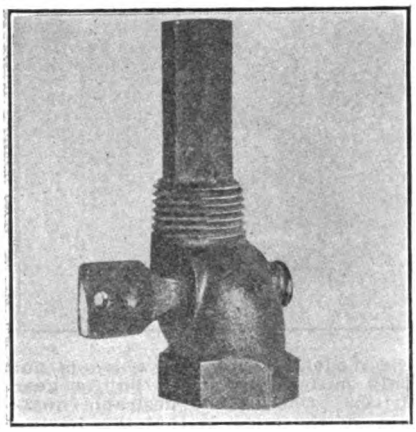
ACCESSORIES, SUPPLIES AND FITTINGS.

STRATEGY FUEL DEVICE.

Provides a Reserve of One Gallon of Gasoline for Ford Cars.

The Detroit Accessory Company, Detroit, Mich., is marketing the Strategy, a fuel reserve device built



exclusively for the model T Ford car. It provides a reserve of one gallon of fuel and this gasoline is not used until the regular supply is exhausted. The Strategy is a reserve valve and is fitted easily to the fuel tank between the last-named member and the fuel line. It is operated by a lever in the heel board. It sells for $1.

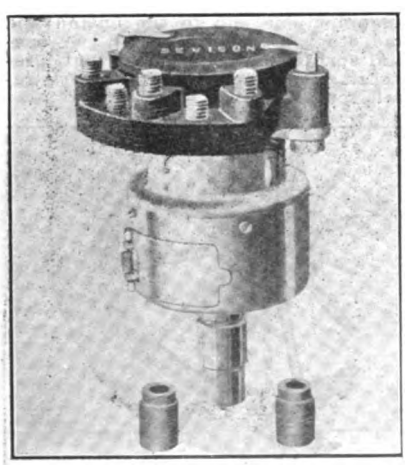
SEVISON IGNITION SYSTEM.

Designed for Cars Having Dynamo or Using Batteries.

The Sevison Electric Company, Elkhart, Ind, is manufacturing the Sevison ignition system, the invention of L. J. Sevison, who has been identified with the production of ignition apparatus for a number of years.

The system utilizes a direct current and consists of a mechanically operated circuit breaker, a single-unit transformer coil and dash switch. The arrangement provides for the current supply being a storage battery or dry cells and was primarily designed for motor vehicles equipped with a lighting system including a dynamo.

The circuit breaker has no oscillating journals and is made of large hardened steel parts. The maker calls particular attention to the contact points, stating that they will not arc or require filing. Only one



spark is produced, and the system is held to be very economical of current. All components are fully enclosed, water and dust proof, and are readily accessible. The Sevison system is adaptable to two, four and six-cylinder motors.

STA-TITE PISTON RING.

Is Produced for Ford as Well as Other Gasoline Motors.

The Sta-Tite piston ring is manufactured by the Piston Ring Company, Muskegon, Mich., and this company is producing a type of suitable dimensions for the model T Ford motor. The ring is made in three sections, two outer rings fitting over an inner member, and the maker states that this construction effectually prevents loss of compression, as well as oil from reaching the combustion chamber. They are particularly applicable to used motors and in cylin-

ders where loss of compression is due to the walls not being smooth and true.

GORDON RADIATOR COVER.

Is Employed to Keep Water and Motor Warm in Cold Weather.

The J. P. Gordon Company, Columbus, O., is marketing the Gordon radiator and hood cover, which is constructed of weather proof fabric on the outside and lined with a material which, it is stated, will prevent the escape of the heat from the motor. The cover is designed for service in cold weather and for keeping the water of the circulation system warm

when the engine is not running. The hood cover is so attached that the hood can be raised and the method of fastening is such that it cannot be easily stolen. The curtain is adjustable, so that the opening may be regulated according to the weather. Covers are made for the radiator, as well as for the double member.

BETHLEHEM SPARK PLUG.

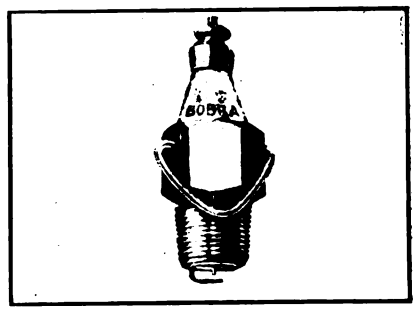
Especially Designed for Motorcycles, Having Four Sparking Points.

The Silvex Company, 171 Madison avenue, New York City, manufacturer of the well known Bethlehem five-point spark plugs, is producing a design for motorcycles. It is made in metric, ½ and ⅞-inch sizes. The feature of the plug is the use of four sparking points and if, for any reason, one of these become inoperative, the others are available. A desirable quality of the construction is that the spark is projected into the charge, making for motor efficiency.

BOBRA SPARK PLUG.

Provides Ready Means for Priming and Cleaning.

The Bobra Spark Plug Company, Dayton, O., is introducing the Bobra spark plug, which differs from con-



ventional practise in that the porcelain is not only removable, but carries both electrodes. As may be noted by the accompanying illustration, the porcelain is displaced from the shell without the aid of a wrench or other tool.

This arrangement makes it a simple matter to clean the plug, as well as to adjust the spark gap. One of the desirable qualities of the Bobra is that it provides ready means for priming a cylinder not fitted with petcocks. A bail is utilized to retain the insulator in position. The Bobra is made in three sizes, S. A. E., standard and metric. It retails for $1.

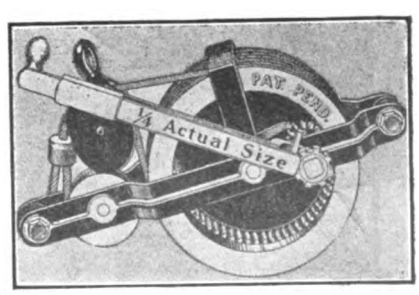
PULL-U-OUT.

A Device for Extricating Cars from Mud, Sand, Etc.

Pull-U-Out is a device marketed by the Pull-U-Out Manufacturing Company, 909 Pine street, St. Louis, Mo., and the maker states that it will not only extricate machines from places where the traction is poor, but it will right a car that has turned turtle, etc.

The illustration is one-quarter size and depicts the Pull-U-Out proper. It is operated by a handle and lever and is easily manipulated. The ratio is 70 to one, sufficient to move a heavy load with a minimum of effort, it being claimed that only five pounds pressure on the lever is necessary to lift the average car.

Three adjustable stakes are utilized for anchors and two seven-foot chains are included in each equipment. The winding drum carries 30 feet of ¼-inch steel rope, and the steel frame carrying the drum and gearing is equipped with hooks and a sheave or block. The Pull-U-Out can be employed for a number of useful purposes, such as lifting a power plant from the chassis, when overhauling the car, for example. The Pull-U-Out retails for $15.



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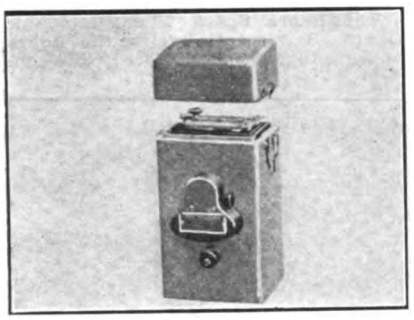
HOOSIER MASTER VIBRATOR.

Has Two Pairs of Contact Points, but Only One Is Used at a Time.

The Hoosier Coil Company, South Bend, Ind., has brought out a tandem master vibrator having two



pairs of contact points so connected that only one pair operates at a time. The other pair, however, remains in contact. The wiring or connection is such that, should the operating pair stick or become faulty, the other pair takes up the work. One of the features of the design is that should the original pair again resume operation, the others become inactive. This arrangement may be said to provide a double master vibrator. The Hoosier comes in a neat, substantial mahogany box, with kick type of switch. It retails for $15.

"MADE RIGHT" LUNCHEON CASE.

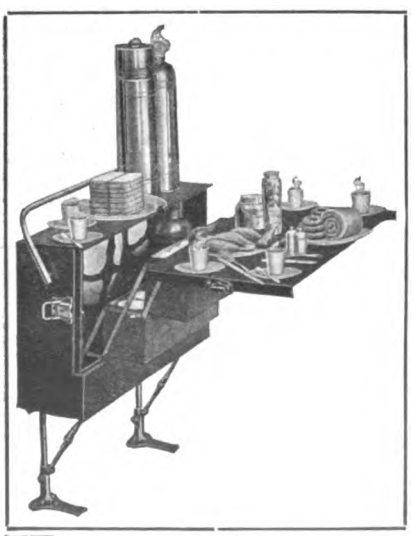
Equipment Includes Table, Plates, Knives, Forks, Etc.

The Knickerbocker Case Company, Fulton and Clinton streets, Chicago, Ill., is marketing the "Made Right" motor luncheon case and table, which is an ingenious arrangement that will appeal to automobilists who tour and desire to carry their luncheon.

As may be noted by the accompanying illustration, which depicts the style No. 1, it is easily placed in the tonneau of the car and does not occupy any more room than a suit case. It is retained against the seat without marring the same, and the container is adjustable as desired, making for convenience.

The equipment provides suitable conveniences for a day's outing or a long tour, as a considerable quantity of food and delicacies may be carried, and vacuum bottles are provided, these permitting of carrying hot and cold liquids, soups, etc. A feature of the outfit is that all cases will take any standard size of vacuum bottles or jars.

The equipment is most complete, including as it does knives, forks, spoons, plates, cups and saucers, glass jars, napkins, tray food boxes, salt and pepper shakers, etc.; in fact, all necessary articles.

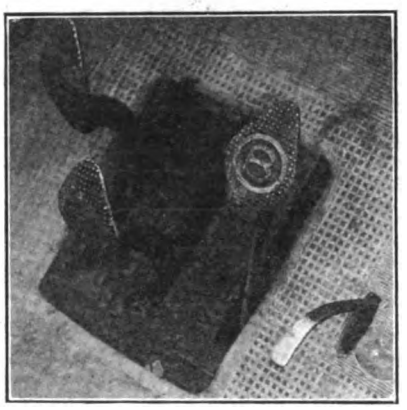


SIMPLEX FORD ACCELERATOR.

Controls Fuel Supply by Foot Independently of Throttle.

Will A. Sapp & Co., Elgin, Neb., is manufacturing the Simplex accelerator for the model T Ford motor, which is a simple and practical device for controlling the quantity of mixture passing to the cylinders. One of the desirable qualities of the Simplex is that it does not interfere with the operation of the usual throttle and either can be employed independently of the other.

The accelerator proper is attached to the inspection plate of the transmission housing and is connected by means of a chain and pulley to the throttle lever of the carburetor. A spring of proper tension returns the lever to a closed position, when the

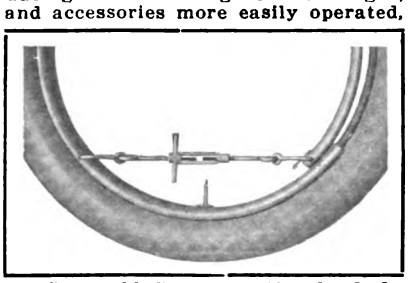


accelerator is relieved from the pressure of the foot. The tension, however, is adjustable. The Simplex enables control of the car speed without displacing the hands from the steering wheel. It lists at $1.65.

STANWELD RIM TOOL.

Adapted to Transversely Split Demountable Rims.

In keeping with its policy of producing material lighter in weight, and accessories more easily operated,

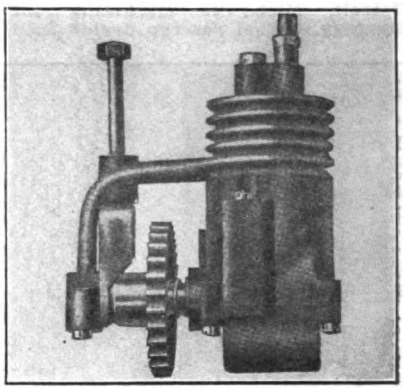


the Stanweld Company, Cleveland, O., has brought out a special tool for the transversely split type of demountable rims. These rims are very generally employed and the Stanweld Company, after much experimentation, has designed and patented the special tool shown in an accompanying illustration. It operates on the principle of a turnbuckle, is made in one size, and fits any make, diameter or width of split rim. The use of the device requires the drilling of four small holes, two in each side of the rim base. The Stanweld rim tool can be folded into a space nine by five inches and weighs 1½ pounds. It retails for $1.

SANFORD TIRE PUMP.

A High-Grade, Efficient Type for Ford Cars.

The Brown Company, Syracuse, N. Y., is manufacturing a practical as well as high-grade efficient pump for



the model T Ford car, which is not only moderately priced but is gear driven. One of the desirable qualities of the pump is that the driving and driven gear can be meshed easily and quickly by a lever. The pump is very compact and the workmanship and material are first-class in every respect.

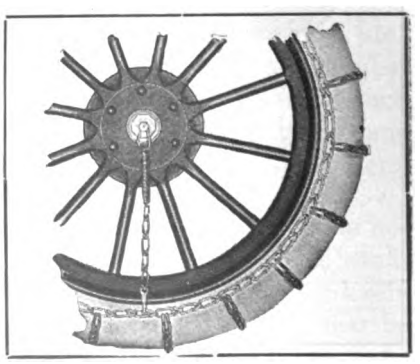
One of the features of the design that will appeal to those owners installing new equipment is that the SanFord can be attached in 30 minutes and that no drilling or machining is necessary. The pump supplies air free from lubricants, and the maker states that it is constructed to withstand hard service.

One of the features of the pump is the method of adjusting and packing. This is accomplished by means of a ring on the inside of the pump, so constructed that it may be adjusted from the outside for wear, etc. The retail price, complete, with gears, hose and gauge, is $8.50.

NON-SKID PROTECTOR.

Prevents Loss of Tire Chain and Is Easily Fitted.

Bornstein Brothers, 11 Caledonia avenue, Rochester, N. Y., is marketing the Non-Skid chain protecter, which the maker states will prevent loss of the tire chain in the event the retaining chain breaks. The device, which is stated to be patented, consists of a chain and a grooved nut or button. The last-named member is secured to the hub cap of the wheel by drilling a 5/16-inch hole and inserting a special bolt and button. The chain protector is attached by snapping one end to the button and the other to the tire chain. A special spring keeps the chain taut, preventing rattling. The protectors retail for $1.25 the pair.



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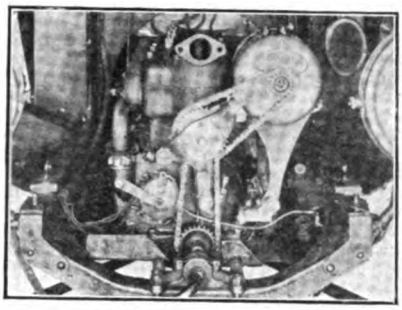
FORD MOTOR-GENERATOR.

North East Electric Company's Equipment Is Complete.

The North East Electric Company, Rochester, N. Y., maker of electric lighting and motor starting systems,



has brought out an equipment for the model T Ford. It is a motor-generator, the latter supplying current to a storage battery, which in turn energizes the electric motor and provides electricity for lighting.

The motor starter is operated by a push button, which cuts in the current from the battery and, upon releasing the button, the starter functions as a generator. The unit construction is very compact and is mounted by means of a special bracket at the left side of the motor.

The energy of the motor starter is conveyed to a sprocket on the crankshaft by a silent chain, which form of drive is employed for actuating the dynamo.

The complete equipment comprises the motor-generator, chains and sprockets, storage battery, lamps, wiring and switches. The North East system for the Ford car was granted a certificate of merit by the Royal Automobile Club, London, England, under its open competition rules.

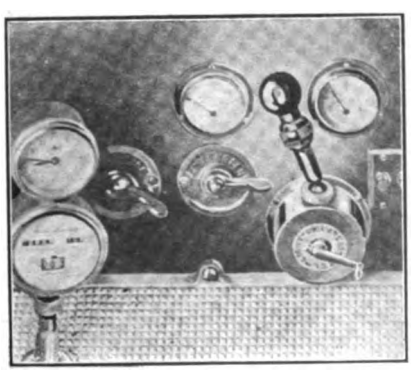
UNIVERSAL REEL LIGHT.

Has 12 Feet of Cord and May Be Used as a Dash or Hand Lamp.

The Universal reel light, which is a dash and hand or trouble lamp combined, is manufactured by Cummings Brothers, Flint, Mich. One of the features of the device is its compactness, the maker stating that it is no larger than an ordinary speedometer.

The stem or handle is provided with a ball and socket joint, enabling the user to direct the light as desired, and it can be locked in position by means of a thumb nut. The lamp is equipped with a reflector and this is adjustable, so that the Universal may be utilized to light the indicating instruments on the control board, as shown in the accompanying illustration.

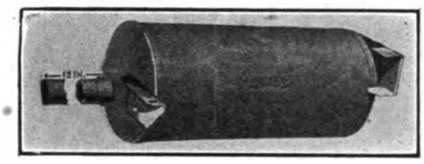
When employed as a trouble or inspection light, the lamp can be used quickly, as the reel unwinds 12 feet of cord. A small handle is used to rewind the cable. It is stated that the Universal is economical of current and that four batteries will last for a considerable length of time. The reel light comes nickel plated and equipped with a tungsten bulb. It sells for $4.



GEMCO FORD MUFFLER.

Is Constructed of Pressed Steel and Is Supplied with Brackets.

The Garage Equipment Company, Milwaukee, Wis., is producing a muffler for the model T Ford chassis, and one of the qualities claimed for the design is that it is indestructible. The Gemco is constructed entirely of pressed steel and is very light. All the parts are electrically welded, and it is stated that back pressure is reduced to a minimum. The interior of the muffler follows Gemco practise. The muffler comes complete with substantial steel brackets, ready for attaching to the tail pipe. The dimen-

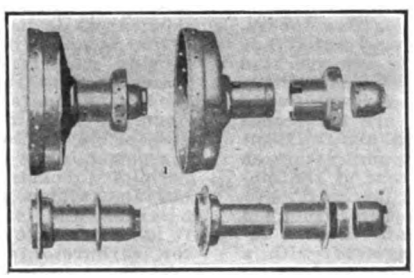


sions conform to those of the Ford design and the muffler is secured in the same manner.

LINDSAY WIRE WHEELS.

Designed for Ford Cars and to Replace Wooden Members.

The Great Western Manufacturing Company, La Porte, Ind., for which Brandenburg Brothers, New York City, is factory sales representative, is making the Lindsay patented wire



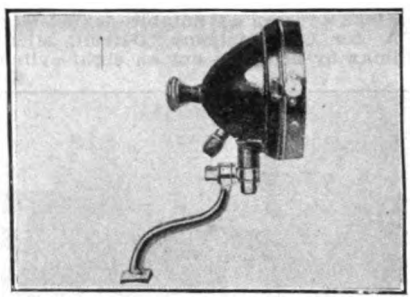
wheels for Ford cars. These wheels come complete with brake drum, ball bearings, hub cap, etc., and the maker states that anyone can attach them to the car in a few minutes, the work involving the removal of the wood wheel from the axle and slipping on the wire member.

The hubs are of specially prepared pressed steel, constructed to withstand severe service, as well as side strain. The brake drum is so made that the spokes are attached to the outside, affording convenience in replacing broken or damaged members with new without disturbing or removing the wheel from the axle. The application of the brake is on the interior, the braking surface being on the inside of the spoke line of the wheel itself. The spokes are of heavy .175-gauge drawn steel. A speedometer ring for either front wheel is supplied when desired at a slight extra cost. The set of four wheels weighs in the neighborhood of 100 pounds. The sizes produced include 28 by three-inch, 30 by three, 30 by 3½ and 32 by 3½ for clincher tires. A set of four wheels sells for $25.

ELECTRIC SPOT LIGHT.

Victor Auto Parts Company Marketing a Useful Lamp.

The Victor Auto Parts Company, Cincinnati, O., specialist in the manufacture of motor vehicle lamps, is



marketing what is termed the fore door electric spot light. It is designed to be attached to the door by means of a bracket having a universal joint, a construction that permits of swinging the light in any direction.

The swivel, although moved easily, is stated to be held rigidly in place by means of friction, and it is claimed that the lamp will not jar out of position. The reflector is not a true parabola, but of a special shape. The light is very serviceable in that it may be utilized to illuminate road signs, street numbers, etc., and highway curves. The lamp is 6½ inches in diameter, and retails for $7.50.

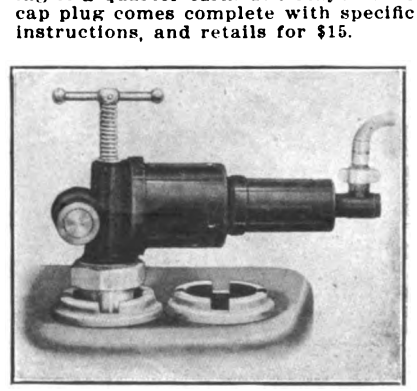
MAYO POWER TIRE PUMP.

Is Permanently Attached to the Valve Plug of Motor.

Announcement is made by the Mayo Manufacturing Company, 60 East 18th street, Chicago, Ill., of a new type of power tire pump. It is designed to be permanently attached to the motor and, as may be noted by the accompanying illustration, the pump is provided with a connection which screws into the valve cap. This connection is fitted with a standard ground poppet valve, similar to that employed in an internal combustion engine, and is held on its seat by a spring.

To employ the pump the handle is pressed downward and, with the motor running, air is pumped into the hose, thence to the tires, a suitable length of tubing and a gauge being provided with each outfit.

To attach the connection to the valve cap, the latter is drilled and tapped. A union joint permits of the easy connection of the valve member and the pump proper. The maker states that the pump will inflate a 34 by four-inch tire to 75 pounds in three minutes, and other sizes and pressures in proportion. After service, the pump handle is locked by giving it a quarter turn. The Mayo valve cap plug comes complete with specific instructions, and retails for $15.



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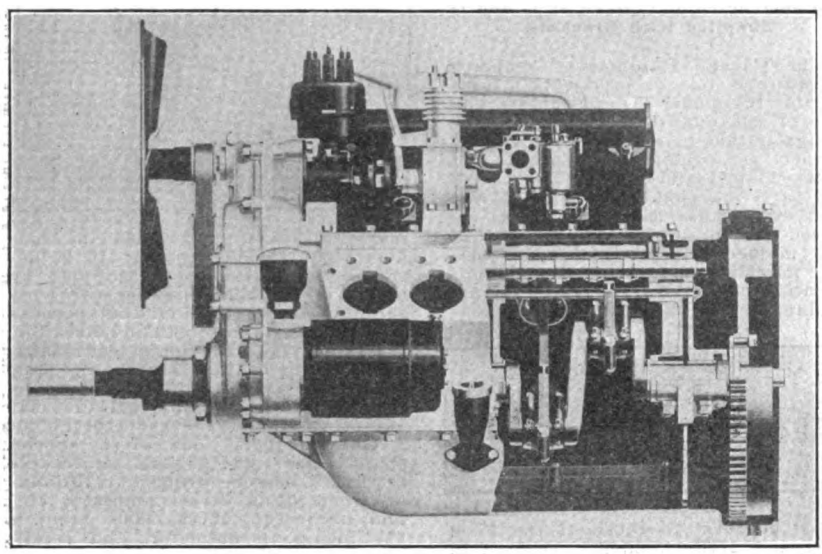
KING EIGHT-CYLINDER CAR.

New Model Sells for $1350, with Complete Equipment.

AFTER years of notable achievements, the King Motor Car Company, Detroit, Mich., has capped the climax by bringing out an eight-cylinder car, selling for $1350 complete. Deliveries will be made beginning Jan. 1, and the car will be exhibited at the forthcoming automobile shows.



The King Eight-Cylinder Motor, Partially in Section, to Depict the Cranks, Mounting of Attachments, Etc.

The new eight-cylinder King is of the pure streamline type, and is but two inches longer and wider than the King model C, with a wheelbase and tread of the same dimensions, namely, 113 and 56 inches respectively. The motor is of the V type, with two blocks of four cylinders set at 90 degrees to each other, the design being L head with intake manifold and heads integral in each block. The bore is 2¾, and the stroke is five inches, giving an S. A. E. rating of 24.2 horsepower, but it has developed 45 in tests. The poppet valves are operated from a single drop forged camshaft with integral cams, through intermediate rocker arms with hardened steel rollers, and adjustable push rods. They are 1⅝ inches in diameter, with a 15/32-inch opening, and are fully enclosed. The camshaft which, like the oil pump, is driven by a silent chain running in oil at the front of the motor, is carried on three bearings.

The cooling is by a thermo-syphon system through a ⅝-inch water jacket, and a cellular radiator with a 16-inch fan. The Ward Leonard electric system, with a Willard storage battery, is used for lighting and starting, the ignition being from a storage battery current, through a high-tension distributor. The carburetor is of special design and is mounted between the banks of cylinders.

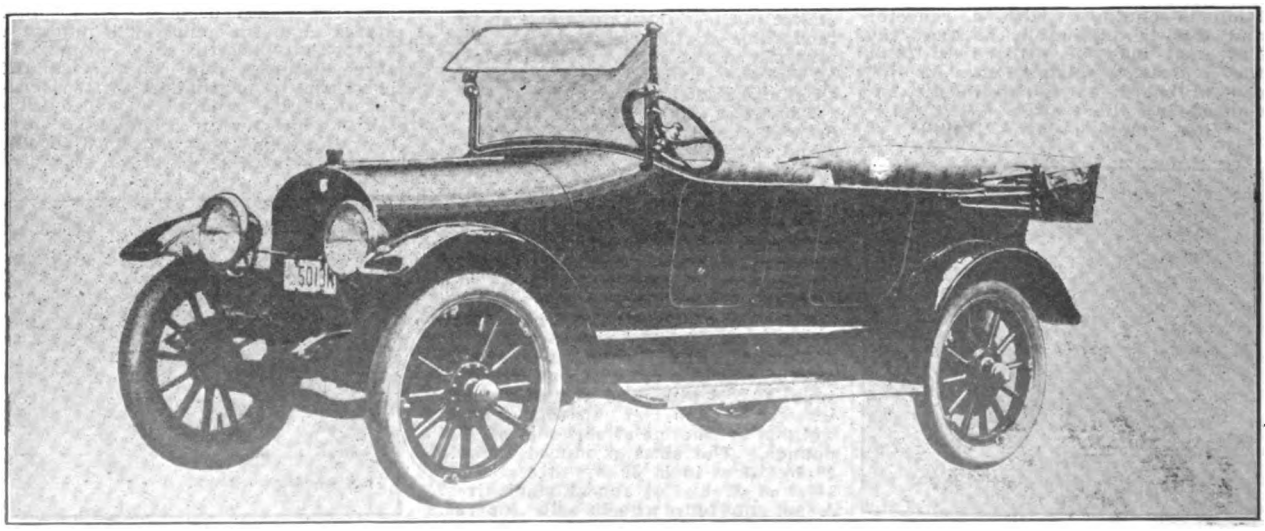
The frame is pressed steel, of four-inch channel section, with a three-inch flange and 5/32-inch side rails. The front axle is an I beam drop forging, and all the wheels are artillery type with demountable rims and 33 by four-inch tires. The steering gear is of the irreversible worm and gear type, located on the left and operated by an 18-inch hand wheel. Centre control is used, consisting of a ball and socket gear lever at the driver's right. The service brake is operated by the right pedal and the emergency brake by a hand lever, and the hand throttle and spark lever on the steering wheel are supplemented by a foot throttle. The gasoline tank is in the rear, with air pressure pump feed.

The base of the crank case forms an oil reservoir, the lubrication being force feed by a gear oil pump, which supplies each of the main bearings from which the lubricant flows through the drilled crank arms to the connecting rod bearings, the cylinder and cam bearings being lubricated by the oil thrown off by the crank.

The instrument board contains the electric light and ignition switches and the speedometer, which is electrically lighted. The finish is United States mail blue body, with black hood and fenders, black and nickel trimmings and straw colored wheels; the doors are full U type with concealed hinges and invisible latches.

The famous King cantilever spring rear suspension is retained, with semi-elliptic springs in front, overslung. The regular equipment consists of an engine power tire pump, rain vision ventilating windshield, silk mohair one-man top of extra rigid design, quick attachable curtains, a Jones speedometer driven from the propeller shaft, an electric horn operated from a button in the centre of the steering wheel, tire irons, pump, jack, tire repair outfit, tools and an extra rim; in fact, every device making for comfort and convenience.

In carrying out the definite purpose of producing a car which should be in the highest degree simple, convenient, low in price and economical in operation, no sacrifice has been made of strength and stability, and the whole construction is of that sturdiness and dependability which has always been noticeable in the King. The eight-cylinder motor, with its long stroke and small bore, delivering a constant power stream without intermission or substantial variation, should prove as economical as it is without question flexible and efficient. With a small piston displacement, and light, rapidly moving parts, the strains of explosion and the inertia losses, will be reduced to a minimum, and vibration is almost eliminated. Speeds from three to 50 miles an hour are said to be attained without gear change, or perceptible engine effort, and the mechanical source of the power is not in evidence. The V type motor not only permits a construction with the fewest possible parts, but also allows the moving members to be accurately balanced, and is held to eliminate undesirable stresses. It lends itself to the convenient placing of the distributor, carburetor and other attachments and accessories which are naturally located between the banks of cylinders. The same high-class workmanship is employed throughout that has featured the King product for years.



The King Eight-Cylinder Car, with Five-Passenger Touring Body, Which Will Be a Feature of the Shows.

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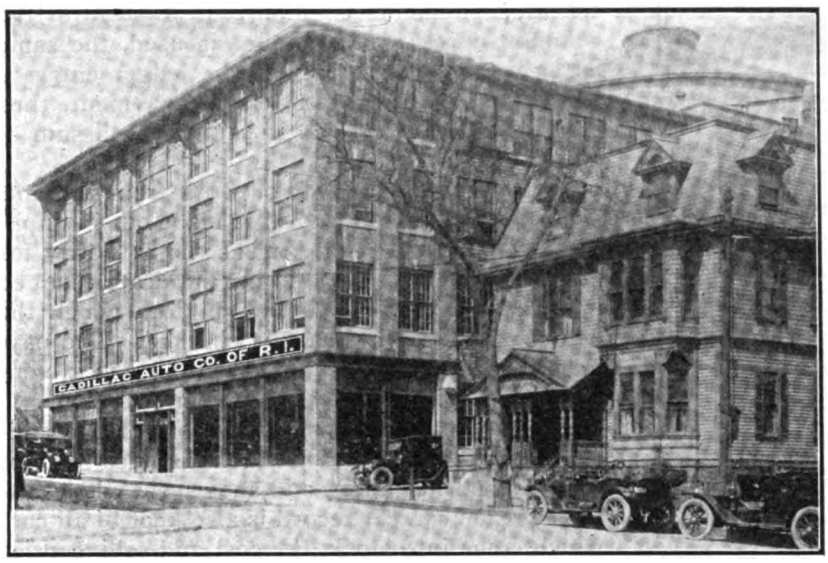
A MODEL GARAGE AND ACCOUNTING SYSTEM.

Simplicity and Accuracy Characterize the Methods Employed by the Cadillac Auto Company of Rhode Island, Providence, R. I., in Handling the Accounts of Its Service Station.

A SHOP and accounting system which is of particular interest because of its simplicity, combined with the greatest accuracy, is that



Headquarters and Service Station of Cadillac Auto Company of Rhode Island, Providence, R. I.

in use by the Cadillac Auto Company of Rhode Island, Providence, R. I., of which company Arthur J. Feltham is manager, and Edward B. Bowen in charge of the office and accounts. The system employed is the work of Mr. Bowen, who has revised, condensed and built up until such simplicity and efficiency have been attained that the many accounts of all sorts are easily handled by him with one assistant. Like most really effective business methods, it has been developed gradually to fit the particular needs, although many features are applicable, without change, to other and different conditions.

The Cadillac garage is operated primarily to serve Cadillac owners, and little work is done on other cars, but with this exception it is not unlike other well equipped garages, and the requirements to be met are much the same. Located at the junction of Federal street and Broadway, Providence, the Cadillac Auto Company occupies two floors of the building shown in the accompanying illustration. The front of the first floor contains the large show room, with the business office at one end, an almost equally large space in the rear being devoted to second-hand cars. On the second floor is the garage proper, reached by an outside incline from the rear, avoiding the necessity of an elevator. Here is the machine equipment for ordinary repair work, the repair pits, which are hung from the ceiling of the room below, being water and oil proof, as is the whole floor, and there is also accommodation for dead storage, communication with the stock room, which is on the first floor, being given by a parcel elevator or dumb waiter.

Cars coming in for repairs or overhauling are run directly on to the floor and a card, marked A in Fig. 1, is made out, showing what is to be done, with the license number noted for identification. The workman, starting on the job, takes the card from the rack and stamps it with a time clock, showing the exact time at which the work is commenced and, on finishing or leaving it, stamps this time in the same way, a new card being made out if the work is not completed at once. These cards form the complete record of the labor on each car, and are the basis of the charge therefor. Parts or material needed are called for by a requisition form (B, Fig. 1), on which is entered the license number of the car and the workman's name. This requisition is the authority for the delivery of stock from the stock room, and is also the basis for the charge for material used. Nothing whatever is allowed to leave the stock room without such a requisition, even gasoline and oil being stored under the supervision of the stock keeper and pumped

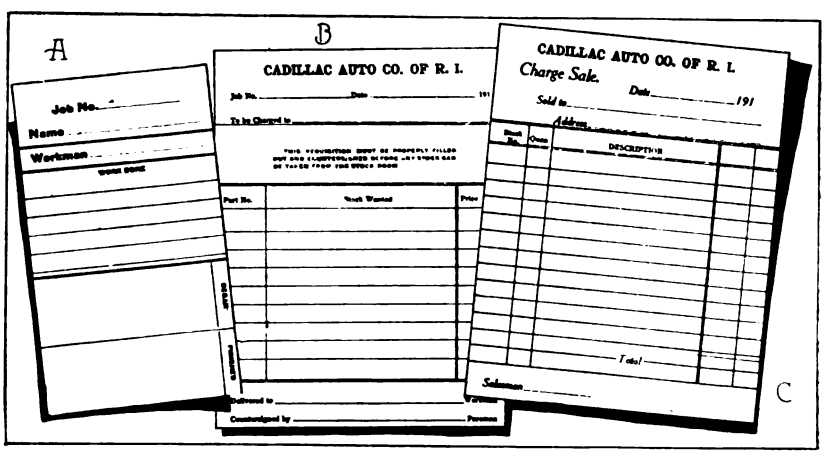


Fig. 1—The Labor Card, the Material Requisition and the Charge Sale Slip, from Which Charges Are Made Up.

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to the floor above in measured quantities. A perpetual inventory is maintained on a card system, receipts, deliveries and balance being entered, and the exact state of stock being always shown. All sales of parts, etc., to customers outside the shop are handled in exactly the same way, a cash sale slip or a charge sale memorandum (C, Fig. 1) made out by the employee taking the place of the requisition used when parts or material go into the shop.

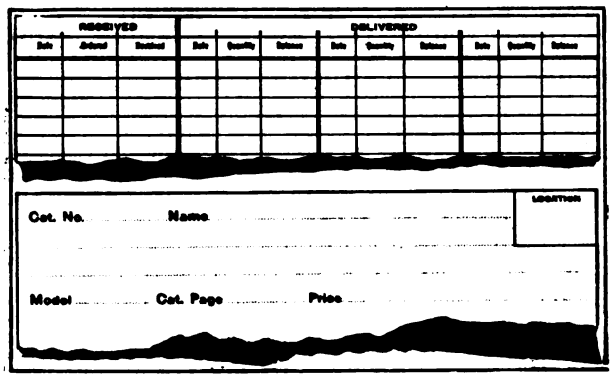

Fig. 2—The Card Used for Keeping the Record of the Stock Room.

The stock room is very complete and keeps on hand parts of all Cadillac models which have been built to date, together with much other material used in repairs. Attachments and accessories of second-hand cars which are in stock are made up into bundles and stored, so that there may be no confusion when the car goes out, and tool sets, inner tubes, etc., are similarly cared for. The system provides for the identification and definite location of everything which comes in. Every item carried is given a bin number, which is entered on the card, together with the name of piece, the car model to which it belongs, the page of catalogue where described, etc., the manufacturer's number being placed in the bin label.

The labor cards and the stock requisitions are collected at the office daily, and sorted according to the jobs which they represent. The time is then made up, the material prices added, and the charge made up for the whole. What may be called an analysis blank is used for this purpose, the items being grouped for convenience in billing and reference, and from this they are carried to a special form provided.

This (Fig. 3) is made in duplicate, the headings alone being different. The carbon copy forms the invoice going to the customer, and the original is bound in loose leaf binder and is the original entry of the transaction in the accounts of the office. It bears a serial number, which is also given to the envelope containing the data from which the charge was made. A ledger charge is then entered, reference being to this number, the ledger forming an alphabetical index to the numerically filed original entries. It will be seen that it is possible to start at any point in the system and, with any information, either number or name, to discover and check the entire transaction with ease. The whole accounting system is worked out with the idea of accuracy, but with the utmost simplicity, there being no superfluous forms, and no unnecessary work whatever. The journal used is of special ruling, giving instant information and permitting rapid checking and balancing. The ledger is of the usual form, but a very ingenious method of checking payments is employed. Instead of the common check mark, a letter is used, the same letter being placed opposite the ledger entry of the charge and the entry of the payment, thus identifying what invoice is paid by each sum of money received.

When ordering goods or work from the outside, an order form (Fig. 4) is made out in duplicate, the original being sent as the authority for delivery of goods, etc., and the duplicate retained in the office as a memorandum from which the delivery and charge may be checked. The payment of accounts is made by voucher check, very compact in size, but giving full information.

The company keeps a card record of all Cadillac users in its territory, which includes sales of second-hand machines, and shows the whole history of each car. A record is also kept of all cars which come into stock, the cost and selling price being given and, if another car is traded, the disposition of that as well, the profit on the whole transaction, whatever it may be, appearing by way of memorandum. This is particularly valuable in the case of customers out of town, as it enables the office to identify the model of any car, and to order parts or send out attachments and accessories without an inspection of the machine. While this index does not work the other way, in that no provision is made for locating the owner from the car number, it is, nevertheless, possible to do so through the grouping of the cars of each year and, consequently, within a

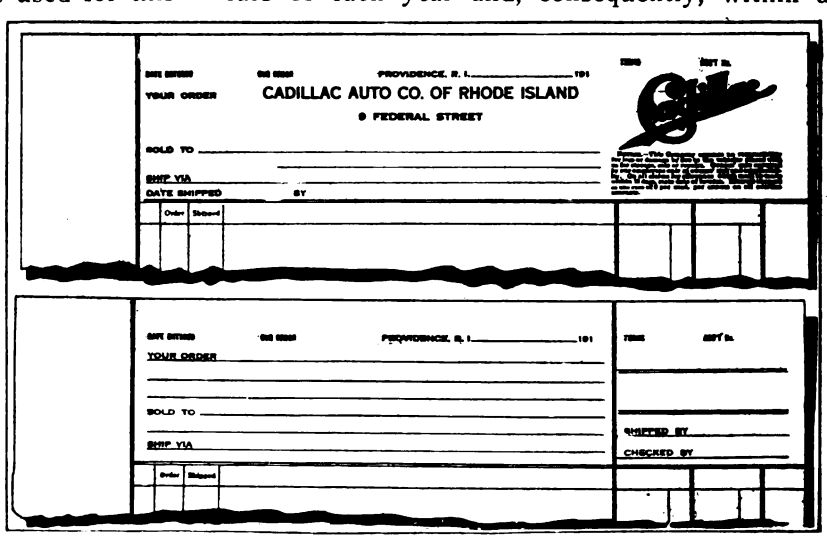

Fig. 3—The Original of This Form Is the Detailed Office Entry of the Account, and the Carbon Copy Is the Invoice to the Customer.

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certain range of serial numbers. The number indicates the year and, by running through the list of cars of that year, it is possible to find the purchaser, from which point all other information can be reached without delay.

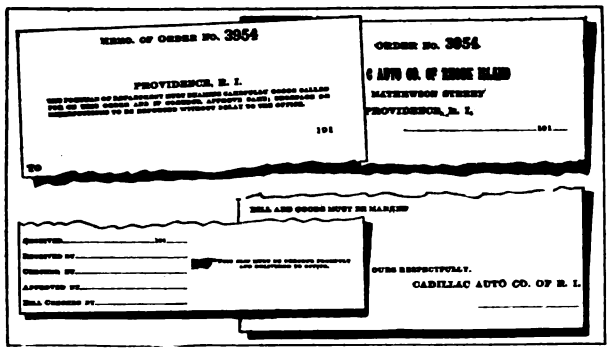


Fig. 4—The Form Used for Ordering and Checking Goods or Work Ordered from the Outside.

The matter of allowances under the guarantee is handled as a rebate, the regular charge being made for labor and material and, if it is finally determined that payment should not be made, a credit memorandum is issued for the amount decided upon, and this is credited to the customer and charged to the guarantee account, to which is set aside a fixed sum out of the profit on every new car sold. The procedure is the same in case of new parts or replacements, the charge being made whether covered by the guarantee or not, and whatever adjustment is fixed by the manager is represented by a credit. This has the advantage of getting the whole transaction into the accounts without delay and, in case it later becomes necessary to refer to it, the information is at hand.

If the system were to be summarized, this accessibility of information would without doubt be the most distinctive feature, together with the exceptional simplicity, and the almost complete elimination of possibility of error. In these points, which are the real essentials of any system, it leaves little to be desired.

BRUNNER COMPRESSORS.

Offered in a Variety of Forms to Cover the Requirements of Any Garage, Large or Small.

The well satisfied garage customer is the one who can get plenty of compressed air at a moment's notice, and the wise garage owner is the one who supplies it. The Brunner Manufacturing Company, Utica, N. Y., has specialized in compressors for a number of years and is producing a variety of types to meet the requirements of any size of garage.

A complete line is offered, covering everything from a motor driven portable outfit to large stationary automatic equipment. Reliability, durability and efficiency are emphasized in the Brunner compressors. Full particulars will be mailed and a catalogue supplied free upon request.

UNIQUE RATCHET WRENCH.

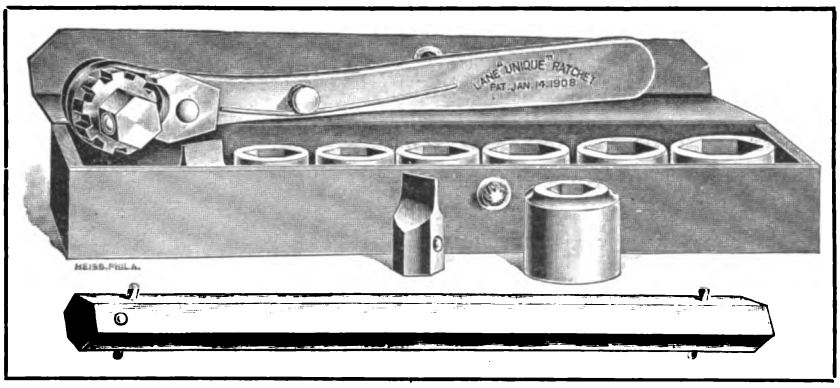
A Sturdy, Reversible Tool, Made Especially for Close Work on the Smaller Sized Nuts.

Will B. Lane, 180 North Dearborn street, Chicago, Ill., has brought out a new type of ratchet wrench that will not only appeal to the repairman, but should be in demand by motorists. The Unique ratchet wrench differs from the usual types of tools utilizing sockets in that it was designed exclusively for close work on the smaller sized nuts. The feature that will appeal to the user is that the ratchet wheel, being the diameter of the smallest, or ¼-inch socket, enables the user to turn nuts very close to the wall. This makes possible the use of the tool in places where the cold chisel is generally employed.

It fits three standards of nuts, namely, the United States (bolt) A. L. A. M. and cap screws, and in a range of sizes which embraces about 90 per cent. of all the nuts used on motor vehicles and machinery. The ratchet is easily and quickly reversed by shifting a wire on the handle from one side of the lug to the other. The Unique ratchet wrench is not only compact, but it is machine made and guaranteed to withstand hard service. It is a simple construction and has no parts to get out of order. The ratchet, pawl and screw driver bits are milled and carefully hardened, and the material is the best obtainable.

A desirable quality of the equipment is the sockets. These are turned from solid steel bars, cold broached and hardened, and are guaranteed not to break or split. In addition to the wrench, two screw driver blades and sockets, is an extension bar seven inches in length.

A special equipment is produced for the Ford car and it should appeal to those owners maintaining their own machines. The Unique wrench outfit comes in a heavy leather case and lists for $3. Without the extension bar, it retails for $2.50. Liberal discounts are given the trade. Complete details of the Unique ratchet wrench will be supplied by the maker on request.



Unique Ratchet Wrench Especially Serviceable for Close Work on the Smaller Sized Nuts and in Places Where a Cold Chisel Is Employed.

JOHNSON CARBURETOR.

A Low-Priced Type Especially Designed for Ford Cars and Sold Ready to Attach.

The Johnson model D carburetor, sold by the Perkins-Campbell Company, 603 Broadway, Cincinnati, O., is adapted especially for Ford cars and is sold, ready to install, at the very low price of $12. It is a most efficient and economical carburetor and, with the other products of the company, provides a good line to sell and install. Dealers, repair men and garage men are invited to write for full particulars, which will be furnished on request.

FITTING BEARINGS.

Harding Distributing Company Supplying Booklet Describing How to Save Time in Scraping Bearings.

"A New, Better and Quicker Way to Scrape Bearings", is the title of a new booklet issued by the Harding Distributing Company, 28 School street, Boston, distributor of the Martell aligning reamer. The subject of bearings is treated at great length and a practical method of scraping and accurate and quick alignment is described and illustrated. Garage and repair shops should send for the booklet, which will be mailed free upon request.

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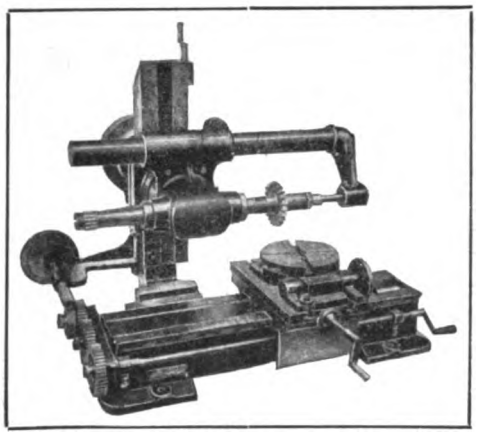
NEW MACHINERY AND EQUIPMENT.

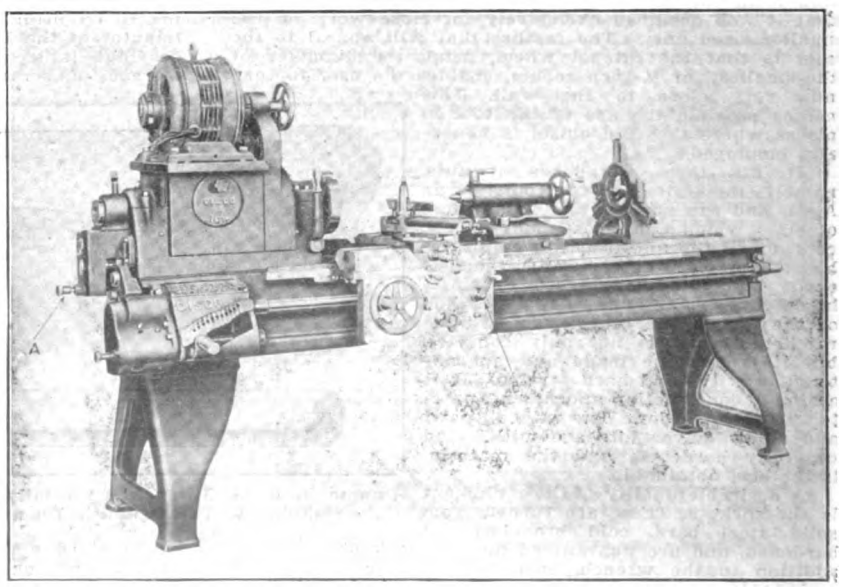
THE Hunt Engineering and Sales Agency, Los Angeles, Cal., is manufacturing a convenient bench machine, invented and patented by L. R. Wheeler of that city. The machine, which is small, economical, and adapted to a great variety of uses, is a combination lathe, milling machine and drill press, driven through a three-step cone pulley, and a telescoping shaft fitted with two universal joints. The spindle, one-inch in diameter, has a ½-inch bore, with standard No. 2 Morse taper; the plate is five inches in diameter, and drilling capacity ½-inch, it being possible also to cut standard threads from eight to 32. The power feed screw is actuated by a chain of gears on a radial arm, so arranged as to engage the end of the spindle when in a horizontal position, or with a special worm gear driven by a cone pulley. The range of small work which can be handled is very great, including milling, drilling and turning operations, routing of dies and cutting of both Woodruff and straight keyways.



The Wheeler Bench Machine.

CISCO MOTOR DRIVEN LATHE.

The Cisco, 16 by 8, motor driven engine lathe, shown herewith, which is to be a part of the exhibit of the manufacturer, the Cincinnati Iron and Steel Company, Cincinnati, O., at the Panama-Pacific exposition, presents some new features and improvements over former models, two of which are indicated. The pull pin at A is so arranged that the lathe can be run at high speed with all the gears from the first compound thrown out. Provision has been made at the point B to prevent the lock on the half-nut being clamped too tightly. It is also stated that all the beds are being made heavier and deeper, and that semi-steel will be employed, giving as near a perfect alignment as it seems possible to attain. The motor drive, with constant speed Westinghouse three-horsepower alternating current motor, running at 1100 revolutions a minute, is also shown. Of the three speeds, two are controlled by a lever in front operating friction inside, and the third, an open speed, is obtained through the face gear, with the front lever in neutral position. The head is open back and front. The main shaft has two bearings, with raw hide pinion drive on the motor. In addition to the particular points at which improvement has been noted, it is stated by the manufacturer that many other small changes have been made, such as the use of higher nuts on the tail stock, and that in every way the lathe has been brought to the highest point of construction obtainable. Other sizes are made, including a 14 by eight and an 18 by 10, which also will be exhibited at Los Angeles.



The Cisco Lathe to Be Exhibited at the Panama-Pacific Exposition.

WEAVER PORTABLE FORCING PRESS.

A portable forcing press of 20 tons capacity, and designed especially for garages and repair shops, has been placed on the market by the Weaver Company, Springfield, Ill. The design is compact, and the weight, 425 pounds, permits it to be moved about with comparative ease. The maximum capacity is 48 inches from the bottom of the screw, and the space inside the frame is 32 inches.

Its operation is by a hand wheel, which revolves a two-inch screw with a three-pitch Acme thread, mounted in bronze thrust bearings and having a movement of 12 inches. For heavy work, a lever system is provided, operating through a ratchet directly on the hand wheel, and giving a leverage of 1500 to one. For straightening shafts, pressing wheels, compressing springs, and similar work which is handled daily in the garage and repair shop, the Weaver press is held by the maker to be very efficient. Details and prices will be supplied upon request.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham—King, Coxe Motor Sales Co.

ARIZONA.

Grand Canyon—Studebaker, Capt. W. W. Bass.

ARKANSAS.

Gillette—‡Glide, H. D. Dilday.
Little Rock—King, Shoemaker Bale Auto Co.

CALIFORNIA.

Berkeley—Oldsmobile, George W. Rodhaver.
Coalinga—Oldsmobile, Martin's Garage.
Hanford—Oldsmobile, Marak & Hayes.
Hollister—Oldsmobile, Hollister Auto & Mch. Co.
Los Angeles—National, Hawley King & Co.
Saxon, Hawley King & Co.
Oakland—*Signal, Osen & Hunter Auto Co.
†G. V., Anderson Electric Co.
Rialto—Moon, B. Buxton.
Richmond—Oldsmobile, Hays & Hopping.
San Francisco—King, Reliance Auto Co.
Stutz, Latham-Davis Co.
‡Glide, Continental Automobile Co.
San Pedro—Moon, Pacific Garage.
Santa Ana—Cole, Wisdom & Co.
Santa Monica—Oldsmobile, R. C. Silvernale.
Taft—Overland, Taft Garage.
Ventura—Moon, C. H. Judd.

COLORADO.

Denver—Chevrolet, Harry E. Maines.
Stearns-Knight, Albion K. Vickery.
‡Zip, Carl Johnston.
Grand Junction—Saxon, Western Slope Auto Co.

CONNECTICUT.

Bridgeport—‡Scripps-Booth, Arthur L. Clark Co.
Bristol—Moon, L. B. Snyder.
Danbury—King, A. C. Penny.
Hartford—‡Scripps-Booth, Universal Auto Co.
New Haven—Apperson, N. B. Whitfield.
‡Scripps-Booth, Holcomb Co.
Norwalk—Oldsmobile, O. H. Banks Co.
Stamford—Moon, H. R. Hendrie.

DISTRICT OF COLUMBIA.

Washington—King, W. P. Barnhart & Co.

DELAWARE.

Wilmington—Dodge, Cahill & Co.
Grant, French Street Garage.
†G. V., Hansen Automobile Co.

FLORIDA.

Dade—McFarlan, S. M. Tatum.
Gainesville—Maxwell, Colte W. Hill.
Overland, Colte W. Hill.
Miami—McFarlan, S. M. Tatum.
Regal, C. Benton Dean.
Tampa—Chalmers, C. F. French.
West Palm Beach—McFarlan, S. M. Tatum.

GEORGIA.

Atlanta—King, W. F. Plane, Jr.
Mitchell, John M. Speer.
‡Scripps-Booth, S. E. Davidson.
Cornelia—Saxon, Cornelia Garage.
McDonough—Saxon, Smith & Ames.
Savannah—Saxon, Savannah Motor Car Co.

ILLINOIS.

Abington—Oldsmobile, C. G. Slough & Co.
Aledo—Moon, J. L. Buckley.
Barry—Moon, H. Royalty Co.
Batavia—Cole, Lundeen & More.
Bloomington—Ford, Blair & Rockwood.
Oldsmobile, Trott & Stubbelfield.
Chicago—Haynes, Julius Debits.
Imperial, Ridge Avenue Auto Sales Co.
King, W. E. Stalmaker.
Dana—‡Glide, H. Koensgen and J. J. Klesath.
Freeburg—Moon, H. Heiligenstein.
Joliet—Moon, Goodwin & Hill.
Lakewood—‡Glide, L. B. Morgan.
London Mills—‡Glide, E. E. Terwilliger.
Marissa—Moon, J. A. Hamilton.
Olney—King, A. E. Hill.
Pearl City—Oldsmobile, J. M. Aurand.
Pole—Oldsmobile, John T. Mulnix, Jr.
Robinson—Moon, George M. Allison.
Rushville—‡Glide, R. A. Lawless.
San Jose—Moon, Fred Zimmerman.
Toulon—‡Glide, F. E. Cole.
Warrensburg—‡Glide, W. W. Albert.
Witt—Reo, W. B. Baxter.

INDIANA.

Columbia City—Reo, S. F. Trembley Co.
Indianapolis—Briscoe, H. W. Martz.
Car-Nation, Walter G. Elliott.
King, W. J. Fitton.
Stutz, John A. Boyd.
Lafayette—Haynes, J. L. Sheetz.
Logansport—Oldsmobile, Oakland Motor Co.
Marion—Franklin, M. L. Swayzey.

IOWA.

Algonia—King, Wilson Motor Co.
Bloomfield—Moon, Bruce & Bonar.
Boise—King, Howard Hunter.
Cedar Rapids—King, Hawkeye Distributing Co.
Cole—Moon, R. W. Bronhard.
Des Moines—Saxon, Payne Motor Co.
Dodge—Paige, E. Kuback.
Eagle Grove—Moon, William Pletcher.
Fort Dodge—Saxon, Bell & Kitterer.
Livermore—King, Carl Weise.
Malcolm—King, Malcolm Garage.
Mason City—Moon, R. V. Harris Auto Co.
Milton—Moon, Moon Auto Co.
Monroe—Saxon, J. Lowe.
Nevada—King, Nevada Auto Co.
Orange City—Oldsmobile, W. & A. Van Pelt.
Radcliffe—‡Glide, Glide Auto Co.
Riceville—Oldsmobile, Roche Bros.
Sigourney—Oldsmobile, Dupuis & Freres.
Sioux City—‡Glide, Glide Motor Car Co.
St. Anthony—‡Glide, J. Mayer & Son.
State Center—King, Eckhart & Hillman.
Story City—‡Glide, Alsvig & Thompson.
Traer—Oldsmobile, Jasper Wilson.
Waterloo—Regal, Peverill Motor Sales Co.
Wellsburg—Moon, D. J. Riekena.
West Burlington—‡Glide, E. Rheinschmidt.
Whiting—Oldsmobile, A. B. Elliott.
Zearing—King, Hease Bros.

KANSAS.

Gorham—Oldsmobile, T. M. French.
Hutchinson—Saxon, Callender Automobile Co.
Jennings—Oldsmobile, Smith & Feeley.
Kiowa—King, George B. Wilson.
Sylvia—King, McPherson Auto & Supply Co.
Topeka—Cartercar, G. H. Flintham.

KENTUCKY.

Eminence—King, D. L. Rickett.
Hopkinsville—Oldsmobile, Hopkinsville Cadillac Co.
Louisville—Briscoe, Louisville Motor Co.
Chandler, Louisville Motor Co.
King, Van Patton Motor Car Co.
Peerless, Yager Motor Car Co.
Maysville—Oldsmobile, J. D. Keith.

LOUISIANA.

Fullerton—King, H. S. Anderson, Jr.
New Orleans—Saxon, W. P. Parkhouse Auto Co.

MAINE.

Houlton—Oldsmobile, G. H. Wiggins.
Portland—Case, Taxicab Service Co.
‡Scripps-Booth, Franklin Motor Car Co.
Rockland—Oldsmobile, C. Doherty.

MARYLAND.

Baltimore—‡Scripps-Booth, Randall Mfg. Co.
Berlin—Oldsmobile, Murphy's Garage.
Hagerstown—*Koehler, Central Garage & Elec. Co.

MASSACHUSETTS.

Boston—Paige, Paige Motor Car Co.
Peerless, Beacon Motor Car Co.
Pullman, Leo W. Schlegelmilch.
*Denby, Denby Motor Car Co.
*Mais, Myer Abrams Co.
†Rauch & Lang, Rauch & Lang Co.
‡Scripps-Booth, Franklin Motor Car Co.
Brockton—Oldsmobile, J. L. Hazelton.
Haverhill—Studebaker, Ellison Motor Car Co.
Malden—Haynes, W. M. Bean.
Minneapolis—Crescent, Minneapolis Battery Co.
New Bedford—‡Scripps-Booth, S. C. Lowe Sup. Co.
Newburyport—Studebaker, James Dickens.
North Adams—Ford, Van Sleet Motor Co.
Somerville—Ford, Hill-Michie Co.
Springfield—Jeffrey, Hampden Auto Co.
Taunton—Oldsmobile, Carlow Automobile Co.
Saxon, H. C. Perry.
Wakefield—Saxon, J. E. Pray.
Wellesley—Cadillac, Mangus Garage.
Worcester—Maxwell, J. L. Rondeau.

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Oldsmobile, John M. Slattery & Co.
Pullman, Peter Welin.
*Vim, Franklin Square Garage.

MICHIGAN.

Alpena—Oldsmobile, Alpena Garage.
Ann Arbor—Dodge, Staebler & Sons.
Battle Creek—Saxon, American Motor Co.
*Signal, B. N. Beedon.
Big Rapids—Ford, L. F. Bertreau.
Studebaker, L. F. Bertreau.
Bronson—Buick, Carl & Holcomb.
Caledonia—Studebaker, Roy Dodge.
Calumet—Empire, Weider Harness Co.
Imperial, Weider Harness Co.
Flint—Oldsmobile, Marshall Auto Co.
Saxon, Bowler Auto Sales Co.
Grand Rapids—Cadillac, G. P. Dowling.
Dodge, Valley City Motorcar Co.
Franklin, Security Auto Sales Co.
Paige, Palmer Sales Co.
Eaton Rapids—Saxon, A E. Ranney.
Kalamazoo—Oldsmobile, Neuter Root.
Lansing—King, Harry L. Andrus.
Ludington—Oldsmobile, Ludington Auto & Supply Co.
Mt. Pleasant—King, A. Z. Campbell.
Muskegon—Oldsmobile, Koelbel & Bennett Auto Co.
Newaygo—Oldsmobile, Koelbel & Bennett Auto Co.
Niles—Saxon, John H. Lorler.
Oceana—Oldsmobile, Koelbel & Bennett Auto Co.
Ottawa—Oldsmobile, Koelbel & Bennett Auto Co.
Port Huron—Cadillac, Frank S. Church.
Dodge, Frank S. Church.
Sheboygan—Oldsmobile, Schulz Bros. Garage.
South Bend—Ford, Christian Niffenegger.
St. Joseph—*Signal, Burkhard Bros.
Teknosha—‡Imp, C. A. Brimer.
Three Rivers—Saxon, Three Rivers Garage.
Traverse City—Maxwell, P. Burden and John Ott.
Oldsmobile, W. Michigan Garage.

MINNESOTA.

Austin—Oldsmobile, Lyman A. Mott.
Brewster—Oldsmobile, J. C. Ahrens.
Duluth—King, Burton Sykes.
Fergus Falls—Oldsmobile, Bergerud & Miller.
Galesville—Oldsmobile, A. J. Olson.
Lanesboro—Oldsmobile, Christenson & Lund.
Minneapolis—Davis, White Garage.
King, Martin Motor Sales Co.
National, John P. Snyder Co.
*Vulcan, Metropolitan Motor Co.
St. James—Oldsmobile, Schoffman & Crowley.
Thief River Falls—Oldsmobile, Weiland & Crandall.
Webster—King, W. Keske.

MISSISSIPPI.

Duck Hill—King, E. E. Wilkins.
Indianola—Oldsmobile, J. D. Benson.
Meridian—Haynes, Bostick Lumber & Mfg. Co.
Merigold—Oldsmobile, Guy E. Waldrop.

MISSOURI.

Blockow—Moon, G. E. Middleton.
Columbia—Reo, John N. Taylor.
Higginsville—Cole, Emil C. Lefmann.
Huntsville—Reo, John N. Taylor.
Kansas City—Cole, Myer Ebersole Motors Co.
Empire, E. B. McDowell.
Macon—Reo, John N. Taylor.
Mexico—Saxon, Fred A. Morris.
Moberly—King, King Motor Sales Co.
St. Charles—Moon, H. Werminghaus.
St. Joseph—Briscoe, Leslie Motor Car Co.
Empire, Weider Harness Co.
Imperial, Grand Center Motor Car Co.
Moon, J. A. Suddarth.
St. Louis—Haynes, Newell Motor Car Co.
King, Heinrich Auto Co.
KisselKar, Colonial Motor Car Co.
Maxwell, Johnson Auto Co.
‡Scripps-Booth, Locust Motor Sales Co.

MONTANA.

Butte—*Signal, Inter-Mountain Auto Truck Co.
Fallon—King, Carl Anderson.
Helena—Buick, James Walker.
Malta—Franklin, Shody & Le Vesconte.

NEBRASKA.

Alma—Hupmobile, W. B. Ralston.
Broken Bow—Paige, G. Ream.
Coleridge—Haynes, Howard Morrison.
Columbus—Paige, J. Luxe.
Cozad—King, William Robertson.
Friend—Hupmobile, William Vossler.
Grand Island—Cole, Brandes Motor Car Co.
Lincoln—Oldsmobile, E. A. Everett.
Merriman—Hupmobile, Metzger Bros.
Norfolk—Oldsmobile, E. A. Harms.
York—Chandler, E. S. Clarke.

NEW HAMPSHIRE.

Dover—Pullman, George Athorn.
East Haverhill—Saxon, H. D. Gannett.

NEW JERSEY.

Delaware—Franklin, Quig Bros.
Frenchtown—Saxon, T. W. Zillstorff.
Newark—‡Scripps-Booth, Light Car Distributing Co.
Plainfield—Oldsmobile, O. A. R. Motor Co.
Trenton—Franklin, Richard & Sykes.

NEW MEXICO.

Albuquerque—Oldsmobile, J. L. LaDriere.
Santa Fe—Oldsmobile, Auto Trouble Shop.

NEW YORK.

Akron—Oldsmobile, Mills & Peterson.
Albany—‡Scripps-Booth, Franklin Motor Car Co.
Albion—Krit, S. T. Strouse.
Batavia—King, H. R. Langworthy.
Binghamton—Moon, Binghamton Motor Car Co.
Brockport—*Koehler, Frank E. Wilson.
Brooklyn—Saxon, J. L. Peacock and Charles Hanson.
Buffalo—Krit, Thurston Auto Garage.
*Signal, A. J. Sanderson.
Canandaigua—Krit, Foley & Giddings.
Canisteo—Krit, W. S. Meeks.
Clyde—Krit, F. E. French.
Cohocton—Krit, M. C. Silsbee.
East Aurora—King, B. A. Burzette.
Ellenville—KisselKar, R. D. Cookingham.
Geneva—Oldsmobile, D. M. Dorman.
Hilton—Krit, Joseph Ingham.
Honeoye Falls—Krit, Jobes & Cargill.
Hudson Falls—Oldsmobile, Smith & McCoy Motor Co.
Saxon, R. L. Andrews.
Ithaca—Franklin, H. L. Cobb.
Kingston—Oldsmobile, Stuyvesant Garage.
Le Roy—Krit, Ernest Townsend & Son.
Lestershire—King, Charles H. Wakeman.
Livonia—Krit, E. C. Stone.
Lockport—King, A. L. Hoag.
Lodi—Oldsmobile, John C. Townsend.
Lyons—Krit, P. Deutschler & Son.
Nunda—Krit, P. J. Cuddebec.
Penn Yan—Krit, E. L. Greer.
Phelps—Krit, Joel Caves.
Port Henry—Oldsmobile, Charles Garvey.
Rochester—Cole, Cole Motor Co.
King, McKinney & Gilpin.
‡Scripps-Booth, Robert Thomson.
Seneca Falls—Krit, C. E. Conkey.
Syracuse—‡Scripps-Booth, Scripps-Booth Sales Co.
Utica—Cole, Oneida County Auto Co.
Saxon, Oneida County Auto Co.
‡Scripps-Booth, Franklin Motor Car Co.
Warsaw—Krit, Waterloo Auto Co.
Oldsmobile, A. F. Mills.
Waterloo—Krit, Waterloo Auto Co.

NORTH CAROLINA.

Wilmington—Moon, J. B. Farmer.

NORTH DAKOTA.

Mandan—Oldsmobile, George A. Dailey.

OHIO.

Ada—Franklin, Stample & Smith.
Alliance—King, Alliance Motor & Supply Co.
Ashland—Oldsmobile, Curry & Roberts.
Ashville—Studebaker, C. F. Brinker.
Bucyrus—KisselKar, KisselKar Co.
Krit, S. G. Hertz.
Buffalo—Krit, A. S. Secrest.
Canal Dover—Oldsmobile, Dover Auto Co.
Canton—Ford, Monnot & Sacher.
Cardington—Allen, Buckingham Auto Co.
Krit, L. W. Fawcett.
Cincinnati—Hudson, Welbon Motor Car Co.
Circleville—Allen, Edward Helwagen.
Clarington—Allen, Clarington Auto Co.
Cleveland—Cole, Richardson Motor Car Co.
*Signal, Curtis Bros.
Columbus—Enger, Twyman Motor Car Co.
Krit, Buckingham Auto Co.
Moon, W. W. Muzzy Garage.
Studebaker, Tesseyman Automobile Co.
Stutz, Neil Auto Livery Co.
Westcott, L. W. Fisher and H. R. Foster.
*Chase, Noah Morton.
Coshocton—Maxwell, A. L. Crowthers.
Dayton—Allen, Kenneth & Ham Motor Car Co.
Cole, C. J. Wagner.
Oldsmobile, Stroop & Haning.
Dillonvale—King, Roy H. Gehrke.
Findlay—Oldsmobile, Decker & Finchbaugh.
Fremont—*Chase, Miller Bros.
Gibsonburg—Oldsmobile, Delow & Gerwin.
Greenville—Briscoe, Fouts & Teegarten.
Jeromesville—King, E. A. Christman.
Jessup—King, Miller Bros.
Lancaster—Allen, Bowman & Bookman.
Logan—Allen, C. W. Stallsmith.
London—Studebaker, R. H. Loofbarrow.
Lorain—Buick, Lorain Electric & Auto Co.
Louisville—Oldsmobile, Star Motor Car Co.
Marietta—Allen, Jacob Spindler.
Cole, C. R. Williamson.
Marysville—Studebaker, Marysville Motor Car Co.
Miamsburg—Oldsmobile, William C. Swartsel.

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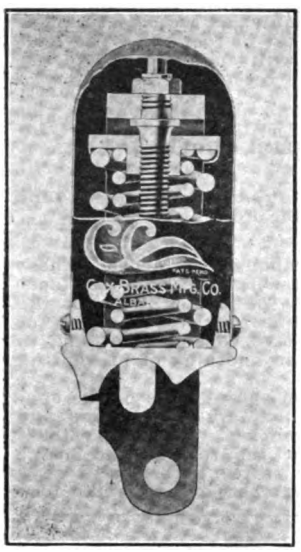
NEW AND DESIRABLE LINES IN DEMAND.

COX C-C SHOCK ABSORBERS.

Principle Involves Use of Two Springs and a Set of Four, Including Lubricating Bolts, Sells for $8.

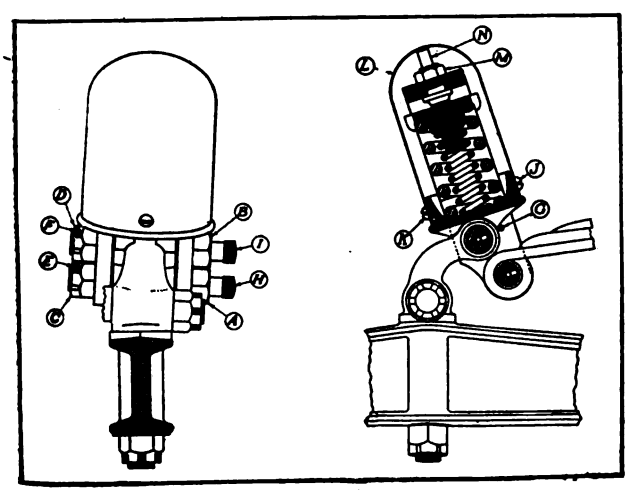
The Cox Brass Manufacturing Company, Albany, N. Y., well and favorably known to the trade as maker of metal products and a specialist in shock absorbers, is placing on the market a new design for the model T Ford car, termed the C-C. As may be noted by the accompanying sectional view, the new type is very compact and neatly constructed. One of their desirable qualities is simplicity; they can be easily and quickly attached without displacing the wheels, and there is no machining or fitting to be done.



C-C Shock Absorber for Ford Cars.

An accompanying drawing, with the components of the C-C lettered, shows the method of installation. The Ford shackle bolts A and B are displaced, also the oil cups H and I and, by raising the end of the car spring to relieve the strain upon the shackle, the bolt A is inserted through the C-C absorber and the spring. By pushing the absorber over on the top of the perch and releasing the pressure upon the car spring, the bolt B can be inserted through the spring and perch, after which the nuts C and D are fitted and locked by cotter pins. The oil cups are, of course, easily replaced. One of the desirable qualities of the C-C shock absorbers is that they will appeal to the owners who make it a practise to install new equipment on their cars.

The C-C comprises a slotted spring cage having two holes through which bolts run. Contained within the cage is a sturdy helical spring of finely tempered steel, which not only carries the weight of the car, but absorbs vibration and road shocks. Inside of the large spring is a smaller member, a compensating spring wound in an opposite direction and which assists the main member. Provision is made for adjusting the tension as may be desired, a nut at the top being employed for this purpose. The construction takes care of the compression, as well as the rebound of the car springs. The parts are completely enclosed and proof against the action of road dust or moisture and, throughout, the workmanship and material are in keeping with the high grade for which the products of the Cox Brass Manufacturing Company are noted. The C-C absorbers retail for $8 the set of four, and the price includes eight special lubricating bolts. A set of two sells for $4.50. The trade will do well to investigate the merits of the new product of the Cox Brass Manufacturing Company, which will supply trade discounts and details upon request.

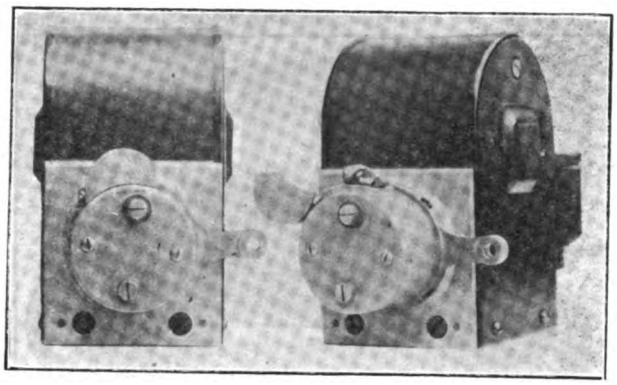


Illustrating the C-C Shock Absorbers Installed in Ford Car—Note the Simplicity of the Design and Its Compactness.

DIXIE MAGNETO.

Splitdorf Electrical Company Producing a New Design Especially Adapted to Motorcycles.

The Splitdorf Electrical Company, Newark, N. J., is marketing a new type of magneto, termed the Dixie, which is especially adaptable to motorcycles. It is a



New Motorcycle Magneto, Termed the Dixie, Brought Out Recently by the Splitdorf Electrical Company—Note the Accessibility of the Stationary Contact Points.

true high-tension instrument, and one of the advantages claimed for it is that it gives an intensely hot spark at low speeds. All parts requiring attention after considerable service are readily accessible.

The rotating member consists of two pieces of cast iron, separated by a brass centre field. This rotor, so called, revolves in a field structure composed of two laminated field pieces, riveted between two aluminum rings. The rotor bearings are mounted on iron plates against the poles of the magnets.

When the rotor revolves, the magnetic lines of force from each magnet pole are carried directly to the field pieces and through windings without reversal through the mass of the rotor and with only a single air gap It is stated that there are no losses in reversal.

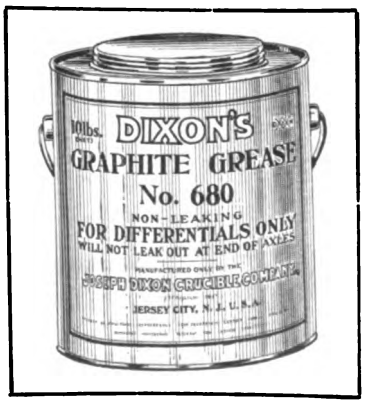
The advantages claimed for the construction are: A hot spark irrespective of the position of the timing lever, a stationary breaker with its points accessible through a hinged cover, a simple field coil housed in the arch of the magneto away from the lubricant, no change in polarity in the rotating member, an intensified current without the use of a coil, the elimination of the action of centrifugal force on the field winding, as well as the breaker mechanism, and a water, dust and oil proof construction.

As may be noted, the hinged cover referred to is locked by means of a screw, and the fact that the contact points are stationary makes for convenience when these members require cleaning or adjusting. Details and prices of the new equipment will be supplied upon request.

NEW DIXON LUBRICANT.

The No. 680 Is an Especially Prepared Compound for Use in Differential Gears, and Prevents Leakage.

The Joseph Dixon Crucible Company, Jersey City, N. J., maker of the well known line of Dixon's graphite and lubricants, has brought out a new compound, which is particularly adapted for service in motor vehicle differentials, from which ordinary oils and greases leak out through the axle housings. The company believed that a flake graphite properly prepared would overcome this trouble and, after much experimentation and thorough road tests, produced Dixon's No. 680. It is prepared for service only when the No. 677 and No. 675 will not remain in the differential with-



New Dixon Lubricant.

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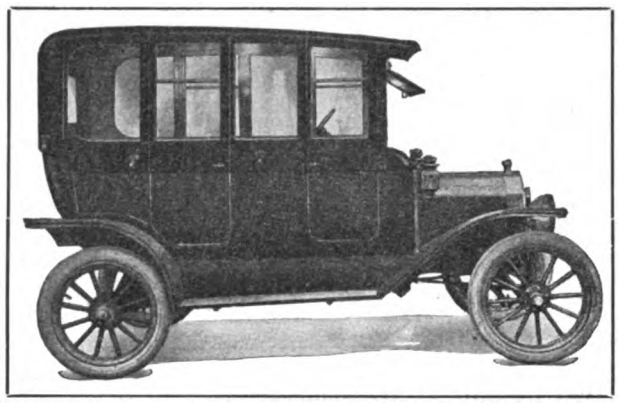
out leaking, and it is not adaptable to gearsets. The new product comes in a screw cap cover container, as shown in the accompanying illustration. The Dixon Crucible Company invites tests of its new product and details and trade discounts will be supplied upon the receipt of a letter or a postal.

MANDEL LIMOSETTE.

Chicago Concern Is Offering a High-Grade Enclosed Body for Ford Cars—Can Be Attached in 30 Minutes.

At this season of the year the Ford owner has but one thought—to secure an enclosed body that can be attached in a quick and easy manner. To meet this demand the Mandel Limousine Company, 1455-1457 Congress street, Chicago, Ill., is manufacturing the Mandel Limosette. This is constructed in two forms, one for the Ford roadster and the other for the touring car. One of the features of the Limosette is that the Ford doors are utilized. They are actuated by the handle on the Mandel body and become practically a part of the latter.



Mandel Limosette, a High-Grade Limousine Body for Ford Cars That Can Be Attached Without Alterations.

This body can be fitted to a Ford car without any change other than displacing the regular top and windshield. It can be attached in less than 30 minutes, and fits the body so snugly that it is difficult to distinguish between it and the conventional limousine. The Limosette for the touring car weighs but 150 pounds and, when attached, adds but 75 pounds, as the regular top and windshield are removed. The roadster adds 40 pounds.

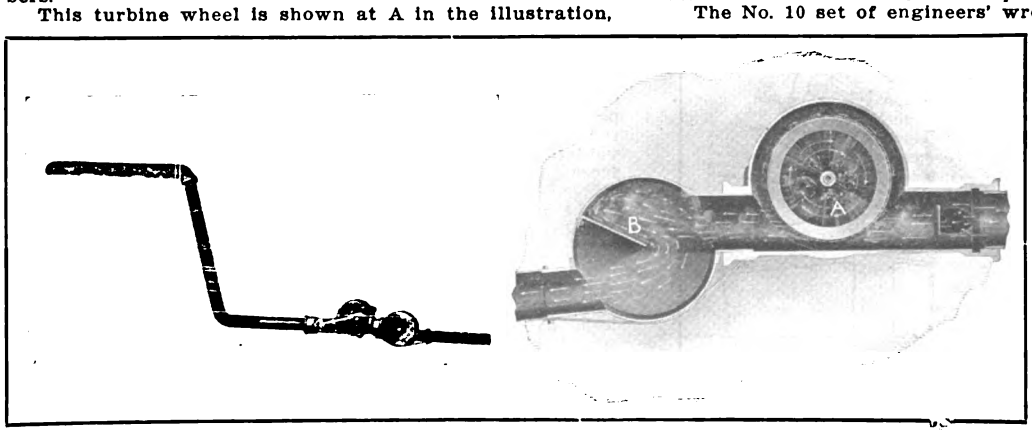
The finish and trimmings are high-grade and rich in every respect, and offer an exceptionally attractive proposition to the half million Ford owners. Prices and complete information will be supplied by dropping a line to the Chicago office.

KELLOGG TURBINE MUFFLER.

Not Only Effectually Silences Exhaust and Eliminates Back Pressure, but Reduces Heat.

The Kellogg Manufacturing Company, Rochester, N. Y., announces a new type of muffler, one that is not only a radical departure from conventional designs, but a construction that should prove highly efficient in service. As may be noted by the accompanying illustration, baffle plates, etc., are dispensed with, and a simple turbine wheel does the work generally performed by these members.

This turbine wheel is shown at A in the illustration, and it is mounted in the path of the exhaust gases. Just forward of it is an opening or by-pass, which leads to the centre of the turbine. The rapid turning of the turbine A, actuated by the exhaust gases, creates a powerful suction, which not only eliminates back pressure, but reduces the temperature of the gases to a considerable extent. Silencing of the exhaust is aided by a simple construction shown at B.



New Kellogg Turbine Muffler Having Turbine Wheel, Which Is Stated to Eliminate All Back Pressure and Is Silent in Operation.

The maker states that tests with the turbine muffler demonstrated that the same advantages are obtained as with the racing car, that from 15 to 35 per cent. of the fuel is saved, and that the complete scavenging removes carbon. It is also stated that the freeness of the exhaust reduces the temperature of the motor from 30 to 50 per cent.

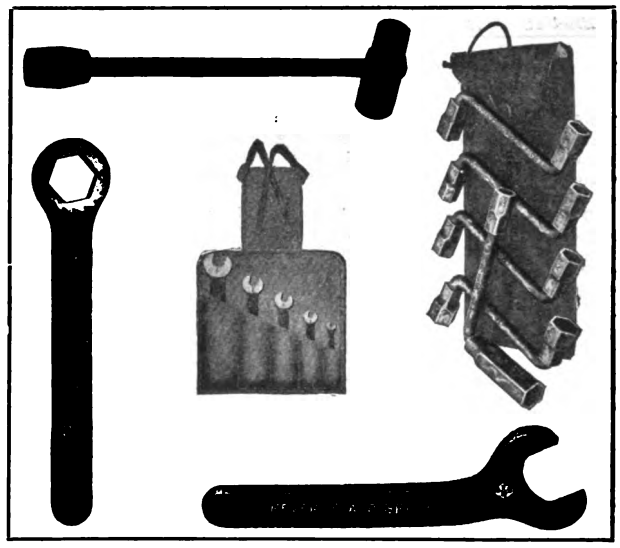
The turbine muffler should appeal particularly to owners whose motors heat unduly, as well as to those automobilists considering the cost of fuel, etc. The Kellogg Manufacturing Company will supply complete details and trade prices upon the receipt of a postal or a letter.

EFFICIENT MASTER TOOLS.

The Frank Mossberg Company Producing Complete Line of Wrenches for the Ford Car.

The Frank Mossberg Company, Attleboro, Mass., maker of the well known Mossberg wrenches and specialties, is manufacturing a line of master tools for the model T Ford car. This machine requires a number of special wrenches, etc., which save considerable time in the overhaul of the chassis, to say nothing of preventing injury to the parts.

An accompanying illustration shows some of the special tools produced, among which are the reverse and brake pedal tension spring wrenches. One is a ratchet wrench designed especially for the reverse and brake pedal springs, and the maker states that it will save over 30 minutes when adjusting these components. The



Some of the Master Tools Produced by the Frank Mossberg Company for the Ford Car, Including Two Wrench Sets, Cylinder Head Nut Wrench, Reverse and Brake Pedal Tension Spring Wrenches.

No. 640 wrench is a goose neck, having a plain open end, and is utilized on the reverse spring.

The No. 10 set of engineers' wrenches are of the thin model, open end type, and the set of five provides 10 openings. These tools are thoroughly hardened and nicely finished and are sold with the usual Mossberg guarantee. They come packed in a neat, substantial enamel duck case.

Another useful wrench set in the garage and repair shop is the equipment comprising 10 socket wrenches. These have hexagonal and square openings and include members for

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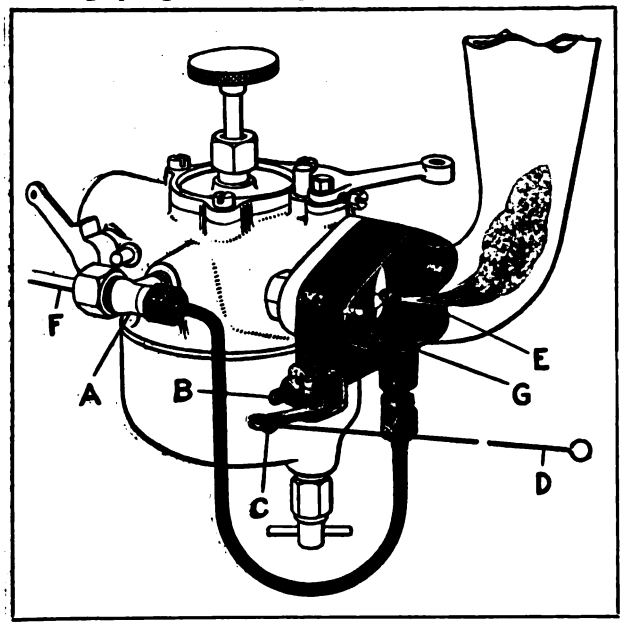
the 1915 model main bearings and main bearing nuts. A spark plug socket wrench is also included. The set comes in a canvas bag. The cylinder head nut wrench is another handy tool and, like the other described, sells for a small sum.

The Frank Mossberg Company will supply complete details and prices of its product, and garages and repair shops handling the model T Ford car will do well to investigate the Mossberg line of tools.

NEW INJEX PRIMER.

Device for Starting in Cold Weather Which Sprays Gasoline Directly into Intake Pipe or Manifold.

The Injex Primer, sold by the Reflex Ignition Company, 211 High avenue, Cleveland, O., is designed to make starting easy in cold weather by introducing gasoline directly into the intake passages of the motor. Unlike ordinary priming devices, however, the fuel is injected in the form of a fine spray, and will, therefore, mix at once with the air and produce an easily ignited mixture. The operation is as follows, reference being made to the illustration which shows the flange type, installed between the carburetor and intake pipe: Connection is made with the gasoline supply pipe F, by a T at A, fuel being led through the curved pipe to the nozzle E. The lever C, operated by a pull wire, terminating in the ring D, which may be located at the radiator or on the dash, operates the plunger B and, when the ring is pulled, causes a quantity of gasoline to be drawn into the cylinder of the primer. Upon the release of the ring a strong spring forces the plunger back, driving a jet of



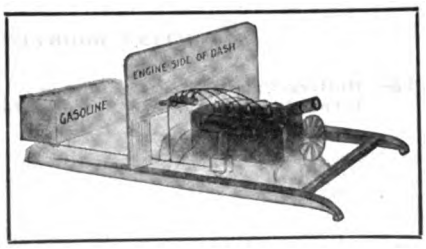
The Injex Primer, Which Injects Gasoline Directly into the Intake Pipe or Manifold.

gasoline through the nozzle E and into the intake. There are few parts to give trouble, and the installation is exceedingly simple. Full information will be given by the manufacturer upon request.

CHANEY SPECIALTIES.

Include Means for Priming Cylinders from the Seat and Dash Attachment for Eliminating Headlight Glare.

To meet the demand for a practical priming device, one that can be operated from the seat, the L. F. Chaney Company, Springfield, O., has brought out the Chaney spark plug primer shown herewith. This device enables the motorist to inject a charge of gasoline into the combustion chambers, through the medium of the spark plugs, without leaving the seat. The fuel is drawn the main line and is forced to the plugs by means of a plunger pump. This affords dual priming in that the electrodes of the plugs are surrounded by a gasoline vapor which ignites readily, and when the usual priming of the cylinders fails. The construction of the priming member is such that the fuel is broken up into a spray, making for a homogeneous mixture. One of the desirable qualities of the Chaney is that it is adaptable to any car, especially motors not fitted with priming petcocks. Dealers and garagemen looking for a practical priming device will do well to investigate the merits and obtain the trade discounts of the Chaney.



Chaney Spark Plug Primer.

The company also manufactures the Chaney headlight dimmer. This is an electrical device for controlling the electric headlights, and it differs from the usual constructions in that the driver can regulate the intensity of the beams, enabling him to control the light and to conform with any city ordinance or law in respect to use of headlights. One of the desirable qualities of the Chaney is that it is fitted to the dash, has a kick type of switch lever, and that the lights can be extinguished as well as controlled. Any person can attach it, as it is simplicity itself. The Chaney headlight dimmer retails for $3.50, is sold under a 10-year guarantee and offers exceptional opportunities to the trade. The maker has a dealer's proposition that is interesting.

THERMOID BRAKE LINING.

A Liberal Guarantee Is Made by Manufacturer of the Hydraulically Compressed Product.

The Thermoid Rubber Company, Trenton, N. J., maker of the widely known Thermoid hydraulically compressed brake lining, has an exceptionally attractive proposition to offer dealers throughout the country. This company has long been known for its liberal guarantees on its product, and its slogan, "Thermoid will make good, or we will", means exactly what it says.

One of the qualities emphasized is that Thermoid can be worn down to ribbon thinness without losing its efficiency. It is lining clear through, grips positively without chattering and is not affected by water, oil or gasoline. The lining comes in various sizes and thicknesses. Full particulars will be mailed upon receipt of a letter or postal card.

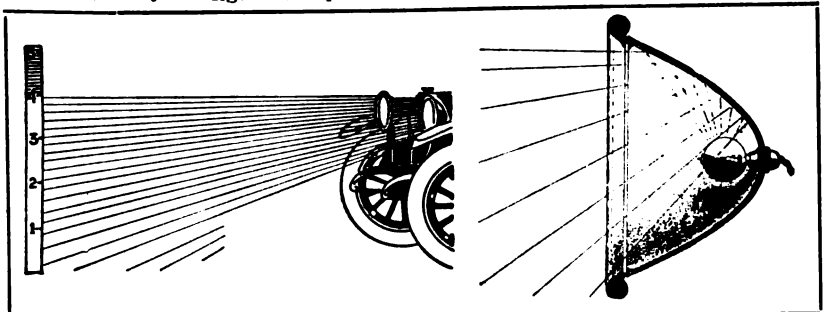
HICK-MYER DEFLECTOR.

Eliminates Glaring or Dazzling Rays by the Use of a Bowl Shaped Member Attached to the Bulb.

One of the latest devices for eliminating the glaring or dazzling rays of the electric headlight is the Hick-Myer, produced and marketed by the Hick-Myer Deflector Company, Toledo, O. The maker lays special emphasis on the fact that it is not a dimming device. It differs from the usual attachments for eliminating the dazzling rays of the electric headlight in that it is fitted to the bulb, as may be noted by an accompanying illustration.

One of the desirable qualities claimed for the construction is that none of the rays are projected higher than four feet from the ground, as indicated by the larger drawing. It is stated that it is the upward rays of the parabola lamps that dazzle, as they go first downward, then upward, as indicated in the illustration, showing the deflector fitted to a bulb.

The Hick-Myer device is bowl shaped and fits on the lower half of the bulb. It is constructed of metal and its function is to project the rays upward, then downward. The maker states that his product has been approved by the authorities of several cities and that it is manufactured under a patent which covers the silvering or frosting of the lower half of the bulb. It is also claimed that the deflector adds to efficiency of the headlight. Complete details and prices supplied on request.



Illustrating How Upward or Glaring Rays of Headlight Are Controlled by Hick-Myer Deflector—The Device Is Shown at the Right.

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OPPORTUNITIES FOR DEALERS.

LIGHTING BOOKLET.

The Holtzer-Cabot Electric Company Mailing Free Information on Electric Systems for Used Cars.

Those in the trade interested in the problem of equipping the used automobile with electric lighting should write the Holtzer-Cabot Electric Company, Brookline, Mass., for booklet A-1807. It deals with the application of dynamos to all types of cars and includes data on the low-priced system for the model T Ford.

VALUABLE BEARING DATA.

Norma Company Will Supply Free Bulletins of Ball, Roller, Thrust and Combination Members.

The Norma Company of America, 1790 Broadway, New York City, manufacturer of Norma ball, roller, thrust and combination bearings, which are standard equipment on a large number of 1915 magnetos, starting motors and lighting dynamos, is issuing bulletins containing data on its products, and these will be supplied to the trade free upon request.

NEW DISPLAY SET.

Eagle Oil and Supply Company, Maker of Eagleine No-Karbon Oil, Makes Offer to the Trade.

The Eagle Oil and Supply Company, 104 Broad street, Boston, manufacturer of the well known Eagleine No-Karbon oil, has a new oil display set for the trade, which is invited to write for details of the offer. Eagleine oil is supplied in quantities to meet all trade requirements, and prices and data will be forwarded with particulars of the display set offer.

VALENTINE VARNISHES.

Manufacturer of the Famous Vanadium Goods Offers Attractive Proposition to Representatives.

Vanadium varnishes, made by Valentine & Co., 456 Fourth avenue, New York City, form a strong stock for the dealer to handle. This company manufactures a complete line of varnishes and colors which have been proven a standard since 1832.

It is the claim of the Valentine Company that from one to five days may be saved by using vanadium varnishes. Full particulars of the company's selling plan will be mailed upon request.

UNIVERSAL TEST CLIP FREE.

R. S. Mueller & Co. Will Give One to All Garages, Repairmen and Dealers Writing for Details.

Reference has been made in these columns to the Universal test clips, manufactured by R. S. Mueller & Co., 431 High avenue, Cleveland, O. These clips are big time savers when charging storage batteries and can be employed for a number of useful purposes in the garage and repair shop where electrical connections are to be made. To demonstrate the practicability of the Universal test clip as a time and labor saver, the company will give one free to each concern writing The application must be made on the letter head of the company, not a postal, to obtain the clip.

RUB-ON OFFERS CABINET.

Auto Top Renewer Manufacturer Has Particularly Strong Selling Feature for Dealers and Garage Men.

The Rub-On Manufacturing Company, Buffalo, N. Y., maker of the widely advertised Rub-On auto top, Sta-Fix radiator mend, the auto turn jack and numerous other well known automobile specialties, is making a generous offer to garages and dealers in the form of a selling cabinet.

This cabinet permits an excellent display of the company's varnishes, dyes, etc., and is considered an excellent salesman by the firms that have been using it thus far. The Rub-On Company is offering exceptional co-operation to its representatives and everything possible is being done to accomplish immediate and big sales. A letter addressed to the company's office will bring full particulars regarding the cabinet offer and selling plans.

STAYBESTOS LINING.

Maker of This Well Known Product Has Attractive Proposition That Should Interest Dealers.

In these days of constant safety first warnings, the dealer or repair man who handles a representative line of brake lining is indeed fortunate. The Staybestos Manufacturing Company, Germantown, Philadelphia, Penn., maker of the famous S-M-C brake lining, has a liberal selling plan to make to all reputable dealers. There is a special form for Ford cars.

In addition to this product the Staybestos Company manufactures asbestos and rubber packings, gaskets and radiator hose. The S-M-C improved brake lining is indestructible by heat, is not affected by gasoline, oil or water, and has long endurance. By dropping a line to the company's office, full particulars of the selling plan will be received.

FRICTION REPAIR TAPE.

Goodyear Tire & Rubber Company's Product Consists of Strong Fabric Thoroughly Frictioned.

The Goodyear Tire and Rubber Company, Akron, O., calls to mind the necessity of giving attention to the stocking and selling of small and inexpensive material, stating that it is little things, such as a roll of friction tape, that either win or lose the confidence of the customer.

The Goodyear friction repair tape is constructed to make regular customers of the purchasers of small material, and is made of unusually strong fabric thoroughly frictioned with high-grade material. It has a high adhesive quality and will not deteriorate or become hard with age.

The company is issuing data on its line of "Tire Savers", 22 in all, and particulars of these, as well as the free show case offer, will be forwarded by addressing desk 18, the Goodyear Tire and Rubber Company, Akron, O.

HOUK AGENCIES OPEN.

Opportunity for the Worth While Dealer to Handle Well Known Detachable Wire Wheels.

The European war and the recent racing records in this country have proved the worth of the wire wheel. Houk equipped is becoming a by-word in the racing world, and the recent records of Barney Oldfield in the Los Angeles-Phoenix race and again at Corona, prove that these offer the best there is in the way of wheels.

The Houk Manufacturing Company, 1699 Elmwood avenue, Buffalo, N. Y., announces that exclusive agencies are open in many localities for representative dealers who will have the greatest possible co-operation from the company in the sale of its product. The Houk wire wheels are made to fit all cars and one of their qualities is that they can be attached inside of an hour. The Houk Company has a special dealer's proposition, the details of which will be forwarded upon receipt of a postal card or letter.

ATTRACTIVE METZ OFFER.

Liberal Terms Made to Dealers on the Fore Door Streamline Body Line.

The Metz Company, Waltham, Mass., maker of the well known Metz car, is offering liberal terms to dealers and invites them to write for the new catalogue F, giving full particulars of the proposition. The new car has a fore door, streamline body and carries complete equipment for $495.

This offers an attractive line to the dealer who wishes to handle a light, popular-priced car that has proved to be a big seller. The Metz product has been prominent during the past season, having won numerous hill climbing contests against high-powered, expensive machines, and has established a reputation for durability and economy of operation. Among the achievements of the little Metz is that of winning the Glidden tour. A postal card or letter to the Waltham office will bring full details of the company's proposition.

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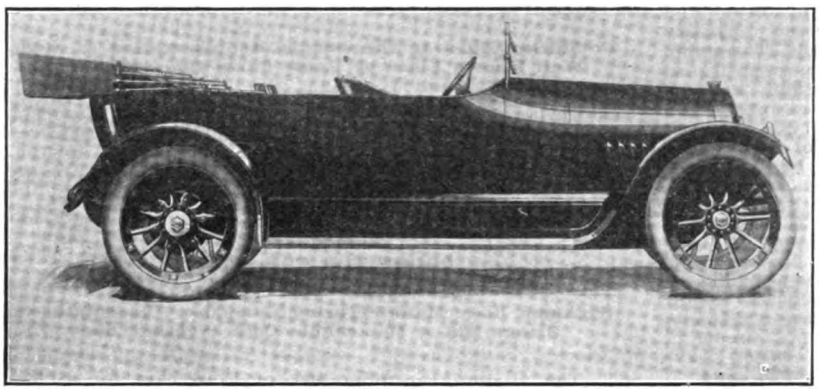
COLE BRINGS OUT A FOUR.

A Seven-Passenger Car Having 120-Inch Wheelbase.

A standard seven-passenger four is the latest product of the Cole Motor Car Company, Indianapolis, Ind. This car has a 120-inch wheelbase, weighs approximately 3000 pounds and sells for $1485, nearly $200 under the price of the previous Cole four.



New Cole Standard Four, 120-Inch Wheelbase, Seven Passengers.

The latest Cole four has a Northway unit power plant, with a bore of 4¼ inches and a stroke of 5¼ inches. It is claimed by the manufacturer that 40 horsepower is developed at 1600 revolutions a minute. Cooling is by a centrifugal pump, which is mounted on the side of the crank case, and a propeller fan assists in the cooling. The carburetor is a model H Stromberg, with a hot air connection to a jacket on the exhaust manifold. The Stewart-Warner vacuum gravity gasoline tank draws the gasoline from the reserve tank in the rear of the frame and delivers it to the service tank, from which the gasoline is supplied direct to the carburetor by gravitation.

This latest Cole announcement follows the fuel economy, ton-mileage and speed tests conducted on the Indianapolis Motor Speedway, Oct. 8-9, under the sanction and supervision of the American Automobile Association. A stock car of the latest four design was used in the tests, and 24⅛ miles were covered to a gallon of gasoline, with the car carrying full equipment and seven passengers.

SAXON ANNOUNCES A SIX.

Has Electric Lighting and Starter and Will Sell for $785.

SELLING for $785, the Saxon six has the distinction of being one of the lowest-priced six-cylinder cars on the market. The Saxon Motor Car Company, Detroit, Mich., it will be recalled, created a sensation a year ago by producing the first four at a price below $400. The features of the new six are its long stroke, high-speed motor, developing, according to the maker, 30 to 35 horsepower; electric lighting and starting system; 112-inch wheelbase; standard tread; demountable rims and a full streamline body of five-passenger capacity. To take care of the added production facilities necessary in marketing the low-priced four and six-cylinder cars, the Saxon Company, as stated elsewhere in this issue, will take over the building formerly occupied by the Abbott Motor Company, Detroit, Mich. With this additional space, the company will be able to increase the output of fours, and that of the six will be 25,000 annually. It is on this production figure that the company bases its price.

The motor is a six-cylinder, L head type, cast en bloc, with a bore of 2⅞ inches and a stroke of 4½. The valve action is enclosed by cover plates and the valves are of nickel with carbon steel stems. A drop forged steel crankshaft 1⅞ inches in diameter is used. This is carried on three main bearings. The camshaft is also a drop forging of one-inch diameter, with cams integral with the shaft, which is driven by helical gears. The cam is carried on four bearings, these being babbitt lined. The connecting rods are of drop forged steel, I beam section.

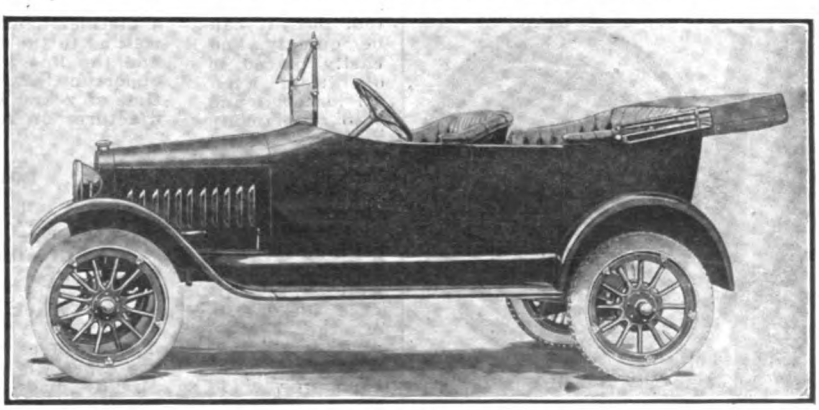
The oiling is by splash to the cylinders and pump circulation leading to the main bearings. The circulating pump takes the oil from the crank case to these bearings and from this point a gravity flow carries the oil into the splash trough. The oil passes through a strainer before again reaching the pump to be recirculated.

The cooling is by thermo-syphon with a cellular type of radiator and fan. The ignition is by the Atwater Kent system, which provides either automatic or hand control. Gasoline is fed by gravity from a tank of 10 gallons' capacity. This is located in the cowl.

The Saxon clutch is of the dry plate type, steel on Raybestos, the same design as is found on many high-priced cars. The gearset provides three speeds forward and reverse, and is mounted on the rear axle, being carried on Hyatt roller bearings with ball thrust. The driven pinion gear is adjustable and the shafts are all of nickel steel. The driving shaft is of solid alloy steel, one inch in diameter, with two universal joints, and with a concentric torque tube.

Two sets of brakes are used, both of which act on the rear wheels. The service brake is external contracting, 10 inches in diameter, with a two-inch face. The emergency is internal expanding, having a diameter of 9¾ inches, with a face width of two inches. Both brakes are lined with Thermoid.

The body of the new six is designed to give maximum room. The front doors are 19 inches wide and those in the rear, 21 inches wide, with concealed hinges. The standard color of this new model is Richelieu blue with black running gear.



The New Five-Passenger Saxon Six, Which Has an Electric Lighting and Starting System; a 112-Inch Wheelbase and a Standard Tread.

NEW MONROE LIGHT CAR.

Selling for $460 with Electric Generator, and Electric Starter $35 Extra.

Selling for $460, with electric generator, the new two-passenger Monroe car, made by the Monroe Motor Car Company, Flint, Mich., is the latest addition to the light car field. This car has a four-cylinder, valve in the head motor, with a bore of three inches and a stroke of 3¾. The cylinders are cast en bloc, and a cone clutch is employed, with a three-speed gearbox, enclosed shaft drive to a semi-floating rear axle.

The generator is driven from the timing gear, from the right side of the engine. Incorporated with the generator is an ignition distributor of Connecticut make. This is fed from a Willard storage battery. The automatic advance feature is part of the Connecticut system used on the Monroe car. On the generator side is an Auto-Lite cranking motor, which meshes with the flywheel teeth in the conventional manner. This starting system is $35 extra. The body is of the streamline type, and the equipment is complete throughout. The workmanship is of the highest class, and the company offers a sturdy and strong car for the money.

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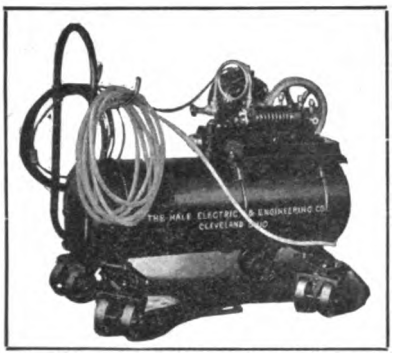
HALE AIR COMPRESSOR.

An Electric Outfit, Adapted for Public or Private Garages, Operated from Any Light Socket.

The Hale portable air compressor fills the need for an equipment which can be used anywhere without any special fittings whatever. The outfit consists of a steel tank, motor, compressor and gauges, with 12 feet of hose and the same quantity of cable. The pump has a capacity of 1½ cubic feet of air a minute, and a maximum pressure of 175 pounds can be attained. The construction is of the highest class. It is a profitable line to sell, and dealers and jobbers should be interested. Full information will be given by the manufacturer, the Hale Electric and Engineering Company, 1232 East Third street, Cleveland, O.



The Hale Portable Air Compressor.

MODERN POWER TIRE PUMP.

Dewey-Anderson Manufacturing Company Producing a High-Grade, Popular-Priced Equipment.

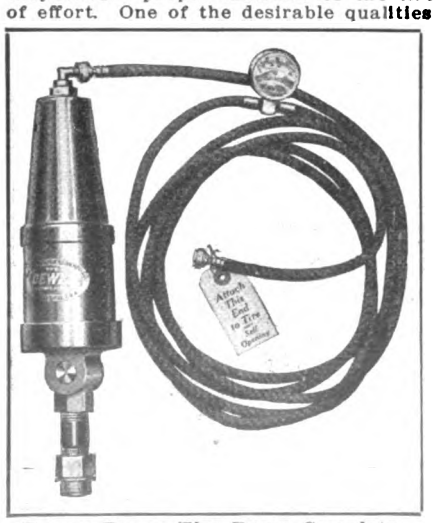
There is an increasing demand for power tire pumps among owners of the motor vehicle not fitted with this more modern convenience. The Dewey-Anderson Manufacturing Company, Toledo, O., which concern has been producing power tire pumps for some time, is offering the trade a popular-priced equipment, which may be permanently attached to the motor or carried in the tool box, as best meets the requirements of the purchaser.

The design for fitting to a spark plug opening is very easily utilized, and the company produces adapters for any spark plug opening, and self-opening connections for attaching hose to the valve stems.

The product of the Dewey-Anderson Manufacturing Company is well known. The shell of the pump shown herewith is of steel, handsomely finished, and all fittings are first-class in every respect. Each pump comes with a pressure gauge and 12 feet of special fabric covered hose, which is tested to 1000 pounds pressure.

The Dewey pump utilizes only pure air, as no oil is necessary for the working parts. The advantages of a power tire pump are well known and among them is that they assure proper inflation of the tires at a minimum of effort. One of the desirable qualities of the Dewey is that it can be conveniently stored in the tool box. It can be quickly and easily placed in operation, and all material and workmanship are first-class in every particular.

Dealers and garagemen in the market for power tire pumps will do well to investigate the merits of the Dewey. A postal addressed to the company will bring complete particulars of the proposition for dealers.



Dewey Power Tire Pump Complete.

AN ATTRACTIVE LINE.

Dover Stamped Metal Specialties, for Use on Motor Cars, Show Great Variety.

The line of stamped metal specialties, manufactured by the Dover Stamping and Manufacturing Company, Cambridge, Mass., includes many articles of the greatest practical value to the motorist or garage man. These goods are listed in the catalogue of this company, which will be sent free on request.

HANDLES IMPORTANT ACCESSORIES.

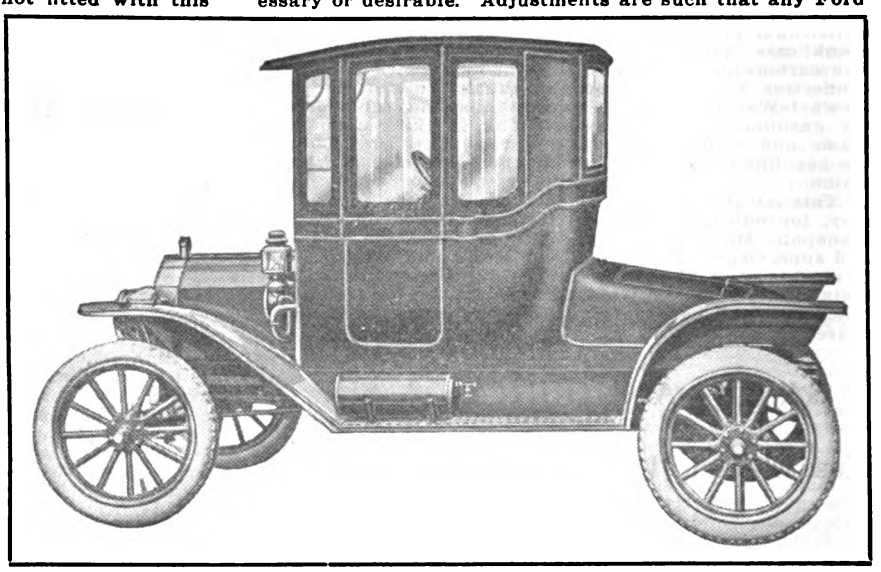
F. Shirley Boyd Is the Boston Representative of Some Well Known Lines of Motor Parts and Equipment.

Dorian demountable rims, the J. H. S. shock absorber and R. I. V. ball bearings, are among the accessories handled by F. Shirley Boyd, 903 Boylston street, Boston, Mass. Owners, garage men and repair men who are interested in any of these lines will be furnished full information on request.

COUPE TOP FOR FORDS.

Highland Body Manufacturing Company, Cincinnati, O., Brings Out a Detachable Cold Weather Body.

The all-the-year-round use of Ford cars for almost every purpose, and in nearly every sort of climate, has emphasized the need of some sort of protection for the driver in cold and stormy weather. For this purpose the Highland Body Company, Cincinnati, O., is offering a strongly built coupe body, which may be easily and quickly attached to a Ford runabout, and as quickly removed when weather conditions make it no longer necessary or desirable. Adjustments are such that any Ford runabout can be equipped without change, except the removal of the top and windshield, and no special tools are required for the work, which can almost wholly be done by one man. The body is finely finished, and so designed as to afford the fullest protection to the occupants. It is a distinct addition to the appearance of the vehicle, as well as to the comfort of the driver. Garage men should find the line a profitable one, as there should be many opportunities for the installation of coupe tops at this time of year. Full particulars will be given by the manufacturer on request.



The Easily Attached Highland Coupe Body Designed Especially for Fords.

POLACK GUARANTEED TIRES.

Manufacturer Says Careful Driving Secures Mileage Greatly Exceeding the 10,000 Warranted.

The Polack Tyre and Rubber Company, 246 West 59th street, New York City, is producing a line of tires which it guarantees to run 10,000 miles or more. These tires are especially adapted for commercial vehicles and have already made an enviable record in the most trying service. The experience of the F. & W. Schaefer Brewing Company, New York City, with this well known product, which showed a mileage of 12,157 miles, is an indication that the guarantee is frequently exceeded.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

Joseph Heyman, Oberbrook, Penn.; one-story stone garage, 18x19.

Morse & Petrie, 8906 Columbia avenue, Cleveland, O.; one-story garage, 16x20.

Union Auto Company, Union Bank building, Charleston, W. Va.; two-story garage and store, 55x80.

French Manufacturing Company, Waterbury, Conn.; one-story garage, 45x63, $10,000.

D. F. Anderson, 1002 Mahoning County Bank building, Youngstown, O.; 1½-story garage, 22x41.

Grant Jones, 140 Falls avenue, Youngstown, O.; one-story garage, 60x150.

Feldman & Seeler, 802 Breitmeyer building, Detroit, Mich.; one-story garage, 30x93, $5000.

F. G. Coryell, Norfolk, Neb.; one-story garage, 42x100, $5000.

Adam Grossman, 404 Wallace street, Covington, Ky.; one-story garage, 40x125, $10,000.

John R. Lastro, Athens, O.; one-story garage, 40x60, $4000.

Hudson & Ware, Milford, O.; one-story garage, 25x100, $4000.

Dr. F. Tefft, 379 Du Page street, Elgin, Ill.; one-story garage, 60x125.

Frederick Hollister, Aurora, Ill.; one-story garage, 20x20.

Henry J. Wieman, 182 Linden street, Brooklyn, N. Y.; two-story garage, 37x100, $8000.

James O'Connell, 127 Boerum place, Brooklyn, N. Y.; one-story garage, 69x60, $5000.

Robert Plant & Son, 352 Johnson avenue, Brooklyn, N. Y.; two-story garage, 20x40, $4000.

Samuel Rittenberg, 1124 Eastern parkway, Brooklyn, N. Y.; two-story garage, 20x45, $3500.

Lewis S. Kaufman, 19 Brookview street, Dorchester, Mass.; one-story garage, 25x28, $2000.

Franklin C. Norton, Far Rockaway, L. I., N. Y.; one-story garage, 50x210, $10,000.

Antonio Mariamo, 486 Branch avenue, Providence, R. I.; one-story garage, 45x50.

Elmer E. Booth, Pomona, Cal.; one-story garage, 55x130.

Frazier Fox, First National Bank building, St. Joseph, Mo.; two-story garage, 38x20, $2500.

L. A. Weidenbarner, 1705 Summit avenue, St. Paul, Minn.; one-story garage, 22x24.

Humbird Auto Company, Humbird, Wis.; one-story garage, 40x60.

D. R. Murray, Clinton, Ind.; one-story garage, 70x70.

Bessie Morris, 7416 Third avenue, Brooklyn, N. Y.; one-story garage, 16x20, $400.

George Cairisso, 200 Sixth street, Brooklyn, N. Y.; one-story garage, 32x100, $5000.

John V. Farwell, Lake Forest, Ill.; two-story garage and stable, including living rooms above, 42x68.

J. Egholm, 1817 Garfield boulevard, Chicago, Ill.; one-story garage, 22x29.

John McInnis, 6253 Kimbark avenue, Chicago, Ill.; six one-story garages.

Maurice L. Angus, 327 Main street, Springfield, Mass.; one-story garage, 67x48.

Springfield Foundry Company, Springfield, Mass.; one-story garage, 55x99.

Mrs. Bessie Chaplin, 15 Elm street, Springfield, Mass.; two-story garage, 52x102.

Max Sincovits, 623 North street, Springfield, Mass.; 2½-story garage and stable, 62x45, $7000.

Rodman & Bernstein, Boston, Mass.; one-story garage, 95x100, $12,000.

Kline & Son, Hancock, N. Y.; one-story garage, 50x100.

H. H. Newman, Kinderhook, N. Y.; 2½-story garage, 30x40, $6500.

Alfred Peter, 238 Washington street, Newark, O.; one-story garage, 100x90.

William Peter Brewing Company, 35 Hudson street, Union Hill, N. J.; one-story garage, 50x94-65, to be erected at Hackensack, N. J.

George Fuller & Son, 553 Western avenue, Allston, Mass.; one-story garage, 27x24.

Frank Horowitz, Reading, Penn.; two-story garage, 20x70.

Walter Pennewill, Wyncote, Penn.; 1½-story garage, 21x26, $2000.

C. W. Shuey, Greensburg, Penn.; one-story automobile supply station, $3000.

S. G. Seligman, Tamaqua, Penn.; one-story garage, 25x40, $3000.

William Credman, 1541 East 33rd street, Cleveland, O.; one-story garage, 31x21, $1000.

N. B. Scott, 1405 G street, N. W., Washington, D. C.; two-story garage, 20x30, $2500.

W. J. Myers, 923 North Fountain avenue, Springfield, O.; one-story garage, 100x184, $20,000.

Frederick Hammond, 391 East 149th street, New York City; one-story garage, 60x95, $7000.

G. H. Helmle, 805 Ferguson building, Springfield, Ill.; one-story garage, 80x100, $7000.

Louis Schnieble, 611 Quincy street, Brooklyn, N. Y.; one-story garage, 12x20.

Harry D. Balsey, 115 West Taylor street, Syracuse, N. Y.; one-story garage, 50x125, $8000.

George E. Cole, 72 Seaver street, Boston, Mass.; one-story garage, 25x25.

Charles G. Schwartz, 945 Bergen avenue, Newark, N. J.; one-story garage, 50x100, $4000.

Charles H. Hohn & Co., 1614 Cherry street, Philadelphia, Penn.; one-story garage, 48x80, $8000.

C. K. Spragg, Waynesboro, Penn.; one-story garage, 60x150, $10,000, to be erected at Pittsburg, Penn.

McCready Brothers, Braddock, Penn.; one-story garage, $6000.

Hershey Creamery Company, 409 South Cameron street, Harrisburg, Penn.; two-story garage, 20x50, $3000.

Joseph C. Heymann, Overbrook, Penn.; one-story garage, 18x19, $1500.

J. H. Barr, 539 Court street, Reading, Penn.; one-story garage, 12x18.

Walter Clark, Jr., Land Title building, Philadelphia, Penn.; one-story garage, 13x20, to be erected at Haverford, Penn.

Elmer Young, Petersburg, Penn.; two-story garage, 35x40, $5000.

Alan Cunningham, Media, Penn.; 1½-story garage, 27x45.

W. Warren Young, Washington, D. C.; two-story garage, 40x100, $10,000.

J. F. E. Fields, Hancock, Md.; one-story garage, 30x125, $5000.

A. E. Landvoight, Washington, D. C.; one-story garage, $25,000.

Wilson & Pirie, Washington Loan & Trust building, Washington, D. C.; $10,000.

T. W. H. Pattison, 1919 East Superior street, Duluth, Minn.; two-story garage, 26x36, $6000.

Dr. James P. Warbasso, 384 Washington avenue, Brooklyn, N. Y.; two-story garage, 45x22, $5000.

J. F. Norman, Pelhamwood Heights, N. Y.; one-story garage, $3000.

CONTRACTS AWARDED.

Robert Robson, Philadelphia, Penn.; one-story garage, $1100, at 2407 Federal street, for Federal Storage Company.

Frank Callahan, Cambridge, Mass.; one-story garage, 42x18, for Richard A. Aylward, 1534 Cambridge street.

Samuel Austin Sons Company, 1423 Euclid avenue, Cleveland, O.; one-story garage, 62x55, $5000, for John Meckes Sons Company, 1959 West 25th street.

H. J. Lockwood, 158 Ponca street, Lincoln, Neb.; one-story garage and auto school, 42x172, $6000, for A. L. Shader.

E. G. Brown, 209 Harvard street, St. Joseph, Mo.; one-story garage, 20x24, $1500, for J. W. Peterson, 25th and Francis streets.

Samuel Murr, 562 Reading road, Cincinnati, O.; one-story garage, 20x20, $1500, for Harry Goldbatt, 811 Mann place.

Jesse F. Burlie, 3637 East 50th street, Kansas City, Mo.; one-story garage, 50x50, $3000; for Morbros Investment Company, 1508 Grand avenue.

Frank Radsin, 1465 Balmoral avenue, Chicago, Ill.; one-story garage, 20x60, for J. J. Thompson, 1514 Bryn Mawr avenue.

Willard E. Harn Company, Inc., 213 North Calvert street, Baltimore, Md.; one-story garage, 50x80, $12,000, for Wayne & Myers.

E. E. Aspen, 4019 Oakdale avenue, Chicago, Ill.; one-story garage, 20x20, for August Anderson, 1537 North Harding avenue.

Nevin Peightel, Huntingdon, Penn.; three-story garage, 50x80, $12,000, for Wagner & Myers.

W. E. Bushey, Lenwyne, Penn.; two-story garage, 60x100, $10,000, for Ervin Heighes.

H. A. Harris, 5001 Lexington avenue, Cleveland, O.; one-story garage, 47x33, $3000, for Emil Joseph, 1007 Society for Savings building.

H. M. Weaver Estate, Mansfield, O.; one and two-story garage ahd salesroom 74x86, $12,000.

Edward Ellison, 5039 Eddy street, Chicago, Ill.; one-story garage, 18x19, for O. P. Olson, 2424 North Kimball avenue.

D. C. Crawford, 26 Parker street, Cambridge, Mass.; one-story garage, 27x29, for Alice Dudly, 1740 Massachusetts avenue.

P. E. Stenger, 860 Reaney street, St. Paul, Minn.; one-story garage, 26x31, $2000, for A. Slimmer, 966 Summit avenue.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

SPECIAL OPPORTUNITIES.

76—New York House wants a three to four-ton truck, engine to be driven by alcohol. It is most important that the manufacturer guarantee the perfect operation of the engine when running with this fuel.

83—North Carolina Dealer wants to correspond with manufacturers of equipment for an automobile factory.

MOTORCYCLE AGENCIES.

125—Arkansas House is in the market to represent a line of motorcycles ranging in price from $100 to $300.

130—California Company wishes to secure a line of motorcycles selling from $125 to $250.

135—Ohio House wants information pertaining to motorcycles selling from $150 to $300.

CYCLECAR AGENCIES.

1793—California Company is in the market to represent a line of cyclecars selling from $200 to $500.

1798—Arkansas Company wishes to hear from a line of cyclecars selling from $300 to $400.

1801—Texas Dealer wants information relative to cyclecars ranging in price from $300 to $500.

GASOLINE PLEASURE CAR AGENCIES.

3068—Pennsylvania Dealer wants to secure the representation of gasoline pleasure cars selling between $500 and $1000.

3071—Ohio House wishes to represent a line of gasoline pleasure cars ranging in price from $400 to $750.

3074—Arkansas Dealer wants information relative to a line of gasoline pleasure cars selling from $300 to $400.

3077—Texas Company is in the market to secure the agency for gasoline pleasure cars selling from $500 to $1200.

3080—Michigan Concern wants information pertaining to gasoline pleasure cars selling from $500 to $1550.

3083—Ohio Firm wishes to secure the agency for a line of pleasure cars selling from $450 to $2000.

ACCESSORIES, EQUIPMENT, SUPPLIES.

565—Alaska House wants anti-rattlers, carburetors, curtains, fire extinguishers, gasoline, heaters, horns, magnetos, mechanical starters, patches, polishes, printed matter, pumps, carbon removers, rubber, searchlights, soaps, speedometers, starters, vulcanizers and washers. The goods to be used for Ford and Overland cars.

566—Ohio Company wants information relative to air compressors, autogenous welding equipment, batteries, bulbs, bumpers, burners, cans, carbide, carburetors, cements, chains, charging apparatus, coils, dimmers, fenders, fire extinguishers, gaskets, gauges, goggles, graphite, guns, headlights, heaters, horns, hose, hydrometers, indicators, jacks, magnetos, maps, mufflers, odometers, patches, platinum, plugs, polishes, primers, pumps, punches, radiators, ratchet drills, reamers, rectifiers, reflectors, carbon removers, rubber, scrapers, searchlights, seats, shock absorbers, soaps, solder, speedometers, springs, starters, storage systems, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, vises, voltmeters, vulcanizers, washstands, waste, wheels, windshields, wire and wrenches. The goods to be used for resale.

568—Indiana Firm desires air compressors, air pumps, asbestos, axles, batteries, bearings, belts, bodies, bolts, brakes, brushes, bulbs, bumpers, burners, caps, carbide, carburetors, cements, clutches, commutators, connectors, cushions, cylinders, dashes, dimmers, elevators, gasoline, gears, generators, glass, goggles, guards, hammers, headlights, horns, hose, hubs, hydrometers, ignition, jacks, joints, knuckles, lamps, locks, lubricators, magnetos, mufflers, nuts, patches, pedals, pinions, pins, pistons, platinum, plugs, polishes, pumps, racks, radiators, reflectors, rests, rims, rods, rubber, screws, searchlights, seats, shafting, sockets, speedometers, springs, starters, steering wheels, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, tubing, valves, voltmeters, vulcanizers, wheels, whistles, windshields, wire and wrenches. Goods to be used for retail and use.

569—Virginia Firm wants anti-rattlers, axles, batteries, bodies, boilers, brakes, brushes, bulbs, bumpers, burners, cabinets, camshafts, cans, caps, carbide, carburetors, cases, castings, celluloid, cements, chains, charging apparatus, chemical tanks, clamps, clips, cloth, clutches, coils, collars, commutators, cones, connectors, controllers, couplings, cranes, cups, curtains, cutters, cushions, cylinder machines, cylinders, dashes, dimmers, discs, doors, drills, drums, dynamos, elevators, engines, fans, fenders, gasoline, graphite, guards, guns, hammers, headlights, heaters, hoists, holders, horns, hose, hubs, ignition, indicators, injectors, jacks, jigs, joints, knuckles, lamps, lathes, leather, levers, locks, lubricators, machinery, magnetos, maps, mechanical starters, meters (measuring instruments), molds and cores, motor controllers, motors, nuts, odometers, packing, paints, pans, patches, pedals, pinions, pins, pistons, platinum, plugs, polishes, presses, primers, printed matter, pullers, pulleys, pumps, punches, purifiers, races, racks, radiators, ratchet drills, reamers, rectifiers, reflectors, regulators, carbon removers, rests, rheostats, rims, rods, rubber, scrapers, screws, searchlights, seats, separators, shafting, shapers, shims, shock absorbers, soaps, sockets, solder, speedometers, spokes, springs, stampings, starters, steel, steering wheels, steps, storage systems, strainers, switchboards, switches, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, transmissions, trimmings, trunks, tubing, turntables, upholstery, valves, vaporizers, varnishes, ventilators, vises, voltmeters, vulcanizers, washers, washstands, waste, wearing apparel, wheels, whistles, wire and wrenches.

573—Indianapolis House is interested in air pumps, arbor presses, batteries, bulbs, charging apparatus, gaskets, grinders, maps, reamers, rectifiers, carbon removers, rheostats, voltmeters and waste.

FOREIGN TRADE OPPORTUNITIES.

No. 14,285. Motor Cars—An American consular officer in South America has transmitted the name and address of a company in his district which desires to be put in communication with American manufacturers of low-priced motor cars, or cyclecars. Manufacturers should submit catalogues, or specifications, and lowest export price f. o. b. New York or c. i. f. destination. It is stated that this firm is now doing a good business in the sale of two American-made cars.

No. 14,496. Small Motor Cars—A consul abroad reports that a firm of importers and dealers of good repute wishes to hear from American manufacturers of small light physician's motor cars, as well as larger ones averaging $1000. C. i. f. quotations preferred; if not, prices f. o. b. vessel should be quoted, together with all information in the first letter. Correspondence should be in English.

No. 14,505. Automobiles, Gasoline, Oils and Agricultural Machinery—An American consul in Europe has a request from an importer and exporter in his district for the above-mentioned articles. Correspondence should be in French or Portuguese.

No. 14,553. Automobiles with Knight Valveless Motor—A firm in good standing desires to communicate with American manufacturers of automobiles with Knight valveless motors. Catalogues and price lists should be sent as soon as possible f. o. b. any American seaport having direct connection with Spain. Correspondence should be in Spanish.

No. 14,648. Motor Trucks—An American consul in Europe reports that a firm in his district is desirous of obtaining an agency for American motor trucks. Prices should be given in English pounds. American firms to draw on 30 days' sight draft.

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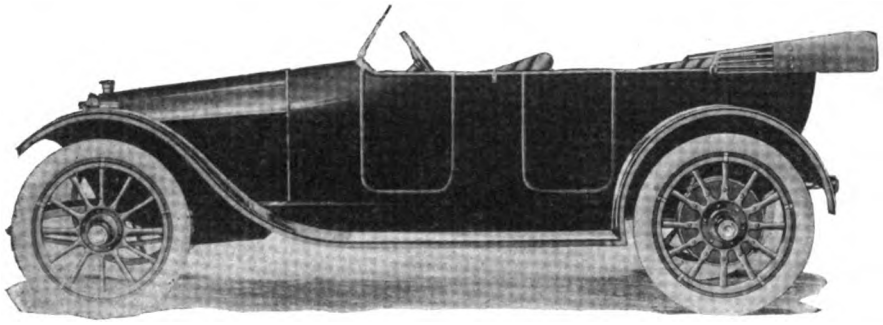
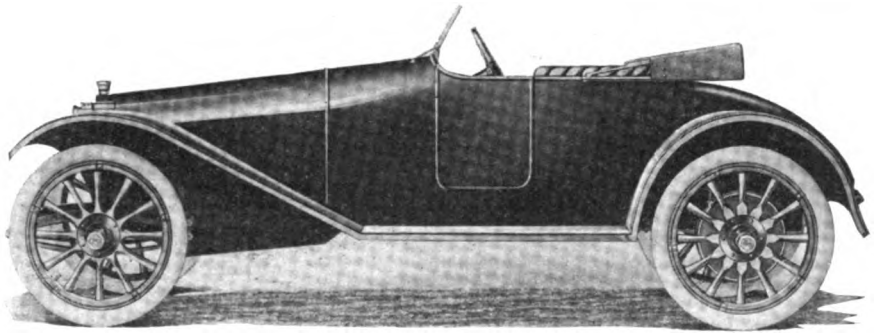
NEW REMINGTON HAS TWO NEW BODY STYLES.

THE 1915 line, announced by Remington Motor Company, 2 Columbus circle, New York City, which includes two body styles, a touring car weighing 1400 pounds and a roadster weighing 1350, should meet with instant approval from the public, and should command the interest of the trade. The specifications of the single chassis show a wheelbase of 106 inches, hickory wheels with demountable rims for 30 by 3½-inch tires, full streamline body, with left drive and centre control. The motor is 3⅛-inch bore by four-inch stroke, the four cylinders being cast en bloc and all the valves being on the right and fully enclosed. The transmission, giving three speeds forward and one reverse, is operated by the Remington automatic gearshift, and the nickel steel gears are mounted on Hyatt high-duty, quiet roller bearings, which are also employed on the ¾-floating rear axle. A shaft drive, with double Spicer universal joints, is used, through a bevel and pinion differential, the gears being special nickel steel, heat treated. The front axle is a drop forging of I beam section, with specially constructed ball bearings for the front wheels. The frame is pressed steel of three-inch channel section, with heavy cross members, and the springs are semi-elliptic, 1½ inches wide by 32 long in front, and cantilever, 1½ inches wide by 37½ inches long in the rear. Both brakes, the internal expanding, hand lever emergency and the external contracting, pedal operated service, operate on the rear wheel drums, and are directly adjustable without change in the leverage. The ignition is the Atwater Kent automatic advance, the carburetor is of the float feed type. Both are controlled by levers. The equipment comprises the Disco electric starting and lighting system, with a dimming device, mohair top, a specially designed windshield, concealed electric horn, speedometer, robe rail, tire pump, tools, jack, etc. The finish is of the best, the dash which carries all the instruments being Circassian walnut, and the exterior, which is in Brewster green, being painted and varnished by hand.





The New Remington Touring Car and Roadster, Having Electric Starting Lighting and Automatic Gearshift.

At the exceptionally low price of $695 for either the Remington touring car or the two-passenger roadster, the line should prove most attractive to the purchasing public and should meet the demand for a car of low price and high quality. At the New York and other shows, where the line will be exhibited, it is certain to attract much attention not only among prospective buyers, but in the trade as well. Dealers can handle most profitably those lines which supply to the greatest degree the demands of their customers, and as without question a very large proportion of the buying public is asking for a car which shall be low in price and economical in operation, the Remington line, which meets these requirements and offers in either of two body types a car of beauty and reliability, should prove most profitable for any dealer who is able to arrange to take it on. The Remington Motor Company is desirous of securing high-class dealers in such territory as is not already taken, and offers an attractive selling arrangement which, combined with the undoubted attractiveness of the line itself, cannot fail to be extremely profitable.

COURT CONFIRMS SALE.

American Voiturette Company Goes to Samuel L. Winternitz of Chicago for $100,000.

The sale of the American Voiturette Company, Detroit, Mich., has been confirmed by the court. Samuel L. Winternitz, Chicago, Ill., offered the receivers $100,000 for the property of the company.

DEALERS ORGANIZE.

Form the Automobile Trade Association of Fort Wayne, Ind., and Elect Officers.

The automobile dealers of Fort Wayne, Ind., have organized and the association will be known as the Automobile Trade Association of Fort Wayne. Fifteen of the 19 automobile sales company of the city are members. The new association was formed for the purpose of cooperating for the general good of the business. The following officers were elected: President, A. L. Randall; secretary, Louis Ohnhaus; treasurer, Louis Brase. Fred Gaskins, Lee Heller, James Porter and George Fox were appointed a committee to draught a constitution and by-laws.

VISITS APCO FACTORY.

Motorist Drives from Ogden, Utah, to Providence, R. I., to Take on Auto Parts Company's Line.

There arrived in Providence, R. I., recently, L. W. Clement and wife of Ogden, Utah. They made the trip East in their Ford car that was so arranged that the back of the front seat dropped in such a position as to make a full length bed, providing sleeping accommodations. During the trip, which consumed 21 days, the tourists did not put up at a hotel, and with three exceptions all meals were prepared by them on the road.

Arriving in Providence the couple visited Thomas Wilson, president of the Auto Parts Company, and Mr. Clement will, in the future, handle Apco specialties in the states of Utah and Nevada. Mr. and Mrs. Clement spent about six days touring in the New England states before starting home. They will return by the way of New York City, Washington, Philadelphia and Pittsburg, Penn., Lexington, Ky., Cincinnati, O., Frankford, Ky., South Bend and Indianapolis, Ind., St. Louis, Mo., Santa Fe, N. M., Phoenix, Ariz., and Los Angeles, Cal. Before proceeding to their home the couple will spend some time at the exposition. On the return trip the car was equipped with a number of specialties made by the Auto Parts Company.

BUILDING MANY CARBURETORS.

The Zenith Company Is Meeting with Great Success Not Only in This Country, but in Many Foreign Markets.

Zenith carburetors are not affected by the war, as four factories in as many different countries are busy turning them out, and nine prominent American manufacturers have adopted the Zenith as standard equipment. One of the important factors on which the manufacturer believes that its success is based, is the great care exercised in construction, and in the very thorough methods of testing employed, to eliminate every chance of imperfection. The float chamber, for example, has special attention both as to the action of the float and for the discovery of possible leaks in the casting, and other details are given the same care. The Zenith is made in standard sizes. Details will be supplied upon request.

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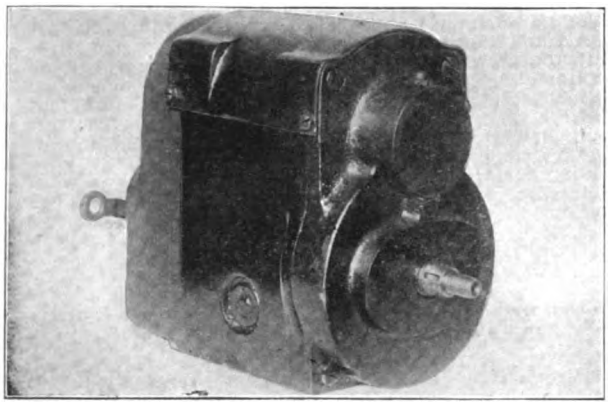
NEW MOTORCYCLE GENERATOR.

Remy Electric Company Manufacturing Lighting Dynamo Especially Adapted to Two-Wheeled Mount.

The Remy Electric Company, Anderson, Ind., is now offering a generator for motorcycles which provides current not only for lighting and horn, but for ignition.



Remy Model 15 Generator, Providing Electric Lighting and Ignition for Motorcycles.

The new product is known as the model 15, and has a tapered shaft for connection to the driving member, as in magneto practise. The circuit breaker is a part of the generator and provides variable ignition.

As with electric lighting systems for automobiles, means are provided for breaking the circuit between the generator and the battery when the engine is inoperative. This is accomplished by an automatic controller which is connected by a pipe to the intake manifold. Upon the motor starting, the suction produced in the intake manifold actuates the controller, which also cuts off the supply of current to the circuit breaker when the motor is not running. This eliminates the usual switch member.

The lighting switch has three positions, one for the main bulb of the headlight and tail lamp, one for the dimming bulb and rear light, and an off position. The switch has a locking device. The battery used with the system was specially designed to meet the requirements of motorcycle service and is stated to be non-spillable.

Complete details, including trade discounts, will be supplied by the company upon request.

"J. H." TONNEAU SHIELD.

Protects Rear Seat from Wind, Dust, Rain and Snow, and Provides the Comforts of a Limousine.

The Mutual Auto Accessories Company of America, 58-60 West 65th street, New York City, is manufacturing the "J. H." tonneau or rear seat shield, which is a French innovation, for protecting the occupants of the rear seat from the wind, dust, snow or rain. One of the desirable qualities of the device is that it is easily and quickly adjusted to a number of different positions and that, when not in service, it does not occupy any more room than a robe. It will appeal to those owners who prefer the open car and at the same time desire the comfort and protection obtained with a limousine in cold and stormy weather.

The shield is made in three-hinged sections and, sliding back and forth on arms attached to the back of the front seat, can be opened out and pulled up or pushed back as the weather conditions warrant. One of the qualities of the device is that the open car can be converted to a closed vehicle in less than a minute.

The model A is designed for large touring cars and has windows of the best grade of plate glass, also side windows of celluloid. The frame is black, brass or nickel as desired, or piano polished, satin finished mahogany. The trimmnigs are black or nickel.

The model B is for the Ford, Overland, Buick, Reo and similar types of cars. The windows are of celluloid with gun metal finish throughout. This model comes ready to attach and retails for $35. Dealers, agents and garage men should investigate the merits of the "J. H." tonneau shield, as it is a desirable device, particularly at this season of the year. The maker issues a very comprehensive pamphlet on the shield, showing its various applications, and the trade is invited to write for it and discounts.

Illustrating the "J. H." Tonneau or Rear Seat Shield, providing Protection to the Passengers in the Rear Seats from Wind, Dust, Rain or Snow—The Device Is Adjustable to Several Positions.

THE PHILADELPHIA COMPRESSOR.

Highly Efficient and Durable Equipment to Meet Any Requirement of Garage or Repair Shop.

A complete line of compressors for garages, repair shops, etc., are being manufactured by the Philadelphia Timer and Machine Company, 51st street and Lancaster avenue, Philadelphia, Penn. The compressor is air cooled and has a bore of 2½ inches and stroke of three inches.

This particular pump is a single-cylinder, straight belt driven stationary compressor, and is known as type C. It has a capacity of 1.6 free air at 200 revolutions a minute. In addition to this type, the Philadelphia concern makes portable compressors. The Velos is a complete portable electric machine, mounted on a three-wheel metal base, with long hose and wire connections, pressure gauge and safety valve. This will pump a three-inch tire tight from the flat in three minutes.

All of this equipment is of superior workmanship and of the strongest materials, thereby guaranteeing its durability. The upkeep cost is very low. Garages and repair shops contemplating a new compressor outfit will do well to investigate the merits of the Philadelphia Timer and Machine Company product. A letter or postal card addressed to the company's office will bring full particulars regarding price, selling plan, etc.

SPEDOLENE.

A Combination of Oils and Asbestos, Forming an Enduring Film Between All Contacting Surfaces.

Spedolene, manufactured by the Continental Asbestos Corporation, 7-11 Summer street, Worcester, Mass., is a combination of oils and asbestos that resists heat, obviates noise of gears and parts, and forms an enduring film between all contacting surfaces.

It is a high-grade and efficient lubricant for transmissions, differentials, timing gears, universal joints, bearings, etc., and embodies in lubricant form the heat, cold and friction resisting qualities of asbestos; in fact, Spedolene is asbestos rendered into a semi-liquid condition by a scientific process.

It is stated that Spedolene is permanent in its lubricating qualities, that it will not thin or congeal, and is especially adaptable to worn and noisy gears, obtaining quiet operation. One of the qualities of the lubricant emphasized is that it will not pack away. It completely covers the parts subject to friction. Spedolene is unaffected by climatic changes, and is impregnable to heat, cold, water or steam. It will not gum and contains no acid or other ingredients injurious to the finest metal. It comes in original packages, in five, 10, 25 and 50-pound cans. The selling proposition will be of interest to the trade, the details of which will be supplied upon request.

When writing for particulars and prices, always mention the Accessory and Garage Journal. This will assure prompt attention to all requests for information.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Boston Auto Auction Sales Company, Boston, Mass.; to manufacture automobiles; J. R. McPherson, J. M. Barry.

Ford Supply Shop Company, Cincinnati, O.; $5000; to manufacture automobiles; W. Pursell, Bruce Schoolfield, A. W. Kops, H. N. Smith, T. J. O'Neill.

Finley-Robertson-Porter Company, Albany, N. Y.; $100,000; to manufacture automobiles; F. Robertson, A. B. Porter, F. D. Veiller.

Simplex Tractor Company, Minneapolis, Minn.; $250,000; to manufacture tractors; J. W. Muir, G. H. Wilson, C. E. Cottrell, H. J. Hollister.

Motor Sales Company, Boston, Mass.; $50,000; to manufacture automobiles; A. L. West, R. F. Tift, W. J. Cronin.

R. H. B. Manufacturing Company, Irvington, N. J.; $20,000; W. P. Reibolt, H. J. Edinger.

Hartsough Tractor Company, Minneapolis, Minn.; $1,000,000; to manufacture tractors.

Safety Steering Gear Company, Gloucester, Mass.; $50,000; to manufacture automobiles; F. H. Tarr, H. C. Tufts.

General Transit Company, Portland, Me.; $1,000,000; to manufacture motor vehicles and accessories; E. E. Noble, E. V. Mann.

PARTS AND FITTINGS.

Auto and Machine Springs Company, New York City; $10,000; M. Kleinberg, E. Branson, I. Branson.

Auto Metal Body Works, Pittsburg, Penn.; $5000; Edward A. Schottle, L. T. Vremask, Rudolph Roitz, Anthony Gould, Charles Weggman.

Federal Body Company, New York City; $1000; O. D. Shonnard, S. Goldblatt, J. A. Cameron.

Pneumatic-Hub-Tire-Wheel Company, Wilmington, Del.; $500,000; to manufacture automobile wheels and tires; G. L. Lampton, N. M. Rowland, L. C. Evans.

Denver Ford Starter Company, Denver, Col.; $50,000; to manufacture starters; C. Miercort, A. A. Carnine.

Michigan Storage Battery Company, Detroit, Mich.; $50,000; to manufacture storage batteries; L. C. Knop, S. G. Knop, N. T. Lawson.

Globe Steel Products Corporation, Waterbury, Conn.; $5000; to manufacture ball bearings and parts; C. F. Sultemeyer, J. R. Quinn, M. Vieweger.

Perfection Coil Spring Company, Jackson, Mich.; $20,000; to manufacture coil springs; P. J. Foill, B. T. Sims, R. W. Foill, W. G. Lane.

Adams Motor and Manufacturing Company, Chicago, Ill.; $25,000; to manufacture motors and machinery; W. E. Adams, H. W. Beaton, T. J. Mullen.

H. & D. Company, Goodland, Ind.; $100,000; to manufacture shock absorbers and accessories; A. P. Hawn, C. A. Doland, J. E. Hawn.

GARAGES AND REPAIR SHOPS.

Alert Garage, Inc., Mt. Vernon, N. Y.; $10,000; P. E. Hendrick, Jr., M. C. Hendrick, F. C. Hendrick.

Cherokee Garage Company, New York City; $10,000; J. F. Fay, James Fay, F. Wengraf.

Fredonia Garage Company, Fredonia, N. Y.; $500,000; to operate a garage and conduct a general automobile business; F. Apgar, R. Forster, H. Lewis.

Fourth-Chestnut Auto Repair Company, Columbus, O.; $10,000; to operate a garage and repair shop; J. F. Steele, J. L. Steele, C. A. Lusch, E. T. Lusch, F. M. McSweeney.

Greater New York Garage Company, New York City; $5000; J. T. Owens, H. C. Owens, A. J. Beers.

Cochran's Garage, New York City; $1000; J. Spalla, L. Spalla, J. Spalla.

Salamanca Garage, Salamanca, N. Y.; $10,000; Robert N. Forbes, F. J. Eaton, C. E. Congdon.

Advance Garage Company, Chicago, Ill.; $2500; Samuel Topliff, Sigrid Erickson, Homer H. Cooper.

Ironton Garage Company, Ironton, O.; $10,000; to deal in automobile accessories; R. W. Rowland, I. L. Riley, T. N. Erskine, W. R. Edwards, A. C. Robinson.

Globe Garage Company, New York City; $3000; Philip Lauter, Ignatz Lauter, Morris M. Gruber.

Patnaud's Garage Company, Troy, N. Y.; $1000; to conduct a general automobile and garage business; Davis P. Benjamin, Harry Benjamin, Albert B. Wolf.

Princeton Motor Garage Company, Princeton, N. J.; $15,000; C. Grissom, C. H. Vaugh, E. M. Speakman, C. A. Gatt, J. W. Lowrey.

South Bend Garage Company, South Bend, Ind.; $5000; A. D. Parker, G. W. DeClements, D. C. Rogers.

Fireproof Garage Company, New York City; $5000; James R. Pierson, Samuel Riger, Thomas McD. Caffrey.

ACCESSORIES AND SUPPLIES.

Standard Tire and Rubber Company, Albany, N. Y.; $250,000; to manufacture tires and supplies; F. R. Hansell, G. H. Martin, S. C. Seymour.

Dewesee Auto Safety Signal Company, Detroit, Mich.; $1500; A. A. Gottfield, L. P. Gottfield, C. Edison, C. Young.

Hood Tire Company, Watertown, Mass.; $20,000; to deal in tires and supplies; E. L. Aldrich, H. C. Mason, H. E. Rose, R. Muir, C. W. Dailey, Jr.

Standard Auto Supply Company, South Bend, Ind.; $10,000; Ignatius K. Werwinski, James E. Scott, Joseph Kish, Jr., Julius Fodar, Charles Jones.

K. L. Manufacturing Company, Casey, Ill.; $100,000; to manufacture gasoline dispensers; W. B. Linn, C. E. Bennett, J. H. Parker.

Gibney Tire and Rubber Company, New York City; $100,000; to deal in tires and accessories; F. Netschert, J. Dunsmuir.

Webber Manufacturing Company, Needham, Mass.; $50,000; to manufacture automobile supplies; H. St. James, A. H. Webber, J. J. Kingsley.

Western Auto Supply Company, Kansas City, Mo.; $20,000; George Pepperdine, Lena Pepperdine and others.

Penn Traffic Company, Dover, Del.; $150,000; to deal in automobile tires; W. Boyd, W. I. N. Loffland, W. F. P. Loffland.

Traver Puncture Proof Tire Company, Far Rockaway, N. Y.; $400,000; to manufacture tires; O. D. Shonnard, S. Goldblatt, J. A. Cameron.

Eclipse Manufacturing Company, Indianapolis, Ind.; $50,000; to manufacture automobile accessories; Willis S. Brown, Willis S. Brown, Jr., and R. M. Franklin.

Brogan Graham Manufacturing Company, Philadelphia, Penn.; $5000; to manufacture automobile supplies; William T. Graham and others.

Protective Tire Company, New York City; $20,000; to manufacture tire protectors: I. Neustaedter, H. J. Rosenbloom, A. Alexander.

Simplex Tire Repair Company, Omaha, Neb.; $3000; to deal in automobile tires; Clement E. Lambert, Benjamin Mandelstam, May Mandelstam.

Maher Manufacturing Company, Libertyville, Ill.; $50,000; to manufacture and deal in automobile accessories; Nathan L. Maher, Lucas W. Maher, Elton C. Armitage.

Needham Tire Company, Boston, Mass.; $350,000; to manufacture automobile tires; J. S. Patterson.

Western Sales Corporation, Buffalo, N. Y.; $15,000; to manufacture tire fillers, automobile accessories, etc.; Charles H. Taylor, Thomas Catlin, Sherman A. Hooker.

Ford Tire and Tube Company, Cleveland, O.; $10,000; to manufacture tires; E. E. Rodd, C. V. Liggett, U. L. Henry, C. A. Levy, L. Ulmer.

Hanson Peacock Corporation, Brooklyn, N. Y.; $1000; to manufacture automobile tires; Joseph L. Young, Selma Hietenstein, E. Katherine Payne.

H. S. Macomber & Co., Boston, Mass.; $15,000; to deal in lubricants; H. S. Macomber, L. F. Macomber, F. L. Stone.

Arthur R. Tator Company, Brooklyn, N. Y.; $1000; to deal in automobiles and supplies; Arthur B. Tator, Hugh Foster, John F. Undutsch.

Auto Accessories Company, San Francisco, Cal.; $10,000; to deal in automobile accessories; H. K. Wolff, D. K. Seibert, S. Simmons.

Delaware Tire Sales Company, Indianapolis, Ind.; $1500; to deal in automobile accessories; Charles M. Nesbitt, William T. Allen, Collin L. Sawyer.

C. R. & J. J. Phillips Company, Mannington, W. Va.; $10,000; to conduct a garage; Charles R. Phillips, James I. Phillips, Mary E. Phillips, Otha Phillips, Laura McCrea.

AUTOMOBILE DEALERS.

Utica Mitchell Motor Car Company, Utica, N. Y.; $1000; L. Denosky, Isaac Denosky, J. William Seaton.

Parkside Automobile Company, Lorain, O.; $10,000; T. G. Row, R. G. Wurmser, H. G. Alger and others.

People's Garage Company, Davenport, Ia.; $10,000; Frank Jungjohann, Henry Jungjohann, August Youngerman.

Brosius Automobile Company, Fort Wayne, Ind.; $3600; Jesse Brosius, Harry Brosius, Andrew Brosius.

Automobile Securities Company, Chicago, Ill.; $2500; H. T. Potter, K. M. Lorenz, L. I. Bretz.

Armored Motor Car Corporation, New York City; $6000; J. H. Allen, R. J. Raulsir, R. E. Rogers.

Grand Concourse Service Company, New York City; $1000; J. M. Ireland, M. A. Ireland, C. Haffen.

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Charter Oak Motor Car Company, Hartford, Conn.; $20,000; Frank Zimmerman, E. H. Harris, F. W. Lycett.

Falls City Auto Company, Louisville, Ky.; $6000; E. C. Pearson, S. J. Elliot, H. Bosse, J. Schmidt, L. E. Cralle.

Batchelder's Motor Car Business, Lynn, Mass.; $10,000; M. E. Batchelder, C. E. Batchelder, A. Landry.

Denby Motor Truck Sales Company, Boston, Mass.; $10,000; A. E. Williamson, W. F. Magill, T. W. Donovan.

Percy Ford Company, Boston, Mass.; $5000; J. J. Conway, P. Ford, M. F. O'Neill.

Jefferson Automobile Company, Brooklyn, N. Y.; $1000; J. R. Howlett, T. J. Howlett, C. E. Fiske.

Queen City Auto Company, Plainfield, N. J.; $30,000; to conduct a general automobile business; F. Endress, F. Walker, L. Endress.

Hager & Rank Automobile Company, Moline, Ill.; $5000; Robert W. Rank, Fred W. Rank, George Hager, A. Sorling, M. W. Battles, Jr.

Jack London Motor Car Service, Brooklyn, N. Y.; $500; H. L. Delatour, L. M. Denham, R. H. Sternberg.

Delameter Sales Auto Company, New York City; $10,000; J. W. Delameter, J. Wood, Jr., A. K. Frank.

Young Motor Sales Company, Minneapolis; Minn.; $50,000; E. N. Young, H. J. Murphy, F. N. Furber.

Cyclecar Sales and Service Corporation, New York City; $2400; William Vaughan, M. Metzger, H. Whealey.

More Automobile Company, St. Louis, Mo.; $15,000; Edward A. More, John B. Strauch, John T. Salisbury, Cyrus B. More.

Henshaw Motor Company, Boston, Mass.; $25,000; C. S. Henshaw, H. I. A. Hodgdon.

Paige Motor Company, Boston, Mass.; $25,000; S. Hall, Jr., W. Kittredge, M. W. Hall.

Brasie Motor Car Sales Company, Minneapolis, Minn.; $50,000; C. H. Walker, Ole Martinson, Oscar Hellum.

Kestler Auto Service, Brooklyn, N. Y.; $5000; R. Kestler, S. Kestler, L. Kestler.

Zimmerman Buggy Company, Auburn, Ind.; $10,000; M. Boland, A. D. Schlatter, W. P. Henderson.

Missouri Valley Motor Company, Bismarck, N. D.; $25,000; to conduct a general automobile business; Louis A. Tavis, Joseph P. Hess, Howard H. Moore.

Baker Auto Company, Paducah, Ky.; $5000; C. N. Baker, E. M. Baker, E. H. Boss.

Williston Motor Company, Williston, N. D.; $25,000; C. A. McKinney, F. N. Fuller, M. L. McKinney.

Reliance Motor Company, Camden, N. J.; $50,000; F. R. Hansell, G. H. B. Martin, S. C. Seymour.

Jackson Motor Company, Minneapolis, Minn.; $15,000; Fred Darling, N. S. Davis, A. A. Wilson.

Dodge Sales Company, Boston, Mass.; $2500; G. McCarthy, F. E. Dodge.

Remington Auto Sales Company, Columbus, O.; $10,000; to deal in automobiles and conduct a garage; C. M. Sira, O. Thacker, W. A. Jackson, W. E. Pearse, G. H. Mosier.

Co-Operative Motor Car Company, Louisville, Ky.; $10,000; W. H. Reese, Herbert Stuber, W. Raymond Reese.

Crowell Auto Company, Danville, Va.; $5000; A. I. Crowell, A. B. Crowell.

Massachusetts Motor Sales Company, Boston, Mass.; $50,000; A. L. West, R. F. Tift, W. J. Cronin.

Overfield Auto Company, Brooklyn, N. Y.; $1000; Ferris A. Overfield, Eda D. Overfield, George S. Hice.

Municipal Motor Car Company, Los Angeles, Cal.; $100,000; James H. Down, H. B. Eddie, M. White, J. K. Ingalls and others.

Auto Sales Company, Whittier, Cal.; $25,000; J. G. Wingert, B. Cox.

MISCELLANEOUS.

Taxicab Company, Cumberland, Md.; John A. Cavanaugh, Leo M. Cavanaugh, Rose Cavanaugh.

Briles Agricultural Implement Company, Albany, N. Y.; $50,000; H. W. Cole, J. L. Wolcott, O. M. Roach.

East Side Motor Truck, Transfer and Baggage Company, St. Louis, Mo.; $2000; A. O. Middleton, E. K. Brown, John O. Schwaner.

Marion Motor Company, Indianapolis, Ind.; $150,000; T. L. Marshall, C. G. Chapman, J. I. Handley.

Electric Welder Company, Detroit, Mich.; $50,000; A. W. Mairs, William F. Schultz, A. F. Sellers, E. A. Buckman.

A. W. R. Electric Manufacturing Company, New York City; $100,000; Adolph P. Rossner, Mary Rossner, William H. Bauer.

Park Motor Works, Detroit, Mich.; $5000; George Gilmore, Clarence G. Hill, Agnes Callahan.

Farm Tractor Sales Company, Albany, N. Y.; $1000; V. E. Consalus, E. W. Stanford, S. C. Turkenkoph.

Natlus Auto Renting Company, New York City; $5000; J. L. Davis, M. M. Davis, S. I. Goldberg.

C. C. Fouts Company, Middletown, O.; $75,000; to make metal garages; C. C. Foster, C. B. Oglesby, P. Fouts, A. A. Amler.

Pressed Steel Products Company, Hubbard, O.; $500,000; C. H. Todd, G. P. Bard, J. L. Considine, J. P. Sweeney, G. C. Mittinger.

Motorcycle Car Corporation, Buffalo, N. Y.; $10,000; A. E. Bennett, E. W. Bennett, C. M. Babbitt.

G4 EISEMANN MAGNETO.

Latest Instrument of the True High-Tension Type, Employing New Form of Interrupter Mechanism.

The Eisemann Magneto Company, Brooklyn, N. Y., has brought out a new form of true high-tension magneto which is designated as the type G4. It is intended for four-cylinder motors and not only is the construction very simple, but it is thoroughly water and dust proof.

One of the interesting features of the new instrument is the interrupter mechanism, which virtually comprises two springs, a pressure and a contact, and the last-named member carries the platinum contact point, which is normally in touch with an adjustable contact screw attached to a bronze plate. This plate rotates with the armature shaft.

The break of the points, or interruption of the primary current, is obtained by two fibre cams set at 180 degrees, or diametrically opposite. These cams are attached to the timing lever body and, as the armature shaft revolves, the cams move the contact spring and its point away from the fixed point.

Another feature of the type G4 is the method of attaching the high-tension cables to the distributor plate. The leads pass through the plate and the strands of wire are secured by a locking device. This construction prevents the entrance of moisture and also eliminates outside terminals. All components are easily accessible and, throughout, the same high-grade material and workmanship for which the products of the company are noted are incorporated. An interesting booklet, illustrating and describing the new instrument, will be supplied free for the asking.

RAYBESTOS SERVICE.

Royal Equipment Company Maintains Supply Stations Throughout Country, Carrying Complete Stock.

The attention of the trade is called to the announcement of the Royal Equipment Company, 1380 Bostwick avenue, Bridgeport, Conn., to the Raybestos service. The company has over 100 distributors, all carrying a complete stock of Raybestos brake lining, in 57 cities, and any mail, telephone or telegraph order will be promptly filled. Each service station will give attention equal to that obtained at the factory, to all requests for brake lining and brake data. The Royal Equipment Company guarantees Raybestos brake lining to endure for a year on all pleasure motor vehicles and light trucks, and an unusual feature of the guarantee is that no limitation is placed on the number of miles driven or the character of the service. The company maintains an engineering department whose services are at the disposal of the trade requiring information upon installing and maintaining brakes and linings.

ATTRACTING TRADE.

Weed Chain Tire Grip Company Co-Operating with Dealers in Building Up Business.

The Weed Chain Tire Grip Company, Bridgeport, Conn., is co-operating with the trade handling its well known tire chains, and offers to send an attractive board for the display of the cross chains which are constantly in demand by users of tire chains. The stocking of tire chains, particularly at this season of the year, means a quick turning over of the money invested, and a display of the chains will attract a desirable new clientele. New concerns, as well as old, should write to the company for the display board to which reference has been made.

BRINGS OUT NEW SIX.

Grant Motor Company Announces Machine Having Electric Lighting Starting, for $795.

Announcement is made by the Grant Motor Company, Findlay, O., of a six-cylinder, five-passenger car having complete equipment, including electric lighting and motor starting, and to sell for $795. The wheelbase is 106 inches and the body is the latest streamline design. The new machine will sell for $750 without electric lighting and starting, the lighting system supplied being acetylene.

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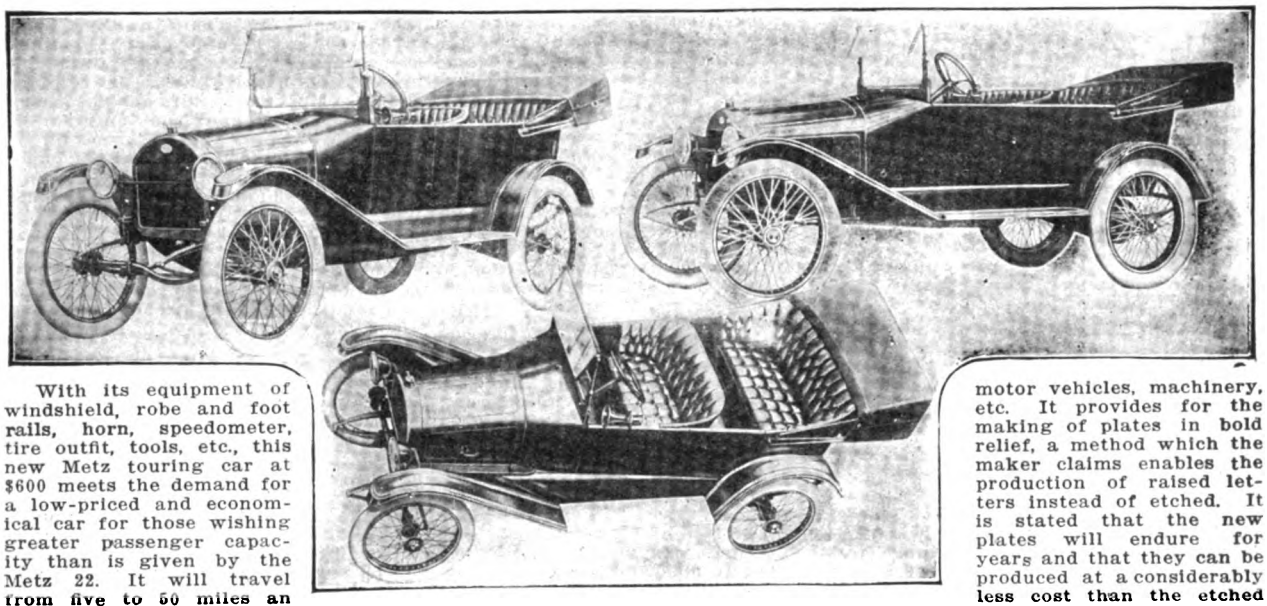
METZ OFFERS NEW LINE FOR 1915.

WITH the recent addition of the new touring car, the Metz Company offers a line which should prove most profitable for dealers. The Metz 22, with its new body and thoroughly up-to-date appointments and, what is of more importance, its unapproached record of performance under all conditions, needs no comment. Its position is established and its selling qualities known. The touring model, supplying the demand for a light and inexpensive car for the whole family, will without any doubt establish for itself an equally favorable position, for it possesses all of the distinctive Metz features and many individual refinements of its own. The motor is 3⅞-inch bore by four-inch stroke, developing 25 horsepower, and is equipped with a Bosch high-tension magneto and an A. W. T. carburetor. The Gray & Davis electric lighting and starting system is used, with two sets of bulbs in the searchlights for dimming. The wheelbase is 105 inches, with a streamline body mounted on full elliptical springs, tapering hood, and wire wheels equipped with 32 by 3½-inch Goodrich clincher tires. There is ample room in both compartments, which are fitted in the best manner, the seats being heavily upholstered in the best quality of material, with deep tilted cushions to ensure a maximum of comfort. The instant one-man top fits closely over the windshield so that, when the side curtains are raised, the interior is practically weather proof. The Metz fibre grip gearless transmission entirely eliminates clutch and gear troubles. The well known Hyatt roller bearings are used.



Three Views of the New Metz Touring Car, Showing Tapering Radiator, Streamline Body and Roomy Compartments.

With its equipment of windshield, robe and foot rails, horn, speedometer, tire outfit, tools, etc., this new Metz touring car at $600 meets the demand for a low-priced and economical car for those wishing greater passenger capacity than is given by the Metz 22. It will travel from five to 50 miles an hour, and at a cost for gasoline, tires and upkeep far below the average. Metz reliability has been demonstrated over and over again, and this latest product, embodying as it does every essential Metz feature, will give the same record of service as have the earlier models. Moreover, it is a beautiful car, and in no detail of appearance inferior to machines costing twice as much. It has style and is complete in all appointments—in short, it is a classy car which any owner may take pride in, and which will give him the maximum of pleasure and satisfaction, as well as service, at the minimum of expense. It would be hard to find a stronger combination from a selling standpoint than the two Metz models, which completely cover the light car field. From the standpoint of the dealer there is the very great advantage in this line of a long record, not only of actual service, but also of performance, which has surpassed some cars of the highest price. The dealer selling the Metz knows what it will do and the kind of service his customer is buying, and the purchaser knows, too, that he is running no risk. Metz cars are of known value, the prices, quality considered, cannot be approached, and their reliability and economy are established beyond question. Such a line cannot fail to be a source of profit and satisfaction to dealer and user alike.

MERCURY CYCLECAR COMPANY SOLD.

The Michigan State Auto School, Detroit, Mich., has purchased the Mercury Cyclecar Company of that city and will continue to produce Mercury cars at a reduced price. The new concern will supply parts for any Mercury model.

ANNULAR BEARINGS REGROUND.

Ahlberg Bearing Company Is Equipped to Refit All Types and to Supply All Sizes and Makes from Stock.

The business of the Ahlberg Bearing Company, with offices at 1790 Broadway, New York City, and in Chicago, Detroit and Boston, consists not only in regrinding bearings and the production of special types, but it carries on hand at all times a complete stock of standard types in a great variety of sizes. These are reground, but in every respect are of the same accuracy as new bearings, giving excellent service at a low price. A complete stock of new bearings of various kinds is also kept constantly on hand. Full information will be supplied on a request addressed to any branch.

NEW NAME PLATE PROCESS.

Obtains Plates with Letters Raised from Background and Is Adaptable to Motor Vehicle Parts.

The Federal Name Plate and Novelty Company, 732 Federal street, Chicago, Ill., which concern was reorganized recently, announces the perfection of a new process for the manufacture of name plates for radiators, motor vehicles, machinery, etc. It provides for the making of plates in bold relief, a method which the maker claims enables the production of raised letters instead of etched. It is stated that the new plates will endure for years and that they can be produced at a considerably less cost than the etched type. The material employed is a special hard metal, one that will withstand an extremely high temperature. The plates can be made in any desired thickness and in copper, brass or silver finish. The process is stated to be covered by patents. Samples and details will be supplied free upon request.

PORTER ENTERS AUTOMOBILE FIELD.

Former Chief Engineer of Mercer Automobile Company Organizes Concern to Build the F. R. P. Car.

F. R. Porter, formerly chief engineer of the Mercer Automobile Company, has organized the Finley Robertson Porter Company and will produce a 100-horsepower, 140-inch wheelbase model, completely equipped. The car is to be built in the old plant of the Metropole Car Company, Port Jefferson, Long Island. The motor has a bore of 4.6 inches and stroke of 6¾.

NUCKOLS JOINS VALVOLINE.

Former President of Columbia Motor Car Company Made a Director.

Announcement is made of the purchase of important interests in the Valvoline Oil Company, New York City, by Henry W. Nuckols, formerly president of the Columbia Motor Car Company, Hartford, Conn., and now with the Packard Motor Car Company of New York. Mr. Nuckols will become a director and an administrative officer of the Valvoline Company.

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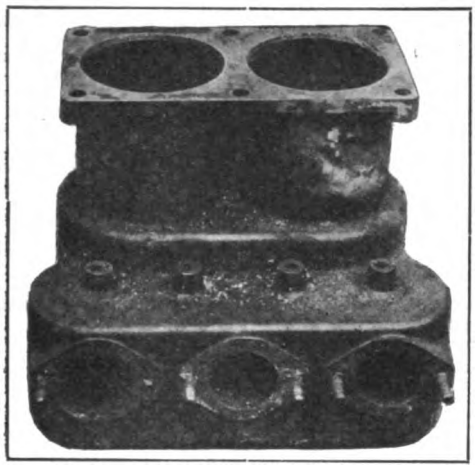
THE COMMERCIAL ADVANTAGES OF WELDING.

By O. W. Whiteman.

UNTIL recently there was only one thing that the garage man could do with a broken part, and that was scrap it, but today he can use it. This is made possible by the oxy-acetylene welding process. Perhaps there is nothing that would save the automobile owner more money than the saving of broken parts, and perhaps there is nothing that has netted the garage man more profits than the saving of broken parts for the car owner. Take for instance a broken automobile frame: The car owner is bewildered at cost of taking off the old frame, the time his car will be laid up while his new part is coming from the factory, and the cost of putting it on, but once he has learned the practicability of welding, his bewilderment will be at an end and, instead of losing the use of his car while the new part is being ordered and standing the additional expense of putting it on when it comes, he can take his broken car to a welder and, in two hours' time and for less cost than a new frame, he can have the broken one stronger than it ever was before.



A Welded Cylinder.

We might say in 99 per cent. of the cases, a broken part can be welded more cheaply than the cost of replacement with a new part. But a doctor who must use his car constantly does not think of the cost of the new part so much as he does of the time he will be unable to use his car. Here is where welding comes to the rescue and makes possible a rapid repair and gives the doctor the use of his car immediately, and oftentimes when the new part comes it is for an earlier or later model and does not quite fit, so there is a further delay, or perhaps the people who made the part are out of business and, if it were not for welding, a new part would have to be cast. Take, for instance, a $5000 truck with a crack in the intake manifold: This part could be very easily replaced and at not much expense; but the loss of the use of the truck means much to the owner. He would gladly buy a new part at any price, but it must come from the factory. Here the welder steps in and performs a real service; he takes the broken part, and in half an hour makes it as good as new. The car owner is willing to pay for this kind of service, so the garage man can make a good profit and still satisfy his customers.

Automobile manufacturers are oftentimes not very considerate of the car owner when he is broken down. If lower half of a crank case is broken, they may demand that he buy both upper and lower halves, when only the lower half is needed. The writer has in mind an example similar to this where the centre bearing was broken out of the lower half of the crank case and the car owner, asking the price of the lower half, was told that to get the lower half he would have to buy both the upper and lower. To do this meant the expenditure of about $200, $100 of which there was no need of at all, so the car owner began to look for a cheaper way and came to a welding shop. Here he found that he could have the broken case fixed for $12.50. The welder made some money and the car owner certainly saved a considerable sum.

Now that we have looked at the economical advantages of welding, let us look more directly to its character. Oxygen and acetylene are the two gases most generally used in welding. Oxygen is always used as oxygen must be present to support any flame. Compressed air could be used to produce a flame of low temperature, but at the same time it is oxygen in the compressed air that supports the combustion. Acetylene is used as it gives off more heat than can be produced by the burning of any other gas. Oxygen and acetylene burning together produce about 6300 degrees Fahrenheit, which is sufficient to melt any metal. The following metals melt at the temperature set opposite them:

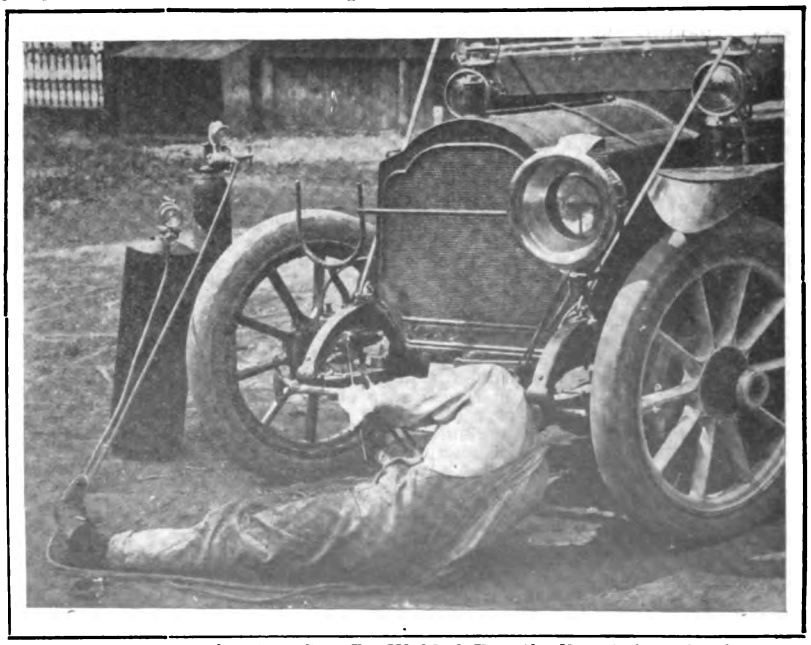
	Degrees Fahrenheit
Platinum	4500
Iron, wrought	3800
Iron, pig	2200–3000
Nickel	2900
Iron, cast	2700
Steel	2550
Glass	1600–2300
Brass, common	1500–1900
Phosphorous bronze	1850
Copper	1850
Aluminum	1300
Antimony	790
Zinc	775
Lead	620
Bismuth	518
Tin	512

One thing that has helped the welding industry as much as anything is the ease with which one can secure supplies of oxygen and acetylene. For an acetylene supply one can use the ordinary automobile lighting cylinder, or one can buy or lease a regular welding cylinder from the same companies that make the automobile lighting cylinders. Oxygen usually comes in cylinders which contain 100 feet. Most companies do not charge anything for the use of the cylinders, but only for the gas used. When the tank is empty it is returned for another, and if the tanks are returned within a reasonable time there is not even a rental charge made.

Now let us consider the equipment. Recently there has been great advancement in the welding industry, and a factor that has contributed largely towards this progress is the placing on the market, by the Waterhouse Welding Company, of a torch that will not flash, or permit the gases to burn back into the head of the torch, which has been the tendency of all torches heretofore.

Now as for reducing valves which must not be neglected: In a high pressure oxygen tank the oxygen is compressed to a pressure of 1800 pounds. Now it is of the utmost importance that the regulators and gauges be built strong enough to govern this great force, but today the greatest and largest welding manufacturers have it down to a science, and some of the better ones guarantee their regulators and gauges for one year, which really means that, if they will last for a year, they will last forever.

A few years ago the price of a welding equipment was almost prohibitive. Then there were too many manufacturers striving for the field, but today the question has come down to the survival of the fittest and, as a few are doing the business of the country, they are able to make equipments in large quantities and to sell at a much lower figure.



The Frame of a Car Can Be Welded Practically at Any Angle.

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NEW APCO CATALOGUE.

Auto Parts Company Issues 1915 List of Ford Specialties, Parts, Etc., at New Prices.

The Auto Parts Company, Providence, R. I., maker of Ford specialties, equipment, parts, etc., and whose trade name, Apco, is known to every Ford dealer and owner in the country, announces that its 1915 advance catalogue is ready for distribution.

It contains illustrations and descriptions of a large number of new devices for the Ford car, and these will appeal to the owner, as they solve many of the operating and maintenance problems. Particularly noticeable are the winter accessories and equipment, these including a practical and efficient motor starter. All of these devices were thoroughly tried out before being placed upon the market.

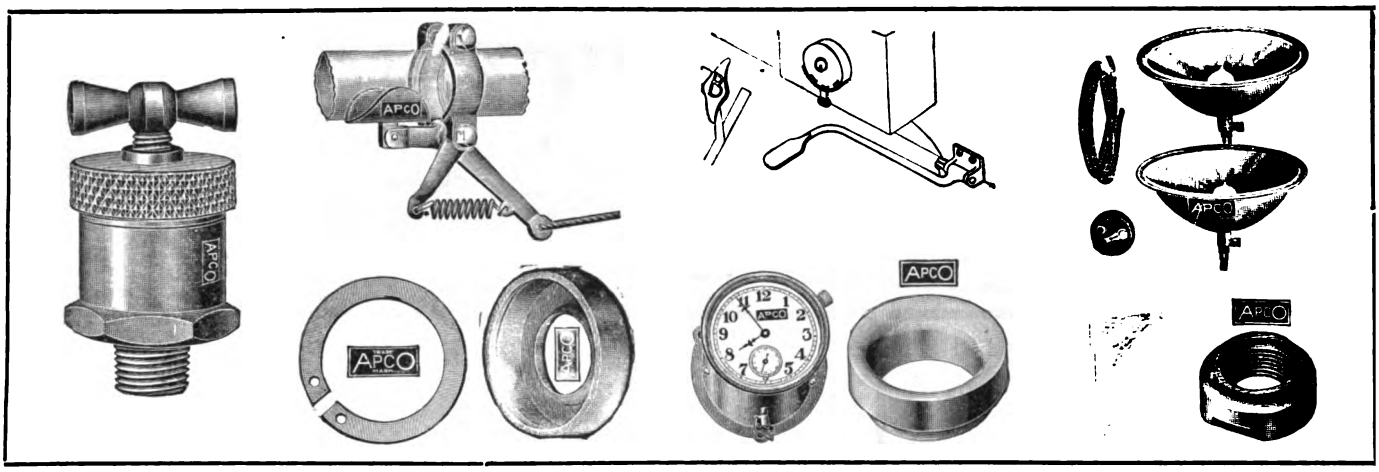
The owner who maintains his own car will be interested in the large number of tools and parts manufactured by the Auto Parts Company. The Apco tools make possible the complete overhaul of the chassis with a minimum of effort, and the line should be one of the best sellers of the year.

The prices of many of the Apco specialties have been reduced, enabling the dealer to obtain a large volume of business in his territory and, as in the past, the discounts are very attractive. Many of the devices marketed by the Auto Parts Company are covered by broad patents, protecting the dealer at all times.

Among the new parts brought out is a special piston ring, which prevents oil from working into the combustion chamber, electric lighting equipment, dash oil gauge, headlight brace, windshield cleaner, etc.

The products of the Auto Parts Company are sold with a very broad guarantee, and the trade mark Apco is an assurance that the workmanship and material are the best. The co-operative policy of the company is broad.

The 1915 catalogue and trade prices will be supplied upon request.



Showing a Few of the Apco Specialties Produced Especially for the Model T Ford Car by the Auto Parts Company, Providence, R. I.

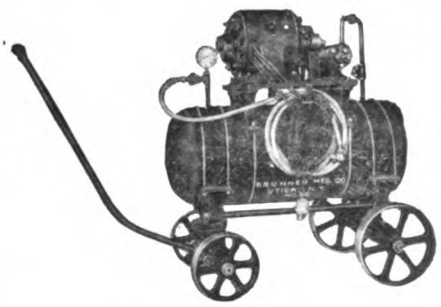
BRUNNER AIR COMPRESSORS

TWO CENTS A YEAR

The Average Repair and Replacement Expense of All Brunner Compressors Sold During a Period of 6 1-2 Years.

A fact established by an audit of the books of the Brunner Mfg. Co., by Barrow, Wade, Guthrie & Co., Certifed Public Accountants. Your banker will inform you of the standing of this firm.

This record covered all Brunner machines in service, motors and accessories, for six years and seven months.



No. 52. Portable Outfit

BRUNNER Design, BRUNNER Quality of Materials, BRUNNER Workmanship, BRUNNER Construction produce machines unequalled for efficiency, economy and durability.

BRUNNER Air Compressors are made in all sizes, either stationary or portable for either the private or public garage or shop, and to meet all conditions and requirements.

Write Us for the Address of the Jobber in Your Territory Who Handles the "BRUNNER" Line.

BRUNNER MFG. COMPANY

UTICA - N - Y - New York Office:-HUDSON TERMINAL BUILDING 30 CHURCH ST

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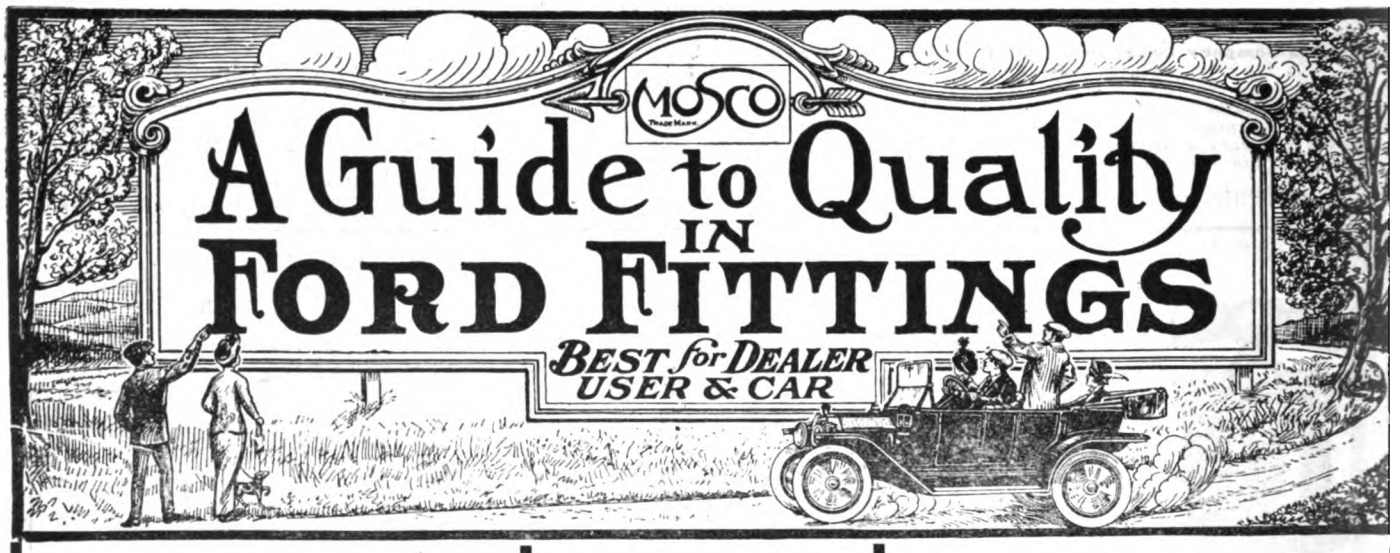

Fogg Exhaust Horns
Muffler Cut Outs
Tire Pump, Engine Driven
Bemus Timer
Radius Rod Anti-Rattler (2 Sizes)
Steering Rod Anti-Rattler
Door Check Anti-Rattler
Brake Rod Guides
Adjustable Wheel Pullers
Number Plate Holders
Fan Belt Guides
Shock Aborbers
Gasoline Economizers
Master Vibrators
Brake Shoes
Metal Top Bow Clamp

Under the brand MOSCO, you will always find that the manufactured article has the right look—it's been made by real manufacturers—

It's designed right and tested right and because of the very completeness of our organization, the prices are right.

User, dealer and jobber will find MOSCO a real guide.

Catalogue, with the right trade discounts, upon request.

MOTOR SPECIALTIES CO.

WALTHAM, MASSACHUSETTS

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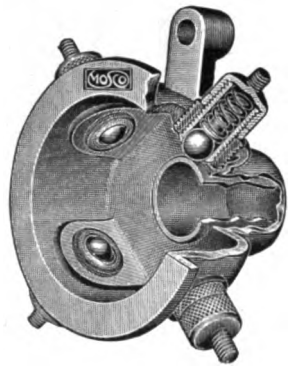
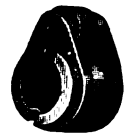
FORD IGNITION TROUBLE BANISHED

BY THE

Bemus Timer





TIMER SHAFT EXTENSION

Makes the Car Start Easy.
Positive Contact—Always
Practically Indestructible

We've been making timers for ten years—this timer is the best we've ever built.

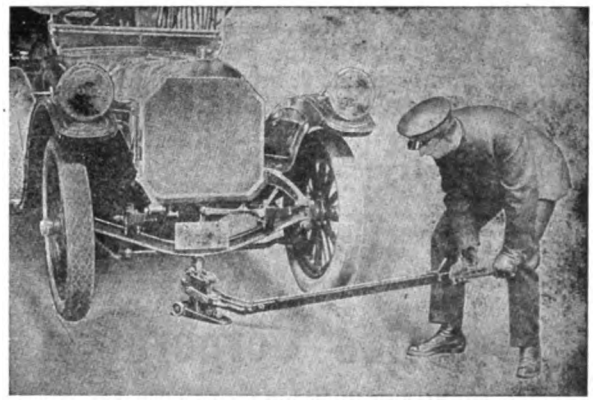
Ford owners everywhere are buying and getting **regular** firing—hence a smooth running motor.

We're making a drive on this device—note the list price

$2.25

EXCEL AUTO JACK—$12.80

Once You USE One You Wouldn't Sell It For $100



WASH STAND
Lifts either end of car with stroke.
Can't slip on inclined floor.

REPAIR SHOP
Releases pressure on shackle bolts for taking off springs.

The **only** jack high enough to release front spring and suspension on Fords.

Will go under a chassis will all wheels off. Just the thing for the wrecking car.

TIRE SERVICE STATIONS
Always ready—will raise both wheels before ordinary jack can be located.

MOTOR SPECIALTIES CO.

WALTHAM, MASSACHUSETTS

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SPEDOLENE

THE WONDER LUBRICANT

IN ECONOMY

SPEDOLENE in every instance in service has given twice the mileage that could be obtained from the same volume of any other lubricant. Every test has proven this saving of at least 50 per cent. under all conditions of operation.

This is SPEDOLENE Economy.

IN EFFICIENCY

SPEDOLENE gives greater power, increasing the mileage from a given volume of fuel or the same mileage from a lesser volume. It cannot change chemically. It is not affected by low temperatures. It resists heat. It prevents noise and it will not flow or drip.

This is SPEDOLENE Efficiency.

IN LUBRICITY

SPEDOLENE consists of asbestos and the best mineral oil. It is a pure mineral lubricant. It is fluid and mobile, penetrates between all bearing surfaces. The asbestos cushions the gears and carries all the loads. It cannot gum, it cannot solidify, and it maintains its lubricating qualities to the last ounce. It is for all parts of a motor vehicle except the engine.

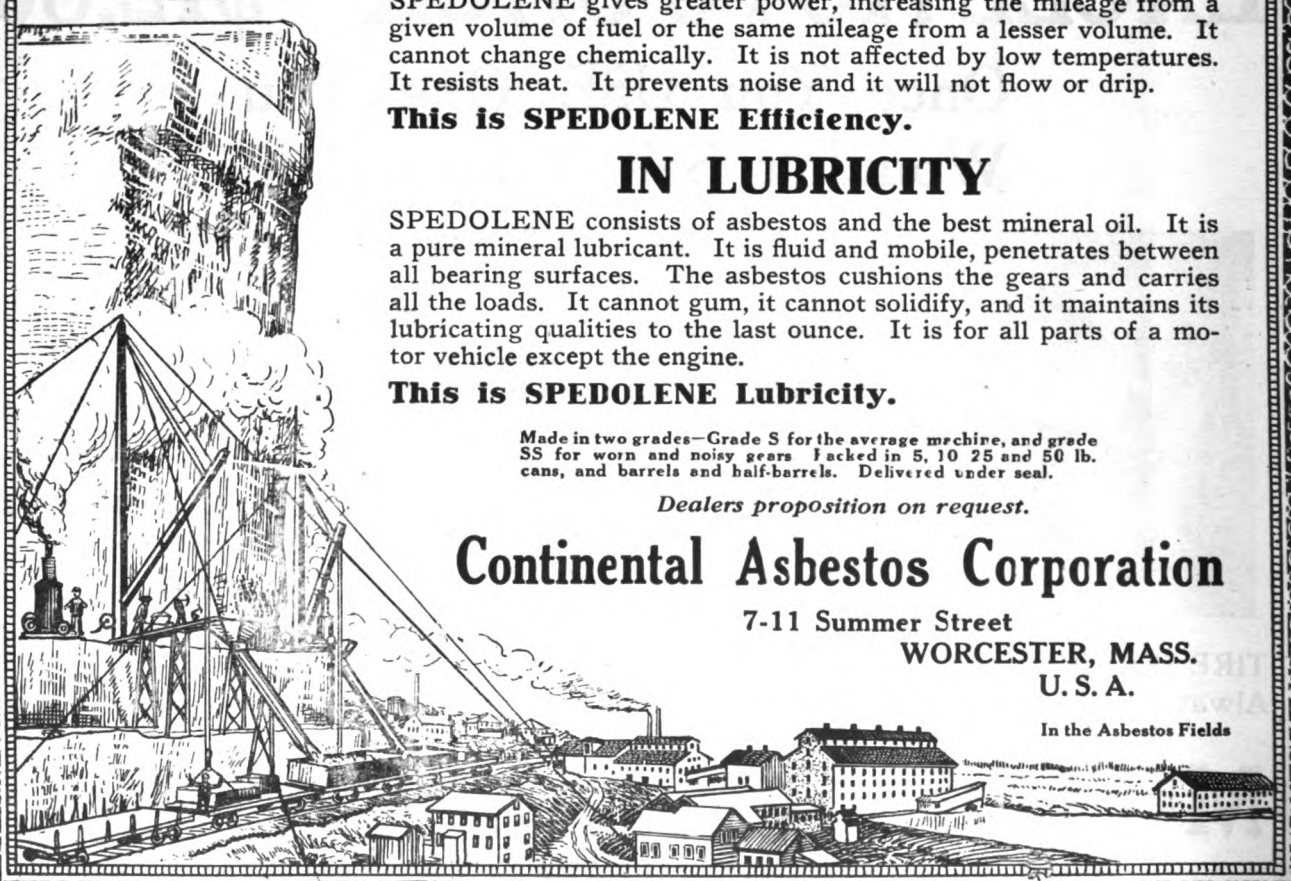
This is SPEDOLENE Lubricity.

Made in two grades—Grade S for the average machine, and grade SS for worn and noisy gears. Packed in 5, 10 25 and 50 lb. cans, and barrels and half-barrels. Delivered under seal.

Dealers proposition on request.

Continental Asbestos Corporation

7-11 Summer Street
WORCESTER, MASS.
U. S. A.



In the Asbestos Fields

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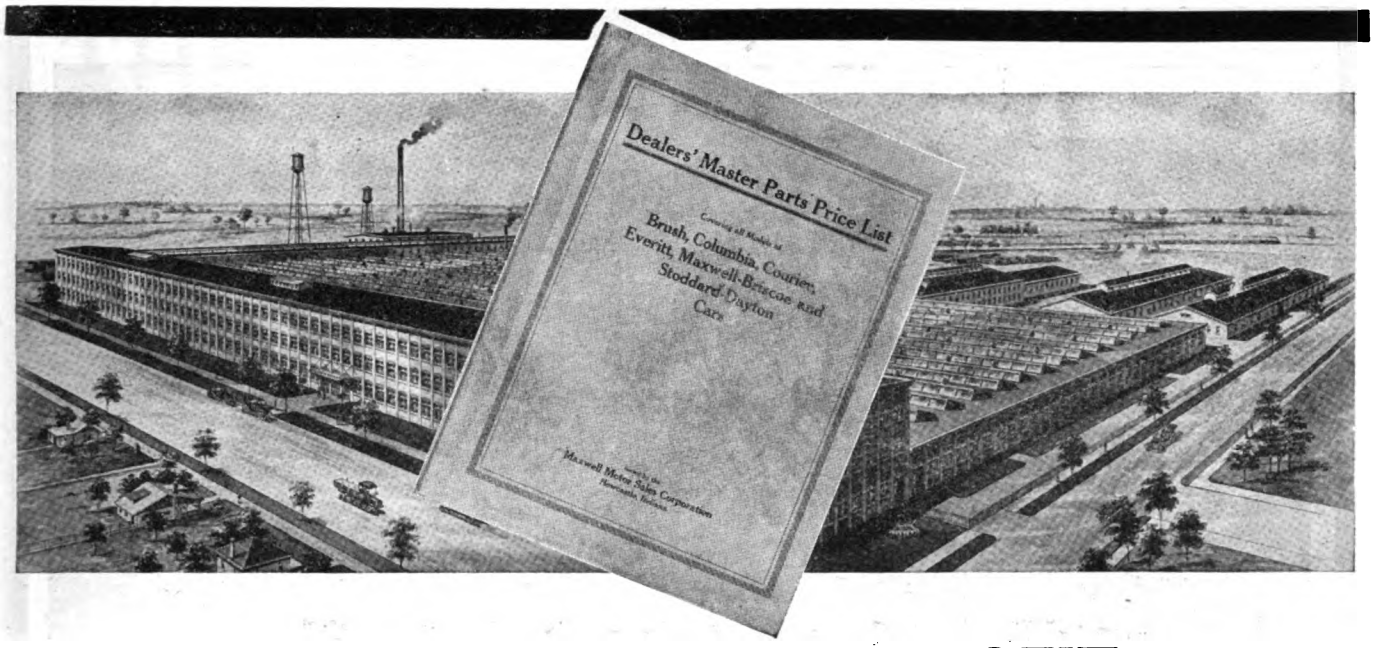

THIS BOOK MEANS PROFIT TO EVERY DEALER AND GARAGE MAN

IT'S THE DEALERS' MASTER PRICE LIST ON BRUSH, COLUMBIA, COURIER, EVERITT, MAXWELL-BRISCOE AND STODDARD-DAYTON CARS

Everywhere you will find some of the 122,000 cars that were built under the above names.

At some time or other each of their owners will require repair parts. **You—Mr. Dealer, Mr. Garage Man—might just as well secure some of the profits to be had on the parts and the work.**

This 417 page Master book, which is free for the asking, covers all the different models of the above cars and is conveniently arranged and indexed for handy reference.

The big Maxwell Plant at Newcastle, Indiana, is devoted exclusively to the manufacture and storage of parts for these cars. Twenty-four to forty-eight-hour service is given to any part of the country. Prompt and efficient service is guaranteed to dealers in the far West from the San Francisco warehouse.

Free to Dealers and Garage Men

Get a copy of this Master Price List to-day.

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NEWCASTLE, IND.

USE THIS COUPON

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Please send Master Price List and discounts.

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Business .....

Town .....

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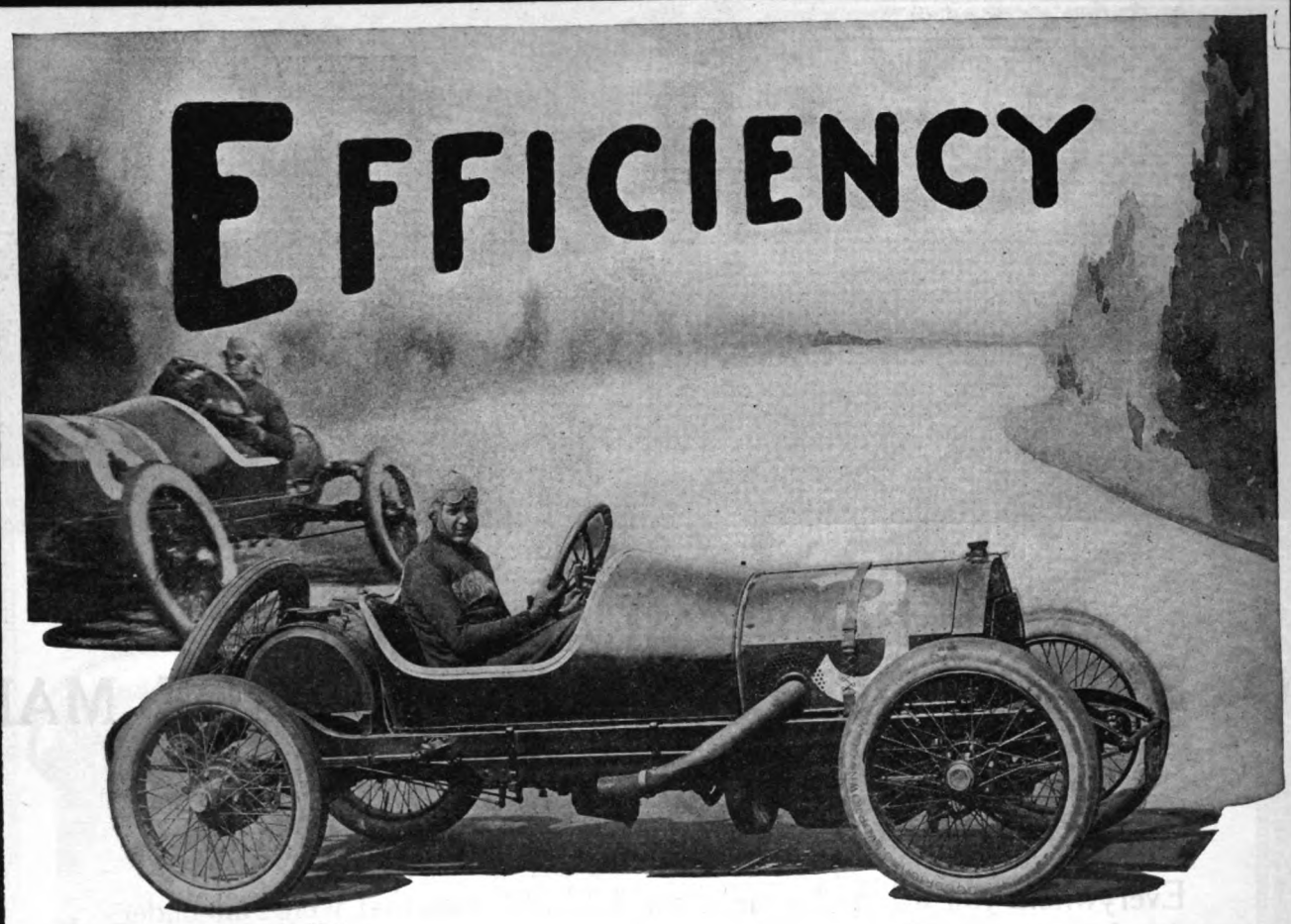
EFFICIENCY



JACK LE CAIN SAYS:

After a season of racing, covering the Brighton Beach, Galveston, Trenton, Hohokus and other events, my four tires still contain the original air from last June.

My wheels are Houks and I have never found it necessary to dismount them for any purpose whatever. From long experience I know that Houk Wire Wheels are easier on tires than any other made.

Jack LeCain

EFFICIENCY

If Jack Le Cain after long experience selected HOUK wire wheels for the equipment of his car, which he knew was to undergo unusual abuse—

And if the wheels which he did select met every requirement and fulfilled every need—

And if this is not a single incident but merely a part of a long record of successes—

What argument can there be strong enough to induce you to equip your car with any other wheel?

Exclusive agencies are open for the worth-while dealer in many localities. Every present owner of a car is a prospect, for HOUK wire wheels are made in sizes to fit all cars. Write to-day for proofs of our proposition.

HOUK MANUFACTURING COMPANY

NEW YORK
58th and Broadway

BUFFALO, N. Y.

CHICAGO
2337 Michigan Ave.

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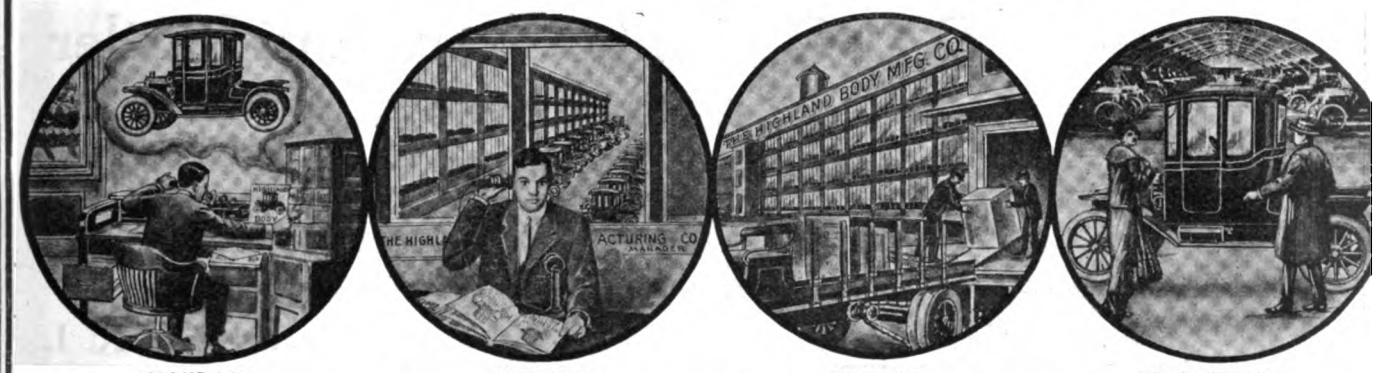
THE HIGHLAND SYSTEM



MONDAY
DEALER GIVING ORDER

MONDAY
FACTORY RECEIVING ORDER

MONDAY
FACTORY SHIPPING ORDER

WEDNESDAY
A SATISFIED CUSTOMER

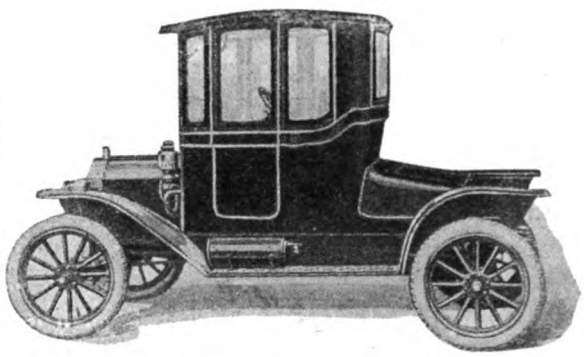
Runabout to Ford Coupe in 50 Minutes

Dealers: Ford Owners Are Certain Prospects!

No Investment to Make, No Stock to Carry, Immediate Deliveries, and with the Resources of One of the Largest Body Building Companies of America to Draw Upon, If You Sell Highland Equipment.

HIGHLAND COUPE TOPS

Are a standard stock equipment, that can be mounted on any Ford Runabout by removing the folding top and windshield, without changing fittings or the use of special tools. Two men can handle a top with ease. No mechanical experience is necessary. The change to a Runabout is as quickly made. At a very moderate cost the owner has an open or an enclosed car when the service of either can be best utilized.



HIGHLAND COUPE TOPS are standardized. They are designed to the best engineering principles, built of high grade materials, are handsomely trimmed and finished, are perfect in lines and consistent in appearance, and are equal to limousine construction in all details. They are guaranteed in every respect.

HIGHLAND COUPE TOPS are so constructed that any variation in the location of the original body irons is compensated for by the adjustment of the means of mounting. They can be changed from one car to another. The owner can change his machine and have the top serve equally well.

Little storage space is necessary when not used.

The Highland line of commercial bodies for Ford chassis is the largest and best produced by any body manufacturer in America. Types for all purposes ready for shipment.

Complete detail, catalogues, prices, etc., supplied at request.

HIGHLAND BODY MANUFACTURING COMPANY

STATION P, CINCINNATI, OHIO

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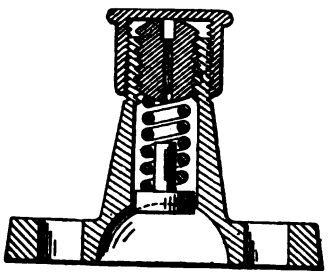
Infringers, Beware!

Patented Nov. 10, 1914



DACO Combination Anti-Rattler and Grease Cup

This is the ONLY PATENTED Ball Socket Anti-Rattler made to fit Ford Cars, that has a screw adjustment in the CLAIMS.

SMALL SIZE, List Price 45c. Each LARGE SIZE, List Price 55c. Each

Jobbers and Dealers, Write for Discounts

DANVER ACCESSORY CO. 18 Broadway, Pawtucket, R. I.

Price Wreckers.

Our new Price Wrecker (catalogue) just printed quotes dealers' prices on all accessories, motors, transmissions, tops, bodies, windshields, etc. Sent free on request.

A FEW OF OUR BARGAINS.

New Herschell-Spillman Motors, 4 and 6-cylinder, $275; other motors, $65 up. 300 fore door touring bodies now $85. Runabout bodies, 1914 Ford, new, $35; others, $40 and $50. Runabout tops, $15; Touring, $25 (measurement blank sent on request). Racing Seats, $10 each. Spicer universal joints, $4 each. Mechanical oilers, $4 up. Windshields, $5 up. Special nickel one-piece rain vision shield, $10. Disco self-starter, $5. Remy complete dual system magnetos, Model R. L. and R. D., $25; others, $5 up. Rayfield, Stromberg and Schebler carburetors, $5 up. Gloves, $1 up. Raccoon Fur Coats (special bargain), $18. Double plush robes, $3.50 each. Bulb horns, 75c. Electric horns, complete with wire and button, $1.95. Hand horns (mechanical), $1.50. Exhaust horns (all sizes), $2.50. Spark plug pumps, $5. Double action pumps, $1.75.

FORD.

Exhaust horns, $1.65. Electric headlights, $6 pair (Gray & Davis). Special Ford Holley carburetor, $3.50. Set of 4 inclosed spring shock absorbers, $7.50. Master vibrators, $3.25, $4, $5.50.

Automobiles and trucks, new and used. WAR PRICES. Send for special list and say what type you are interested in.

TIMES SQUARE AUTOMOBILE CO.

(Largest Dealers in the World.)

1210 Michigan Avenue, Chicago, Ill. 1743 Broadway, New York City

All Trade Show Number

The Accessory and Garage Journal

Will reach all dealers who will attend the Chicago Show. You can reach such interests before the exhibition opens, in the January Number.

Proof of this service at request

ACCESSORY and GARAGE JOURNAL

Times Building Pawtucket, R. I.

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A COMPLETE LIST OF

Auto Dealers—19,792—$30 or $3 per M by states.

Ford Dealers—5150—Covering United States and Canada, price $15.00, or $4.00 per thousand.

Garages—13,515—$25 or $3 per M by states.

Repairs—8,466—$15 or $3 per M by states.

Supplies—6,964—$12 or $3 per M by states.

Auto Mfrs., U. S. and Canada—626—$5.

544 Auto Dealers, second hand—$4.00.

14,000 Auto Truck Owners—$3.50 per M.

AUTO OWNERS in majority of states is $2 per M, in lots of 1 to 10 M. Larger lots price is interesting.

FORD OWNERS in most states is $3 per M; some states price is higher.

We can furnish 7500 Automobile Owners in Canada—$4 per M.

WRITE US YOUR NEEDS.

All dealers, garages, supplies, manufacturers and repairs are typewritten and show financial rating.

TRADE CIRCULAR ADDRESSING CO.,
166 West Adams St.,
Phone: Franklin 1183. Chicago, Ill.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

THE AUTOMOBILE JOURNAL

$1.50 the Year 24 Issues

The Most Practical Magazine for Car Owners and Operators Issued.

Times Building Pawtucket, R. I.

The Motor Truck

12 ISSUES $2 THE YEAR

A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . .

Times Building, Pawtucket, R. I.

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Repair Tape that Sells

Such a small thing as a roll of repair tape will either win or lose confidence. Repair tape that goes wrong through inferior quality hurts your business just as much as if you had sold a man an expensive, unsatisfactory tire. Repair tape that wins for you by winning customers is

Goodyear Friction Repair Tape

Made of unusually strong fabric. Thoroughly frictioned with high grade friction. Has a high adhesive quality. Will not deteriorate with age, or become hard. A quality accessory line wins confidence and trade for you. Write today asking about the Goodyear line of "Tire Savers"—twenty-two in all. Ask particularly about the free show-case offer to dealers. Address Desk 18.

GOODYEAR AKRON, OHIO

The Goodyear Tire & Rubber Co., Akron, Ohio

Makers of Goodyear No-Rim-Cut Automobile Tires (1998)

In 1915, 12,000 Dealers All Over The Globe Will Make Bigger Profit Selling

"X" Stops Leaks In Radiators and Waterjackets In 10 Minutes. "X" Works In Non Freezing Mixtur.

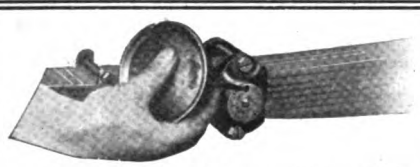
"X" Trade Mark The Wonderful LIQUID RADIATOR MEDICINE

"X" Eliminates Scale, Prevents Corrosion. "X" Is Sold Under A "Money Back" Guarantee

Why Not You? Our Attractive Folder Gives Details

Write To-Day For Proposition To Dealers

"X" Laboratories, Boston, Mass.



THE BROWN OIL-BOX

Auto Springs Must Be Oiled

CAR OWNERS are just beginning to appreciate the value of well-lubricated springs. The Brown Oil-Box is the only device on the market which automatically supplies liquid lubricant to the intermediate surfaces of leaf-springs.

Here is a new and unlimited opportunity for dealers everywhere. Every car owner a possible buyer. Hundreds of testimonials from users. Easily attached. Last a lifetime. Guaranteed to do the work, or money back. Send for dealer's proposition and begin to make some real money.

BROWN TRAFILOG CO.

6550 Carnegie Ave. Cleveland, Ohio

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF AUG. 24, 1912.

Of the ACCESSORY AND GARAGE JOURNAL, published monthly, at Pawtucket, R. I., for Oct. 1, 1914.

EDITOR, E. J. Crader.....Pawtucket, R. I.
MANAGING EDITOR, C. P. Shattuck.....Pawtucket, R. I.
BUSINESS MANAGER, W. H. Black.....Pawtucket, R. I.
PUBLISHERS, W. H. & D. O. Black, Jr.....Pawtucket, R. I.
OWNERS: (If a corporation, give its name and the names and addresses of stockholders holding one per cent. or more of total amount of stock. If not a corporation, give name and addresses of individual owners.)
WM. H. BLACK.....Pawtucket, R. I.
D. O. BLACK, JR.....Pawtucket, R. I.

Known bondholders, mortgagees and other security holders, holding one per cent. or more of total amount of bonds, mortgages, or other securities. (If there are none, so state.) NONE.

(Signed) WM. H. BLACK, Member of Firm.

Sworn to and subscribed before me this 2th day of October, 1914.
(Signed) ROSCOE M. DEXTER, Notary Public.
(SEAL) (My commission expires June 30, 1917.)

Mandel Limosette

Makes the Ford a Year 'Round Car

$150
F. O. B. CHICAGO

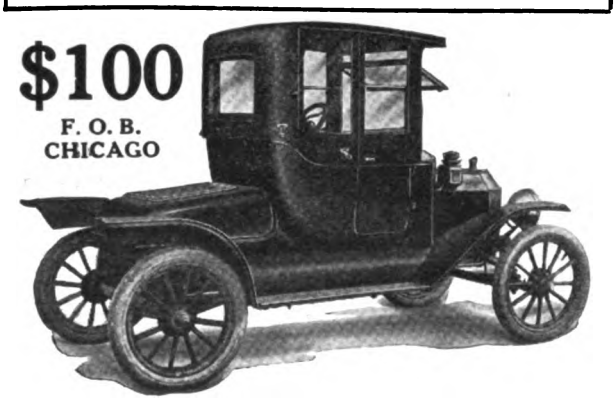
Limousine luxury, supreme elegance and beauty are embodied in the MANDEL LIMOSETTE. Every Ford Owner will appreciate its many advantages. One small additional investment gives Ford Car owners every convenience of the modern, high priced limousine. The MANDEL LIMOSETTE insures absolute protection from storm and wind. It is a flush-fitting top—made of wood, metal and glass. Built exclusively for 1913-14-15 Ford Touring Cars and Roadsters. Equipped with rain vision wind shield, electric dome light, and handsome cowl dash. The generous overhang in front accentuates the length of the Ford. When attached the LIMOSETTE adds only 75 lbs. to the weight of the Ford Touring Car. Can be attached in less than an hour.

Exclusive Territory to Agents and Dealers

We want live agents to sell LIMOSETTES in exclusive territory. A big money-making proposition.

300,000 Fords

to be "LIMOSETTED." Gives agents a tremendous field. Every Ford owner will want a LIMOSETTE. Write at once.



$100
F. O. B. CHICAGO

For the Ford Roadster

In design and construction the MANDEL LIMOSETTE for Ford Roadsters is the same as for the touring car. The ROADSTER LIMOSETTE is invaluable for professional and business men who must ride their cars in all kinds of weather. It gives all the comforts and pleasures of the closed car at less than one-half the regular cost. The ROADSTER LIMOSETTE can be attached in about thirty minutes. When attached it adds but 40 lbs. to the weight of the Ford Roadster.

The LIMOSETTE makes the Ford doubly serviceable. Attach it in Winter--detach it in summer

Write for Our Catalogue T

MANDEL LIMOUSINE COMPANY

1455-1457 WEST CONGRESS STREET, CHICAGO, ILL.

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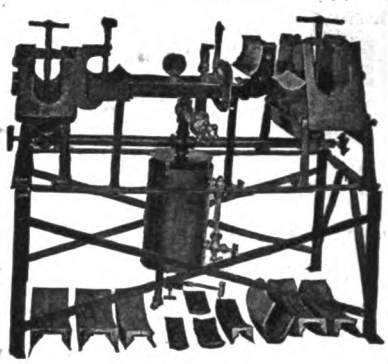
THERE IS MONEY IN IT

IF YOU USE A VANDERPOOL SHOP VULCANIZING OUTFIT

The only practical equipment for a public service station or repair shop. With the two cavity outfit any work on tubes or casings can be done with minimum labor and time. No expense after the initial investment. The cost is reasonable and every sale is made with an absolute guarantee of material and workmanship. Make the profit on the work you now send to others. It is UP TO YOU.



Catalogues and Full Information Sent You at Request.

VANDERPOOL COMPANY - - - - - Springfield, Ohio.

Earl Grey, Saskatchewan, Canada, August 24, 1914.

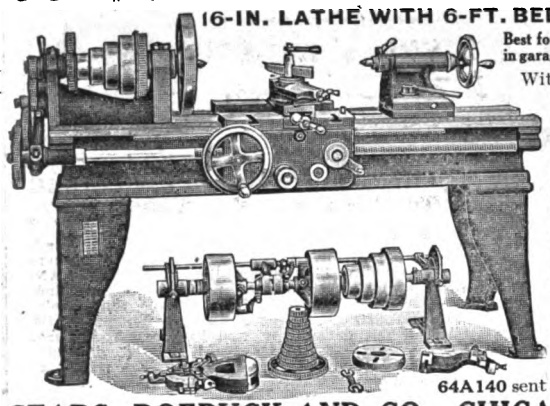
Vanderpool Co.
Vulcanizer is working fine.
R. R. Clarke.

Winkleman, Ariz., September 9, 1914.

Vanderpool Co.
Gents:—The Vulcanizer does very nice work. Am very well pleased with it. Yours very truly,
J. F. Merino.

OUR BIGGEST LATHE VALUE

16-IN. LATHE WITH 6-FT. BED, $252.00.



Best for all around work in garage and repair shop.

With one of these lathes you can handle repair jobs that carry bigger profits—make more money. Other sizes at proportionately low prices. Every Sears-Roebuck lathe is a guaranteed lathe. Buy *your* lathe from us and save $50.00 or more.

Machinery Catalog No. 64A140 sent free on request.

SEARS, ROEBUCK AND CO., CHICAGO, ILL.

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a *smooth running engine* and a *saving in gasoline.*

Territorial rights open. Address Dept. A.

BOWLING GREEN SALES CO.
42 BROADWAY, NEW YORK, N. Y.
Sole Distributors for U. S. A. and Canada

Century Automobile Cigar Lighter. Complete $1.00 Each, F. O. B. Indianapolis.

Mabey's Trouble Lamp Complete with Lamp $1.25 F. O. B. Indianapolis.

Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

Mabey's Electric & Mfg. Company
940 N. Pennsylvania Street, Indianapolis, Ind.

"LAX-FAL"

Guaranteed Tubes

Red or Grey
An excellent Para rubber inner tube fully guaranteed at

40% Off Standard List

Are you interested?
Territory open for responsible agents
Write Now

LAX-FAL RUBBER CO.
77 Chambers Street Dept. S New York City

SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

Our selling policy and proposition is the most liberal ever offered to the trade.

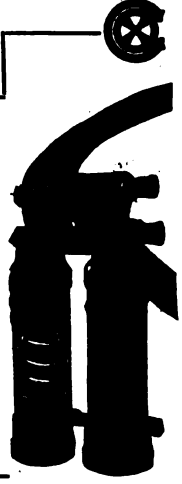
One Model, 3,000 Lbs. Capacity Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
Rochester, New York

Coxajusto

ADJUSTABLE TO ANY LOAD



Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today. Address Dept. M. Established 1872

COX BRASS MFG. CO., Albany, N. Y.

1777 Broadway, New York City; 2637 Michigan Ave., Chicago, Ill.; 899 Boylston St., Boston, Mass.; 870 Woodward Ave., Detroit, Mich.; 1216 Van Ness Ave., San Francisco, Cal. Export Representative, Auto Supplies Export Co., 1779 Broadway, New York City.

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Stevens Valves

Stevens Auto Tire Check Valve

Patents Issued

Actual Size Complete Valve

1,043,224---1,050,942---1,078,347 and others Pending.

Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve System.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Fire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

The Quickest Selling Accessory in the Market.

Agencies Wanted in All Unassigned Territory. Write for Terms and Discounts.

STEVENS MANUFACTURING & SUPPLY CO.

Fisher Building **Chicago, Ill.**

PERFECT LUBRICATION WITH ANY FUEL

MONOGRAM OIL

"Zoline", a new motor fuel, was officially tested at the Indianapolis Speedway Nov. 19, 1914, a Marmon touring car, with top and windshield raised and carrying four passengers, being driven 1032 miles, at a rate of 50.2 miles for 20 hours and 32 minutes, making a world's record.

MONOGRAM OIL

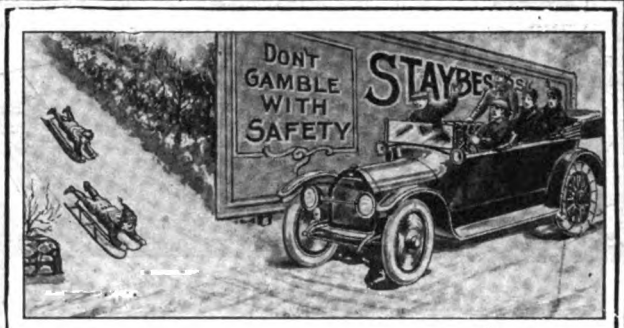
was the lubricant used. Examination of the motor at the end of the trial showed it was in condition to continue indefinitely.

No greater demonstration was ever made of the perfect lubricating qualities of Monogram Oil.

NEW YORK LUBRICATING OIL CO.

Consolidated with Columbia Lubricants Co. of N. Y.

116 Broad Street, New York City



When Brakes Fail—What?

GARAGE OWNERS, REPAIR MEN, SUPPLY DEALERS!

"Don't Gamble With Safety"

Every owner wants brakes that will not fail. Brake efficiency depends entirely upon the lining. You can best insure efficiency by specifying

S-M-C IMPROVED ASBESTOS BRAKE LINING

You Sell It With a Guarantee of Satisfaction or You Will Refund the Price.

NO QUESTIONS, NO CONDITIONS---THE OWNER IS JUDGE

(IMPROVED)

ASBESTOS BRAKE LINING

S-M-C Improved Asbestos Brake Lining is indestructible from heat, is not affected by gasoline, oil or water, has extremely long endurance and is equally efficient until worn through.

There's a width and thickness for every type of brake and a

SPECIAL LINING FOR FORD CARS

Measured by service S-M-C Asbestos Brake Lining is the cheapest brake lining offered in the market.

The prices will interest you. Write for agency proposition, discounts, etc.

STAYBESTOS MFG. CO.

Germantown, Philadelphia, Pa.

Manufacturer of

Improved S-M-C Brake Lining — Asbestos Packing

Rubber Packing — Gaskets — Radiator Hose

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PRIME FROM THE SEAT NOT FROM THE STREET

The coldest motor will start on the first turn when the cylinders are sprayed by the

Chaney Engine Primer

Operated from the seat, positive in action, unfailing in result. It forces a charge of gasoline spray directly into the combustion chamber. The first spark means sure fire. The primer is always ready for it draws its fuel supply direct from the gasoline line leading to the carburetor. This fuel is driven to the cylinders by a positive plunger pump on the dash, operated by the driver. Each cylinder is connected with the pump by a fine pipe line.

Wintry weather means hard starting with ordinary summer equipment. Gasoline is slow to vaporize, motor is chilled, oil stiff, piston rings stick, battery overworked. Under such conditions the best starting device needs re-enforcement. The Chaney Engine Primer does away with all starting difficulties and relieves the strain on the batteries of electrically started cars.

DEALERS:

Here is a business booster for the cold days. Now is the time to get in line. Write for details and selling terms.

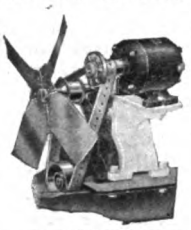
THE L. F. CHANEY CO., Springfield, Ohio.

New Carleton No. 68 Generator

48 watt Direct Current. Steady Light either with or without Storage Batteries.

COMPLETE ELECTRIC LIGHTING EQUIPMENT FOR USED OR NEW CARS

MOST EFFICIENT LOWEST PRICED



Simple and positive drive, easy to install, and its output is guaranteed to meet all requirements.

SPECIAL EQUIPMENT FOR FORD CARS is shown in illustration

No machining or alterations are necessary. It can be installed with a screw driver and a wrench.

OUR NEW PORCUPINE DRIVE Operates All Generators. No Slipping of Belt, No Unnecessary Wear on Bearings.

The Carleton No. 68 Generator Lists at $15.

Automatic Cut Outs, Ammeters, Storage Batteries, etc.

Patent Applied For

DEALERS' DISCOUNTS WILL INTEREST THE TRADE

The Carleton Company *172 Summer St., Boston, Mass.*

Time Savers

For Charging Storage Batteries

Universal Test Clips

MADE of copper—indestructible—may be used over and over again—will carry 15 amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Write for a free sample, using your company's letter head. No attention paid to postals.

Single Lots	- -	Each 15c.
Lots of 10	- -	Each 12 1-2c.
Lots of 100	- -	Each 10c.

R. S. MUELLER & CO., 431 High Ave., S. E., CLEVELAND, OHIO

Friction is slowly, surely sending your car to the scrap heap. In spite of the best lubricating oils and greases, it continually wears away the finest bearings. Every bearing is full of little holes and pin points that can readily be seen with a microscope. It is these that cause friction. Dixon's selected flake graphite is the only lubricant known that will fill up these holes and build up around these pin points a smooth, oily veneer that grows finer and more smooth by continual use and wear. It is unaffected by heat or cold. It will not turn thin.

DIXON'S GRAPHITE

AUTOMOBILE LUBRICANTS

The Joseph Dixon Crucible Company are the only people in the world who produce this peculiar form of graphite. With this rare form of flake as a basis we have produced a line of graphite lubricants specially designed for every separate part of the car. Try Dixon's Transmission and Differential Grease No. 677 on your car and see what a difference it will make in mileage and smoothness of running. Dealers who sell real service know and recommend Dixon's Graphite Greases.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Co.

DO TIRE REPAIRING

Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it.

$150 to $500 for complete outfit. Write us now.

The Williams Foundry & Machine Co.

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BOSTON STARTER FOR FORD CARS

The One Practical Mechanical Starter for Ford Machines.

WE WANT DEALERS AND HAVE THE MOST ATTRACTIVE SELLING PLAN EVER MADE TO THE TRADE.

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Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated.

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Territory open for reliable established dealers.

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For Garage and Repairmen

CUT the valves and seats in a few minutes time at identically the same angle, insuring perfect fitting valves. You will save more than double its cost in two months. Do not waste time grinding your valves.

Operation Simple
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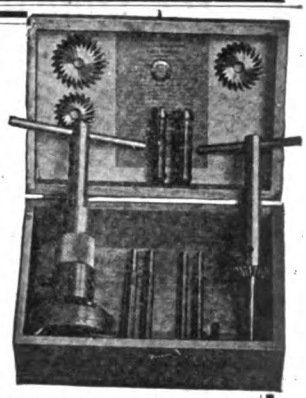

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American Made for American Trade
New Departure Ball Bearings
THE NEW DEPARTURE MFG. COMPANY, BRISTOL, CONN.

MAKES OLD TOPS NEW

$3 to $5 will waterproof the outside and re-dye the lining, making any auto top good as new. Send for information.

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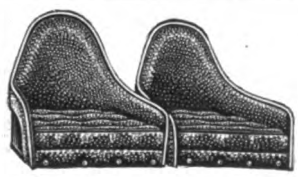

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Will make an old car up to date. Made of heavy gauge leaded steel, rolled edges, durable and comfortable, 16" wide, 17" deep, 21" high. Upholstered in leather, pair . **$22.50**

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4 1-4"x5 1-4", fan, oiler, pump supporting arms 26", length over all 34".
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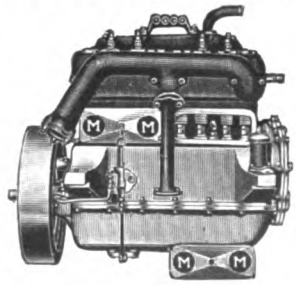

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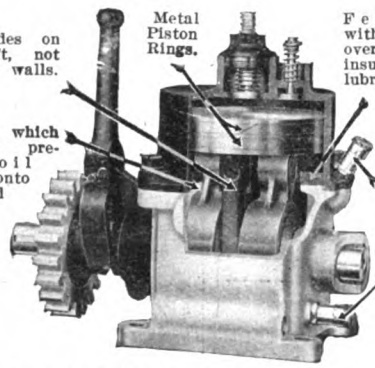
An Accessory You Need On Your Car

Inflates your tires in less than two minutes. A great convenience either *en tour* or for town work. Saves its cost in saving tires.

That is why over 60,000 Kellogg pumps of different types are serving automobile owners.

ONLY $15 Complete with air hose, air gauge and attachments carefully fitted for easy installation on your car.



Note the "Everlasting Construction"

We Guarantee Absolutely No Oil Spray with the Air

The No. 101 Kellogg pump is now furnished with complete attachments for these cars:

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Remember you do not have to wait for attachments to be made or pay extra for them.

To the Trade You can use this coupon and order blank without enclosing money. Let us tell you what we do with the $15 checks from owners.

Orders taken care of promptly either at main office or at branches at

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Distributors Everywhere

Order Your Pump Today by Sending This Coupon.

KELLOGG MFG. CO. (128) Rochester, N.Y.

Enclosed find $15 (check, draft, money order) for which send me one No. 101 Kellogg Tire Pump complete with air hose, air gauge and all attachments ready to install on my

Car.....Model.....Year.....

My Dealer's Name.....

My Name.....

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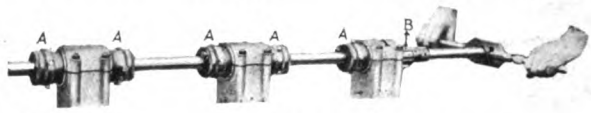
New BETTER AND QUICKER Way To Scrape Bearings



The Martell Aligning Reamer

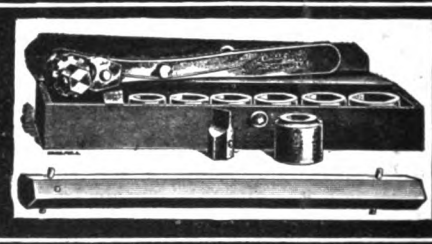
Set up in a three bearing crank case and ready to ream out bearing No. 1. The tapered aligning bushings, each with micrometer adjustment, are shown at A; the adjustable reamer at B.

It is an "instrument of precision" yet extremely simple to adjust and operate.

A device that will SCRAPE Bearings in one quarter of the time now required and at the same time will insure their ALIGNMENT with perfect accuracy.

Descriptive booklet mailed on request

Harding Distributing Co.
Boston, Mass., U. S. A.



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USE THE LANE UNIQUE RATCHET WRENCH

FOR CLOSE AND DIFFICULT WORK

IT TURNS NUTS VERY CLOSE TO THE WALL.

is easily and quickly reversed, sockets will not break or split and fits three standards and automobile nuts.

MADE FOR HEAVY SERVICE

Wrench is machine made. Sockets are turned from steel bars, cold broached and case hardened. Fully warranted. Every repairman should have a UNIQUE RATCHET WRENCH SET.

SPECIAL SET FOR FORD CARS

Dealers, Jobbers and Garagemen, Write for Trade Discounts

STANDARD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
7 Sockets to fit semi-finished hex. nuts as follows:
U. S. Standards from 1-4 in. to 1-2 in.
A. L. A. M. Standards from 5-16 in. to 11-16 in.
Cap screw heads from 5-16 in. to 5-8 in.
Price in leather case, $2.50.

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1 Handle 7 inches in length.
2 Screw-driver bits.
1 Extension bar 7 inches in length.
SIX SOCKETS to fit all nuts and bolt heads on Ford car, including the cylinder head.
Price in leather case, $3.00.
Sold by dealers everywhere.

WILL B. LANE, Manufacturer, 180 N. Dearborn Street, Chicago, Ill.

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Buyers' Reference and Guide

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.

Auto Parts Co., Providence, R. I.

Bi-Motor Equipment Co., 180-182 Massachusetts Ave., Boston.

Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.

Northwestern Chemical Co., Marietta, O.

Times Square Auto Co., 56th St., at Broadway, New York City.

Waite Auto Supply Co., 64 Exchange place, Providence, R. I.

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)

Williams Foundry & Machine Co., Akron, O.

ARBOR PRESSES.

Bartlett, Edwin E., 326 A St., Boston. (Greenerd.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

American Auto Supply Co., 1741 Broadway, New York City; 1408 Michigan Ave., Chicago.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1790 Broadway, New York City; 805 Woodward Ave., Detroit.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

Norma Co. of America, 1790 Broadway, New York City. (Norma.)

BATTERIES.

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

Waite Auto Supply Co., 64 Exchange place, Providence, R. I. (Success.)

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn. (Raybestos.)

Russell Mfg. Co., Middletown, Conn. (Rusco.)

Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)

Staybestos Mfg. Co., Lena and Armat Sts., Germantown, Philadelphia, Penn. (Staybestos.)

Thermoid Rubber Co., Trenton, N. J. (Thermoid Hydraulic Compressed.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)

Zenith Carburetor Co., Detroit. (Zenith.)

CARS—GASOLINE PLEASURE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Inter-State Motor Co., 804 West Willard St., Muncie, Ind. (Inter-State.)

Metz Co., Waltham, Mass. (Metz.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)

Scripps-Booth Co., Detroit. (Scripps-Booth.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Stutz Motor Car Co., Indianapolis. (Stutz.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Overland.)

Winton Motor Car Co., 131 Berea Road, Cleveland, O. (Winton.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Alma Motor Truck Co., Detroit. (Republic.)

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Independent Motors Co., Port Huron Mich. (Independent.)

Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Reo Motor Car Co., Lansing, Mich. (Reo.)

Sanford Motor Truck Co., Syracuse, N. Y. (Sanford.)

Signal Motor Truck Co., Detroit. (Signal.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)

General Vehicle Co., Long Island City, N. Y. (G. V.)

CEMENTS.

Northwestern Chemical Co., The, Marietta, O. (Se-ment-ol Radiator.)

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

"X" Laboratories, Boston. (X Radiator.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

CIGAR LIGHTERS. (See Lighters.)

COILS.

Heinse Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 42 Broadway, New York City.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Northwestern Chemical Co., The, Marietta, O. (Carbonox.)

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Carleton Co., The, 172 Summer St., Boston. (New Carleton No. 68.)

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Northwestern Chemical Co., Marietta, O. (Fire-Fly.)

Pyrene Co. of N. E., 88 Broad St., Boston.

FORD AUTOMOBILE SPECIALTIES.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GENERATORS.

Carleton Co., The, 172 Summer St., Boston. (New Carleton No. 68.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHT DIMMERS.

Chaney Co., L. F., Springfield, O. (Chaney.)

HEATERS.

Superior Mfg. Co., N. S. Pittsburg, Penn. (Superior Safe Garage.)

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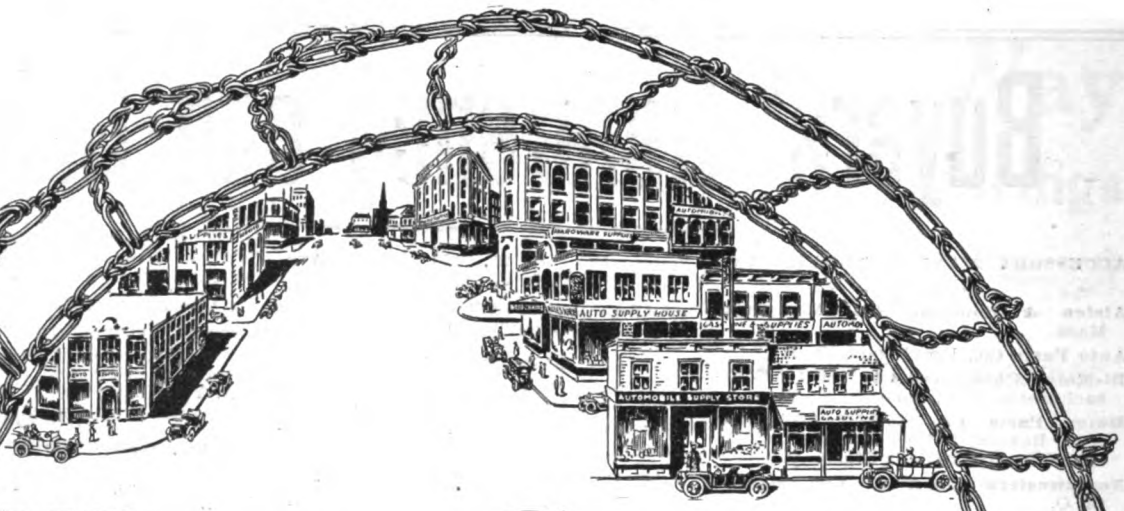

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DISPLAY WEED CHAINS IN YOUR WINDOWS AND SALES ROOMS AND YOU DISPLAY GOOD SOUND BUSINESS JUDGMENT AS WELL. You will attract all types of cars to your doors—they all must use Weed Chains for safety's sake.

Post mortems are never held over Weed Chains—they never make dead stock. Even when roads and pavements are dry the experienced motorist will buy—*"In time of sunshine he prepares for rains, stops at his dealer's and buys Weed Chains."*

Don't forget to order a stock of Weed Cross Chains, too. We will send you an attractive board on which you can display our Cross Chains to the best advantage if you will but write for it. Now's the time. Write for it now.

Weed Chain Tire Grip Company

Bridgeport, Connecticut

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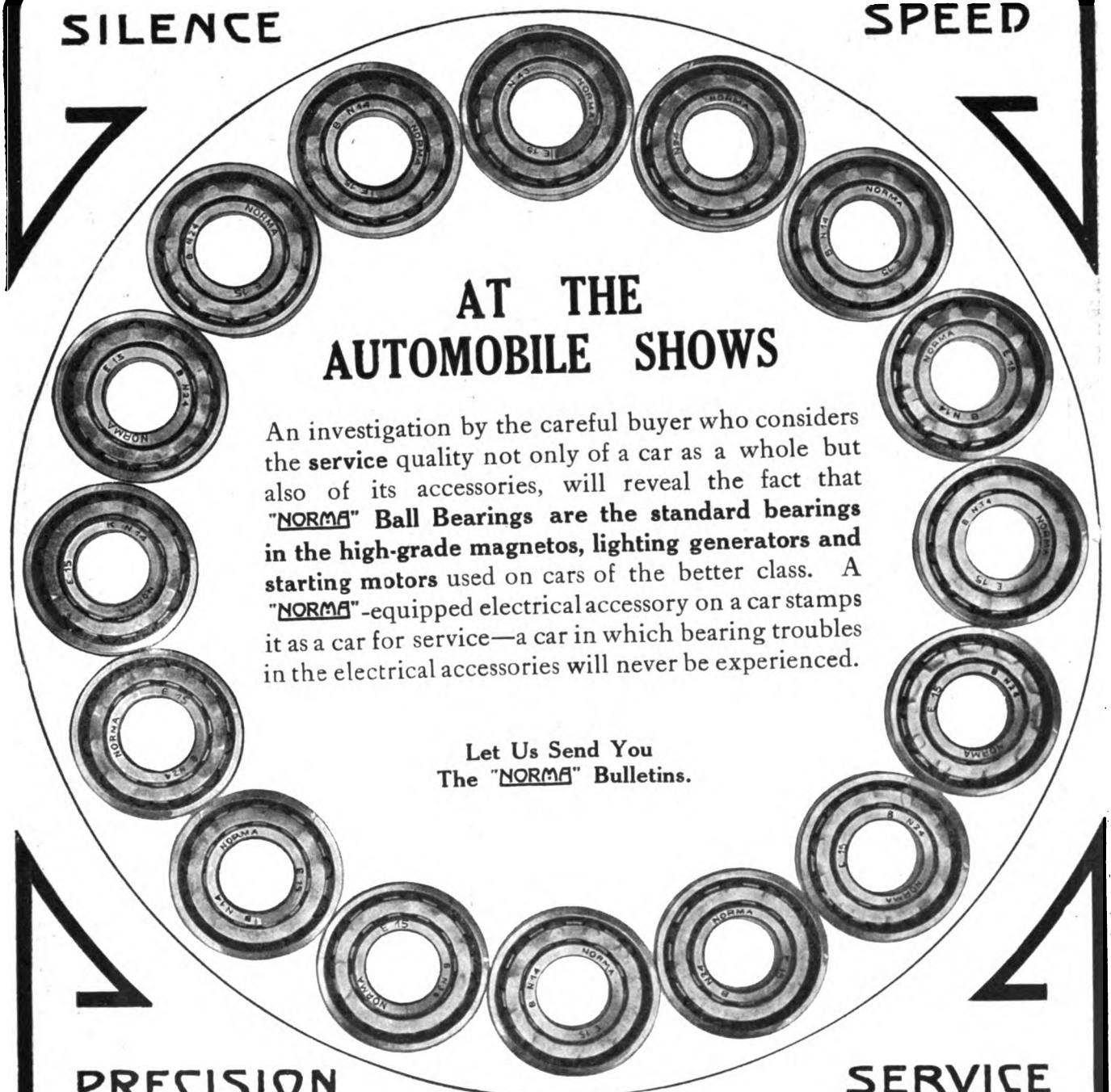

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An investigation by the careful buyer who considers the **service** quality not only of a car as a whole but also of its accessories, will reveal the fact that "NORMA" **Ball Bearings are the standard bearings in the high-grade magnetos, lighting generators and starting motors** used on cars of the better class. A "NORMA"-equipped electrical accessory on a car stamps it as a car for service—a car in which bearing troubles in the electrical accessories will never be experienced.

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"NORMA" *Ball, Roller, Thrust and Combination Bearings*

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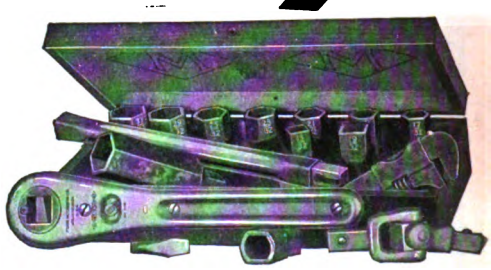
are "ab-so-lute-ly" logical and—reasonable in price

FOR INSTANCE:

No. 15A Set Contains

Reversible Ratchet Handle No 350
Tubular Extension Bar
Universal Joint
Screw Driver Bit
Spark Plug Socket ($^{31}/_{32}$" to fit Ford plug)

Ten Guaranteed Sockets, viz.:
Hex. $^{17}/_{32}$" $^{19}/_{32}$" $^{21}/_{32}$" $^{23}/_{32}$" $^{25}/_{32}$" $^{29}/_{32}$" $^{31}/_{32}$"
Square $^{10}/_{32}$" $^{15}/_{32}$" to fit 1915 main bearing bolts
Oval Socket to fit previous to 1915 main bearing bolts



No. 15
Socket Wrench Set For Ford Cars

$5.50
(small insurance)

TRADE MARK

No. 17

Socket Wrench Set

FOR FORD CARS

The most popular set ever put out

Contains 10 openings

Hex. $^{17}/_{32}$" $^{19}/_{32}$" $^{21}/_{32}$" $^{23}/_{32}$" $^{25}/_{32}$" $^{29}/_{32}$" $^{31}/_{32}$"

Square $^{15}/_{32}$" Oval main bearing socket

Spark plug socket $^{31}/_{32}$"

$2.00

POSITIVELY GUARANTEED

No. 30

SOCKET WRENCH SET For Ford Cars

Honestly the Best Value for the Money

FOR $4.00 YOU BUY

One Ratchet Handle, Universal Joint, Extension Tube, Screw Driver Bit, Ten Guaranteed Sockets:
Hex. $^{17}/_{32}$" $^{19}/_{32}$" $^{21}/_{32}$" $^{23}/_{32}$" $^{25}/_{32}$" $^{29}/_{32}$" $^{31}/_{32}$"
Square $^{15}/_{32}$" to fit 1915 main bearing nut. Oval Socket to fit main bearing nuts.
Spark Plug Sockets $^{31}/_{32}$" for Ford plugs

Send for Catalog No. 17 A

FRANK MOSSBERG CO., ATTLEBORO, MASS.

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Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., JANUARY, 1915. NO. 9

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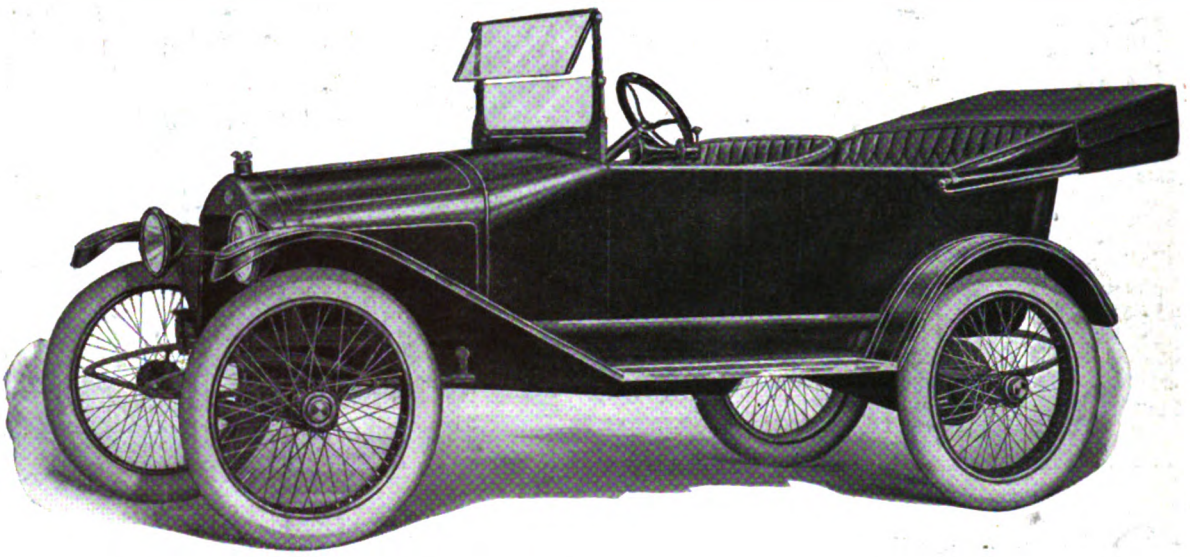

METZ "25"

The Quality Car

$600 Equipped Complete, Including Electric Starter and Electric Lights

Gray & Davis Electric Starter and Lighting system.
Plate glass rain-vision, built-in wind shield.
Stream line body, instant one-man top.
32-inch wire wheels.
32x3½-inch Goodrich clincher tires.
Tufted unpholstering, deep cushions.

105-inch wheel base, standard tread.
Left-hand drive, center control, fibre grip gearless transmission, 25 h. p. water-cooled motor, Bosch magneto, Hyatt roller bearings, speedometer, built-in gasoline gauge, robe and foot rails, signal horn, jack, tools, etc.

Quick Sales—Big Profits

THIS new METZ Touring Model is a winning proposition for enterprising dealers. It is strictly a high class car, deserving of your fullest confidence and recommendation. Your prospective purchaser **LIKES** it the minute he sees it. When you show its absolute completeness of up-to-date equipment, he **WANTS** it. And when you tell him the price, **HE BUYS IT.**

It is a car that any owner is bound to feel proud of. Delightfully easy riding, clean-cut in design, luxuriously finished, and so simple in operation, and so reliable, that a woman can safely drive it.

We have planned and are developing an elaborate publicity campaign designed specially to help our dealers. We want representation in your territory. Write for particulars and new catalog "F."

METZ COMPANY - - - WALTHAM, MASS.

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How to Get the Bulk of the Brake Lining Business

Trade Advice:

Sell the Brake Lining you would buy yourself.

If you follow this plan you will build up a better business and make more money in the end.

Look at it from your customers' standpoint. They know that the quality of RAYBESTOS is supreme. They know that its service is superior to that of any other brake lining. They know that it is backed by the most comprehensive guarantee ever given any brake lining.

These factors are more potent in swinging the bulk of the brake lining business to you than any other consideration.

Getting the benefit of the prestige, quality and service of RAYBESTOS to help build up your business is worth far more to you than a little longer discount on some other brand of brake lining. Longer discounts are aimed to attract you.

Your customers do not benefit.

You cannot give them any better quality—nor more attractive prices. Service in a brake lining is what they want. Service and a cut price never yet went hand in hand. The quality—the prestige—and our business-like methods of distributing RAYBESTOS constitute too much of an asset to you for you to be tempted by smart selling methods.

RAYBESTOS discounts are fixed—the same to each and every dealer. We believe in a square deal for everybody and we treat everybody exactly alike.

Quality is put into RAYBESTOS to insure service. The service of RAYBESTOS is definitely guaranteed. In every big city in this country there is a good, reliable concern which carries a complete stock of RAYBESTOS, ready to supply your needs on telephoned, telegraphed or written order. Any one of these concerns will quote our standard discounts to the trade—their discounts are the same as we would quote you direct. Their nearness to you, and their ability to make immediate deliveries of either large or small quantities makes it unnecessary for you to carry more than an easily handled stock for your immediate requirements.

THE ROYAL EQUIPMENT COMPANY

1378 BOSTWICK AVENUE :: :: BRIDGEPORT, CONNECTICUT

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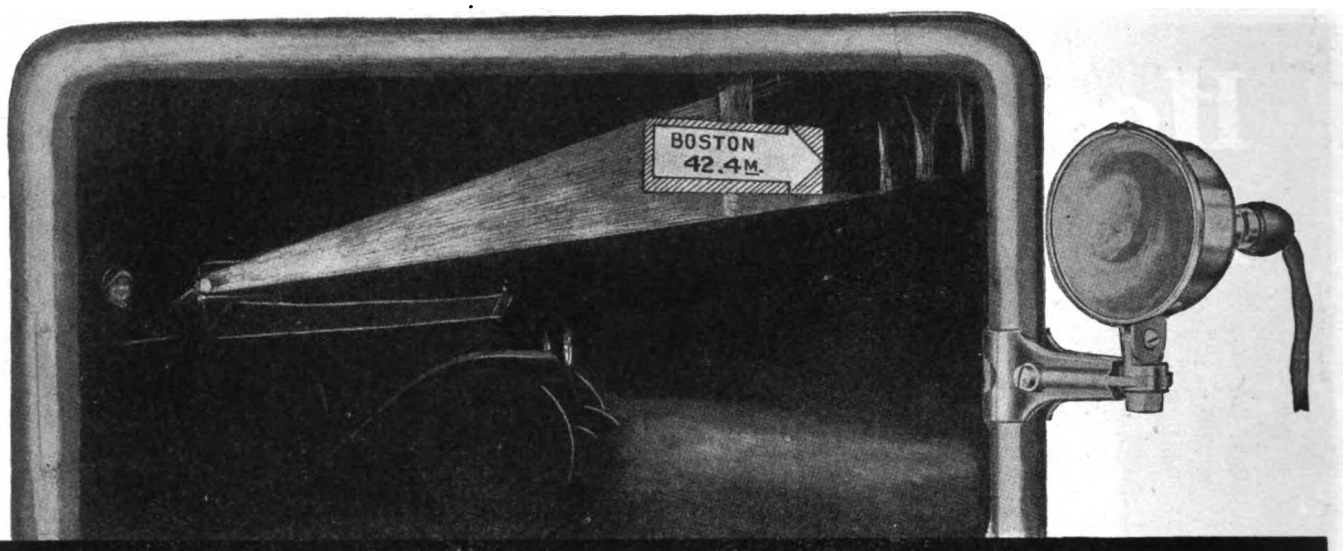

One Flash Shows the Way

The C-S SEARCHLIGHT will complete the equipment of the ideal car. A powerful searchlight, of small size and weight, mounted on a double-swivelled bracket, to be clamped to the windshield, it can be operated by the driver to throw a ray in any direction or angle, with which signs and numbers can be read at 200 feet.

The lamp is furnished with a self-contained switch, no additional installation being necessary. The lamp is highly polished brass, three inches diameter, with high-grade lens and an eight-candlepower helical coil tungsten bulb, and is fitted with a focussing device so that its full efficiency may be obtained at any distance.

This lamp is a decided ornament to a car, is useful in innumerable ways, and is the greatest value ever offered to the trade.

The C-S Searchlight equipment includes a lamp, bulb, bracket, extension cord and attachment plug.

The list price is $2.50. Dealers, discount sheets and catalogue are ready!

Culver-Stearns Mfg. Company

WORCESTER MASS.

DETROIT, MICHIGAN

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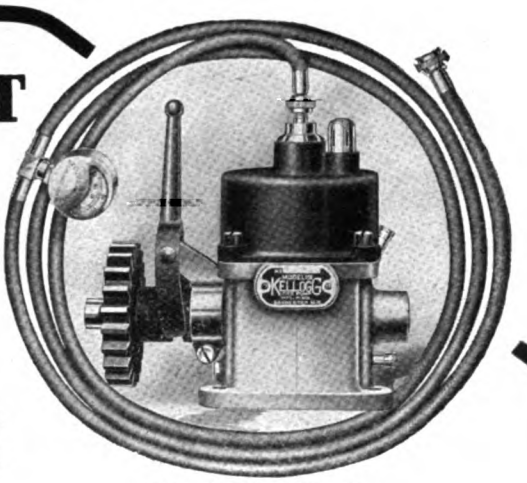
For The FORD Model T

We Announce a Special

Engine Driven KELLOGG TIRE PUMP



NO. 101 ALL METAL

$9.50 **Complete with air hose, gauge and attachments, easily installed in 20 minutes.**

For This List of Cars Our No. 101 Complete with Attachments, Etc. $15

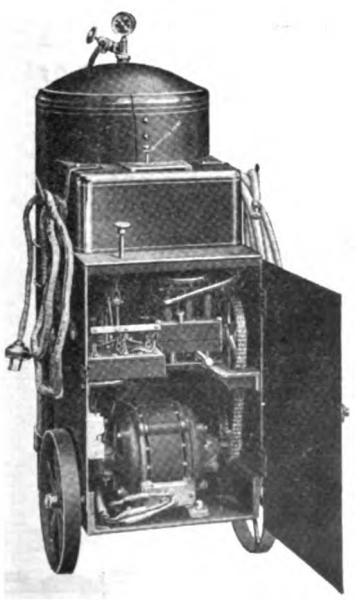
Abbott-Detroit	Chandler	Hudson	Krit	Olds	Simplex
American	Cole	Hupmobile	Lexington	Overland	Singer
Buda Motors	Davis	Imperial	Marmon	Packard	Speedwell
Buick	Fiat	Jackson	Maxwell	Paige	Stearns
Cadillac	Flanders	Jeffery	Moon	Patterson	Studebaker
Cartercar	Franklin	King	National	Pratt	Stutz
Case	Haynes	Kissel	Oakland	Reo	Velie
Chalmers					Westcott

Guaranteed Absolutely Not To Spray Oil With Air

Kellogg pumps are the result of six years' experience in building tire pumps **with attachments**. The Kellogg pump is the standard equipment on the majority of leading cars. The principles of manufacture and the materials used have always been held to the highest possible standard. Kellogg pumps are as carefully made as your automobile engine.

Consumers: Send cash with your dealer's name for prompt delivery.

Dealers: Write for trade discounts. See list of distributors below.



KELLOGG ELECTRIC DRIVEN MOTOR GARAGE PUMP

Move air to cars. Save the expense and bother of moving cars to air.

Save $15 to $20 a month in power bills.

Write today for catalog which explains the features of this pump and several other outfits with different equipments. Catalog shows how the automatic cutout stops the pump. Explains the features that make this the **ONLY** pump for any garage.

Catalog Free—Ask for Special Offer Cash or Trial.

KELLOGG MFG. CO., 271 CIRCLE STREET ROCHESTER, N. Y.

Branch Offices: New York, Boston, Detroit, Chicago, San Francisco.

All KELLOGG specialties can be secured promptly from the following distributors:

P. W. Norris & Sons, Baltimore, Md.
Coughlin & Davis, Cincinnati, Ohio.
Penna. Rubber & Supply Co., Cleveland, O.
G. W. Shroyer & Co., Dayton, Ohio.
Reinhard Brothers Co., Minneapolis, Minn.
Motor Car Equipment Co., New York City.
Powell Supply Co., Omaha, Neb.
J. H. McCullough & Son, Philadelphia, Pa.
Dyke Motor Supply Co., Pittsburgh, Pa.
Phoenix Auto Supply Co., St. Louis, Mo.
G. Norman Baughman Co., Tampa, Fla.
Chas. Rubel & Co., Washington, D. C.

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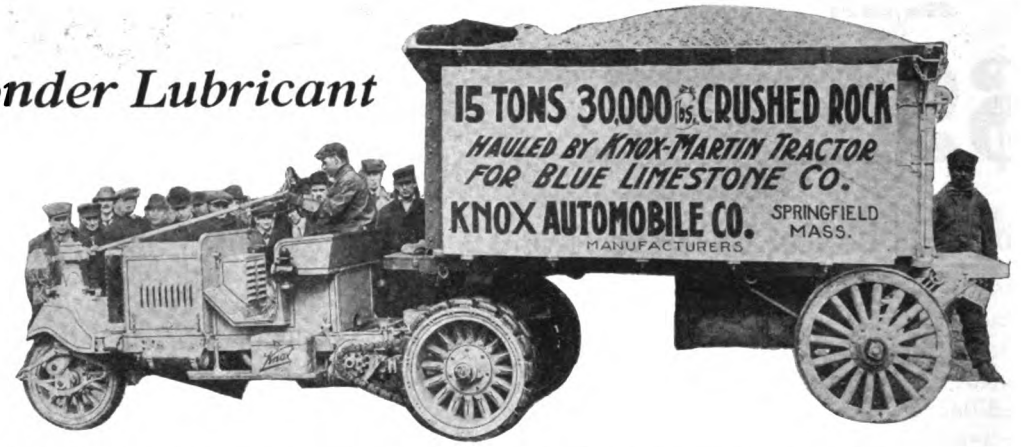
SPEDOLENE

The Wonder Lubricant

For Every Service



SPEDOLENE FOR BIG LOADS

Any machine, when worked to its capacity, must be thoroughly and perfectly lubricated. When not so lubricated, the wear is proportionate to the degree of lubrication.

SPEDOLENE is compounded from highest grade asbestos and refined mineral oil. It cannot change chemically, cannot affect metals, is heat resisting, and it cannot flow or drip.

SPEDOLENE has been proven for years by use by railroads and for heavy duty lubrication. It will penetrate between any bearing surfaces, affording lubricity and carrying the loads. It cushions all gears and effectually prevents wear and noise.

GREATEST ECONOMY! HIGHEST EFFICIENCY!

In economy SPEDOLENE cannot be equalled because it gives perfect lubrication for twice the mileage that can be obtained from a similar volume of any other lubricant, with less maintenance and upkeep cost, less fuel expense, and greater service life for the vehicle. It is equally efficient for all parts of a motor car except the engine.

Made in two grades—Grade S for the average machine, and Grade SS for worn and noisy gears. Packed in 5, 10, 25 and 50 lb. cans and barrels and half-barrels. Delivered under seal.

Dealers' proposition on request

CONTINENTAL ASBESTOS CORPORATION

7-11 Summer Street WORCESTER, MASS., U. S. A.

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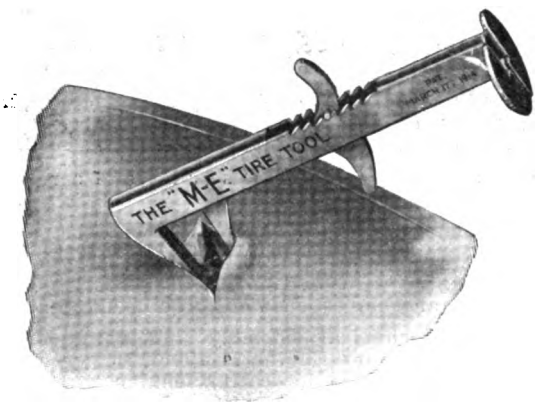
3 MONEY MAKERS

FOR DEALERS AND GARAGES

Because every one of them saves the consumer's time and money—and because they are all big sellers, with unusually good profits.

The "Motor-Eye" SEES how the Motor FEELS



It is the most accurate and reliable instrument of the kind for detecting motor trouble before damage is done. It is the only absolutely certain means of keeping in touch with the running engine. It is a safeguard against expensive engine repairs. Retail price, $2.50. Dealer discounts, 25 to 40%, delivered.

The "M-E" Tire Tool

"Repair the cut and save the tire."

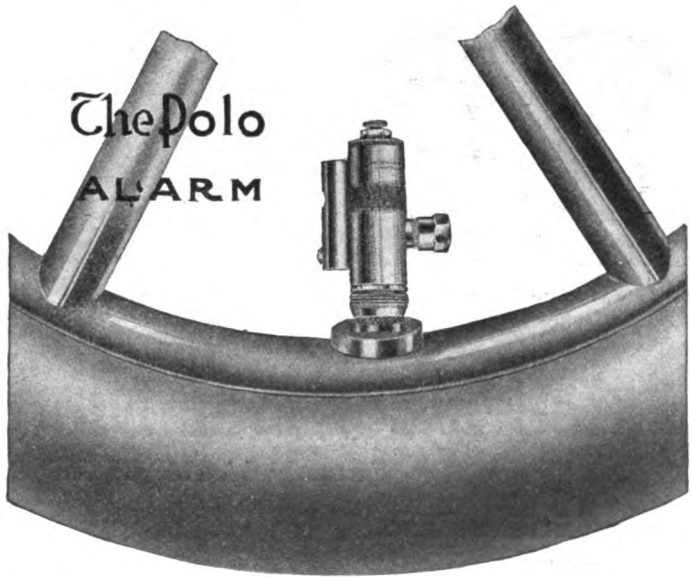
—is the most convenient tool yet devised for holding open surface cuts in tires, for easy repairs. A rare time and trouble saver, that every motorist can afford, at 25c. Dealers' discounts, 33 1-3 to 40%.

The Improved Polo Tire Alarm—Model No. 15

tells the driver of a running car INSTANTLY when the pressure in any tire falls to the minimum safety point.

It is an automatic pressure gauge that is attached to the valve stem when a new tube is installed and need never be removed until tube is changed. Tire can be inflated or "gauged" without removing Alarm.

The Alarm itself can be entirely cut off, if its service as a warning of low pressure is not desired. Send for detailed particulars. It is a money maker for the Dealer and a DOLLAR SAVER for the user.



All these are good sellers. They mean money for you. Write today for full discount lists and particulars.

W. LEWIS MACK
GENERAL DISTRIBUTOR
24 W. Jackson Blvd., Chicago, Ill.

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"Will Replace All Other Gas Engines"

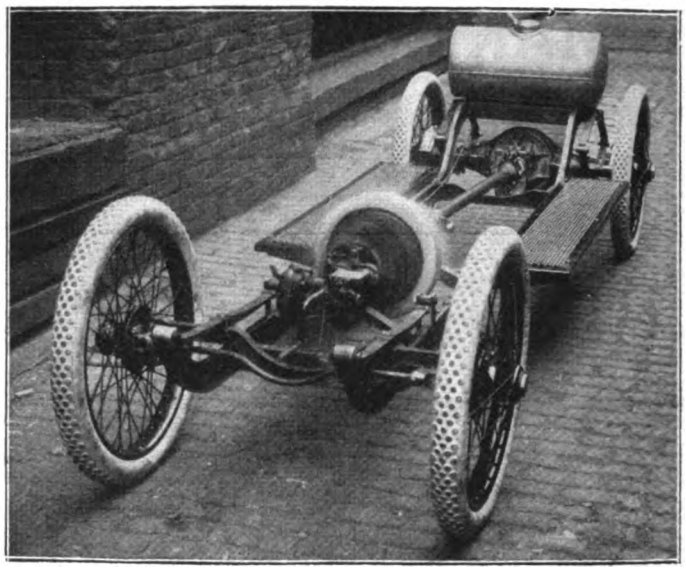
That is what many of the best and most favorably known gas engine authorities and mechanical engineers say for the Macomber Rotary Motor.

HERE IS SOME OF THE PHYSICAL EVIDENCE THAT VERIFIES THAT OPINION

An Extraordinary Photograph

This is a view of the Eagle Cycle Car chassis before completion with a 12-14 H. P. Macomber Rotary Engine revolving at 1500 r. p. m. The camera that took this picture is capable of instantly registering the slightest jar or movement, and can catch a bullet in the air so that it appears to be standing still. Its speed is 1-1000 of a second.

This photograph, however, was a time exposure which would permit registering on the negative every movement, no matter how slight. This chassis, standing on inflated tires without any load (less than three pints of gasoline in the tank) would make jarring due to engine action show clearly on the negative. This is a print of the negative without any retouching of any character.



In addition to the absence of vibration, the following facts should impress anyone who is interested in gas power machinery:

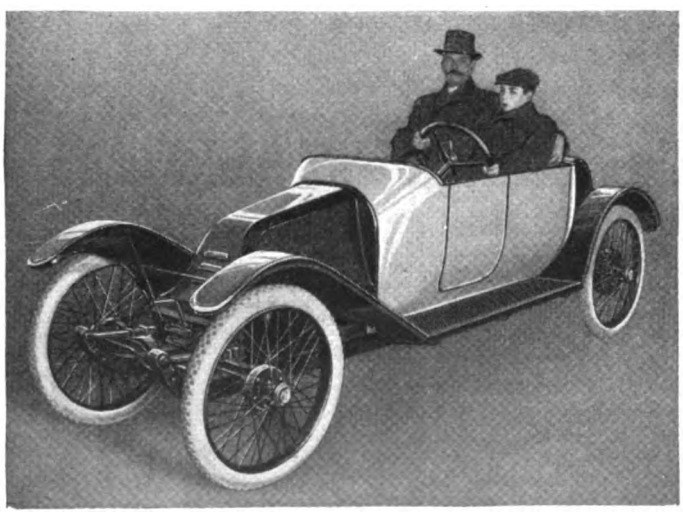
It is of exceedingly light weight.

A 14 H. P. Macomber Engine, five-cylinder, weighs 115 pounds, including muffler.

A 60 H. P. Macomber Engine, seven-cylinder, weighs 250 pounds, against 1000 pounds or more of a reciprocating engine.

Being air cooled, there is no radiator, fly wheel, pump, fan or other contrivances to add weight, cost and trouble to your car.

There is no complicated wiring system on a Macomber, there being no wire used at all. The spark plugs fire as they pass the sparking plate attached to the magneto. This is another expense and trouble eliminator.



Boy Driving Eagle Light Car Equipped with Macomber Rotary Engine, Showing Plenty of Room for Passenger.

The mechanical efficiency and power of a Macomber Rotary Engine is about 30 per cent. greater than a reciprocating engine of equal rated power. Laboratory tests, including that of Armour Institute, Chicago, prove 82.6 per cent. efficiency for the Macomber Engine. Fifty per cent. is considered good for the ordinary reciprocating engine.

From 40 to 50 miles to the gallon of gasoline is the rule of a Macomber 14 H. P. engine and a 36-inch tread cycle or light car.

Bore and stroke of the five-cylinder 14 H. P. Macomber Rotary Engine are 2 9/16 inches by three inches respectively.

Any standard magneto and carburetor can be used.

The Macomber Rotary Engine is to be built in all sizes for all purposes. It is suitable for any gas engine need.

The Eagle-Macomber Motor Car Company controls the manufacturing and sales right for the cycle and light car industry.

Gas engine users and dealers who may be interested, and who want further particulars, should address immediately

Eagle-Macomber Motor Car Company

(Formerly EAGLE CYCLE CAR COMPANY)

1350 So. Michigan Blvd. **CHICAGO, ILL., U. S. A.**

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NATIONAL UNITED SERVICE

What It Means to DEALERS AND GARAGEMEN

THE National United Service Co. of Detroit, Mich., is an organization created for the purpose primarily of establishing NUSCO (which word represents the initials of the company) SERVICE STATIONS, along the entire length of the Lincoln Highway and its main arteries which ultimately lead to and include every mile of travelable roadway in the United States.

These NUSCO SERVICE STATIONS will secure the bulk of local as well as transient patronage, not only because of the merits of the manner in which each will be operated, but mainly because of the convenience, economy and protection afforded the touring public, as set forth later on in this advertisement.

This company has been under way for nearly two years. All plans were decided upon before announcing ourselves to the public. For several months these plans have been developing and now we are all set and ready to go forward at Top Speed.

WE have taken on the entire outputs of 46 different concerns who manufacture various lines of automobile accessories and motor car parts, and are now ready to announce a complete NUSCO assortment ranging from spark plugs to motor trucks.

Each line has been selected on quality and marketability—or saleability—and many of the largest factories in the automobile industry are among those whose products, as handled by us will bear the name NUSCO.

We are in position to grant NUSCO SERVICE STATIONS extreme discounts on everything handled by us, which, by the way, includes two-passenger small cars, five-passenger touring cars, light commercial cars and heavy motor trucks, besides every accessory for which there is a demand on the part of the touring public.

You will like our way of doing business —our lines, our discounts, our plans and our progressiveness.

See us at the Great Northern Hotel, Chicago, Jan. 23rd to 30th, inclusive.
Our president, general manager, sales manager, superintendent of service stations, travelling representatives and many of our SATISFIED CUSTOMERS who are already operating NUSCO SERVICE STATIONS will be in attendance to tell you how the NUSCO PLAN works out.

Write to "The Busiest People in the Industry"

NATIONAL UNITED SERVICE CO.

Third Floor, Ford Building **Detroit, Michigan**

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THE LARGEST MANUFACTURERS OF FORD SPECIALTIES IN THE WORLD

Patronize the Dealer Who Gives you What you Ask For.

The stores selling standard products are sought by the careful buyer.

Such purchasers know what they want, and it is a waste of time for dealers to "talk" or attempt to push the sale of "Just as Goods".

Remember, when a dealer offers you an imitation article he makes a bigger profit, otherwise he would not handle it. What do you get if you buy his "Just as Good"? Certainly not the quality for which you pay.

The name of a well known maker on a product is the best assurance you have of the uniform quality of the product. Your salvation from injury or deception is to ask for products by name of Maker or Trademark Brand and the determination to demand that the dealer supply the identical product asked for.

Good-service dealers will not attempt to offer you substitutes, because they appreciate your patronage and realize that the growth of their business depends upon giving customers what they ask for.

INSIST ON

TRADE APCO MARK

FORD SPECIALTIES

MADE IN USA

"Get What You Ask For"

CYLINDER WATER CONNECTIONS.

Ever since the Ford Model "T" came out in 1908 the water connections have given more or less trouble by breaking, despite the fact that they have been strengthened several times since their first appearance. Our connections are made from malleable iron and positively will not break, furthermore, we add a feature that will appeal to all who have had to remove a radiator from a Ford. This feature is the slots for bolts instead of the round holes formerly used, and means that simply loosening the bolts permits removal of the connection and in replacing the connection this will save a lot of time and trouble. Either top or side.

PRICE 25c EACH.

STEERING WHEEL PULLER.

The steering wheel on a Ford is always very hard to remove, and in some cases it is impossible to budge it. When necessary to do this for replacing worn gears and repacking with grease don't use a hammer. The Remover will do it in a jiffy without even marring the paint. Made from semi-steel, black enamelled and will last years.

PRICE 50c.

LINED BRAKE SHOES.

We have had a large call for a lined brake shoe during the last few months, but up to now have not seen any thing worthy of consideration for the reason that the small diameter and width of the Ford Brake Drum prevented the installation of shoes large enough to give satisfactory wear. There is no brake that is better as far as action goes, than an asbestos lined, and we have worked the problem out so that the main objection is eliminated. The Shoes are made from malleable iron and will not break, the lining is put on in such a way that it can be renewed by any owner at a cost of 25c, which is our charge for the lining and rivets. We do not claim a greater mileage than 2500 in a hilly country, but the renewable feature means one cent per hundred miles against the cost of an entire new set of shoes of any other make. Complete set of two with springs.

PRICE $1.00.

BRAKE ROD CLEVIS ANTI-RATTLER.

This consists of a special hardened bolt and nut fitted with cotter pin and lock washers. When brake rods rattle simply remove old clevis pin and replace with this bolt, tightening enough to prevent rattle. This adjustment will last for a long time and further adjustments can be made by simply taking up on the nut. This idea is superior to any we have ever seen, as it requires no machine work and it can be installed by any owner in half an hour. Furnished complete, including bolt, nut, lock washers and cotter pin. Four of these required on a Ford Car.

PRICE 10c EACH.

CARBON SCRAPER.

This is a special tool designed to remove the carbon from the Ford Engine when the cylinder head is removed. It is made from tempered steel and it will remove the carbon in less time than any other tool on the market.

PRICE 10c EACH.

FORD PISTONS.

These pistons are made from the very highest grade close grained gray iron, and unlike the regular article, they are ground to size, which not only insures the size being right, but means that each piston is exactly round. They are made to the exact size of the factory piston and also five thousandths oversize, the latter to be used in the old worn cars. It is advisable to put in four new pistons and a complete set of rings as this insures uniformity. Furnished without bushings, rings or pins.

PRICE $1.00.

AUTO PARTS COMPANY, Providence, R. I.

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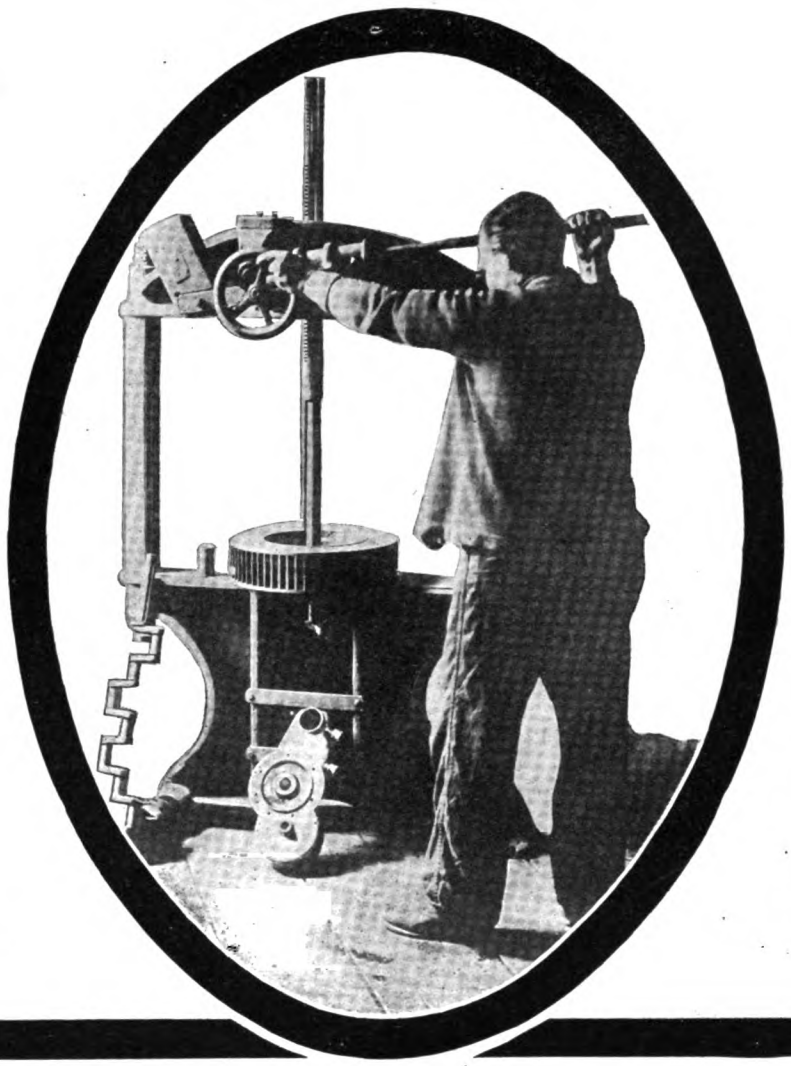
SEND FOR OUR 1915 FORD SPECIALTY CATALOG ... IT'S FREE



Big Jobs **Pay Best**

NEW GREENERD No. 15 ARBOR PRESS

A Big Profit Making Equipment for Any Shop

Its pressure capacity is 10 tons with one man and 16 tons with two men. It will do any work, no matter how small, up to capacity. Equip your shop, so you can undertake any job. There is equal profit with small jobs; you gain work that otherwise would go elsewhere.

The Greenerd No. 15 Arbor Press, because of its utility, is the cheapest investment you can make. It will attract the BIG JOBS,—the jobs that pay best, and ensure against competition, for a small press necessarily limits your work and your profit. When you do not realize all the profits you help your competitor, and buying equipment is up to you. The New No. 15 Greenerd is especially designed for garage, repair shop and machine shop equipment and the price is right.

Greenerd Presses are built in sizes for all work. All details at request.

Edwin E. Bartlett

322 A Street **Boston, Mass.**

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1907 WATERHOUSE 1915
FREE TRIAL OFFER

Why a WATERHOUSE gives you the most for your money

1. Only equipment made that has a NON-FLASHING torch.

2. Burns equal amounts of acetylene and oxygen, thus giving the hottest flame at the lowest possible cost.

3. Guaranteed by a concern who are willing to make a guarantee and are capable of standing behind it.

4. Sold on terms to prove its superiority. Free trial offer.

5. Order a WATERHOUSE and try it in your own shop, on our free trial offer and see for yourself its superiority. It will show you what it will do. If it can be done a WATERHOUSE will do it best.

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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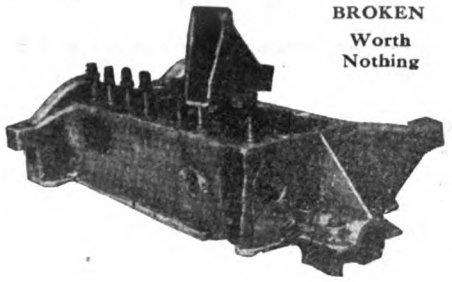
Free Trial Offer

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.

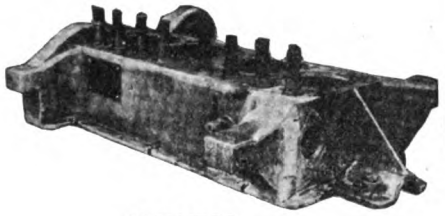
JUNK

GOLD

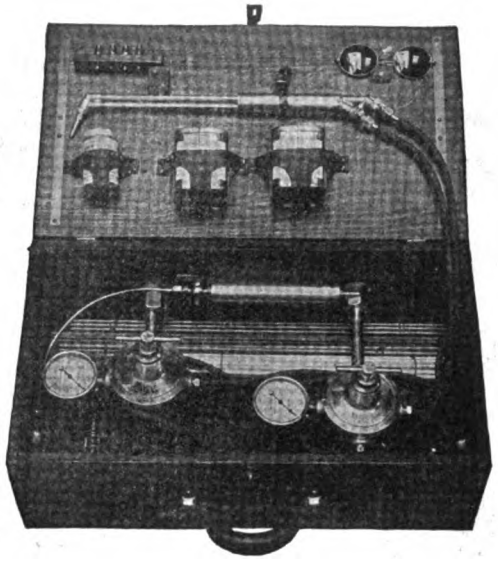
Cracked cylinders come with cold weather. Get the WATERHOUSE and turn JUNK into GOLD.



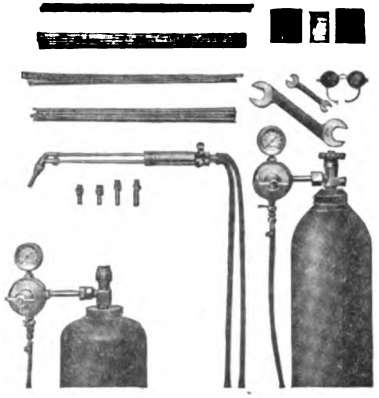
BROKEN
Worth
Nothing



REPAIRED
Good as new part that is worth $68



CARRYING CASE



THE WATERHOUSE

equipment makes money in thousands of shops. Let it make money for you.

The Waterhouse Outfit

	Value
1 B Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50-lb. line pressure gauge	10.25
1 Acetylene Reducing Valve with 50-lb. line pressure gauge	11.00
1 Set of Special Welding Hose (20 ft.)	3.00
1 Pair Welding Glasses	.75
1 Carbon Burning Torch	Free
1 Set Instructions	Free
Net Cost Complete	**$42.00**

If you have a regulator for carbon burning, the oxygen regulator with the outfit is unnecessary, and you can deduct the price ($10.25), from the above total price.

TERMS: 5% discount cash with order or C. O. D. OR $20.00 cash with order, balance in two payments, first of $12 in 30 days, $10 in 60 days, AFTER RECEIPT OF OUTFIT BY YOU.

If supplies are desired as well, we will sell for $4.50 additional the following, making you ready for any auto welding:

1 Bottle Aluminum Flux
1 Can Cast Iron Flux
1 Can Copper and Brass Flux
2 pounds Brass Welding Rods
5 pounds Cast Iron Welding Rods
2 pounds Aluminum Welding Rods
2 pounds of Steel Welding Rods

WATERHOUSE WELDING CO.

"Makers of the Torch That Never Flashes"

AMERICA'S PIONEER WELDER

3 Pelham Street : : : Boston, Mass.

See WATERHOUSE Advertisements in previous issues of this paper

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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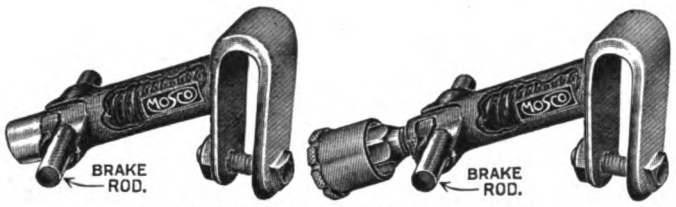
MOSCO FORD FITTINGS

Master Vibrators
Bow Clamps
Door Check Anti-Rattler
Number Plate Holder
Gasoline Gauge
Bemus Timer
Fan Belt Guides
Tire Pump, Engine Driven
Front Number Holder
Gasoline Economizers
Spring Leaf Oiler
Shock Absorber
Fogg Exhaust Horns
Brake Shoes
Adjustable Wheel Pullers
Brake Rod Guides
Muffler Cut-Outs
Radius Rod Anti-Rattler (2 Styles)
Steering Rod Anti-Rattler (2 Styles)



MOSCO BRAKE ROD GUIDE.

A pair of these little fittings will positively silence the objectionable shake and rattle of the Ford brake rod. They may be slipped over the brake rods without removing the rods from the car. Very easily applied by any user in five minutes' time. They have no cotter pins. Packed two in a carton.

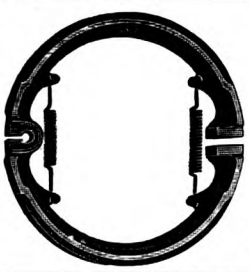
Price with Grease Cup, Bronze, $1.25 per pair. Semi-steel, $1.00 per pair. Size (in carton), 5½x2½x1½. Weight, 16 oz.

Price Without Grease Cup, Bronze, $1.00 per pair. Semi-steel, 80c per pair. Size (in carton), 5½x2½x1½. Weight, 15 oz.

MOSCO ANTI-RATTLING BALL SOCKET, NO. 1.

(Large Size)

For radius rods of Ford Cars. Made from high grade semi-steel. Is used for adjusting ends of radius rods, terminating in a ball socket at front of transmission case. They provide a quick and easy method of taking up lost motion at this joint and eliminate rattle. **Size (in carton), 3x3x1¾. Weight, 9 oz. Price, 70 Cents Each.**



MOSCO BRAKE SHOE.

Made in one piece of best quality gray iron casting and covered with asbestos lining. These shoes grip the drums much more securely than the plain iron shoes. They are positive money savers, as the lining may be replaced for only a few cents.

Packed two in carton. Size (in carton), 8x8x2¼. Weight, 4 lbs. Price, $1.50 per pair.

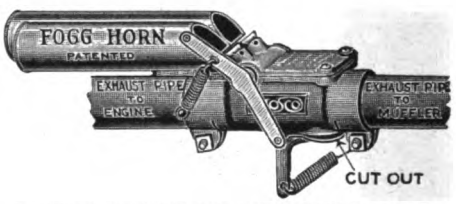
MOSCO

Anti-Rattling Ball Sockets for Radius Rods and Steering Rods of Ford Cars.

Equipped with Compression Grease Cups.

Size (in carton), 2½x2½x1¼. Weight, 6 oz.

Radius Rod Anti-Rattler, Price, $1. Steering Rod Anti-Rattler, Price, 75 Cents.



A NEW 1915 MODEL WITH CUT-OUT.

The new model is equipped with a cut-out in the body of the horn. In buying this model **you have two appliances in one:** an exhaust horn and a muffler cut-out. Furnished with two pedals—one of the locking type to hold open the cut-out when desired. Guaranteed for life of car.

Size (in carton), 12½x4x4¾. Weight, 3¼ lbs. Price, With Cut-Out, $5.00. Without Cut-Out, $4.50.

MOSCO SHOCK ABSORBER.

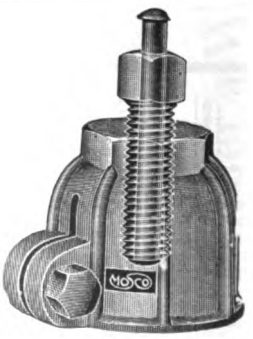
A Shock Absorber embodying all the good features while eliminating all the weak points of others. For resiliency, quick action and long life the **torsional spring** is best. The MOSCO is a **torsional spring.** Any strain to which it is submitted comes with the **rebound** of the metal, making it least apt to be affected by sudden jolts or jars.

Designed especially for the Ford Car, these Absorbers are so constructed that they do not interfere with any of the wheel or axle parts, nor with tire chains.

Front Pair, size (in carton), 4½x9x4½. Weight, 8 lbs. Rear Pair, size (in carton), 4½x7x4½. Weight, 7¾ lbs. Price, full set of four, $10.00. Price, set of two, $6.00.

MOSCO NO. 2.

Adjustable Wheel Puller for the Ford Car.



A new, exclusive feature of this model is the loose plunger extending through the center of the screw. This plunger affords a means of starting off a wheel which is stuck or "frozen" to the axle. A sharp blow with a hammer against the end of the plunger materially helps to free the wheel. **Size (in carton), 3½x3x2¾. Weight, 19 oz.**

Price, $1 Each.

Dealers: Write for 1915 MOSCO Catalog

MOTOR SPECIALTIES CO.

WALTHAM MANUFACTURERS MASSACHUSETTS

Dealers: Write for 1915 Discount Sheets

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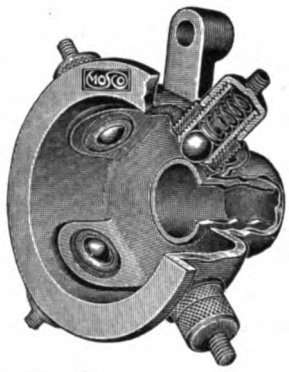
The New BEMUS TIMER

FORD CAR TYPE

BEMUS BALL CONTACT TIMER



Every practical man who knows the Ford car recognizes the fact that this short-stroke, high-speed engine requires a Timer capable of rapid, snappy action in the making of contacts and yet having durability sufficient for thousands of miles of running without loss of efficiency.

The Bemus is best for the Ford *because*

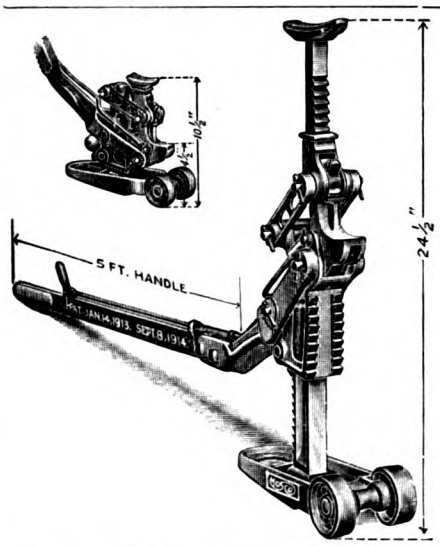
CONTACT is made by a hardened tool-steel brush engaging steel balls with short, glancing impacts, both the brush and the balls turning each time so that fresh contact surfaces are continually engaged.

MOUNTING is direct on the time shaft by means of an extension piece. This brings each of the balls equi-distant from the brush. Result—absolute precision of timing.

STARTING is facilitated in cold weather because these contacts do not hold a body of oil to prevent passage of current.

DURABILITY of unlimited extent is due to a construction which eliminates all wear of the insulation. The roller brush is reversible, and when worn on both sides may be replaced by the user, together with new contact balls at an expense of a few cents.

PRICE $2.25



"Excel" Garage Jack

A Heavy, Powerful Tool for Rapid and Easy Handling of Large or Small Cars.

The only Jack in the world suitable for the work of Garages, Service Stations, Repair Shops, Tire Agencies, etc. This Jack weighs fifty pounds, has five foot handle with enormous leverage, and will raise either end of the heaviest touring car four and one-half inches with a single stroke of the handle. Range 5 inches to 26 inches from the floor.

Liberal discounts to Garages and Dealers

Price, East Mississippi River, $16.00
Price, West Mississippi River, $18.00

MOTOR SPECIALTIES CO.

WALTHAM, MASS.

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35 DOLLARS

BUYS A

GENUINE DYER WELDING and CARBON

STYLE D REMOVING OUTFIT COMPLETE WITH SUPPLIES

Made in large quantities in a well equipped plant by men associated with the welding business since its introduction.

Finished in full nickel with no details slighted. Ten welding tips included for handling steel as thin as four one-thousandths in thickness up to the heaviest casting in either steel or iron.

We have 1500 sets of apparatus in use working under all conditions and in all kinds of industries.

This is in no sense a Junior Outfit built to sell at a low figure without regard to its practical value, but the result of careful study of design and low manufacturing cost.

Our ideas of design have been widely copied which is in itself a flattering testimonial.

Charges for welding on a fair basis to the customer average $3.00 per hour or a production of $30.00 per 10 hour day. A welder will average 100' each Acetylene and Oxygen on general work in that period, and upon investigating the market price of these gases in your locality, you will find the remaining profit exceptionally large.

With this Outfit a bent gooseneck of the standard chassis can be straightened in 20 minutes, and we estimate that four such jobs will pay in gross profit the cost of this Outfit.

Front axles can be straightened on the car with it, and the proposition of straightening alone makes it a necessity which quick service to your customers demands.

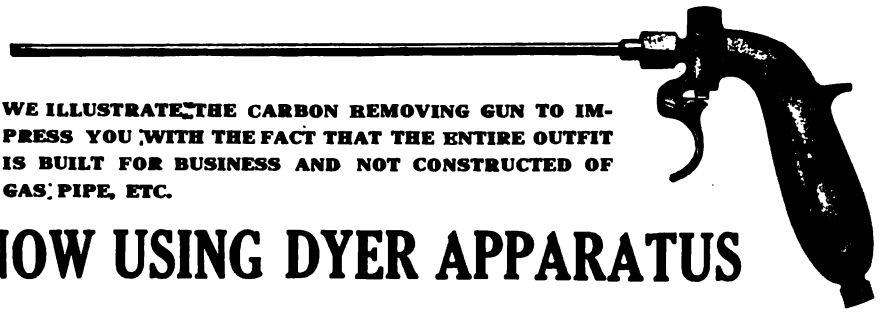
Loose rear axle housings can be brazed in 15 minutes without destroying brake linings, and for hot riveting and tightening loose rivets it is indispensable.

Ordinary gas, oil and gasoline heating Outfits usually sell for even more than the price of a DYER Outfit, and the latter furnishes 6300° of heat in a very local flame which is most essential in 99% of heat applications.

Worn parts can be built up and remachined.

An ear can be built on an aluminum manifold in 8 minutes.

Valves can be readily made by welding a disk on a steel stem so that the machining cost is very low.



WE ILLUSTRATE THE CARBON REMOVING GUN TO IMPRESS YOU WITH THE FACT THAT THE ENTIRE OUTFIT IS BUILT FOR BUSINESS AND NOT CONSTRUCTED OF GAS PIPE, ETC.

Industries NOW USING DYER APPARATUS

Automobile Manufacturers, Boiler Shops, Steel and Iron Foundries, Sugar Refineries, Textile Mills, Bridge Builders, Architectural Iron Workers, Steel Metal Workers, Paper Mills, Blacksmith Shops, Garages, Machine Tool Builders, Job Welding Shops, Jewelry Manufacturers, Silversmiths, Machine Shops.

You Are Cordially Invited to Visit Our Plant

We Operate One of the Largest Welding Shops in New England

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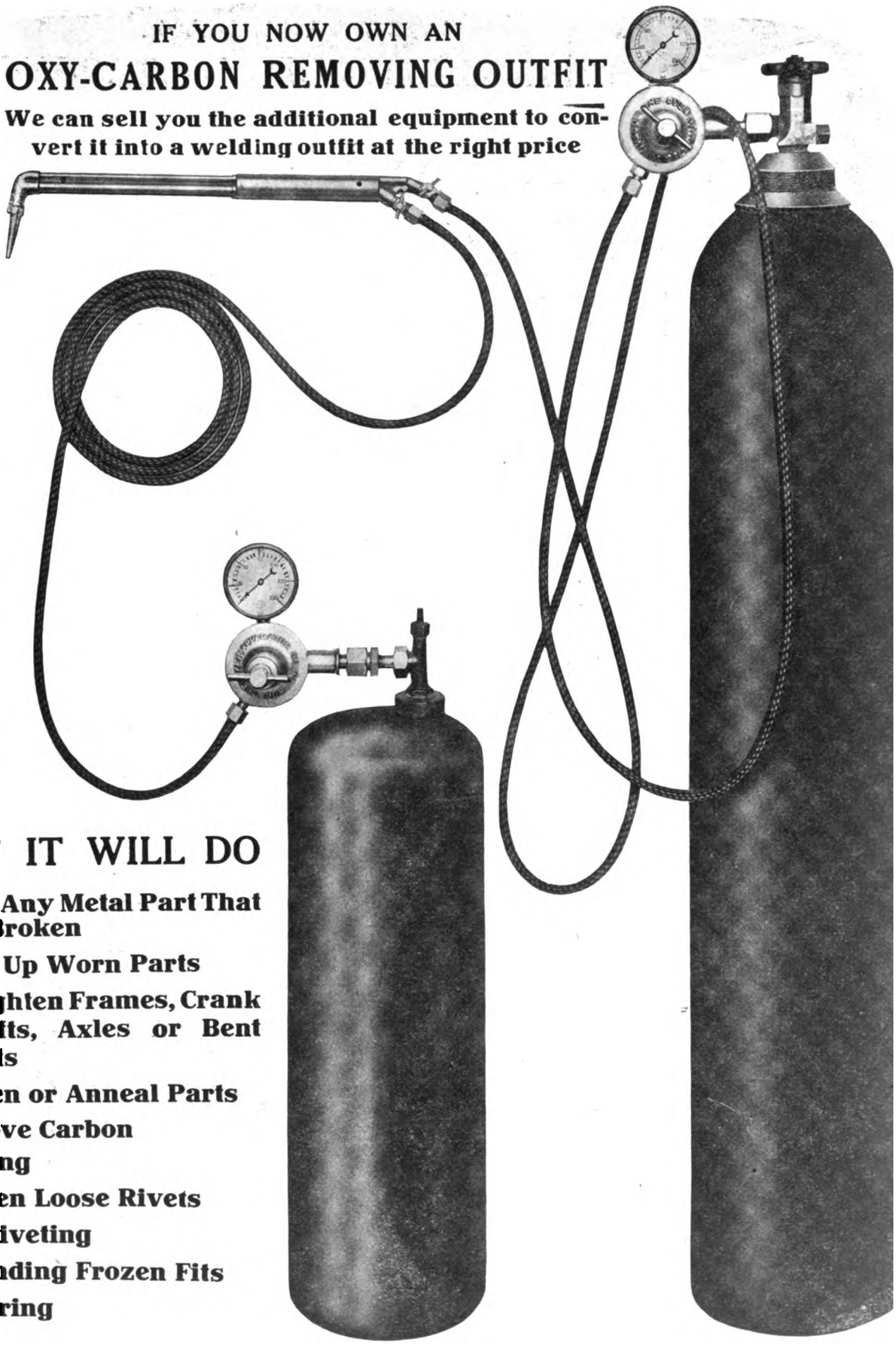
WHAT THE **PRICE** INCLUDES

1 Steel Carrying Case.
1 High Pressure Acetylene Regulator with 150 lb. Line Gauge.
1 High Pressure Oxygen Regulator with 150 lb. Line Gauge.
1 Welding Torch with Knurled Handle.
10 Torch Tips No. 0 to No. 9.
2 10' Lengths of Hose with Connections.
1 Connection for Prest-O-Lite Tank.
1 Pr. Goggles.
1 Carbon Removing Gun.
1 set of Instructions.
1 Can Aluminum Flux.
1 Can Cast Iron Flux.
1 Can Brass Flux.
1 Can Steel Flux.
2 Lbs. 3/16" Cast Iron Sticks.
2 Lbs. ¼" Cast Iron Sticks.
2 Lbs. 5/16" Cast Iron Sticks.
2 Lbs. 5/16" Aluminum Sticks.
2 Lbs. ⅛" Special Steel Wire.

IF YOU NOW OWN AN

OXY-CARBON REMOVING OUTFIT

We can sell you the additional equipment to convert it into a welding outfit at the right price



WHAT IT WILL DO

1 **Weld** Any Metal Part That Is Broken
2 **Build** Up Worn Parts
3 **Straighten** Frames, Crank Shafts, Axles or Bent Parts
4 **Harden** or Anneal Parts
5 **Remove** Carbon
6 **Brazing**
7 **Tighten** Loose Rivets
8 **Hot Riveting**
9 **Expanding** Frozen Fits
10 **Soldering**

OUTFIT ASSEMBLED (Tanks not included)

THE DYER APPARATUS CO., CAMBRIDGE, MASS.

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MULTIBESTOS REG.U.S.PAT.OFF. PAT.APPD.FOR

Follow the White Foot Prints

The distinct superiority of Multibestos has been proved time and again, both by engineering tests and in the every-day service of thousands of car owners.

That it may be distinct in appearance as well as in quality, we mark it with "White Foot Prints."

Not only do the "White Foot Prints" protect the users of Multibestos, but they also afford a great convenience to the dealers who are handling it—for the marks are spaced exactly and can be used for measurement when cutting from stock to fill orders.

So we say to car owner and dealer alike:

Follow the white foot prints,

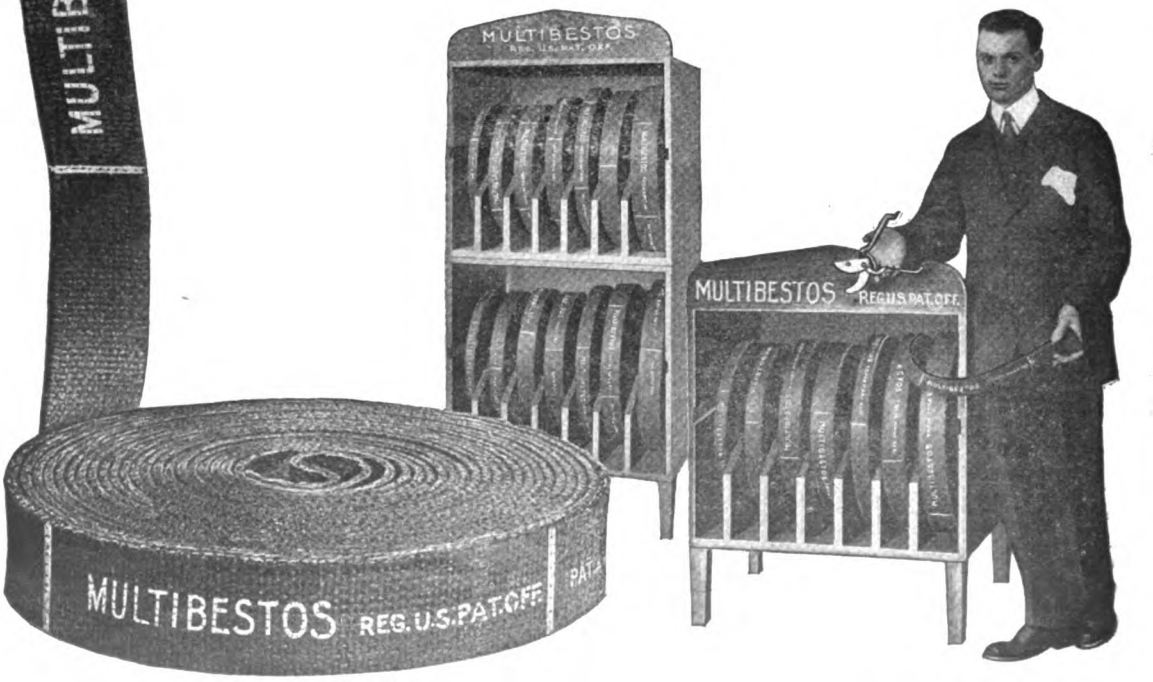
They lead to satisfaction in brake lining.

Standard Woven Fabric Company

FACTORY, FRAMINGHAM, MASSACHUSETTS

SALES BRANCHES

Boston—F. Shirley Boyd, 903 Boylston Street
Chicago—F. E. Sparks, 1430 Michigan Boulevard
Philadelphia—N. A. Petry Co., Inc., 1427 Vine Street
San Francisco—Fred Ward & Son, Inc., Corner First and Howard Streets



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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., JANUARY, 1915. No. 9

NEW YORK GARAGEMEN WIN BIG FIGHT.

Defeat Proposed Separator Legislation and Cause Repeal of Act Creating Office of Fire Marshal—Fighting 50-Foot Garage Rule.

THE garagemen of New York State won a complete victory on the separator question, which they have been combatting for the past several months. Not only have they defeated the proposed legislation, but the office of New York state fire marshal has been abolished. Thomas J. Ahearn, fire marshal, who promulgated the long and complicated garage laws, has been relieved of his office by the action of the assembly, which repealed the law creating his office. This act of the assembly carries the indorsement of Governor Whitman, and when it reaches the senate next week it is prophesied that the same reception will be given to it.

The measure which brought about the abolishment of the office was introduced by Assemblyman Hinman, leader of the majority, and was passed by a vote of 93 to 38, the Republicans voting solid and carrying the Progressives with them. As Governor Whitman strongly urged the abolition of the department as unnecessary, there can be no doubt of its ultimate disposition in the senate. In a brief debate which caused the measure's passage, A. E. Smith, the Democratic leader, was the only man to speak in behalf of the fire marshal's office. He stated that more than 7000 inspections had been made under the state fire marshal which never had been made before, and that the department was saving life, limb and money. However, Assemblyman Hinman contended that the fire marshal's office represents "excess baggage", carried by the people without any adequate return.

The abolition of the office ends a successful fight which has been carried on for the past several months by R. H. Johnston of the White Company, New York City, who headed the Automobile Trade Association of New York State. Charles Thaddeus Terry was the attorney for the organization and Charles A. Stewart is the secretary. At the request of the association the rules, which applied to all cities in New York State with a population of 1,000,000 and over, were suspended indefinitely, pending an investigation and a proposal to redraft and make them feasible and fair.

The measure, which means so much to the garages of New York, as submitted by Assemblyman Hinman, was exceedingly short. It is quoted in full in the following:

AN ACT.

To repeal article 10-a of the insurance law, relating to the state fire marshal, and acts affecting the application of such article, to terminate the powers, duties and office of the state fire marshal and provide for the care and records of his office.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Article 10-a of chapter 33 of the laws of 1909, entitled "An act in relation to insurance corporations, constituting chapter 28 of the consolidated laws", as added by chapter 451 of the laws of 1911 and amended by chapter 453 of the laws of 1912 and chapters 192, 204, 214, 303, 393, 405, 431, 432, 433, 434, 520 and 523 of the laws of 1913, and comprising sections 350 to 375 inclusive, and sections 377 to 379, inclusive, is hereby repealed and the office of state fire marshal and all offices and positions therein abolished. All property, books, papers, records and documents pertaining to the office, powers and duties of state fire marshal in the possession or control of such officer or his subordinates, shall be delivered on demand to the director of the state library and by him kept and preserved until otherwise provided by statute.

2. Section 2 of chapter 453 of the laws of 1912, entitled "An act to amend the insurance law, in relation to state fire marshal", is hereby repealed.

3. This act shall take effect immediately.

STRIKE AT 50-FOOT GARAGE LAW.

After Successful Separator Fight New York Dealers Seek to Eliminate Rule That Would Affect Many Garages.

After successfully defeating the proposed separator law for New York garages, the Automobile Dealers' Association, headed by R. H. Johnston of the White Company, New York City, sought to have the "50-foot garage law" repealed. At a hearing before the Board of Hazardous Trades, President Johnston and others of the association addressed the members and requested that the rule be repealed or made less drastic. The law states that no garage allowing the storage of any volatile inflammable oil shall be permitted within 50 feet of the nearest wall of a building occupied as a school, theatre, or other place of public amusement or assembly.

It was contended by President Johnston that a garage is less hazardous than many other supposedly "safe" buildings, and that were the rule to be rigidly enforced it would unjustly put many garage men out of business. Points made by the dealers at the hearing were summarized as follows:

1. Modern garages are fireproof.
2. Gasoline storage systems are fireproof.
3. Modern gasoline is less volatile than in the early days of the industry.
4. Gasoline is less explosive than commonly believed.
5. Many supposedly "safe" materials are just as combustible as gasoline.
6. Wood takes fire at a lower temperature than gasoline.
7. Garages contain less combustible material than many buildings classed as "safe".
8. There are employees in a garage 24 hours a day, lessening the fire hazard.
9. A garage should be a preferred not a condemned, neighbor.
10. The regulation does not lessen the possibility of panic.
11. The regulation acts as a deterrent to garage erecting; business men will not build if a "movie" man can open up next door and force them out of business.

In the conclusion of a very lengthy report, President Johnston says: "It is my earnest hope, as it is my expectation, that this board will forthwith repeal the regulation complained of. The fact that the board has granted us this hearing shows that it is willing to consider the merits of the regulation, and I trust that the facts presented have been sufficient to convince them that the regulation should not be allowed to remain on the statute books for another day".

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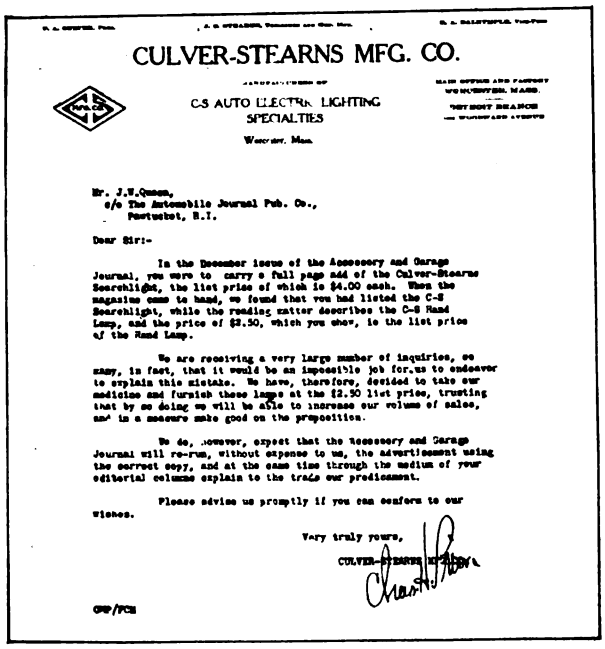
A $4 SEARCHLIGHT FOR $2.50.

Culver-Stearns Mfg. Co. Accepts Price Made by Advertising Error.

To have a price reduction of 37½ per cent. thrust upon him is a shock of monumental proportion to any manufacturer, especially when it is an exclusive product and is conservatively priced, yet this is the experience of the Culver-Stearns Manufacturing Company, maker of electrical specialties at Worcester, Mass., through a blunder in the service department of The Automobile Journal Publishing Company.

In the December issue of this magazine a page advertisement appeared which described a powerful small searchlight with a swivelling bracket that is designed to be clamped on the windshield of a car in front of the driver, that may be operated at will, focussed in any direction or at any angle, and will project a spot light with which signs and numbers may be read at 200 feet. But the price quoted was that of a hand searchlight, and this was $2.50, instead of the $4 at which the lamp described was priced.

The error was discovered through inquiries received by the firm. These referred to the $2.50 searchlight that



CULVER-STEARNS MFG. CO.

C-S AUTO ELECTRIC LIGHTING SPECIALTIES

Worcester, Mass.

Mr. J.W.Queen,
c/o The Automobile Journal Pub. Co.,
Pawtucket, R.I.

Dear Sir:-

In the December issue of the Accessory and Garage Journal, you were to carry a full page ad of the Culver-Stearns Searchlight, the list price of which is $4.00 each. When the magazine came to hand, we found that you had listed the C-S Searchlight, while the reading matter describes the C-S Hand Lamp, and the price of $2.50, which you show, is the list price of the Hand Lamp.

We are receiving a very large number of inquiries, so many, in fact, that it would be an impossible job for us to endeavor to explain this mistake. We have, therefore, decided to take our medicine and furnish these lamps at the $2.50 list price, trusting that by so doing we will be able to increase our volume of sales, and in a measure make good on the proposition.

We do, however, expect that the Accessory and Garage Journal will re-run, without expense to us, the advertisement using the correct copy, and at the same time through the medium of your editorial columns explain to the trade our predicament.

Please advise us promptly if you can conform to our wishes.

Very truly yours,

CULVER-STEARNS MFG. CO.

CSM/FCS

was advertised. Had the company received a few responses to its advertisement explanation might have served to keep the original price, but they were so numerous that this was impossible, and the company decided to sell the searchlight for the price made by the error, as the included letter and the advertisement appearing in this issue will evidence.

While the incident was decidedly unfortunate, it demonstrated three facts that are especially significant. First, that advertising in the Accessory and Garage Journal is productive of remarkable results; second, that the Culver-Stearns Manufacturing Company stands behind its business announcements without reservation or qualification and did not seek to explain what on the face, at least, is a probability of small profit from what promised to be extremely profitable; and third, that those who buy the C-S searchlight will secure the largest value for the cost they ever obtained. The facts stated are established by the facsimile letter, which is made part of this statement, which is, in all fairness, due to the Culver-Stearns Manufacturing Company and to the trade

SPARK PLUG MEN MEET.

Association of Manufacturers Adjourn Annual Meeting in New York City to Jan. 27.

The Association of Spark Plug Manufacturers, New York City, held its annual meeting in that city recently and, according to J. W. Fischer, secretary, the pressure of outside business on the part of several active members made it impossible to carry out the programme outlined. Consequently an adjournment was taken until Jan. 27, at Chicago, Ill., when the annual business for the year will be transacted.

The association has several important matters under consideration and final action will be taken on the stand as to syndicate catalogues, jobbers' private brand plugs and the classification of legitimate jobbers will be attempted.

REVISES PRICE LIST.

Fisk Rubber Company Notifies Trade of New Schedule to Become Effective Jan. 1.

Notices have been sent out by the Fisk Rubber Company to the trade announcing a new price list which became effective Jan. 1. The revision is due to the addition of a new tire, one that the company believes will be a popular seller—the Fisk non-skid red top. The tire will be made in all of the principal sizes. The prices on tread casings remain about the same, and on white non-skid casings and gray tubes they are reduced. On the new Fisk red top casings and on red tubes the list is about the same as on the white non-skid and gray tubes heretofore.

WILLYS SELLS INTERESTS.

Disposes of Holdings in Gramm Motor Truck Company and the Garford Motor Truck Company.

John N. Willys, president of the Willys-Overland Company, Toledo, O., maker of the well known line of Overland pleasure and commercial cars, has withdrawn from the Gramm Motor Truck Company, Lima, O., and the Garford Motor Truck Company, Elyria, O. It is also stated that the Willys interests in the agencies of these companies at New York, Boston and Philadelphia have been disposed of. Mr. Willys gained control of the Gramm Company several years ago by purchasing over $500,000 of the $750,000 common stock of the company.

POPE PLANT SOLD.

Pratt & Whitney Company Purchases Main Plant and Will Produce Machinery for Chinese Government.

The main plant of the Pope Manufacturing Company, Hartford, Conn., has been sold to the Pratt & Whitney Company of that city. A certified check of $300,000 was turned over to the receiver. The court passed on the sale and the deed was immediately transferred. The new plant, which will employ about 600 men, will be utilized to complete the Pratt & Whitney Company's contract with the Chinese government for armory and arsenal machinery.

MANUFACTURER LICENSED.

Motor Specialties Company Obtains Right to Manufacture Combination Anti-Rattler and Grease Cup Device.

Announcement is made by the Danver Accessory Company, Pawtucket, R. I., to the effect that the Motor Specialties Company, Waltham, Mass., maker of Mosco specialties, has been granted the right to manufacture the combination anti-rattler and grease cup which was patented Nov. 10, 1914, by the Danver Accessory Company. The device is a ball socket anti-rattler having a screw adjustment and a grease cup.

AUSTIN WINS SUIT.

United States Court Rules Cadillac Motor Car Company Infringed on Two-Speed Axle.

According to advices received from Grand Rapids, Mich., Judge C. W. Sessions of the United States court has ruled that the Cadillac Motor Car Company of Detroit infringed on the patent of Walter S. Austin and has issued an injunction restraining the defendant from using the Austin two-speed axle. The decision also provides for an accounting. The present model of the Cadillac does not contain the two-speed axle.

REORGANIZE COMPANY.

Stockholders of Speedwell Motor Car Company Vote to Continue and New Capital Is Sought.

The stockholders of the Speedwell Motor Car Company, Dayton, O., recently held a meeting and voted to reorganize the company. A plan of procedure is being prepared and additional capital will be interested.

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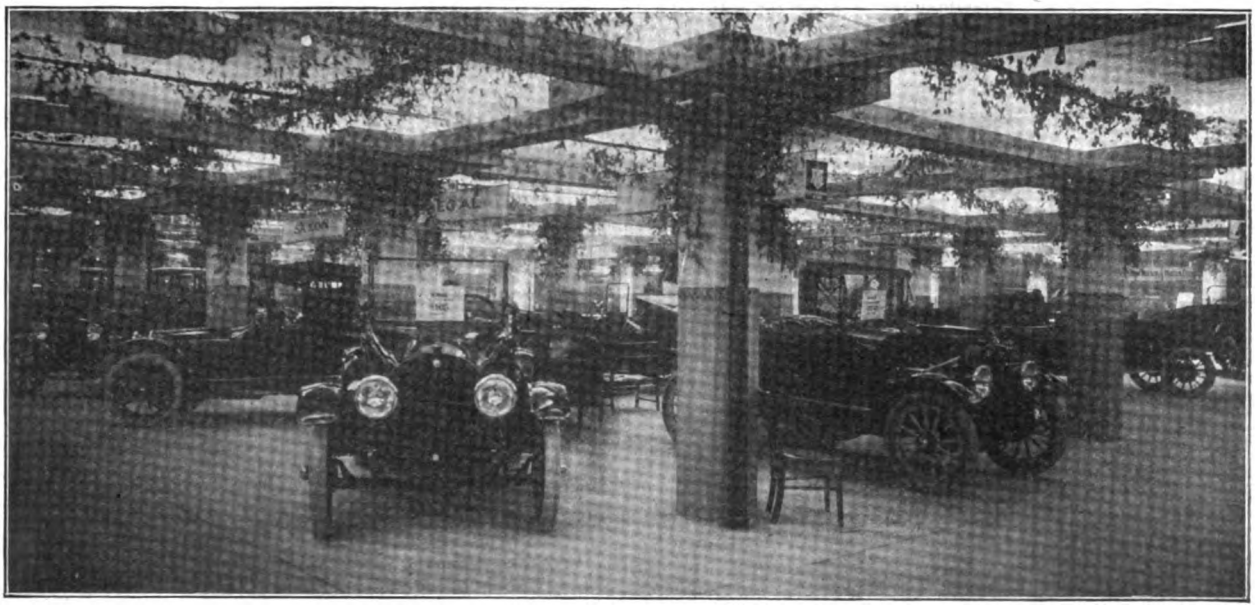
ACCESSORY DISPLAYS A FEATURE OF SHOWS.

ALL things being equal, the present show season may be considered the most successful for automobile and accessory dealers in every part of the country. Following in quick succession the automobile shows in New York, Chicago, Detroit, Philadelphia, Cleveland and a score of other cities, prove the above statement in every respect. Record crowds and sales have been the crowning feature of the shows held to date, and the dealers in the cities where plans are being perfected for these exhibits in the near future predict a similar result. The Boston show, from all indications, will be no exception to the above rule, and New England dealers anticipate a rich harvest.

Features of Detroit Exhibit.

On the day the Chicago automobile show opened, the Detroit exhibition closed. From the dealers' standpoint the latter event was one of the most successful held to date. This show, which was the 14th annual event, included automobiles, accessories and trucks and, despite the extreme bad weather that prevailed throughout the week, the attendance broke all previous records. One of the features of the show was the motor car museum, where all early models of the various manufacturers were exhibtied. The Storms electric passenger cars, made by the Storms Electric Car Company, Detroit, Mich., were seen for the first time at any show. The J. C. Wilson Company exhibited a new worm driven model of the 1½-ton type. The Dominion truck was shown for the first time at any show, the vehicle being made by the New Dominion Motors, Ltd., Walkerville, Ont., and by the Dominion Motor Truck Company, which has just been organized in Detroit. A full line of automobile and accessory exhibits were shown and many novelties were to be seen at the booths.



A General View of the Pleasure Car Section of the Detroit, Mich., Automobile Show, Which Was Held Jan. 16-23.

Chicago Display in Progress.

At the Chicago show, now in progress, there are 141 manufacturers of equipment exhibiting. Of these there are 47 that did not have space at the New York event, and the regular rule of having more accessory exhibitors at the New York show is reversed this year. The Chicago affair has always been known as a dealers' show and, from the reports of the first day or two, this year will prove it more so than ever. Over 18,000 invitations were mailed to agents and garage men throughout the Middle West, and it would seem that the dealers will furnish the most prominent part of the week's display.

Cleveland's $2,000,000 Exhibits.

After a week of successful business the Cleveland automobile show was brought to a most successful close on Jan. 23. Motor cars and accessories were featured to the value of approximately $2,000,000, and these covered a space of some 2½ acres. This year's show was the largest held so far, and the Wigmore coliseum was crowded to capacity during every night of the week. A large volume of business was transacted, and dealers were reported as being satisfied in every particular.

Philadelphia Show a Success.

The exceptionally large attendance, the volume of business done and the general excellence of the exhibits were the features of the 14th annual show held in Philadelphia, Penn., Jan. 9-16. The exhibition occupied 40,000 square feet of floor space, and every exhibitor went on record as being gratified with the financial results accruing from the week's event. The box office receipts attained a total never before approached in that city, and the doubling of the price on Thursday evening had no effect on the enormous attendance.

Milwaukee's Financial Results.

With an attendance of 42,000 at the 1915 automobile show, compared with 36,000 at the 1914 event, the seventh annual exhibition in Milwaukee, Wis., goes down on record as being the most successful ever held. On Jan. 12, "state day", it was estimated that 12,400 people attended, and several important meetings of state associations of dealers and owners were held.

Syracuse Details Arranged.

The seventh annual show of the Syracuse, N. Y., Automobile Dealers' Association will be held at the state armory Feb. 23-27. The exhibit, as in former years, will include pleasure cars, accessories and trucks, all of which will be confined to one floor. The decorative scheme represents a Japanese temple and a rose garden for Infantry hall and Cavalry hall, respectively.

Boston Event Comes in March.

As in former years, the Boston, Mass., show will follow the majority of the big events. To be held March 6-13 at the Mechanics' building, this display will maintain the same standard that has characterized it in previous years, and if the predictions of its manager, Chester I. Campbell, are verified, the dealers will reap a harvest that will greatly exceed that of 1914. In the coming issue of the Accessory and Garage Journal the full details of the Boston show will be given, and it will be replete with information for the dealer and garage man.

Maine Show Is Undecided.

Unless suitable accommodations are found in the near future, the Portland, Me., automobile show will be abandoned for 1915. Last year this event was held in the City hall, but it was shown that this building was inadequate to house such an exhibition. For the present season it was proposed to hold the automobile show in the Auditorium, but it is evident that this structure will not be completed in season, and unless quarters are soon secured it is probable the matter will be postponed until 1916.

Hartford One-Floor Exhibit.

The motto of the Hartford Automobile Dealers Association, Hartford, Conn., for the automobile show, Feb. 6-13, is "bigger, better and busier". It will be held in the state armory and every effort is being made to have something that the dealers will remember as being the most successful financial undertaking of the year. A purely American effect will be given, the color scheme being red, white and blue.

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DETAILS OF NEW EIGHT-CYLINDER CARS.

WHEN the Cadillac Motor Car Company, Detroit, Mich., announced the first eight-cylinder car to be built in America but a few months back, the opinion of the dealers varied considerably as to the ultimate popularity of the eight. However, all doubts as to the success of this type have been laid to rest, as the exhibition of the companies making eights were crowded at the recent automobile shows, and from the sales made by dealers handling these lines it was proven that it was not all mere curiosity. Since the advent of the Cadillac eight last fall eight other car manufacturers have joined the ranks of the eight-cylinder model, and five motor concerns are turning out this type of engine in the United States. The cars are: The Abbott, Cadillac, Cole, Detroiter, King, Marion, Regal, Remington and Ross. These range in price from $1250 to $1975. The concerns manufacturing motors only are: Buda, Davis, Herschell-Spillman, Northway and Perkins.

The latest company to come forth with an eight is the Cole Motor Car Company, Indianapolis, Ind. This concern held back its announcement until the opening of the Chicago automobile show, and the public was given an extra surprise on that occasion. The Cole eight motor, a Northway, is cast in blocks of four at 90 degrees to each other, has a bore of 3⅛ inches and a stroke of 4½, giving it a horsepower rating, S. A. E. formula, of 39.22. The three-passenger roadster and the seven-passenger touring both sell for $1785. Other detailed specifications are given in the accompanying table.

Another car to make its debut at the Chicago show was the Ross eight, made by the Ross & Young Machine Company, Detroit, Mich., a concern that has been making parts for car manufacturers for many years. The feature of the car, aside from its motor, is the price, $1350 for the five-passenger touring, the only body offered at the present time. Both the motor and the starting and lighting systems of the Ross car are made in the company's plant. The drive is from the propeller shaft and Timken axles, and is taken through the springs on the Hotchkiss principle. The body is of the streamline boat shape, and a clean line is given from the radiator to the rear of the car.

Elsewhere in this issue the full description of the new Remington Greyhound eight is given. This car, made by the Remington Motor Company, 2 Columbus circle, New York City, sells for $1495, and is made in a two, four or six-passenger body. Likewise, an excellent idea may be gathered of the eight by referring to the specifications printed herewith, and the illustration of the motor printed elsewhere in this issue.

The Regal Motor Car Company, Detroit, Mich., is producing an eight for $1250, this having a V type motor, with a bore of 2⅞ inches and a stroke of 4½, a 112-inch wheelbase and full equipment. The eight cylinders are cast in two blocks of four each, the cylinders being of the L head type with the valves on the inside. Externally the motor is made particularly clean by means of a removable horizontal plate connecting the two sets of cylinder heads. The plate can be removed for valve adjustment, and the cylinder heads are also removable, one casting covering each block of four cylinders. The electric equipment includes a Rushmore generator on the forward left side of the motor, with the cranking motor connecting to the flywheel.

Another surprise was occasioned when the Abbott eight was announced recently. This car, now made by the Consolidated Motor Car Company, Detroit, Mich., is in the form of a three-passenger roadster or five-passenger touring car, each selling for $1685. Lighting and starting is by either Remy or Disco, this being optional, and a Zenith carburetor and the Atwater Kent ignition are employed. The motor, L head, water cooled, is cast en bloc, having a bore of 3⅛ inches and a stroke of 4½, giving it a rating of 31.25, according to the S. A. E. formula. Other details are printed herewith.

Selling under $1300, the Detroiter eight, the product of the Briggs-Detroiter Company, Detroit, Mich., is offered in the form of a five-passenger touring model. The motor is of the L head type, cast en bloc, with a bore of 2¾ and a stroke of 4½, giving an S. A. E. rating of 24.25 horsepower. It has a Zenith two-jet carburetor, and a distributor is employed for the ignition.

The Marion Motor Car Company, Indianapolis, Ind., announces a $1500 eight, having a V shaped motor with a bore of 3⅛ inches and a stroke of 4½. This model is made either in the form of a Bobcat roadster or a five-passenger touring car, the wheelbase of which is 115 inches.

SPECIFICATIONS OF 1915 EIGHT-CYLINDER CARS.

Key to Abbreviations: Cylinder type—I, valves in the head; L, L head. How Cast—B, en bloc; P, in pairs; S, separately; T, in triplets. Lubrication—C, combination; F, pressure; S, splash with pump circulation. Cooling—A, air; P, pump; T, thermo-syphon. Fuel feed—G, gravity; P, pressure. V, Vacuum. Carburetor—A, W. T.; Car., Carter; C. R. G.; Flet., Fletcher; Hol., Holley; John., Johnson; King., Kingston; Mar., Marvel; Mas., Master; May., Mayer; New., Newcomb; Pl., Plunhard; Ray., Rayfield; Sch., Schebler; Stew., Stewart; St., Stromberg; Zen., Zenith; Zep., Zephyr. Ignition—A. K., Atwater Kent; Bos., Bosch; Br., Briggs; Conn., Connecticut; Del., Delco; Else., Eisemann; King., Kingston; Mich., Michigan; Nat., National; Sim., Simms; Spl., Splitdorf; West., Westinghouse. Clutch—C, Cone; CB, contracting band; D, disc; DP, dry plate; EB, expanding band. Transmission—F, friction; FF, double friction; Pl, planetary; Pr, progressive; S, selective. Rear axle—D, dead; F, full floating; ½, semi-floating; ¾, three-quarter floating. Starting and lighting—App., Apple; Apl., Apelco; Bij., Bijur; Dyn., Dyneto; G. & D., Gray & Davis; Leece-N., Leece-Neville; N. East., Northeast; Roth., Roth Bros. Special; Rush., Rushmore; Sim., Simms; Ward-L., Ward-Leonard; West., Westinghouse. Driver—L, left; R, right; O, optional.

Make and Model.	Seats	Price	Seats	Price	Cyl. Type	How Cast	Bore and Stroke	S. A. E. H. P.	Piston Dis.	Lubrication	Cooling	Fuel Feed	Ignition	Transmission	Speeds	Rear Axle	Wheelbase	Tires	Lighting and Starting	Driver
	Roadster		Touring																	
Abbott	3	$1685	5	$1685	L	B	3⅛x4½	31.25	——	P	P	V	Zen.	AK	S	F	116	34x4	*Remy	L
Cadillac	4	1975	7	1975	L	B	3⅛x5¼	31.25	314.0	P	P	P	Own	Del.	S	F	122	36x4½	Del.	L
Cole	3	1785	7	1785	L	B	3½x4½	39.22	346.0	P	P	V	St.	Del.	S	F	126	35x4½	Del.	L
Detroiter	—	——	5	1295	L	B	2¾x4½	24.20	214.0	P	P	G	Zen.	*	S	F	112	33x4	*	L
King D	2	1350	5	1350	L	B	2¾x5	24.20	237.5	P	T	V	Own	AK	S	F	113	33x4	Ward-L.	L
Regal	—	——	5	1250	L	B	2⅞x4½	23.20	233.7	—	—	—	——	AK	S	F	112	33x4	Electric	L
Remington	2	1495	*4	1495	—	—	3⅛x4½	31.25	276.1	P	P	—	Zen.	AK	S	F	116	35x4½	G. & D.	L
Ross	—	——	5	1350	L	B	3 x4½	28.40	——	P	V	—	——	AK	S	F	115	34x4	Own	L

* Abbott—Starting and lighting, Remy or Disco. Detroiter—Ignition, distributor; starting and lighting, two-unit. Remington—Built with 2, 4 or 6-passenger body.

WORKING OVERTIME.

Plant of Oakes Company, Indianapolis, Ind., Operating to Capacity to Supply Horns, Etc.

The Oakes Company, Indianapolis, Ind., reports that its plant is being operated day and night to fill orders for the Beartone horn and other specialties produced by this concern. The large volume of this business is stated to be with foreign countries.

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UNUSUAL SERVICE BY MAXWELL COMPANY.

Maintains Large Plant at Newcastle, Ind., for Supplying Parts for Cars Made by United States Motor Company—Orders Promptly Filled.

DEALERS and garage men throughout the country will welcome the step taken by the Maxwell Motor Sales Corporation, Newcastle, Ind., in issuing the "Dealers' Master Parts Price List". The Maxwell Motor Company, Detroit, Mich., is devoting its whole plant at Newcastle to rendering service to the dealers who are interested in Maxwell-Briscoe, Stoddard-Dayton. Brush, Everitt, Columbia and Courier automobiles and Alden Sampson trucks.

Small Parts Bins and Checking Service Stock at the Maxwell Newcastle Plant.

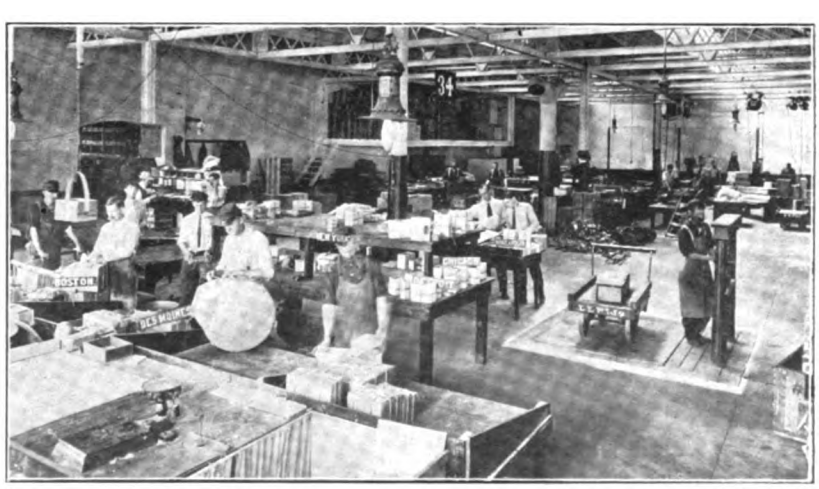
In the 416-page book, issued by the Maxwell Motor Sales Corporation, the prices of parts, numbers and names of same, instructions on ordering, etc., for the 164 different models are given. It is divided into sections, and each section covers all the models of one make of car. For example, the Stoddard-Dayton section is printed on yellow stock, the Brush models on pink, and the Columbia list is made up of buff. This makes it easy to find the sections and, as the first page of each section is indexed, it is a simple matter to locate any particular model or part.

By addressing the Maxwell Motor Sales Corporation, Newcastle, Ind., any dealer or garage man will be furnished with a copy gratis, and this contains a full price list, together with discounts.

One who has not visited Newcastle recently has no conception of the service that is being rendered to the dealers in connection with the cars named above. When it is recalled that, at the time the Maxwell Motor Company purchased this plant from the receivers of the United States Motor Company, and President Flanders had decided that it would be devoted to giving service on cars made by the United States Motor Company, there were on hand in the neighborhood of 3000 unfilled parts orders and over 2000 unanswered communications, some idea of the gigantic task that confronted the new concern may be had. Within three months after organization of the plant as a service headquarters, all of these orders and communications had been cared for and the plan, which has proven so effective, put into operation.

At the present time this big three-story factory is flooded with sunshine, the hundreds of windows giving daylight conditions to the small army of contented men and women who are taking care of between 600 and 800 orders daily. It is a law of the factory that every order must be on its way within 24 hours after its arrival in Newcastle. J. E. Burns, manager of the plant, sees that every order, whether small or large, receives the same prompt attention, and the records show that for months the average daily shortage has never exceeded 10 orders.

When it is out of the question to fill an order within 48 hours, the customer is so advsied by a special letter and an approximate date of shipment is given. To make this 24-hour service possible, it is necessary that the company carry in stock quantities of 34,950 different kinds of parts continuously. This stock inventories close to the $2,000,000 mark. In addition to this the company carries a $250,000 parts inventory in the San Francisco warehouse for service to customers in the Far West. Storage for this immense stock requires the entire floor space in the three-story building, which comprises the greatest portion of the Maxwell Newcastle plant. The building is 60 feet wide by 722 feet long and contains 49,000 part bins, literally miles of specially constructed racks for fenders, radiators, wheels, etc. Thousands of square feet of floor space is required for bulky material not binned or racked, such as bod-



A Corner of the Shipping Room Where Parts for the Maxwell-Briscoe, Stoddard-Dayton, Brush, Etc., Are Shipped.

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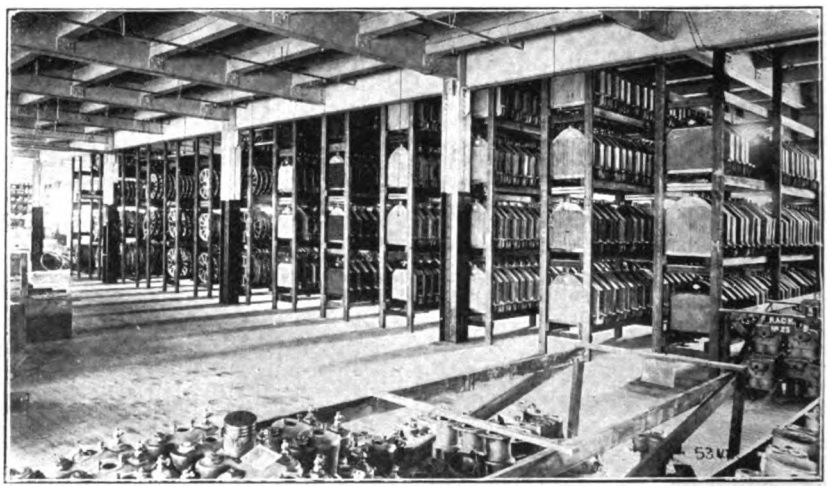
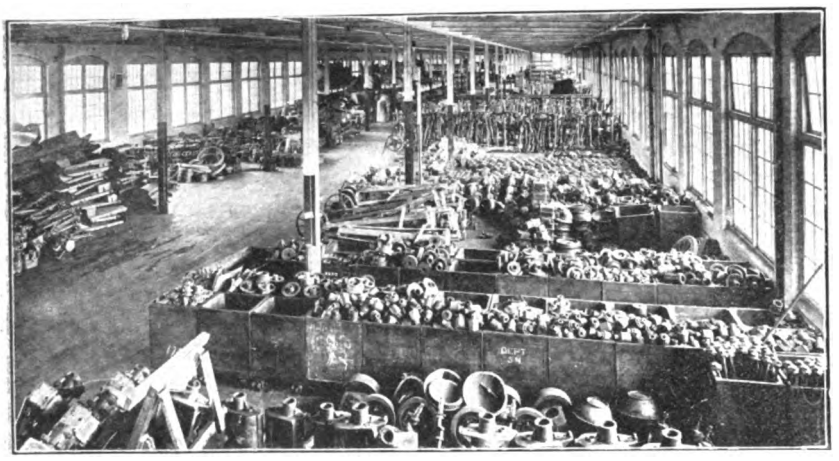
ies, frames and motors.

Manager Burns has thoroughly standardized every department and stands ready to give the visitor any information desired. He states that there are 34 stenographers employed to handle the correspondence and billing, that Newcastle is practically the centre of population and that its freight and express service is unsurpassed. Newcastle has four first-class incoming mail deliveries and the same number outgoing. Two incoming and four outgoing parcel post deliveries are made in an eight-hour day, and in addition to this there are eight incoming and 12 outgoing express deliveries. These are supplemented by hourly service to steam and electric depots by a fleet of factory trucks. The Adams, Wells-Fargo and American companies look after the express shipments, while the freight is cared for by two electric lines and the Lake Erie & Western, the Big Four and the Pennsylvania railroads.



Showing Rows of Radiators, Wheels, Fenders and Other Parts in the Storage Warehouse of the Maxwell Motor Sales Corporation.

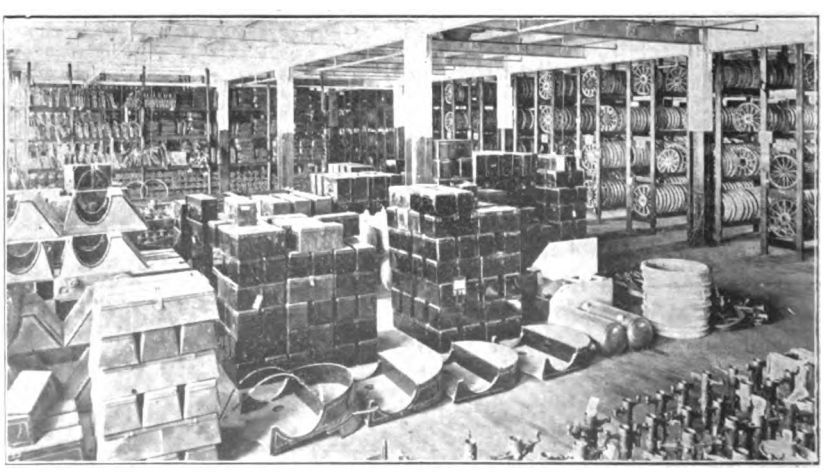


Method of Taking Care of the Heavy Materials That Are Not Binned or Racked.

During the fiscal year ending Aug. 1, 1914, the Maxwell Motor Sales Corporation shipped 2,500,000 pounds, or 1250 tons, of material by express; 6,000,000 pounds, 3000 tons, by freight, and 110,000 pounds, 55 tons, by parcel post. That owners and dealers were quick to take advantage of the service offered by the Maxwell Newcastle plant is proven by the fact that 246,000 individual orders were handled during the fiscal year.

From this brief outline, the work being done by the Maxwell Company at Newcastle may be well appreciated by dealers. It is the object and aim of the company to give all dealers and garage men the benefit of the best service in the world. It was President Flanders' idea that to give service to the owners of cars made by the United States Motor Company they ought to be able to purchase such parts as they might require from time to time from their nearest dealer or garage. In consequence it was decided to allow the regular trade discount to any dealer or garage man regardless of their location or the make of the cars they handled.

This master price list will help a dealer immeasurably, containing as it does prices, numbers and descriptions of so many cars in such compact form. This book is not apt to be lost as are the small individual price lists. The company will gladly send one of these dealers' master price lists to any dealer or garage man upon request, and the company thinks that it will help swell the profits of any man who sends for it. An idea of the labor, time and cost necessary to publish this book is apparent from the fact that it required six months to compile and print it.



The Body Parts, Wheels, Hoods, Windshields, Etc., That Are Kept on Hand by the Hundreds at the Maxwell Company's Newcastle Factory.

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WHEELMEN HONOR CAMPBELL.

Well Known Show Manager Guest of Honor at Third Annual Reunion of Rhode Island Wheelmen.

At the third annual reunion of the Rhode Island Wheelmen, which was, when in its prime, one of the most prominent bicycle clubs in the country, a reception was tendered to Chester I. Campbell, mayor of Quincy, Mass. The event took place at the Crown hotel, Providence, R. I., and the widely known show manager was given an unusually cordial reception by his personal friends.

Chester I. Campbell, Mayor of Quincy, Mass., Guest of Honor at the Third Annual Reunion of the R. I. Wheelmen at Providence, R. I.

The idea of extending personal congratulations to Mayor Campbell on his recent election to that office, originated with a number of his Providence friends, many of whom were associated with him in the days when the bicycle industry flourished.

Many prominent state and city officials were in attendance, and a number of these were members of the Rhode Island Wheelmen when the club house was located on Benefit street in Providence. One of many interesting features of the evening was Mr. Campbell's speech in which he recalled the old bicycling days and those identified with them. Reference was made to the race meets held under the auspices of the club and many interesting anecdotes were related of the members of the club, many of whom were present. The fourth annual reunion of the old bicycle riders will be in charge of George F. Phillips, chairman of the committee.

BOSTON DEALERS' BANQUET.

New Organization Holds Successful Meeting and Price Maintenance and Fair Dealing Are Urged.

The first banquet of the Boston Automobile Accessory Dealers' Association, held at the American house, Jan. 25, was instrumental in bringing together 300 prominent men in the industry from all over eastern Massachusetts. E. A. Gilmore, distributor of the Lewis and Allen cars in New England, acted as toastmaster for the occasion. Mr. Gilmore is the ex-president of the Bay State Automobile Association and, in introducing him, George H. Brophy, president of the new organization, called attention to the fact that men in the accessory lines in other parts of Massachusetts were following the Boston dealers' plan, and that soon it would be possible to have the organization amalgamated so that there would eventually be not only a Boston association, but a Massachusetts one, and finally a New England organization.

John N. Cole, president of the Industrial Development Commission, represented Mayor Curley of Boston and gave a very interesting talk on organization and impressed upon those present the value of co-operation among business men. E. H. Gaunt of the Babson Statistical Organization, Wellesley, Mass., addressed the members and guests, taking the subject, "Co-Operative Competition", and by means of figures cited many illustrations of the success experienced in other lines of business through the co-operation of dealers in the same line of business. Frank W. Whitcher of New York, a member of the maintenance of retail prices committee of the United States Chamber of Commerce, discussed the Stevens bill in all its details and gave some interesting information relative to the recent decisions of the United States courts where they said that a manufacturer could not insist upon a dealer selling at the maker's retail price. He gave the members much advice on what they could do under the present laws, and urged a broad selling policy.

L. C. Rockhill of the sales department of the Goodyear Tire and Rubber Company, Akron, O., came from that city to address the meeting. His topic was "Price Cutting and Organization in the West". Mr. Rockhill pointed out the beneficial results of organizations such as the Boston one, and compared it to some of those in the West with which he was familiar. His speech brought out forcibly the advantages to the dealer who plays fair because the big companies now in the accessory field making articles will give such dealers every opportunity to succeed.

Chester I. Campbell, mayor of Quincy, Mass., and secretary of the Boston Automobile Dealers' Association, gave a short talk on matters pertaining to the motor industry of the city and congratulated the members upon the success which has already crowned the efforts of the association in bringing about a strong state-wide organization of automobile accessory dealers. Mr. Campbell reviewed the good work done during the past year by the association in the way of preventing bad automobile legislation from being enacted, not only in Massachusetts, but also at Washington, and urged the accessory dealers to get together in a like manner.

The banquet ended with cheers for all the speakers and the officers of the association, following the adoption of resolutions favoring the Stevens bill, copies of the resolve being ordered sent to all the Massachusetts senators and representatives, and likewise to President Wilson.

NEW M. A. M. MEMBERS.

List of Motor and Accessory Manufacturers Increased by Addition of Seven New Concerns.

The board of directors of the Motor and Accessory Manufacturers has elected the following concerns to membership: Bearings Company of America, Lancaster, Penn.; Bock Bearing Company, Toledo, O.; Dreadnaught Tire and Rubber Company, Baltimore, Md.; Golde Patent Manufacturing Company, New York City; L. P. Halladay Company, Streator, Ill.; Robert H. Hassler, Indianapolis, Ind.; Sloan & Chace Manufacturing Company, Newark, N. J.

ELECT VANDERVOORT PRESIDENT.

Chosen to Head Society of Automobile Engineers at the Annual Meeting Held in New York City.

At the annual meeting of the Society of Automobile Engineers, held in New York City, Jan. 5-7, W. H. VanDervoort, president of the Moline Automobile Company, Moline, Ill., was elected president for 1915. The following officers were also elected: First vice president, E. H. Hutton; second vice president, J. A. Anglada; treasurer, A. B. Cummer. C. B. Rose, Velie Motor Vehicle Company, Moline, Ill.; John Wilkinson, H. H. Franklin Manufacturing Company, Syracuse, N. Y.; William P. Kennedy and F. M. Germane, Standard Roller Bearing Company, Philadelphia, Penn., were elected councillors.

The report of Secretary Coker F. Clarkson showed an excess of $5505.26 of receipts over expenditures as of Dec. 1, 1914, and that, since the previous meeting, 32 members, 23 associate members, six junior members, one affiliate member, five affiliate representatives and 11 student members had been enrolled in the association.

Henry M. Leland, the retiring president and President VanDervoort made addresses, the former dealing with the work of the association and the future of automobile engineering, and the latter emphasizing the problems of motor vehicle engineers and stating that designing, although seemingly well established, had only begun.

W. H. VanDervoort, President of the S. A. E. for 1915.

One of the features of interest was the presentation of a handsome silver piece to Henry Souther, chairman of the standards committee, to whom is due in no small measure the progress made by the society in standardization, who, because of the pressure of other duties, had retired from the chairmanship after four years' service. Mr. Souther was also honored by election to life membership in the society.

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THE ACCESSORY AND GARAGE JOURNAL

VOL. IV. JANUARY, 1915. NO. 9.

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Publisher of
THE AUTOMOBILE JOURNAL THE MOTOR TRUCK

Offices in New York, Chicago, Detroit and Boston

SUBSCRIPTIONS.

The United States and Mexico, the year, $2 in advance; Canada and Foreign Countries in Postal Union, the year, $3 in advance. Twenty cents the copy.

CONTRIBUTIONS.

Anonymous communications not considered. Correspondence on subjects relating to the motor industry and the trade will receive attention. Stamps must be enclosed to insure return of unsolicited contributions.

ADVERTISING.

Information supplied at request.

Advertising Copy for the ACCESSORY AND GARAGE JOURNAL requiring submission of proof must be received by 5th of month to insure publication in issue of the 15th of month.

Advertising Copy, proof not required, accepted to morning of the day before publishing day (unless such day is Sunday or holiday, when previous day is limit) of each publication.

Entered as second class matter Dec. 30, 1911, at the postoffice at Pawtucket, R. I., under the Act of March 3, 1879.

ABREAST OF THE TIMES.

The progressive dealer, garage man or repair man is one who is familiar with the details and prices of the more recently announced products of the accessory, part, equipment and supply manufacturer. There is no need for any garage man to profess ignorance of a device when his opinion is asked of its merits by an interested customer. To excuse one's lack of knowledge by speaking lightly of the article is poor business practise. The maintaining of a garage involves certain responsibilities, among which is that of keeping abreast of the times. The manufacturer announces his new product through the trade publication, and at the slight cost of a cent for a postal card, the garage man may obtain free for the asking complete details of the new device, also prices.

STEADILY GROWING.

The Accessory and Garage Journal is the only automobile trade publication to make a gain in paid advertising during the past year. The increase in space sold for 11 months in 1914 over entire volume of business of 1913 was 92 per cent. The guaranteed distribution of copies has steadily increased and for any month of the present year the minimum edition will be 20,000. This is very good evidence that in the Accessory and Garage Journal the trade finds what it wants. A trade publication must live on its merits or die on its defects. The Accessory and Garage Journal is a trade publication, has no owners' clientele, and as such is devoted to the interests of the trade. Its editorial and advertising pages keep the reader well informed concerning new material, developments and improvements which have to do with the prosperity of the jobber, dealer, garage man and repair man. The remarkable gain in paid advertising, 92 per cent., is indicative of how carefully the Accessory and Garage Journal is read by the trade. The growth in circulation is just as pronounced as the increase in advertising.

THE FILING OF DATA.

The garage occupies a unique position in the automobile industry in that the demands made upon the proprietor are extremely variable. Today he may be asked to estimate the cost of installing an electric lighting and motor starting system in an old car. Tomorrow another customer may desire figures as to the time and expense involved in replacing a planetary transmission with a sliding gear set. There is no limit as to what is expected of the garage man or repair man; in fact, he is expected to possess the knowledge of a mechanical engineer and a designer. Much of the desired information, including prices, can be promptly secured by maintaining a complete filing system of the data supplied by the manufacturers, which are free for the asking. By filing the catalogues, circulars, data sheets, etc., under their respective heads, a ready reference bureau is afforded, one that will prove invaluable.

THE SILENT SALESMAN.

It is pleasing to note that a large number of garages are making a profitable use of their window space. An attractive window display is a silent salesman and, when the goods are shown to an advantage, increased sales result. With the manufacturer co-operating with the trade by supplying, free, attractive stands, etc., there is no reason why the small garage cannot achieve its share of success. The window display serves another useful purpose. It affords an opportunity to dispose of stock for which there has been little if any demand. By displaying the material at bargain prices many garages have turned into profit what was apparently a loss. Seasonable window displays promote business.

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PLANS COMPLETE FOR CHICAGO SHOW.

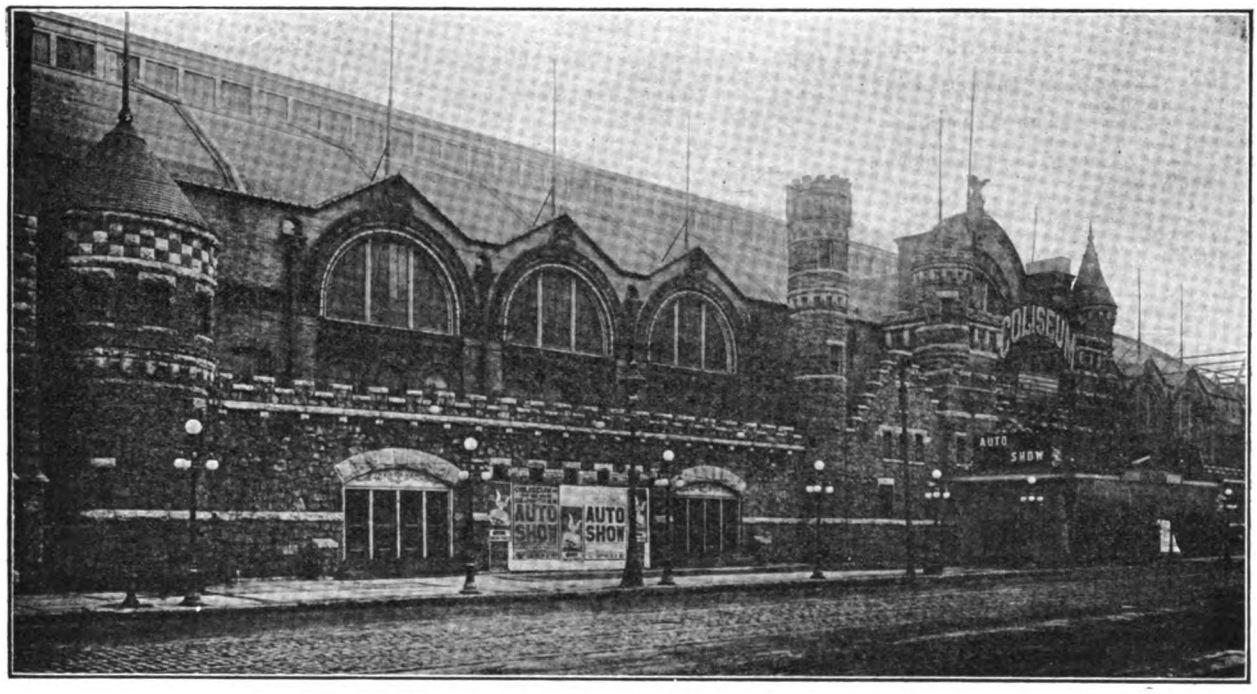
Two Buildings Will Be Given Over to the Exhibits and Decorations Will Be Conservative—List of Exhibitors and Spaces.

ADHERING to its conservative policy as to decorations, the management of the 15th annual Chicago automobile show, Jan. 23-30, will utilize the theme of an old English garden for displaying to an advantage the motor vehicles, accessories, parts, supplies and equipment to be shown in the Coliseum and First Regiment Armory.

The scheme of imparting a rustic atmosphere will be heightened by the use of many tall trees, and pines, bay and box trees and brick walls surmounted with flower pots of rose bushes, quaint iron railings, etc., will complete the effect. Much of the foliage and pines to be utilized will be shipped from Maine and no expense is to be spared to make the decorative display the most artistic ever attempted by the management.

Insofar as the number of exhibitors is concerned, the 15th annual Chicago show promises to eclipse all previous displays. Many manufacturers who exhibited at New York will be at Chicago, where a large number of new cars and accessories will be publicly displayed for the first time.

It is expected that a number of innovations will be introduced, and it is possible that one or more new motors will be seen as was the case last year. Last year there were several new accessories shown for the first time. The display of accessories, supplies and equipment always has been one of the features of the Chicago event and it is expected that this year will be no exception to the rule.



Exterior View of the Coliseum, Chicago, Where 15th Annual Motor Vehicle Show Will Be Held.

Indications presage a larger show than in 1914, and as in the past, the Chicago event will retain rather more of the old time national show atmosphere than is true of the New York exhibition. By this is meant that many dealers of the Middle West and Southwest still make it a practise to visit the Chicago display for the purpose of securing new contracts.

Chicago compares favorably with Boston in the way of actual sales, and while the Boston event is not termed national, manufacturers concede that it is the big retail show of the year. The disposition of the management of the Chicago event is to make it a general meeting place for the manufacturer and the dealer, although, of course, there will be no lack of opportunity to do business directly with the prospective owner.

So great has been the demand for space that it has been found necessary to utilize two additional buildings. These are immediately south of the Coliseum annex, and one of the structures was a part of the show proper last year. These buildings are offered by Edwin Greer & Co. to those who cannot obtain space in the main show.

The event will be under the auspices of the Automobile Chamber of Commerce, as was the New York display. The management is directly in charge of Samuel A. Miles, who has so successfully managed the Chicago displays in the past.

The list of exhibitors and spaces assigned them by the Automobile Chamber of Commerce are as follows:

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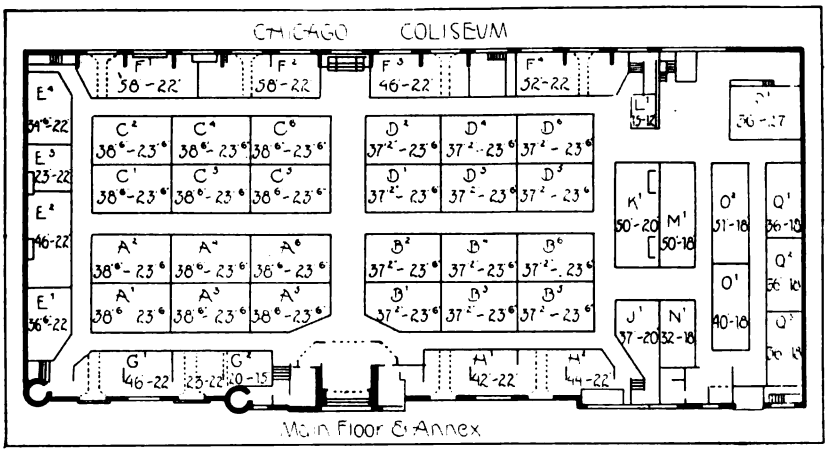
Pleasure Cars.

KEY: C-1, Main Floor Coliseum; C-1-A, Main Floor Annex, Coliseum;



Plan of Coliseum Main Floor and Annex.

C-2, Second Floor Coliseum; C-2-A, Second Floor Coliseum Annex; C-B, Basement Coliseum; A-1, Main Floor Armory; A-G, Armory Gallery.

(C-1-A) N-1—Abbott Motor Car Co., Detroit, Mich.
(A-1) E-1—Allen Motor Co., Fostoria, O.
(A-1) B-3—American Electric Car Co., Saginaw, Mich.
(A-1) A-8—Anderson Electric Co., Detroit, Mich.
(C-1) F-4—Apperson Bros. Automobile Co., Kokomo, Ind.
(C-B) 3—Argo Motor Co., Inc., Jackson, Mich.
(C-1-A) M-1—Auburn Automobile Co., Auburn, Ind.
(A-1) D-1—Austin Automobile Co., Grand Rapids, Mich.

(A-1) A-2-G—Baker Motor Vehicle Co., Cleveland, O.
(A-1) D-2—Bartholomew Co., Peoria, Ill.
(C-1) G-2—Briggs-Detroiter Co., Detroit, Mich.
(A-1) C-1—Briscoe Motor Co., Jackson, Mich.
(A-1) C-2—Buckeye Mfg. Co., Anderson, Ind.
(C-1) C-5—Buick Motor Co., Flint, Mich.

(C-1) A-6—Cadillac Motor Car Co., Detroit, Mich.
(C-1) E-1—Cartercar Co., Pontiac, Mich.
(C-1) D-6—Case Threshing Machine Co., Inc., J. I., Racine, Wis.
(C-1) B-6—Chalmers Motor Co., Detroit, Mich.
(C-1-A) O-2—Chandler Motor Car Co., Cleveland, O.
(A-1) A-5—Chevrolet Motor Co., Flint, Mich.
(C-1) A-2—Cole Motor Car Co., Indianapolis, Ind.
(A-1) E-2—Crow Motor Car Co., Elkhart, Ind.

(A-1) C-3—Davis Motor Car Co., Geo. W., Richmond, Ind.
(A-1) B-4—Dodge Brothers, Detroit, Mich.
(C-B) 12—Durant-Dort Carriage Co., Flint, Mich.

(A-1) C-4—Elkhart Carriage and Harness Co., Elkhart, Ind.
(A-1) C-6—Enger Motor Car Co., Cincinnati, O.

(C-1-A) Q-1—Fiat Co., Poughkeepsie, N. Y.
(C-1) B-3—Franklin Mfg. Co., H. H., Syracuse, N. Y.

(C-1) E-2—Garford Co., Elyria, O.
(C-1) H-1—Haynes Automobile Co., Kokomo, Ind.
(C-B) 15—Herff-Brooks Corp., Indianapolis, Ind.
(C-1) D-3—Hudson Motor Car Co., Detroit, Mich.
(C-1) D-2—Hupp Motor Car Co., Detroit, Mich.

(C-1) L-1—Imperial Automobile Co., Jackson, Mich.
(A-1) C-5—Inter-State Motor Co., Muncie, Ind.

(C-1) J-1—Jackson Automobile Co., Jackson, Mich.
(C-1) C-3—Jeffery Co., Thomas B., Kenosha, Wis.

(C-1-A) Q-2—King Motor Car Co., Detroit, Mich.
(C-1) C-4—Kissel Motor Car Co., Hartford, Wis.
(C-1) B-1—Krit Motor Car Co., Detroit, Mich.

(A-1) E-6—Lexington-Howard Co., Connersville, Ind.
(C-1) C-2—Locomobile Co. of America, Bridgeport, Conn.
(C-B) 13—L. P. C. Motor Co., Racine, Wis.
(A-1) B-2—Lyons Atlas Co., Indianapolis, Ind.

(A-1) E-3—McFarlan Motor Co., Connersville, Ind.
(C-1-A) Q-3—McIntyre Co., W. H., Auburn, Ind.
(C-1) A-4—Maxwell Motor Co., Inc., Detroit, Mich.
(C-1) E-3—Mercer Automobile Co., Trenton, N. J.

(A-1) A-1—Moline Automobile Co., Moline, Ill.
(C-1) E-4—Moon Motor Car Co., St. Louis, Mo.
(A-1) B-6—Motor Car Mfg. Co., Indianapolis, Ind.

(C-1) F-3—National Motor Vehicle Co., Indianapolis, Ind.
(C-1) H-2—Nordyke & Marmon Co., Indianapolis, Ind.

(C-1) D-5—Oakland Motor Car Co., Pontiac, Mich.
—— —Ogren Motor Car Co., Chicago, Ill.
(A-1) A-6—Ohio Electric Car Co., Toledo, O.
(C-1) F-2—Olds Motor Works, Lansing, Mich.

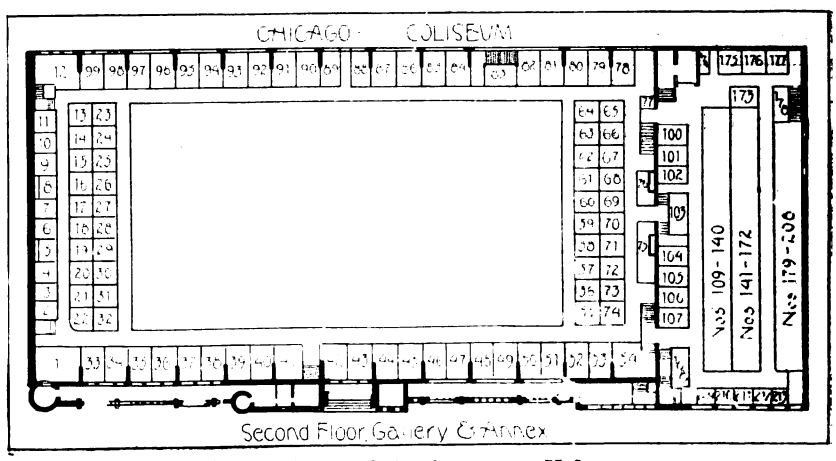
(C-1) C-1—Packard Motor Car Co., Detroit, Mich.
(C-1) K-1—Paige-Detroit Motor Car Co., Detroit, Mich.
(A-1) E-4—Paterson Co., W. A., Flint, Mich.
(C-1) A-3—Peerless Motor Car Co., Cleveland, O.
(C-1) B-4—Pierce-Arrow Motor Car Co., Buffalo, N. Y.

(A-1) A-4—Rauch & Lang Carriage Co., Cleveland, O.
(C-1) D-4—Regal Motor Car Co., Detroit, Mich.
(C-B) 1—Remington Motor Co., New York City.
(C-1) G-1—Saxon Motor Co., Detroit, Mich.
(C-B) 4—Scripps-Booth Co., Detroit, Mich.
(C-1) F-1—Stearns Co., F. B., Cleveland, O.
—— —Stevens-Duryea Co., Chicopee Falls, Mass.
(C-1) B-2—Studebaker Corp., Detroit, Mich.
(C-1-A) P-1—Stutz Motor Car Co., Indianapolis, Ind.

(C-B) 17—Trumbull Motor Car Co., Bridgeport, Conn.
(A-1) A-7—Twombly Car Corp., New York City.

(C-1) A-5—Velie Motor Vehicle Co., Moline, Ill.
(C-B) 8-9—Vulcan Car Co., Palmesville, O.

(A-1) B-1—Waverley Co., Indianapolis, Ind.
(A-1) B-8—Westcott Motor Car Co., Richmond, Ind.
(C-1) C-6—White Co., Cleveland, O.



Spaces Devoted to Accessory Makers.

(A-1) A-3—Metz Co., Waltham, Mass.
(A-1) B-5—Milburn Wagon Co., Toledo, O.
(C-1) B-5—Mitchell-Lewis Motor Co., Racine, Wis.
(C-1) D-1—Willys-Overland Co., Toledo, O.
(C-1) A-1—Winton Motor Car Co., Cleveland, O.
(A-1) B-7—Woods Motor Vehicle Co., Chicago, Ill.

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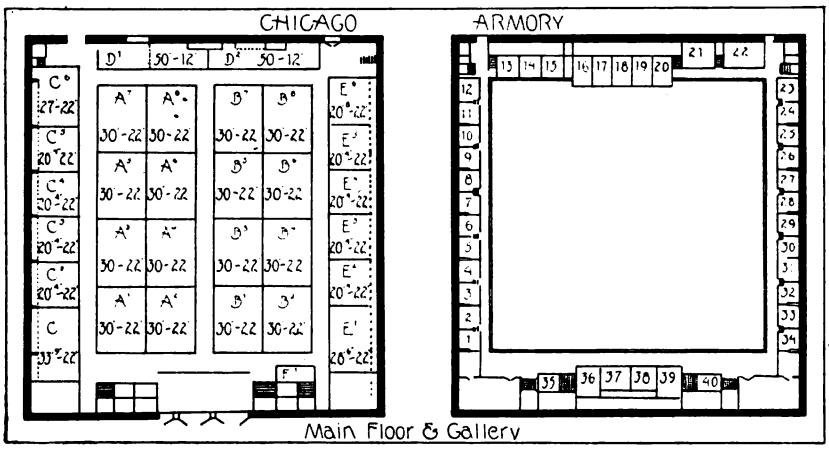
Accessories.

(A-G) 33—Adams & Co., Henry T.
(C-2-A) 137-8—Ajax Trunk & Sample Case Co.



Location of Exhibitors in the Armory.

(C-2) 76—American Bronze Co.
(C-2-A) 193-4—American Taximeter Co.
(C-2) 59—Apple Electric Co.
(C-2-A) 199-200—Arnold, N. B.
(C-2-A) 211—Ashland Mfg. Co.
(A-G) 29—Atlas Automatic Jack Corp.
(C-2) 90—Automobile Supply Co.
(C-2-A) 185-6—Auto Rescue Mfg. Co.

(C-2) 69-76—Badger Brass Mfg. Co.
(C-2-A) 197-8—B. & L. Auto Lamp Co.
(C-2) 60—Benford Mfg. Co.
(C-2-A) 164-5—Benjamin Electric Mfg. Co.
(C-2) 80—Blackeldge Mfg. Co., J. W.
(C-2-A) 132-4—Bock Bearing Co.
(C-2-A) 189-90—Braender Rubber & Tire Co.
(C-2-A) 135-6—Brown Co., Syracuse N. Y.
(C-2) 38—Brown-Lipe-Chapin Co.
(C-2) 4—Brown Trailog Co.
(A-G) 39—Buchanan Electric Steel Co.
(C-2) 34—Buda Co.
(C-2) 64—Byrne, Kingston & Co.

(C-2) 10-11—Carr & Co., F. S.
(A-G) 38—Celfor Tool Co.
(C-2-A) 209—Champion Ignition Co.
(C-2-A) 176—Champion Spark Plug Co.
—— —Charter Single Sleeve Motor Co.
(A-G) 2—Chicago Electric Specialties Co.
(A-G) 34—Chilton Co.
(A-G) 36-37—Class Journal Co.
(C-2-A) 175—Cleveland Worm & Gear Co.
(C-2) 39—Continental Motor Mfg. Co.
(C-2) 74—Cowles & Co., C.
—— —Cox Brass Co.
(C-2) 79—Cramp & Sons Ship & Engine Bldg. Co., William
(A-G) 7—Currier-Koeth Mfg. Co.
(A-G) 8—Curtis Pneumatic Machinery Co.
(A-G) 31—Cutler-Hammer Mfg. Co.
(A-G) 20—Cutting & Smith Sales Co.

(C-2-A) 173—Daniels, Smalley
(C-2-A) 151-2—Dann Oil Cushion Spring Insert Co.
(A-G) 15—Davis Mfg. Co., D. L.
(C-B) 20—Day Tire Protector Co.
(C-2) 15—Detroit Lubricator Co.
(A-G) 27-28—Detroit Steel Products Co.
(C-2) 32—Dixon Crucible Co., Joseph
(C-2) 89—Doehler Die Casting Co.
(C-2) 42—Double Fabric Tire Co.
(C-2-A) 122-127—Dreadnought Tire & Rubber Co.

(C-2) 18—Dykes Co., John L.
(C-2) 16—Dyneto Electric Co.

(C-2-A) 203-4—Edelman & Co., E.
(C-2) 51—Edison Storage Battery Co.
(A-G) 35—Electric Products Co.
(C-2) 44-45—Electric Storage Battery Co.

(C-2) 35—Findeisen & Kropf Mfg. Co.
(A-G) 32—Forest City Electric Co.
(C-2-A) 153-4—Fraser Lubricator Co.
(C-2-A) 201-2—Fulton-McCutcheon Co.

(C-2) 50—Gabriel Horn Mfg. Co.
(C-2) 20-21—Garage Equipment Co.
(C-2) 98—Garford Mfg. Co.
(C-2) 2—Globe Machine & Stamping Co.
(C-2-A) 159-60—Globe Rubber Tire Mfg. Co.
(C-2-A) 128-31—Golde Patent Mfg. Co.
(C-2) 19—Gould Storage Battery Co.
(C-2) 56-73—Gray & Davis.
—— —Gray Bros. & Co.

(C-2-A) 105-6—Halladay & Co.
(A-G) 19—H. & D. Co.
(C-2) 63—Harris Oil Co., A. W.
(C-2) 52-53—Hartford Suspension Co.
(C-2-A) 103—Hassler, Robert H.
(C-2) 6—Hayes Mfg. Co.
(C-2) 96—Heinse Electric Co.
(C-B) 14—Hick-Myer Deflector Co.
(C-2) 78—Hoffecker Co.
(A-G) 9—Holt-Welles Co.
(A-G) 1—Horseless Age Co.
(C-B) 2—Hunter Auto Supply Co.

(C-B) 21—K. & W. Rubber Co.
(C-2) 25—Kellogg Mfg. Co.
(C-2-A) 147-8—Kemco Electric Mfg. Co.
(C-2) 5—Kent Mfg. Co., Atwater.
(C-2) 64—Kokomo Electric Co.
(C-2-A) 100—K-W Ignition Co.

(C-2-A) 102—Leather Tire Goods Co.
(C-B) 18—Leece-Neville Co.
—— —Lipman Air Appliance Co.
(C-2) 46-47—Lovell-McConnell Mfg. Co.

(C-2-A) 179-80—McQuay-Norris Mfg. Co.
(A-G) 10—Massnick-Phipps Mfg. Co.
(C-B) 19—Master Carburetor Corp.
—— —Mathieson Spring & Cushion Wheel Co.
(C-2-A) 183-4—Mayo Mfg. Co.
(C-2-A) 139-40—Metal Stamping Co.
(C-2-A) 171-2—Miller, Chas. E. (Anderson Rubber Works) Anderson Ind.
(C-2-A) 141-2—Morrison-Ricker Mfg. Co.
(C-2) 83—Mosler & Co., A. R.
(C-2-A) 161-2—Mossberg Co., Frank
(A-G) 25—Motor Magazine
(A-G) 6—Motor Vehicle Pub. Co.
(C-2) 31—Motsinger Device Mfg. Co.

(C-2) 61—National Coil Co.
(C-2-A) 178—New York Coil Co.
(C-2) 97—N. Y. & N. J. Lubricant Co.
(C-2-A) 166-7—Nishoff & Co., Paul G.
(C-2) 30—North East Electric Co.

(A-G) 4—Oakes Co., The

(C-2) 13-14-23-24—Pantasote Co.
(A-G) 5—Peerless Motor Specialty Co.
(C-2-A) 143-46—Perkins-Campbell Co.
(C-B) 11B—Philadelphia Storage Battery Co.
—— —Picard & Co.
(C-2-A) 168-70—Pierce Speed Controller Co.
(C-2-A) 119-20—Pittsburg Model Engine Co.
(C-2-A) 181-2—Platt & Washburn Refining Co.
—— —Positive Supply Co.
(A-G) 3—Power Gas Products Co.
(C-2-A) 195-6—Pratt Mfg. Co.
(C-2-A) 192-3—Pyrene Mfg. Co.

(C-2) 8—Randall-Faichney Co.
(C-2) 29-30—Remy Electric Co.
(A-G) 12—Right Motor Specialties Co.
(C-2) 65—Rose Mfg. Co.
(C-2) 75—Royal Equipment Co.

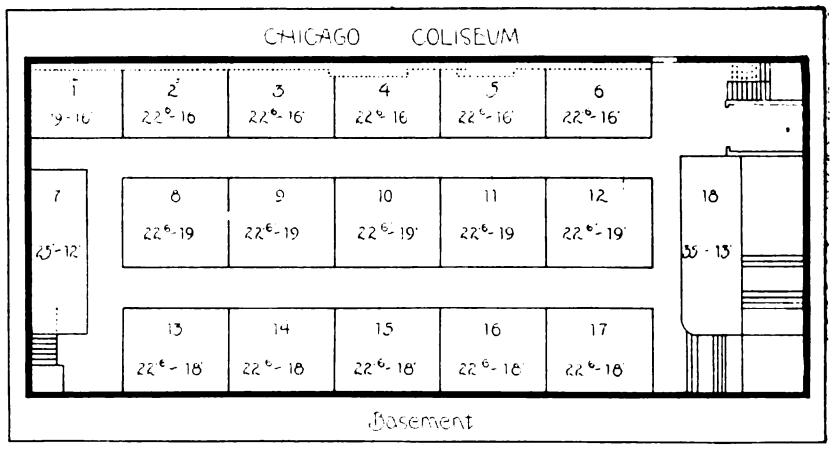


Diagram Showing Spaces in Coliseum Basement.

(C-2) 33—Hydraulic Pressed Steel Co.

(C-2) 91—Imperial Brass Mfg. Co.

(C-2) 99—J. M. Shock Absorber Co.

(C-2) 66-7—Sager Co., J. H.
(C-2) 62—Schraeder's Son, A.
(C-2) 84—Schwartz Wheel Co.
(A-G) 16—Scott, Semple S.
—— —Shakespeare Co., William, Jr.
(C-2) 48-9—Shaler & Co., C. A.

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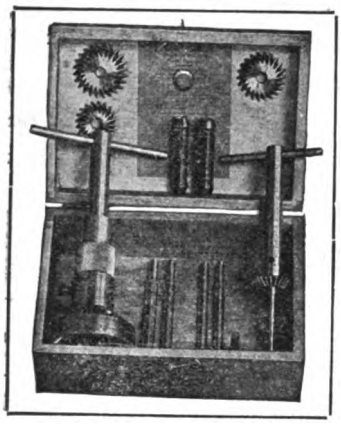
(C-B) 7—Simplex Short Turn Gear Co.
(A-G) 23—So-Sha-Belle Co.
(C-2) 40-41—Sparks-Withington Co.
(C-2) 37—Spicer Mfg. Co.
(C-2) 58-71—Splitdorf Electrical Mfg. Co.
—— —Standard Roller Bearing Co.
(C-2) 3—Standard Thermometer Co.
(C-2-A) 187-8—Standard Woven Fabric Co.
(C-2-A) 101—Stevens & Co.
(C-2-A) 177—Stewart Auto Accessories Co.
(C-2-A) 109-118—Stewart-Warner Speedometer Corp.
(C-2) 57-72—Stromberg Motor Devices Co.
(C-2) 7—Sultzberger & Sons Co.
(C-B) 11A—Sunderman Safety Carburetor Corp.
(C-2-A) 104—Taylor Instrument Co.
(C-2-A) 210—Tingley & Co., C. O.
(C-2-A) 212-13—Triple Action Spring Co.
(C-2-A) 155-6—Tuthill Spring Co.
(A-G) 24—United States Air Compressor Co.
(C-2-A) 205-6—Universal Shock Eliminator Co.
(C-2) 54—Vacuum Oil Co.
(C-2-A) 68—Valentine & Co.
(A-G) 30—Vanguard Mfg. Co.
(C-2) 92—Van Sicklen Co.
(C-2) 55—Veeder Mfg. Co.
(C-2-A) 107—Vesta Accumulator Co.
(A-G) 14—Victor Lamp Co.
(C-2) 93—Voorhees Rubber Mfg. Co.
(C-2) 94-5—Waltham Watch Co.
(C-2) 43—Warner Gear Co.
(C-2-A) 207-8—Wayne Oil Tank & Pump Co.
(C-2-A) 157-8—Weaver Mfg. Co.
(C-2-A) 149-59—Wells Mfg. Co., R. C.
(A-2) 17—Western Tire & Rubber Co.
(C-2-A) 85-88—Westinghouse Electric & Mfg. Co.
(C-2) 22—Wheeler & Schebler
(A-G) 26-7—Willard Storage Battery Co.

FOSNACHT VALVE RESEATER.

Restores Worn Valves and Their Seats Quickly and Accurately, Effecting Economy.

H. G. Paro, suite 718, Michigan Boulevard building, 30 North Michigan avenue, Chicago, Ill., has an exceptional agent's proposition on the Fosnacht valve reseater, shown in an accompanying illustration. This reseater presents a number of practical features, among which is that the tool can be utilized to cut new seats as well as to restore the faces of the valves.



Fosnacht Valve Reseater Outfit.

One of the qualities of the design emphasized is that it will do accurate work and in very fast time, thereby effecting a saving when worn or pitted valves are to be reseated or cut. The equipment is sufficient to handle all types of motors and every tool is guaranteed.

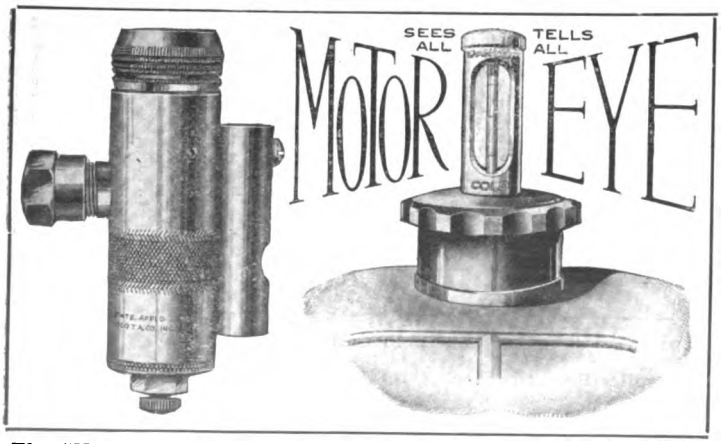
The Kraemer spring valve releaser is another practical tool manufactured by H. G. Paro. It has an adjustable jaw, adapting it to any motor. The agent's proposition on both of these tools is interesting, and dealers, garage men and repair men should investigate the details.

THE "MOTOR EYE".

A Radiator Cap Device Indicating Temperature of Cooling Fluid.

Among the new accessories announced recently is the "Motor Eye", which is being marketed by W. Lewis Mack, general distributor, 24 West Jackson boulevard, Chicago, Ill. It is a practical and inexpensive device for indicating to the operator of a motor vehicle the conditions existing under the hood; that is, the "Motor Eye" registers the temperature of the cooling fluid.

It is attached to the filler cap of the radiator by drilling a 7/16-inch hole and dropping the stem of the device through the opening. The indicator is locked in position by a nut, which is run up on the stem and tightened.



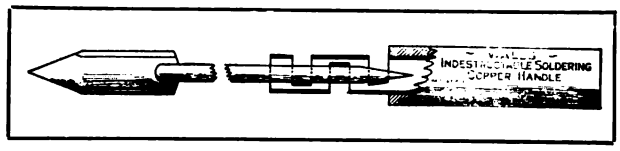
The "Motor Eye", a Device for Recording Temperature of Cooling Fluid, and the Improved Polo Tire Alarm.

The registration of the temperature of the water is obtained by the use of a mercury charged metallic conductor rod, which is in direct contact with the fluid as it enters the radiator. The "Motor Eye" is calibrated and provides readings easily discernible from the driver's seat, even in the dark. The device warns the operator of a motor vehicle against too high temperatures as well as too low. It retails for $2.50, a price that will be very attractive to the motorist, and the discounts provide for a wide margin of profit. Correspondence is solicited.

W. Lewis Mack is also marketing the improved Polo tire alarm, a device which informs the driver of a car in motion when the pressure in any tire falls to the minimum safety point. The model No. 15 is an automatic pressure gauge that is attached to the valve stem when a tube is fitted to a casing. The Polo tire alarm remains in position until the tube is changed. The tire can be inflated or use made of the gauge without removing the alarm. If the service of the signal feature be not desired, it can be dispensed with. The Polo tire alarm is a good selling proposition and the trade is invited to write for details and discounts.

WALLS' SOLDERING HANDLE.

T. P. Walls Tool and Supply Company, 83 Walker street, New York City, is marketing Walls' indestructible soldering copper handle shown herewith. The maker



Walls' Soldering Copper Handle.

states that no matter how hot the soldering iron becomes the handle will remain cool. The handle is made of pressed steel, and a groove locks the shank of the copper, so that the handle and copper become as one.

ESTABLISH DISTRIBUTION CENTRES.

New Departure Manufacturing Company Has Progressive Plan for Benefit of Garage Men.

In order to render better service to garage and repair men, who in turn can have more adequate facilities for their customers, the New Departure Manufacturing Company, Bristol, Conn., maker of the widely advertised New Departure ball bearings, has established distribution centres in all parts of the country. At these stations a complete stock of single-row, Radax types and all other products of the company is carried. These bearings are interchangeable with other standard makes, and a large number of automobile manufacturers throughout the country have adopted New Departure as standard equipment. Garage and repair shops can have orders filled promptly at any of these stations, an arrangement insuring efficient service to the customer. A letter or post card addressed to the company's Bridgeport office will bring full details of the cooperative plan to dealers, garage men, etc.

NEW EISEMANN MAGNETO.

The Eisemann Magneto Company, 32 33rd street, Brooklyn, N. Y., has brought out a new true high-tension magneto, which is dust and water proof. The advantages of the new instrument are clearly described and illustrated in the pamphlet issued by the company. The data will be forwarded on request.

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ACCESSORIES, SUPPLIES AND FITTINGS.

NEW ERA MASTER VIBRATOR.

Is Very Compact and Contact Points Are of Durable Alloy.

The New Era Spring & Specialty Company, 870 Woodward avenue, Detroit, Mich., is marketing the New

Era master vibrator, which is noticeable for compactness, its dimensions being two by two by five inches. The weight is two pounds. One of the qualities of the coil emphasized is the durability of the material used for the contact points, the maker stating that the alloy is harder than platinum, and that they are indestructible. The coil has a hinged cover and the switch lever is of the conventional kick type. It sells for $7.

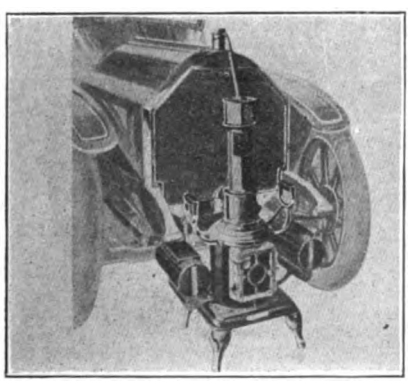
NEVEROUT HEATER.

A Device That Circulates Hot Water Through Motor and Heats Garage.

The Rose Manufacturing Company, 910 Arch street, Philadelphia, Penn., is manufacturing a new form of the Neverout heater, which differs from a previous model in that it is designed to heat the garage, as well as to prevent freezing of the water in the cooling system of the motor vehicle.

Hot water is circulated through the cooling system of the motor by the heater, entering at the top of the radiator, and after circulating through the system, passes out through the drainage petcock, thence to the heater by means of a tube. As long as heat is applied the water is circulated.

The heater burns kerosene, has a capacity of two gallons, and it is stated that the supply is sufficient for 48 hours. Two fuel tanks are included, both have gauges, and either may be used. A blue flame is obtained, providing intense heat, and the blaze is surrounded by a safety screen. A special draft system will prevent smoking or accumulations of carbon. The equipment includes a tube for hooking into the radiator filler opening, as shown in the accompanying illustration.

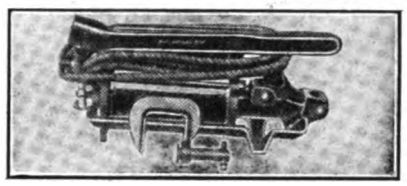


YANKEE TIRE PUMP.

Folds into a Small Package When Not in Service.

The Yankee folding tire pump is produced by the Apex Manufacturing Company, 1410 West 59th street, Chicago, Ill. It is designed to be clamped on the running board of the car when its services are required, and the maker states that it can be quickly placed in the operating position. One of the desirable qualities of the Apex is that it can be folded into a very small package.

When in an operable position, a leverage of seven to one is obtained by a folding lever, which may be used without the operator stooping. The cylinder displacement of the pump is said to be twice that of the ordinary hand pump and that it is

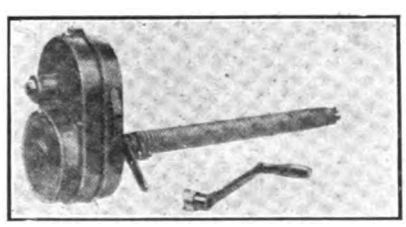


six times as efficient. Suitable length of hose is included with each pump. Without the gauge the pump retails for $5.

OVER-TURN MOTOR STARTER.

A Mechanical Type Designed Especially for the Model T Ford Car.

The Overholt Company, Galesburg, Ill., is marketing the Over-Turn motor starter for the model T Ford car. It is of the mechanical type in that the crankshaft of the engine is revolved by the application of the energy of a coil type of spring, which is released when wound by a trigger or lever on the steering column. The spring automatically rewinds after spinning the crankshaft, and the maker states that the device affords easy starting in cold weather, as the crankshaft of the motor is rotated at



a high rate of spin and for a large number of turns. The starter is attached to the front of the car, and a starting handle is supplied for auxiliary service, such as testing the compression of the motor. The Over-Turn starter lists at $45.

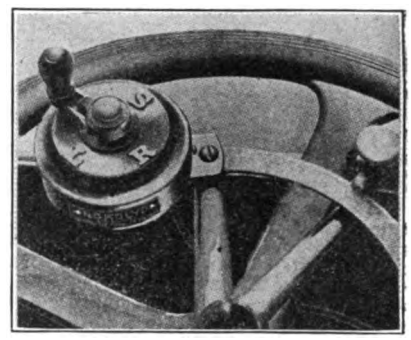
MOTOR STARTERS.

That there is a demand for a practical, efficient device for starting motors not equipped with priming cocks is evidenced by the number offered the motorist. While the electric motor starter practically overcomes starting troubles, there are hundreds of owners who cannot afford the equipment. There is a good field for a moderately priced device that will solve starting problems.

NOKOLYD, A REAR SIGNAL.

Is Controlled by Lever by the Driver and Displays Warning Words.

A novel rear signal that is operated by a small controller conveniently placed on the steering wheel, is the



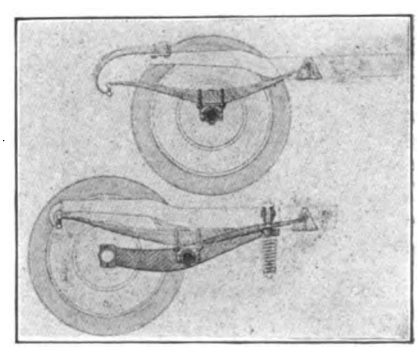
Nokolyd, manufactured by the Nokolyd Signal Company, 40 West 18th street, New York City. The signal proper is attached to a rear fender, where it is plainly visible from a car approaching in the same direction. The signal shows the words "Stop", "Right" and "Left", and these are illuminated at night. The Nokolyd is electrically operated, and the lenses are of different colors, that for "Stop" being red. The letters are white. The signal is as efficient in the day time. It retails for $60.

K. T. LEVER SPRINGS.

New Form of Suspension Prevents Side Sway and Absorbs Shocks.

The K. T. lever springs, marketed by the K. T. Lever Spring Company, 332 West 70th street, New York City, are designed to eliminate road shocks, prevent side sway and to relieve the dead weight on the rear axle. They operate on the lever principle, and the maker states that they permit the wheels of the car to follow every inequality of the road and at the same time transmit but little of the wheel movement to the body of the vehicle.

The lever principle is applied by utilizing a sub-frame, which is attached to the rear axle, and terminates in a fulcrum, where it is suspended from the centre of the main frame of the chassis. The springs are attached to this lever between the fulcrum and the wheels in such manner that side sway, as when turning corners, is eliminated, the maker claims. It is also stated that the lever action of the K. T. spring increases traction, reduces skidding to a minimum and prevents spring breakage. An accompanying illustration shows the K. T. lever springs attached to a machine; also a side view of ordinary springs. Details and prices will be supplied upon request.



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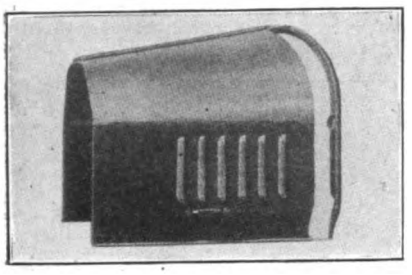
SUPERIOR FORD HOOD.

Affords Streamline Effect and Provides for Ventilation.

Motorists who desire to improve the appearance of their Ford cars will be interested in the Superior stream-



line hood brought out by the Superior Lamp Manufacturing Company, 136 West 52nd street New York City. It is of 16-gauge pressed steel, and one of its desirable qualities is the provision made for ventilation, six gills being provided on each side. These spaces permit the heated air to escape and promote the cooling of the motor.

A special hood rest is included, it replacing the old member, and the regular hood hooks or retainers are utilized with the new hood. The Superior tapers from the top of the dash to the radiator, and on either side. It is finished in baked enamel. Price will be supplied upon request.

TRINITY BELL SIGNAL.

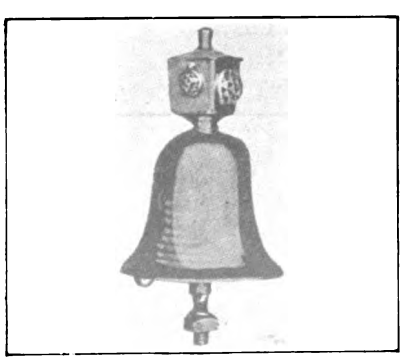
Is Mounted on Radiator Cap and Is Operated by Electricity.

The Electrical Manufacturing Company, 5108 Calumet avenue, Chicago, Ill., maker of electrical specialties for motor vehicles, is producing the Trinity bell, a novel and attractive signal. When in service it is located on the radiator cap, to which it is secured by a lock nut and washer.

The Trinity bell is operated by electricity, a push button, located as desired, cutting in the current from the battery. It is stated that the bell produces a beautiful, clear tone, sufficiently loud to serve all purposes as a warning signal.

One of the novel features of the design is an electric lamp mounted on the top of the bell in which are four lenses. These are red glass, which is standard, but any cardinal color will be supplied. All lenses are demountable and a spring is employed to prevent the tungsten bulb from vibrating loose, as well as to lock the top in place. The last-named member is secured with slots, a patented arrangement. The contact for the light is made automatically. The contact points are of platinum and are adjustable, but set or other screws are not employed.

The standard is cast in one piece, insuring stability, and both the bell and its top are nickel plated, al-



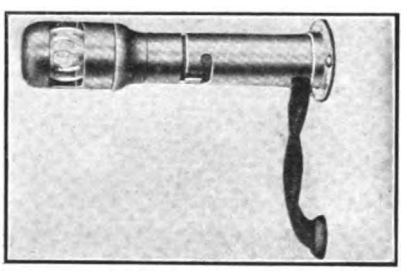
though brass finish is supplied. Four styles are manufactured. That illustrated is the type C, which is six by six inches, and is designed for the limousine. Special designs are produced, all of which are guaranteed for a number of years. The type C, that illustrated, retails for $12.

DE-LITE COMBINATION LAMP.

Provides a Dash and Inspection Light, Easily Operated.

The Culver-Stearns Manufacturing Company, Worcester, Mass., is marketing the De-Lite combination dash lamp and trouble finder. It provides a dash light when fitted, as shown in the illustration, and when its use as an inspection lamp is desired it is easily and quickly detached by unlocking a bayonet catch.

The bulb end of the device is equipped with a removable cap, and ample length of high-grade flexible cord accompanies each light. One of the desirable qualities of the design,

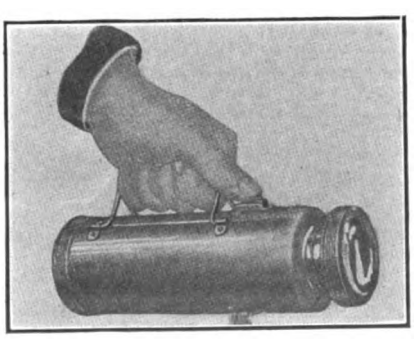


which is very compact and nicely finished, is the ease with which the light may be extinguished. The De-Lite lamp can be economically operated on two dry cells. The lamp employed is a three-volt, one-candle-power, and is protected by a cap which is displaced easily and quickly. De-Light equipment retails for $3. It is sold under a broad guarantee. The discounts are liberal.

BEERS ELECTRIC LAMP.

Is Constructed to Utilize a Dry Cell for Current Supply.

The Beers Sales Company, Bridgeport, Conn., is marketing the Beers



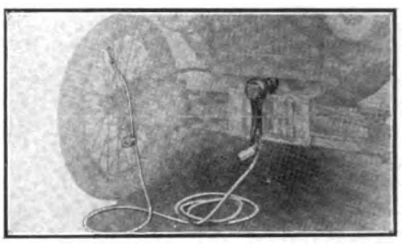
lamp, which is slightly larger than the ordinary dry cell that is utilized to supply current for lighting. The case or container is constructed of seamless brass, polished or nickeled, or pressed steel, with black rubber finish.

The dry cell is installed by unscrewing the end cap of the case, and the contact switch is conveniently located under the thumb, as noted in accompanying illustration. As the handle folds down, the light may be easily stored. The maker states that the lamp is very economical of current, that the light is efficient, and that the low cost of a dry cell makes for economical upkeep. Being very compact the lamp can be easily carried in the tool box.

DELAUNTY POWER TIRE PUMP.

Differs from Usual Practise in That It Replaces Crank.

The Home Light Company, 2108 Dayton street, Chicago, Ill., is manufacturing the DeLaunty power tire



pump and starting crank combined, which is not only a radical departure from tire pumps, but presents many interesting features. It is especially designed for the used motor vehicle and will appeal to those owners on whose machines the installation of an engine driven tire pump is not easily made.

As may be noted by the accompanying illustration, the pump replaces the starting crank and the former is connected to the tire by the usual line of hose. The pump proper is contained in the starting crank and comprises a piston, connecting rod and crankshaft. The last-named member is actuated by the crankshaft of the engine and these components are connected by means of a simple clutch arrangement.

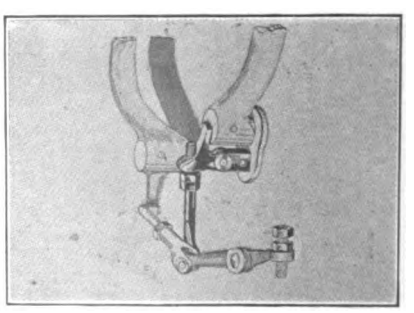
To utilize the pump, a round knurled nut is moved toward the motor, and the nut actuates a floating shaft, also brings into engagement the clutch member. The hose is 12 feet in length and is provided with suitable connections, also a pressure gauge.

The maker states that the tire pump and crank can be installed in less than one hour, and that no drilling or machining is necessary. The pump is stated to have been subjected to severe tests before being placed upon the market, and is sold with a liberal guarantee. The design for the model T Ford car sells for $10.

FORD CLUTCH THROW-OUT.

Device That Disengages Power When Brake Pedal Is Fully Depressed.

The Perkins-Campbell Company, Cincinnati, O., maker of Ford specialties, is marketing the Ford clutch throw-out, a device with which the driver can disengage the clutch by operating the brake pedal. This reduces the effort by 50 per cent., as it is not necessary to operate both the clutch and brake pedals. The clutch throw-out is also of service when utilizing the reverse pedal and will be appreciated by beginners, who generally stall the motor. It affords perfect control when operating the car either forward or backward. The device can be attached in a few minutes, and retails for $1.



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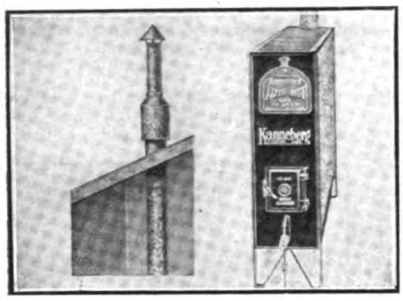
AUTO-HOT GARAGE HEATER.

Burns Illuminating Gas as a Fuel and Has a Safety Device.

The Auto-Hot garage heater, the product of the Kanneberg Roofing and Ceiling Company, Canton, O., is



designed for service in garages not equipped with steam or other forms of heating and where illuminating gas is available as a fuel. The Auto-Hot takes its air supply from the outside of the building, thereby preventing the possibility of gasoline vapor entering the heater.

The maker states that any inflammable gas is prevented from reaching the flame by a safety gauze wire device and that the burner, etc., may be examined at any time. The Auto-Hot is compact, being 36 inches long and 10 wide. It is stated that it is economical of fuel.

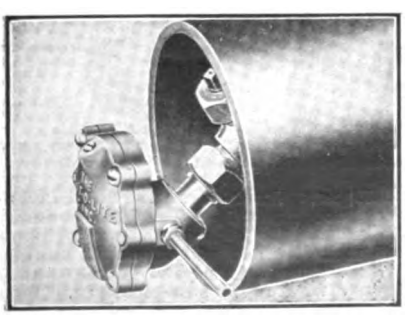
AUTOMATIC REDUCING VALVE.

Prest-O-Lite Device Controls Pressure and Makes for Economy.

The Prest-O-Lite Company, Inc., Indianapolis, Ind., is manufacturing an improved form of automatic reducing valve for its well known gas tanks, it being produced in two forms, style A for motor vehicles and B for motorcycles.

The reducing valve is a practical and useful device in that, after attachment to the tank, the gas may be turned on without regard to the pressure; that is, the key may be rotated a part of or several turns without affecting the flame. The last-named always remains the same irrespective of the pressure, and it is obvious that considerable time is saved when lighting the lamps, as there is no adjustment of the supply to be made.

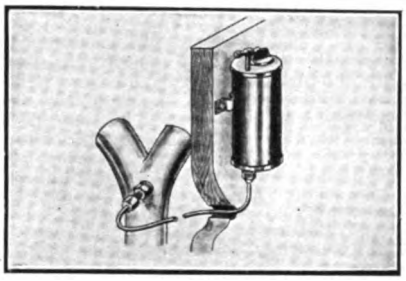
The automatic reducing valve is very compact and is attached to the tank in a few minutes in practically the same manner as the regular union supplied with each tank. It automatically reduces the pressure to that required for an efficient flame and, after the device is adjusted, will require no further attention. Its use not only saves walking from the tank to the lamps to note if the blaze is of the proper height, but it prevents the cracking of mirrors and waste of gas. The maker states that it will soon pay for itself in the saving of gas ordinarily wasted. It is inexpensive and can be obtained at any of the numerous service stations maintained by the company.



INDIANA PRIMING DEVICE.

Supplies Fuel to the Intake Manifold, Aiding Starting.

The Indiana primer is marketed by the Engineering Equipment Company, 1201 State Life building, Indianapolis, Ind. It consists of a small tank holding about half a pint of gasoline or other volatile fuel, and the container is connected to the intake manifold by a tube of small diameter. The fuel is injected into the intake pipe, and a needle valve is provided to adjust the flow to obtain a rich mixture for starting and to shut off the supply after the motor has become warm. The maker states that it can be fitted in 15 minutes. A design is made for installing under



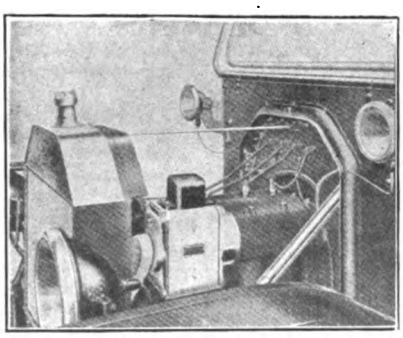
the hood and this model is controlled from the seat. The dash model retails for $2.50.

STARTER FOR FORD CARS.

Gray & Davis, Inc., Perfect Electric System for Starting and Lighting.

Gray & Davis, Inc., Boston, maker of electric lighting and motor starting systems, is marketing a motor starter and lighting dynamo for the model T Ford car. The equipment includes all necessary fittings, but the lamps are listed as extra.

The energy of the motor starter is applied to the crankshaft of the engine by a silent chain, which is housed and operates in oil. A six-volt battery and box, dash indicator, regulator cut-out, switches, wiring, etc., are included. The price of the Gray & Davis system ready for installation is $75. This does not include lamps or transportation charges.

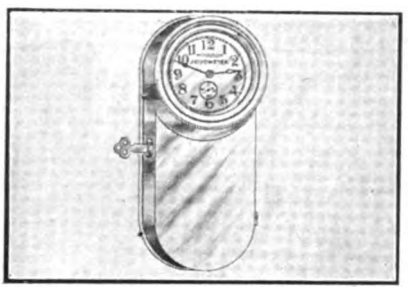


Ed. Note—Owing to a lack of space in this issue a number of new accessories, supplies and equipment displayed at the New York show are not described and illustrated in this number. This explanation is made for the benefit of those manufacturers who supplied data and illustrations. Use of the material, however, will be made in an early number of The Accessory and Garage Journal.

HOGGSON JOYOMETER.

Records on Tape When Car Is Used and the Time Employed.

The Hoggson Joyometer is the invention of S. H. Hoggson, 108 Fulton avenue, New York City. It is an



ingenious device which is practically a combined watchman's clock and an employee's register, in that it affords means whereby the owner of a car is provided with a record of the starting and stopping of his machine, also the length of time it was operated.

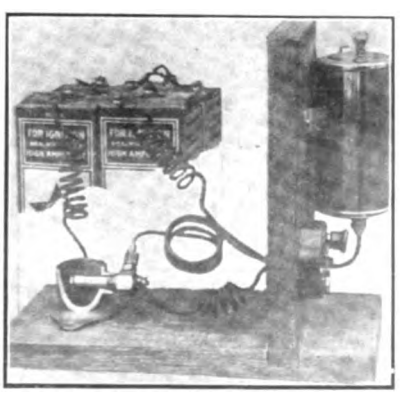
The case contains an eight-day clock movement, which is connected to a device that prints the divisions of time on a strip of paper tape. Connected with the printing mechanism is a delicately balanced horizontal pendulum, which operates a steel perforating needle, the last-named member making holes in the tape when the motor is started and the car operated. The tape is accessible only to the owner, and not only is a record maintained of the use of the vehicle, but the time is indicated as well.

ELECTRIC PRIMER.

Vaporizes Fuel Inside of Intake Pipe by Heat of Electricity.

The Ideal Brass Works, 10th and Canal streets, Indianapolis, Ind., maker of motor vehicle specialties, has brought out an electric primer for making easy the starting of gasoline motors in cold weather. The equipment comprises a small fuel reservoir mounted on the driver's side of the dash, a control member, the electric vaporizer and four dry cells.

The gasoline is forced to the vaporizer, which is located in the intake manifold, and the fuel is heated by the current, which raises the temperature of the fluid and completely vaporizes it. The heat of the plug also assists in starting in that the walls of the intake manifold are warmed. The maker states that in the time it takes the driver to leave the seat to crank the motor, a sufficient quantity of vapor is obtained to make starting easy on the coldest of days. The equipment is made for gravity and pressure feed fuel systems and it sells for $5 complete.



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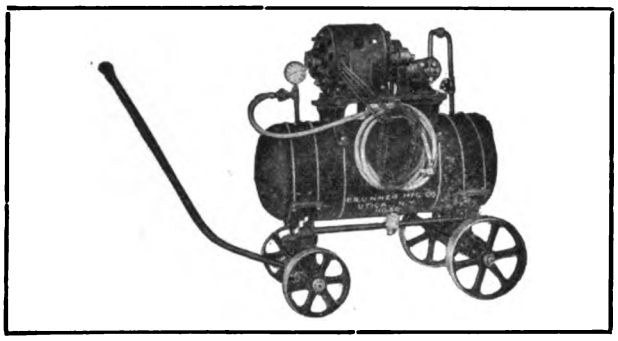
BRUNNER AIR COMPRESSORS.

Average Cost of Repairs and Replacements Show Expense of Two Cents a Year for Over Six Years.

The cost of repairs, and replacements of parts, are factors to be considered in the installation of equipment in the garage, especially when profit is not derived from



Brunner No. 52 Portable Air Compressor.

the service of the apparatus. This is practically true of the air compressor which is maintained by the majority of garages for the convenience of their customers. While it is true that a compressor is a good investment in that it keeps and attracts trade, it is equally true that its cost of upkeep is an important factor.

The Brunner Manufacturing Company, Utica, N. Y., which produces air compressors in all sizes, either stationary or portable, and to meet all conditions and requirements, states that its equipment can be maintained at the average cost of two cents a year for repairs and replacements. This fact was established by an audit of the books of the company, and the record covered all Brunner machines in service, motors and accessories for six years and seven months. Brunner workmanship and material, as well as design, are responsible for this excellent showing. Garages and repair shops contemplating the installation of air compressors, will do well to investigate the line produced by the Brunner Manufacturing Company. Details of the product will be supplied upon request.

NEW CATALOGUE.

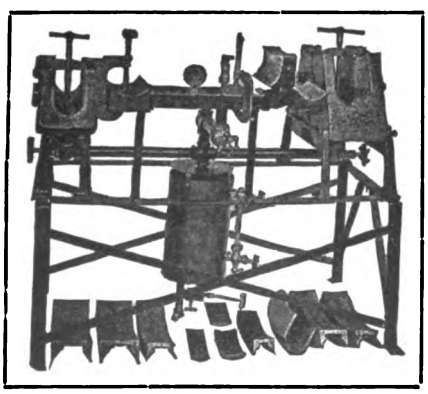
National Motor Supply Company Issues 1915 Jobbers' Edition Containing Details of Its Line.

The 1915 jobbers' edition or catalogue of the National Motor Supply Company, Cleveland, O., is being mailed the trade. It contains descriptions and illustrations of many new motor vehicle specialties produced by this concern. Copies will be supplied the trade upon request.

INCREASING PROFITS.

Vanderpool Company Describes, in New Booklet, Possibilities for Garage and Service Station.

By providing the customer with prompt service the garage and service station increases its clientele, and when the garage is equipped to repair tires and inner tubes the profits can be considerably increased. Not only is the garage fitted for repair work of this kind able to take care of its customers, but a considerable revenue is possible from transient trade, as well as from nearby motorists who have a private garage.



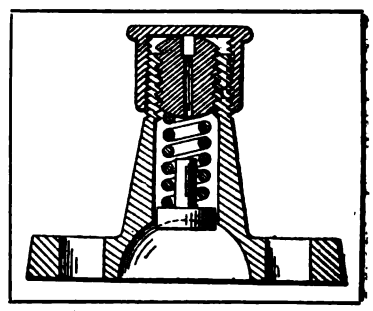
Vanderpool Vulcanizing Equipment.

The selection of the proper tire and tube vulcanizing equipment requires careful consideration. Some garages need only a small capacity equipment, while others can utilize an outfit capable of simultaneously repairing a number of tires or tubes. The Vanderpool Company, Springfield, O., has specialized in vulcanizing outfits for a number of years and has made a careful study of the requirements of the garage and service station, and will co-operate with those interested in the possibilities of tire and tube repair work. The company will analyze conditions and recommend that equipment which will be profitable to operate. This service is free for the asking, as is also the large illustrated catalogue.

LATEST DACO PRICE LIST.

Danver Accessory Company Announces New and Attractive Discounts on Specialties for the Ford Car.

The Danver Accessory Company, 18 Broadway, Pawtucket, R. I., maker of the well known line of Daco specialties for the Ford car, including the Danver automatic oiler, combination anti-rattler and grease cup, brake rod supports, etc., has revised its discounts for 1915 and is now offering its products to dealers at attractive prices. The cut in prices has been made possible by increased manufacturing facilities and the purchasing of raw material in large quantities. The demand for the Daco specialties is also a factor in the revision of the prices.



The Daco Anti-Rattler.

The company calls attention to the fact that the Daco combination anti-rattler and grease cup is the only patented ball socket anti-rattler made to fit Ford cars, that has a screw adjustment in the claims. This device is made in two sizes, and an accompanying illustration shows the construction and the screw adjustment feature. The new price list above referred to will be supplied the trade upon request.

ECONOMY IN LUBRICATION.

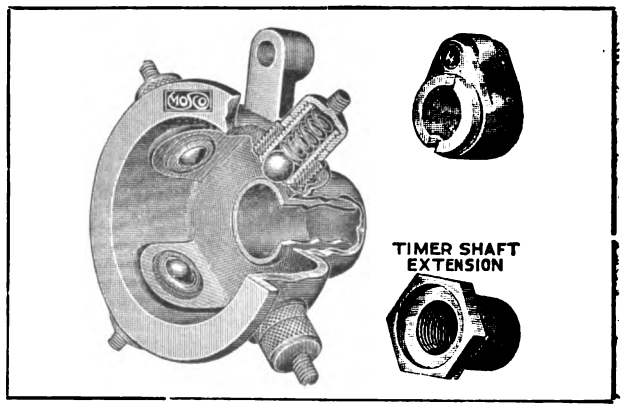
Spedolene Also Makes for Efficiency and the Selling Proposition Will Interest Dealers.

Double the mileage over that obtained with conventional lubricants, is the claim made by the Continental Asbestos Corporation, 11 Summer street, Worcester, Mass., maker of Spedolene. It is composed of asbestos and the best mineral oil, is fluid and mobile, and penetrates between all bearing surfaces. It is made in two grades, and is sold in various sized containers. The selling proposition will be mailed upon request.

PERFECTED FORD TIMER.

Motor Specialties Company Producing the Bemus Commutator, Especially Adapted to Model T Motor.

The Motor Specialties Company, Waltham, Mass., which has been building timers for gasoline motors for over 10 years, has perfected a commutator for the model



Bemus Timer, Particularly Adapted to Ford Motor.

T Ford motor. The Bemus timer replaces the conventional member, and an accompanying illustration shows its construction. The member, which closes the primary circuit, is a hardened metal roller, which makes contact with a steel ball. The contact is positive, one that is not affected by oil or dirt, and is self-cleaning. It is stated that starting is made easy because there is practically no resistance in the primary circuit. The timers retail for $2.25 and are guaranteed.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ARIZONA.

Kingman—Oldsmobile, Old Trails Garage Co.
Mesa—Maxwell, E. D. Bayless.
Phoenix—Dodge, McArthur Bros.
Tucson—Ford, M. Mansfield and V. C. Condron.

CALIFORNIA.

Berkeley—‡Trumbull, C. S. Clancy.
Brentwood—Oldsmobile, Brentwood Garage.
El Centro—Oldsmobile, C. E. Coggins.
Hanford—Oldsmobile, Marak & Hayes.
Los Angeles — Jeffery, Carlton, Faulkner & Bowles.
Mitchell, William Ruess Co.
Napa—KisselKar, Bert M. Norton.
Oxnard—Oldsmobile, C. M. Penhard.
Sacramento—Haynes, M. E. Bursey.
San Francisco—Chalmers, Marc Bunnel.
Studebaker, Chester N. Weaver Co.
†Woods, Don Lee.
‡Trumbull, Carl S. Clancy.
San Jose—Haynes, Boschken Motor Car Co.
Santa Cruz—Haynes, Senegrim Bros.

COLORADO.

Denver—Grant, Mulnix & Steese.
King, Mid-West Auto Sales Co.
Monarch, S. H. Klein.

CONNECTICUT.

Bridgeport—Westcott, Mintz & Royce.
Danbury—Regal, J. H. Devine.
Hartford—Allen, J. M. MacDonald Co.
Dodge, Charter Oak Motor Car Co.
Hupmobile, Charter Oak Motor Car Co.
Monarch, Hartford Garage Co.
Moon, Kingsbury & Wetherell.
New Britain—Briscoe, W. J. Morrin.
New Haven—Regal, C. A. Bunnell.

DISTRICT OF COLUMBIA.

Washington—Detroiter, E. S. Raymond & Co.

FLORIDA.

Gainesville—Westcott, T. J. Baker.
Jacksonville—KisselKar, George W. Spaulding.
Oak Hill—Westcott, F. P. Ziy.

GEORGIA.

Albany—*Koehler, W. L. Brown.
Atlanta—Saxon, George W. Hanson.
Savannah—*Koehler, J. C. Lamb Auto Rep. Co.

IDAHO.

Twin Falls—Moon, Smith & Spafford.

ILLINOIS.

Aurora—Regal, W. S. Miller.
Bloomington—Haynes, D. Sullivan.
Regal, L. I. Gilmore.
Campaign—Herff-Brooks, E. E. Benton.
Casey—Westcott, Westcott Motor Sales Co.
Chadwick—Regal, George Entyre.
Chicago—Detroiter, Farrington Motor Co.
Dodge, Dashiell Motor Co.
*Signal, Siegmund-Bayliss Truck Co.
Fairbury—Regal, H. M. Sutton.
Freeport—Oldsmobile, Maurrer Bros.
Hamilton—Regal, F. C. Kopsicker.
Hebron—Velie, Gates & Douglas.
Homer—Regal, J. G. Davidson.
Joliet—Regal, Joliet Motor Co.
Kankakee—Regal, E. A. Jeffers.
Lacon—Haynes, J. R. Balsley & Son.
Lemont—Velie, Tedens & Dystrup.
Long Creek—Regal, Hayden & Veatch.
Mendota—Oldsmobile, A. J. Austin.
Monmouth—Regal, C. M. Barnum.
Peoria—Inter-State, Rudolph Isch.
Princeton—Imperial, Allpaugh Bros.
Quincy—Moon, J. W. Meyer & Son.
Shermerville—Regal, E. Landwehr.
Smithshire—Regal, F. R. Gunn.
Sterling—Maxwell, Joseph Walton.
Sycamore—Regal, James Shaw.
Tremont—Regal, E. E. O'Brien.
Tolono—Haynes, Guy E. Duell.
Washington Heights—Velie, G. E. Strom.
Wenona—Oldsmobile, Robinson Motor Car Co.
Woodhull—Regal, Union Sales Co.
Yorkville—Velie, Jacob Arbuster.

INDIANA.

Delphi—Haynes, R. C. Julien.
Greensburg—Haynes, H. P. Overleese.
Hartford City—Westcott, Dr. A. M. Tindell.
Indianapolis—Inter-State, Kanouse Automobile Co.
Monarch, E. M. Holmes.
Newcastle—Paige, Goodwin-Gallavin Motor Co.
Peru—Regal, Brunner Foundry & Mch. Co.
Sullivan—Haynes, E. E. Russell.
Terre Haute—Haynes, J. F. Mathany.
Zionville—Detroiter, Bower Bros.

IOWA.

Ainsworth—Oldsmobile, Marr Hdw. Co.
Atlantic—Paige, E. J. Young.
Bode—Regal, Kenseth & Ries.
Burlington—Regal, Sheagren Hunt Co.
Clear Lake—Oldsmobile, Scott & Leonard Auto Co.
Creston—Regal, J. F. Russell & Son.
Davenport—Oldsmobile, C. F. Zoeckl.
Decorah—Allen, Woldum Motor Car Co.
Maxwell, Woldum Motor Car Co.
Des Moines—Inter-State, Iowa Motor Sales Co.
Oldsmobile, Iowa Oldsmobile Co.
Edgewood—Reo, Wetterlau Bros.
Eldora—Regal, H. W. Emey Auto Co.
Granger—Oldsmobile, Fred L. Anderson.
Greenfield—*Koehler, Coffey & Irwin Imp. Co.
Grundy Center—Oldsmobile, A. C. Shafer.
Hastings—Haynes, Sandiland & Parker.
Hudson—Oldsmobile, Eay McDowell.
Keystone — Haynes, Miller & Shreeves.
Lake Park—Franklin, H. C. Meyer.
Lanyon—KisselKar, G. T. Peterson.
Logan—Dodge, Seabury-Carson Co.
Marengo—Haynes, Joseph Mulhern.
Marshalltown—Regal, H. W. Emeny Auto Co.
Minburn—Regal, S. D. A. Guernsey.
Moville—Haynes, E. E. Fiegan.
Mt. Pleasant—Moon, V. E. Bellinger.
Nevada—Central Iron Garage.
New Providence—Haynes, W. L. Thornton.
Newton—Oldsmobile, C. S. Weston & Co.
Regal, Woody Auto Co.
Osceola—Herff-Brooks, Keeran & Collins.
Perry—Haynes, Wilson Auto Co.
Radcliffe—Regal, A. B. Amundson.
Redfield—Haynes, Redfield Auto Supply Co.
Sabula—Herff-Brooks, E. L. Smith.
Sioux City—Haynes, Wyckoff Auto & Sup. Co.
Story City—Oldsmobile, Story City Auto Co.
Tiffin—Herff-Brooks, August Amish.
Tripoli—Oldsmobile, Arnemaun Auto Co.
Van Meter—Oldsmobile, England Auto Co.
Villisca—Haynes, H. Clay Evans.
Vinton—Haynes, O. C. Prescott.
Washington—Oldsmobile, Conaldson & Bean.
Wilton—Herff-Brooks, F. Schweitzberger & Son.

KANSAS.

Bloom—Haynes, Martin & Kinney.
Cawker City—Oldsmobile, J. F. Meyer.
Hutchinson—Haynes, Painter & Oliphant.
Kingman—Overland, Grant & Oakes.
Larned—Haynes, H. T. Taylor & Son.
Macksville — Oldsmobile, R. W. Welsch.
Rexford—Moon, Fred Masher & Sons.
Salina—Haynes, C. W. Tribley.
Topeka—Oldsmobile, Kansas Motor Car Co.

KENTUCKY.

Campbellsville—Studebaker, Buchanan-Lyons.
Elizabethtown—Studebaker, A. H. Douglas.
Glasgow—Studebaker, Glasgow Motor Car Co.
Hodgensville—Studebaker, D. G. Hays.
Lebanon—Studebaker, T. M. Estes.
Lexington—Haynes, Commercial Auto Co.
Louisville—Detroiter, Co-Operative Motor Car Co.
Maxwell, Monarch Auto Co.
*Koehler, Strube's Garage.
†Milburn, Electric Garage Co.
†Ohio, Electric Garage Co.
Munfordsville—Studebaker, C. A. Dawson.
Pleasureville—Studebaker, River & Wood.
Shelbyville—Studebaker, E. R. Wilson.
Springfield—Studebaker, McClure & Mays.

MAINE.

Augusta—Oldsmobile, Fifield Bros.
Bangor—Oldsmobile, A. L. Towle.
Caribou—Oldsmobile, W. L. Collins.
Lake View—Oldsmobile, A. E. Rosie.
Oakland—Oldsmobile, C. R. Blaisdell.
Portland—Studebaker, Studebaker Corp.

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MARYLAND.

Baltimore—Velie, Rittenhouse-Winterson Auto Co.

MASSACHUSETTS.

Boston—Detroiter, Reed Crockett Co.
*Atterbury, L. C. Harman.
*Brown, Wentworth Brown Co.
*Koehler, Adalian Bros.
*Republic, Wentworth Brown Co.
*Vim, Brasher Motor Car Co.
Brockton—Buick, White Auto Co.
Westcott, Marble Auto Co.
Fall River—‡Sphinx, David M. Connell.
Falmouth—*Koehler, Crocker Garage.
Haverhill—Paige, Hayden Brown.
Millers Falls—Oldsmobile, Allen H. Sawyer.
New Bedford—KisselKar, Bert A. Vance.
Worcester—Hupmobile, J. W. Grady Co.

MICHIGAN.

Azelia—Haynes, A. J. Howe.
Calumet—Velie, Michael Nampa, Jr.
Cheboygan—Studebaker, Cheboygan Auto Sales Co.
Detroit—Grant, McKinney-Devlin Co.
Eaton Rapids—Oldsmobile, S. M. Keefer.
Escanaba—KisselKar, John E. Jackson.
Flint—KisselKar, Garner Auto Sales Co.
Grand Rapids—Franklin, Security Auto Sales Co.
Metz, Metz Garage.
Greenville—Dodge, John and Mils Christensen.
Hancock—Imperial, Weeden Garage.
Holland—Studebaker, M. Barnum.
Ionia—Hudson, Eugene Kerstetter.
Oldsmobile, Eugene Kerstetter.
Studebaker, Eugene Kerstetter.
Ishpeming—Overland, E. R. Nelson.
Lebanon—Chalmers, N. A. Meyers.
Franklin, N. A. Meyers.
Studebaker, N. A. Meyers.
Ludington—Haynes, James H. Carnelley.
Monroe—Reo, Charles A. O'Lane.
Mt. Pleasant—Ford, Orion L. Kiger and Floyd Johnson.
Port Huron—Maxwell, W. Varkell.
Sandusky—Dodge, Woolman & Figuson.
St. John—Ford, F. G. Smith & Son.

MINNESOTA.

Chicago City—Maxwell, S. E. Johnson & Co.
Marshall—Haynes, M. F. Thomas.
Minneapolis—Inter-State, Tri-State Auto Co.

MISSOURI.

Glasgow—Oldsmobile, Emmit Ballew.
Green City—Oldsmobile, J. D. Bohrer.
Kansas City—Westcott, Kansas City Auburn Auto Co.
King City—Haynes, Leith & Green.
St. Louis—Cole, Cole Arbogast Auto Co.
Inter-State, Donovan Automobile Co.
KisselKar, Colonial Motor Car Co.
Metz, De Luxe Automobile Co.
Pullman, Ideal Motor Co.
*Signal, Best Service Truck Co.
‡Milburn, Cartwright Motor Car Co.
Washington—Moon, C. A. Krumsick.

MONTANA.

Antelope—Maxwell, Olson & Sons.
Fallon—King, Carl Anderson.
Glendive—Dodge, Yellowstone Garage.
Helena—Oldsmobile, T. C. Power Co.
Missoula—Oldsmobile, Tumulla & Bleier Auto Co.
Sidney—Oldsmobile, J. A. Barrett.

NEBRASKA.

Omaha—Lexington, Bacon-Uhlen & Co.
Palmer—Haynes, John Kruse.
South Omaha—*Koehler, Holmes Adkin Co.

NEVADA.

Tonopah—Oldsmobile, H. H. Bacon.

NEW HAMPSHIRE.

Conway—Haynes, Walter E. Chapman.

NEW JERSEY.

Bloomfield—Regal, Central Motor Car Co.
Cape May—*Koehler, Dix Auto Co.
Closter—Regal, Costner & Brown.
Elizabeth—Regal, Elizabeth Auto Co.
Hightstown—*Koehler, Thos. Peppler & Son.
Newton—*Koehler, William Iliff.
Newark—Chandler, W. C. D. Motor Co.
‡Trumbull, H. C. Fairchild.
Paterson—*Koehler, G. and A. Bell.
Red Bank—KisselKar, E. von Kattengell.
Washington—Regal, Eckle's Garage.

NEW YORK.

Bloomington—KisselKar, Clapham & Higan.
Brooklyn—Regal, Woods Garage & Sales Co.
Brushton—Regal, B. F. Harris.
Buffalo—Inter-State, Poppenberg Motor Car Co.
KisselKar, B. F. Wilson, 1114 Main St.
Saxon, Poppenberg Motor Car Co.
Dundee—Haynes, Earnest & Co.
Hurleyville—Haynes, W. J. Prince & Son.
Ithaca—Haynes, J. P. Long Eng. & Garage Co.
Kingston—Regal, Wall Street Garage.
Lockport—King, A. L. Hoag.
Naugatuck—Regal, L. A. Dibble.
New York—Herff-Brooks, Diamond Warren Motor Co.
Regal, Webster MacGowan, Inc.
Rome—Oldsmobile, R. Lagai.
Schenectady—Regal, Mabey & Maloney.
Walden—Regal, J. R. Walker.
Watkins—Haynes, Watkins Garage.

NORTH DAKOTA.

Williston—Ford, Williston Motor Co.

OHIO.

Ada—Franklin, Stemple & Smith.
Akron—Haynes, J. J. Stickles.
Athens—Regal, J. S. McCarter.
Bowling Green—Westcott, C. C. Richardson.
Brooksville—Reo, A. U. Quillan.
Bucyrus—Empire, Samuel Hertz.
Camden—Regal, Crauder & Pugh.
Canton—Haynes, Canton Haynes Co.
Overland, Canton Motor Car Co.
Carey—Oldsmobile, Black & Black.
Chillicothe—Reo, W. S. Barrett.
Christiansburg—Regal, Bright & Neal.
Cincinnati—Allen, Kenton Motors Co.
Briscoe, Citizens Motor Car Co.
Franklin, Franklin Motor Car Co.
Grant, Eureka Auto Co.
Haynes, Imperial Motor Car Co.
Lewis, Kenton Motors Co.
Maxwell, Kruse Motor Car Co.
Reo, Harold Motor Car Co.
Studebaker, Imperial Motor Car Co.
‡Princess, Hunter-Dammel Co.
Circleville—Dodge, G. L. Schiear.
Oldsmobile, Noecker & Brehmen.
Regal, H. P. Lorbach.
Reo, Clifton Auto Sales Co.
Cleveland—Chalmers, J. H. Greenwald.
Columbus—Inter-State, Twyman Motor Car Co.
Jeffery, F. E. Avery & Son.
Monroe, Daniels Motor Car Co.
Conc—Dodge, G. L. Schiear.
Coshocton—Haynes, Fifth Street Garage.
Saxon, G. J. Bock & Son.
Dayton—Inter-State, Twyman Motor Car Co.
Delaware—Dodge, G. L. Schiear.
Oldsmobile, L. J. Carpenter.
Regal, Griffith & Cone.
Delphos—Oldsmobile, Mox Motor Co.
Dennison—Haynes, City Auto Co.
East Palestine—Oldsmobile, M. E. Newbauer.
Elyria—Haynes, Elyria Garage Co.
Fremont—Overland, Palace Garage.
Greencamp—Regal, R. C. McClelland.
Greenville—Haynes, Walter E. Browne.
Grove City—Regal, E. Emmelheinze.
Jeffersonville—Regal, Guy Carr.
Leipsic—Westcott, Dallas Kirk.
Lima—Lewis, Shappel Bros.
Logan—Haynes, J. S. Case.
Reo, E. E. Bright.
Lynchburg—Regal, A. R. Pratt.
Marion—Regal, U. G. Lawrence & Son.
Massillon—Haynes, Motor Car Sales Co.
Middleport—Oakland, Williamson & Miller.
Mt. Sterling—Studebaker, J. K. Loofbarrow.
Mt. Vernon—Allen, Spindler & Hunt.
New Paris—Allen, C. H. Barton.
New Philadelphia—King, Moffitt & Kneuss.
Niles—Saxon, John H. Forler.
Oak Harbor—Oldsmobile, George L. Tilton.
Prairie Depot—Oldsmobile, Harry Hoiles.
Radnor—Krit, A. S. Secrest.
Richwood—Studebaker, W. H. Conboy.
Rushsylvania—Krit, Samuel G. Hartz.
Springfield—Allen, Nash-Nairdd Motor Car Co.
Steubenville—Oldsmobile, Steubenville Hdw. & Sup. Co.
Thurston—Krit, C. C. and D. F. Coonfare.
Zanesville—Jeffery, Central Garage Co.
Paige, Central Garage Co.

OKLAHOMA.

Okmulgee—Oldsmobile, Lamberson & McBrayer Bros.
Tulsa—‡Sphinx, E. F. Hannon.

OREGON.

Portland—Dodge, Covey Motor Car Co.

PENNSYLVANIA.

Allentown—Moon, W. F. Rabenold. Young.
Ashland—Oldsmobile, Joseph B. Young.

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Chambersburg—*Koehler, John D. Schaal.
Freeport—Oldsmobile, E. W. Wallace.
Jeannette—Oldsmobile, J. G. Waddell.
Lancaster—Allen, Fairmount Garage.
Lock Haven—Oldsmobile, J. S. Waite.
Mt. Morris—Oldsmobile, Mt. Morris Motor Co.
Pen Argyl—Saxon, Ackerman Bros.
Philadelphia—Jeffery, Sterling Motor Car Co.
Marmon, Fanning Motor Car Co.
*Signal, Interboro Motor Truck Co.
Pittsburg—Ford, A. J. Becker.
*Signal, Stewart Motor Truck Co.
‡Scripps-Booth, L. G. Martin & Son.
Scranton—‡Scripps-Booth, O. D. DeWitt.
Sharon—King, Monarch Hdw. Co.
Steelton—*Koehler, W. F. McGinnis.
Virginville—Oldsmobile, Milton W. Smith.
Waynesboro—Oldsmobile, Mt. Morris Motor Co.
Wilkes-Barre—Oldsmobile, Harry W. Ransom.
‡Scripps-Booth, D. & H. Automobile Co.

RHODE ISLAND.

Frenchtown—Saxon, T. W. Zillstorff.
Providence—Peerless, J. W. Breese.
‡Scripps-Booth, Wallace L. Wilcox & Co.

SOUTH DAKOTA.

Aberdeen—Maxwell, F. A. Craft.
Clarke—Hupmobile, Floyd Mohan.
Harrisburg—Hupmobile, Theo. Dempewolf.
Yankton—King, E. W. Crane.

TENNESSEE.

Chattanooga—Franklin, J. H. Alday.

TEXAS.

El Paso—Franklin, Oakland Auto Co.
Menard—Oldsmobile, J. A. Bevans.
Pampa—Oldsmobile, D. B. Stribling.

VIRGINIA.

Pulaski—Oldsmobile, Pulaski Motor Car Co.

WASHINGTON.

Almira—Dodge, J. T. Callahan.
Bluestem—Paige, C. W. Gilstrap.
Centralia—Buick, R. N. Berlin.
Colfax—Dodge, Colfax Garage.
Colville—Dodge, M. E. McCanley.
Dayton—Overland, J. R. Rinehart.
Deer Park—Dodge, W. W. Critzer.
Ellensburg—Buick, Ellensburg Automobile Co.
Ford, Ellensburg Automobile Co.
Garfield—Dodge, Garfield Hdw. Co.
Hoquiam—Buick, George Rhines.
Kahlotus—Buick, Fred Reeder.
Oakesdale—Dodge, Linville Bros.
Reardan—Dodge, John Raymer.
Ritzville—Dodge, J. Fresinger.
Rosalia—Dodge, Rosalia Auto Co.
Seattle—Jeffery, F. H. Bardshar.
*Signal, Waterhouse-Sands Motor Co.
Spokane—Studebaker, Eastman Motor Car Co.
*Signal, Arthur H. Hertz.
Walla Walla—Cadillac, Wood & Lane.
Waverly—Dodge, C. K. Thayer.
Wilbur—Dodge, Enterprise Garage.

WEST VIRGINIA.

Wheeling—*Vim, Union Automobile Co.

WISCONSIN.

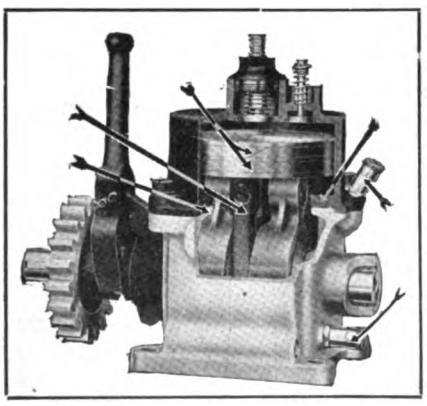
Appleton—King, H. E. Griffin Auto Co.
Beloit—†Argo, J. W. Menhall Auto Co.
DePere—Hupmobile, Ray Marcott Co.
Elmwood—King, Rice & Webb Motor Co.
Galesville—Oldsmobile, A. J. Olson.
Glenwood City—Overland, Glenwood Auto Co.
Howard's Grove—Partin-Palmer, Frome-Kaiser Auto & Imp. Co.
Milwaukee—Jackson, Sherman Garage.
Monroe, Frint Motor Car Co.
Moon, Durbin & Thomas.
Oakland, DeWitt Schank Motor Sales Co.
*Grant, Diener-Nelson Co.
†Argo, Milwaukee Cycle Supply & Sales Co.
Neenah—‡Scripps-Booth, J. L. Deusenbrenner.
Richland Center—Ford, E. A. Prouty Garage.
Tigerton—Ford, C. A. Roepke.
Maxwell, C. A. Roepke.
Overland, C. A. Roepke.
Studebaker, C. A. Roepke.

KELLOGG AIR PUMP.

Is Engine Driven and Comes Complete with Attachments, Hose and Gauge for All Cars.

Announcement is made by the Kellogg Manufacturing Company, Rochester, N. Y., specialist in pumps, that orders for its No. 101 engine driven pump can be taken care of promptly either at the main office or at any of the branches at Boston, New York City, Detroit, Chicago or San Francisco. The company is also represented by a large number of distributors.

The No. 101 pump comes complete with air hose, gauge and attachments for mounting, and it is a simple matter to install the outfit, as the parts are carefully and accurately made. The retail price of the equipment is but $15, and the company is prepared to fill orders promptly for any standard type of motor vehicle. An accompanying illustration shows the construction and compactness of the pump, which is sold with the usual broad Kellogg guarantee as to workmanship and material. The Kellogg pumps are also guaranteed not to spray oil with the air.



Kellogg No. 101 Power Air Pump.

OFFERS BIG OPPORTUNITIES.

Pyrene Company of New England Has Attractive Proposition for New Dealers Everywhere.

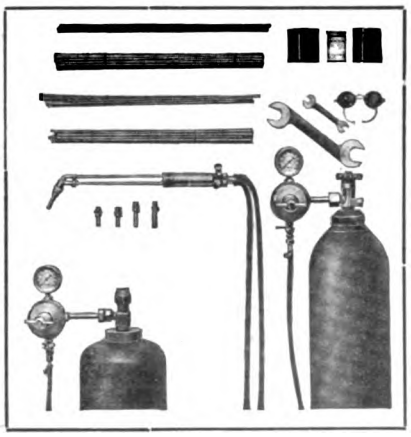
With the ever growing cry of "safety first", the dealer who handles the product of the Pyrene Company of New England, 88 Broad street, Boston, Mass., is well up in the front ranks. The 10th command of the Safety First Society's creed is: "Include Fire Extinguisher", and the society's model car carries Pyrene as regular equipment. The Pyrene brass and nickel plated fire extinguishers are the only one-quart machines included in the list of fire appliances approved by the National Board of Fire Underwriters, and the insurance companies grant a 15 per cent. cut on all premiums when this extinguisher is used. The company has exceptional offers to make dealers, and a post card or letter to the Boston address will bring immediate response to all requests.

WELDING OUTFIT OFFER.

Free Trial of Waterhouse Equipment Which Is Sold on Easy Terms.

Garages and repair shops desiring a welding and decarbonizing equipment on easy terms will be interested in the offer made by the Waterhouse Welding Company, 3 Pelham street, Boston, whose equipment is well and favorably known to the trade.

The company offers a free trial for two weeks of its complete welding outfit, which sells for $42. At the end of two weeks the equipment can be returned to the maker and it is not necessary to give any reason for so doing. This offer is made because of the confidence of the company in its product. If the garage or repair shop decides to retain the equipment, easy term payments are arranged.



Some of the Components of Waterhouse Welding Outfit.

With every welding equipment there is given free a carbon burning torch and, if it is not desired, a deduction is made from the regular price of the complete equipment. Practical and complete instructions accompany each outfit and garages and repair shops considering the use of welding and decarbonizing apparatus will do well to get in touch with the Waterhouse Welding Company.

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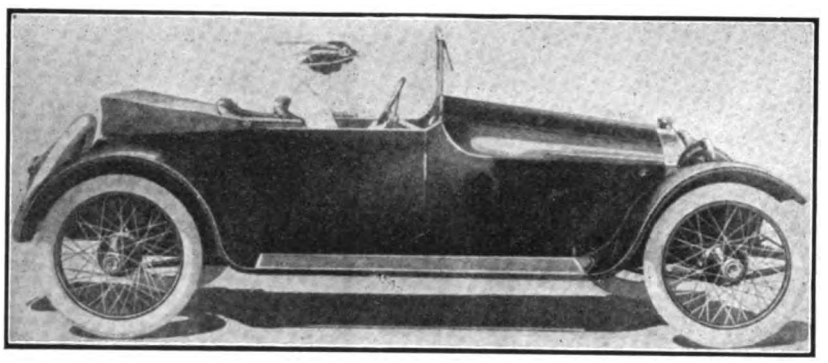
SCRIPPS-BOOTH FEATURES.

Luxury Is the Keynote of New Four-Cylinder Light Car.

The keynote of the latest offering of the Scripps-Booth Company, Detroit, Mich., is luxury. Featured by everything that is unusual and out of the ordinary run, the new Scripps-Booth car, selling for $775, is in a class by itself. The motor is a four-cylinder, and the three-passenger body is built along new and original lines. Three bodies and three treads are offered, the former comprising a roadster, coupe and cabriolet. The car presents a low, rakish appearance, and this effect is accentuated by the sloping hood, V shaped radiator, torpedo rear and the Houk wire wheels. A fifth Houk is mounted on a specially constructed bracket at the rear.



The Scripps-Booth, a Light Car Built with the Idea of Luxury and Comfort.

In the new Scripps-Booth many departures from the conventional lines have been made. Electric door latches, which eliminate handles, unique spark and horn controls and real leather upholstery form part of the refinements. The electric door lock is operated by a push button, placed close to the door in the side of the body, and this operates the latch automatically. At the top of the steering post and in the centre of the 16-inch walnut steering wheel is a push button three inches in diameter, which operates the Klaxet horn. Likewise, there is a throttle lever mounted on the steering post, just below the horn button. This, unlike the conventional spark levers, swings vertically.

AUBURN HAS BIG VALUE.

Four Sells for $1075 and Six for $1550, Fully Equipped.

With a four selling for $1075 and a six for $1550, the Auburn Automobile Company, Auburn, Ind., is offering a dollar-for-dollar value. The company makes no pretense of anything freakish, but presents a beautiful appearing, well built car, with quality as the standard. The four-cylinder motor, L head, cast en bloc and water cooled, has a bore of 3¾ inches and a stroke of five, giving it a horsepower rating of 22.50, according to the S. A. E. formula. The piston displacement is 221; the lubrication is by splash and the fuel feed is by the latest improved vacuum system.

The six-cylinder motor has a bore of 3½ inches and a stroke of five, giving it a rating of 29.40, S. A. E., but as in the case of the four, a great deal more power can be developed with ease. The lubrication is by combination splash and pump, and a Rayfield carburetor is used in both models, the six also having the vacuum fuel feed system. Electric starting and lighting form the regular equipment on both models. The wheelbase and tire sizes of the four and six, respectively, are 114 and 32 by four, and 126 and 34 by four.

Both models have three speeds forward and reverse, and the four has a three-quarter floating axle, while the six employs the full floating type The tires used on the former are 32 by four inches and on the six 34 by four. The Auburn product is standardized throughout and the best possible workmanship and material is a feature.

WINTON HAS LIGHT SIX.

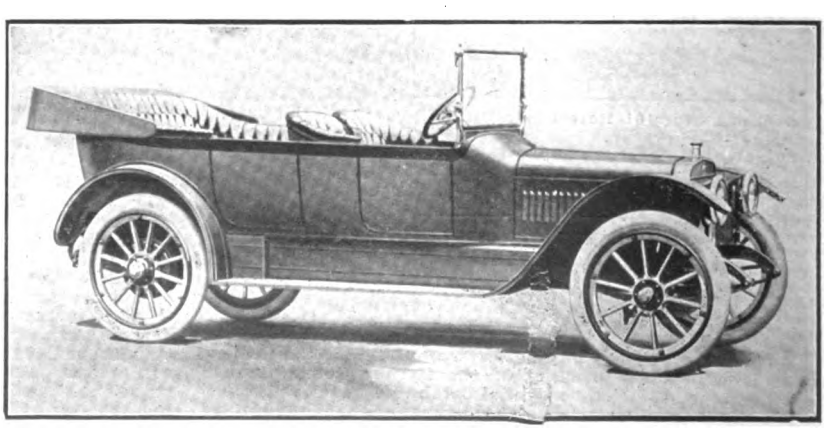
Selling for $2285, Cleveland Concern Adds to Line.

The Winton Motor Car Company, Cleveland, O., announces a new light six-cylinder model, which is known as 21-A. The new car is smaller in every way than the standard Winton six 21. The wheelbase is two inches shorter, and the motor has a bore of 3⅝ inches and a stroke of 5¼, compared with the 4⅛-inch bore and 5½-inch stroke of the larger machine. The S. A. E. horsepower rating of the light six is 31.6, and that of the larger six 48.6. The power plant of the latest Winton product is of the L head type, the six cylinders being cast in pairs, water cooled, with the valves on the left side. The valve action is completely enclosed and the crank case is extended back to include the flywheel. This is different from the previous model, as in that the flywheel was exposed. Another innovation is the placing of the carburetor and magneto on the right side of the motor, and the former is mounted quite high, being bolted by means of a short elbow against a balanced intake manifold. The lubrication is by a pressure feed system in which the oil is circulated by a gear pump located in the crank case. Driven by spiral gears, this pump takes the oil through a screen from the lower crank case and delivers it through a tube cast in the crank case to the main bearings and, through conduits drilled in the crankshaft, to the connecting rod bearings.

A Bosch magneto, with a battery to supply auxiliary current for starting, furnishes the ignition. The magneto is connected to the drive shaft by an adjustable Oldham coupling placed between the magneto and the water pump. The balance of the electric equipment for lighting and starting comprises the Bijur two-unit system. Cooling is by water, this being circulated by a gear driven centrifugal pump. The water jackets surround each cylinder and, to keep the water clean and to prevent corrosion, the surface is plated with an anti-rust coating.

All the brakes act in the conventional manner, two external and two internal. Left drive and centre control are used. All the instruments are carried on the cowl board, this including the lighting switches, ammeter, carburetor control, motor primer, speedometer, clock and ignition switch. The cowl is lighted by an electric light. A ventilating, rain vision windshield is carried over the cowl. The lighting consists of head and tail lights, side lamps being eliminated. The headlights carry small lamps on a separate switch, which serve side light purposes. All electric wiring is enclosed in flexible tubing, and the wires running from the chassis to the body terminate on a terminal strip secured to the lower side of the fuse box. This box is located on the engine side of the dash and any trouble in the wiring system can be tested at this point. After taking off the cover the removal of two screws breaks all connection between the wires from the chassis to the body, so that the changing of bodies is much simplified and does not require the services of an electrician.

The five-passenger body is of an entirely new design for the Winton and follows the general streamline effect now in vogue. There are four wide doors with handles inside. Comfort and restful riding are assured by luxuriously deep and easy cushions and upholstery.



The New Winton Light Six Model Fitted with a Five-Passenger Body.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Scranton Automobile Company, Scranton, Penn.; $100,000; to manufacture automobiles, engines, etc.; H. R. Shaw, Tracy Prevost, L. G. Stark.

Lewis Allen Company, Jackson, Mich.; $5000; to manufacture automobiles, accessories, etc.; Ralph Lewis, Herbert A. Allen, John W. Miner.

Maximum Power Transmission Company, Portland, Me.; $25,000; to manufacture automobiles; A. F. Jones, T. L. Croteau.

International Wire Tire Company, Dover, Del.; $1,000,000; to manufacture automobiles, tires, accessories, etc.; J. S. Lyons, G. T. Brown, J. A. Zekoski.

Overman Cushion Tire Company, New York City; $150,000; to manufacture automobiles and accessories; M. C. Overman, C. A. Tausign, W. E. Lowther.

Horicon Truck Company, Horicon, Wis.; $100,000; to manufacture motor trucks; Mackie Wells, B. M. Tallmadge, John A. Dietrich.

Hicks & Watts, New York City; $10,000; to manufacture automobiles; E. R. Heger, J. Watts, C. N. Hicks.

C. B. & H. Company, Albany, N. Y.; $50,000; to manufacture automobiles; F. T. Harbach, J. H. Pease, F. W. Ritter.

Sterling Motor Car Company, Wilmington, Del.; $10,000; to manufacture automobiles; H. E. Latter, W. J. Maloney, O. J. Reichard.

Utility Motor Car Service Company, Albany, N. Y.; $3,000,000; to manufacture automobiles; F. R. Hansel, G. H. B. Martin, S. C. Seymour.

Lexington Sales Company, Albany, N. Y.; $10,000; to manufacture automobiles and motors; M. Swetland, A. P. Smith, F. P. Foster.

States Motor Car Company, Toledo, O.; $500,000; to manufacture automobiles; E. M. Cook, H. S. Bassett, S. H. Hoff, H. M. Barfield, W. B. Smith.

PARTS AND FITTINGS.

Edge Auto Device Company, Edgewater, N. J.; $25,000; Marie B. Earle, B. W. Earle, F. H. Meench.

Emts Starter Company, Cleveland, O.; $10,000; to manufacture starters and automobile accessories; J. T. Scott, D. L. Johnson, M. C. Byrnes, B. E. Robertson, H. G. McAleenan.

William R. Griffey Specialty Company, Indianapolis, Ind.; $5000; to deal in parts and accessories; W. R. Griffey, J. B. Griffey, B. E. Griffey.

Polyplane Motor and Metal Manufacturing Company, St. Louis, Mo.; $100,000; J. A. Krause, W. P. Morgan, J. M. Neff, Charles Klein, F. P. Smith, Gus Stathopoulis, S. H. Reynolds.

Modern Stamping and Manufacturing Company, Milwaukee, Wis.; $150,000; to manufacture tools, etc.; J. P. Foley, A. C. Jorgenson, H. F. Friedrich.

Kentucky Revivo Battery Company, Louisville, Ky.; $200,000; O. M. Billings, J. T. Gathright, C. H. Parker, J. Cooper Parker.

Mesco Motor Company, Dover, Del.; $100,000; to manufacture motors and supplies.

Electric Storage Battery Service Company, Tulsa, Okla.; $1000; H. M. Prewett, J. E. Washington, Jr., John Y. Morgan, Jr.

American Standard Automobile Company, Edwardsville, Ill.; $100,000; to manufacture parts and accessories; Peter Burnhardt, C. H. Gerling, Louis Kirsch.

Somera Carburetor Company, Detroit, Mich.; $10,000; to manufacture carburetors; D. C. Meara, J. H. Means, J. F. Somerville.

National Electric Starter Company, Detroit, Mich.; $1000; M. B. Sulzberger, E. K. Sulzberger, J. S. Folz.

Burns, MacNiven & Co., Chicago, Ill.; $5000; to manufacture electrical and mechanical tools; Arthur W. Burns, Le Moyne G. Burns, Albion P. Holbrook, Jr.

Whalen Engineering Company, New York City; $3000; to deal in carburetors, accessories, etc.; H. T. Whalen, C. P. Whalen, C. W. Prochaska, T. A. McGrath.

Anderson Pneumatic Spring and Tire Company, Washington, D. C.; $1,000,000; to manufacture springs and tires; W. W. Anderson, G. A. Rock, S. T. Dorsett.

Engineering Products Company, New York City; $12,000; to manufacture electrical machinery of all kinds; George Tireman, R. G. Redlefsen, F. H. Parcells.

U-H Magneto Company, Harrington Park, N. J.; $100,000; to manufacture magnetos, machinery, etc.; C. Bergner, J. Scherer, E. Sandman.

Safety Signal Company, Albany, N. Y.; $200,000; to manufacture signals for automobiles; A. V. Dennen, R. Hilliker.

Coles & Backus, Jamestown, N. Y.; $5000; to deal in motors, machinery, etc.; R. H. Coles, C. E. Backus, E. A. Backus.

Saxon-Tracy Company, New Rochelle, N. Y.; $3000; to manufacture motors; W. Abramson, D. Straus, L. Rothfield.

C. S. & R. Company, New York City; $50,000; to manufacture motors, automobiles, etc.; F. T. Harbach, J. H. Pease, F. W. Ritter.

Chicago Car Company, Chicago, Ill.; $50,000; to manufacture motors; M. Leary, E. M. Roehrhorh, J. J. Gorman.

St. Louis Welding Company, St. Louis, Mo.; $150,000; to manufacture automobile wheel rims; Leo Ganahl, G. Beecherer.

Tatum Carburetor Company, Atlanta, Ga.; $10,000; to manufacture carburetors; F. C. Meyers, I. L. Tatum.

Resilient Steel Wheel Company, Albany, N. Y.; $25,000; to manufacture automobiles and accessories; J. M. Grenna, V. Lednard, H. F. Lednard.

Savidge Steering Device Company, Indianapolis, Ind.; $6000; to manufacture steering devices for automobiles; A. C. Savidge, B. F. Meipell, Henry T. Campbell.

Universal Welding and Manufacturing Company, New York City; $10,000; William F. Wund, Thomas F. Doyle, Anna V. Penealy, William A. Wund.

AUTOMOBILE DEALERS.

Motor Vehicles Company, Washington, D. C.; $10,000; W. S. Abrahams, C. F. Bryant, W. J. Eynom.

Brown & Harris Electric Company, Holesville, O.; $3500; S. C. Brown and others.

Collapsible Truck Company, Cleveland, O.; $10,000; W. O. Lee, F. P. Williams, C. C. Williams, C. L. Smith, Gertrude Lee.

Royal Electric Motor Company, Brooklyn, N. Y.; $9000; Benjamin Schwartz, Isaac Joffe, Abraham Zwenitzky.

Cadillac Car Company, Detroit, Mich.; $13,000; D. Walker, H. B. Graves, F. Krupfer, I. Krupfer.

Nafra Company, New York City; $25,000; H. F. Rhatigan, P. R. Borland, H. E. Rielly.

Elmer Brown & Co., Detroit, Mich.; $5000; to deal in automobiles and supplies.

Maccarr Company, East Orange, N. J.; $50,000; to conduct an automobile business; G. F. Gallberg, W. F. Hobbie, W. A. Boone.

Bay City Motor Car Company, Bellingham, Wash.; $20,000; W. A. Knight, Arthur Burgess, C. E. Abrams.

Morse Cyclecar Company, Pittsburg, Penn.; $10,000; W. F. Knoell, F. H. Morse, G. W. Ryan, M. McMichael, R. S. Chess.

John Mano Company, New York City; $1000; to deal in automobiles; John Mano, George H. Miller, Louis Cesky, W. F. Earp.

King Motor Company, Chicago, Ill.; $50,000; to deal in automobiles and accessories; A. P. Mackie, C. F. Woods, J. W. MacCulehan.

Gillham Motor Company, St. Louis, Mo.; $10,000; Frank R. Tate, F. C. Gillham, H. W. Blodgett.

Standard Motor Sales Company, San Antonio, Tex.; $30,000; C. E. Stromberg, S. W. Smith, F. W. Winerich.

Co-Operative Motors Corporation, Boston, Mass.; $500,000; Ralph C. Boyd, H. I. Bailey, Florence B. Taylor.

Hucks Auto Electric Company, Los Angeles, Cal.; $10,000; C. W. Sahland, A. M. Sahland, H. S. Laugh.

Wellsburg Auto Company, Wellsburg, W. Va.; $5000; Clinton C. Kemp, Frank W. Bauer, Harry Casmire and others.

Main Motor Car Company, Logan, O.; $25,000; T. C. Johnson, A. H. Johnson, Flora Spohn, F. A. Koppe, L. K. Keinle.

Marshall-Campbell Auto Service Company, San Francisco, Cal.; $10,000; M. N. Cure, E. A. Potter, Fred Owen.

Farm Tractor Sales Company, Albany, N. Y.; $1000; Victor Consalus, Edward W. Safford, C. Tukenkoph.

James Automobile Company, Ogden, Utah; $25,000; H. C. James, Anna James, Charles H. Wilson, John Castle, Ralph Morrow.

Anglo Commercial Agency Company, New York City; $500; to deal in automobiles, etc.; Louis G. Hart, B. Howie, F. O. Burridge, S. B. Cardoza.

Ridgewood Automobile Company, Ridgewood, N. Y.; $5000; A. J. L. Knight and others.

Lehigh Valley Motor Company, Allentown, Penn.; $15,000; Allen J. Fetterman and others.

Massachusetts Motor Sales Company, Boston, Mass.; $50,000; A. L. West, R. F. Tift, W. J. Cronin.

Lewis-Dietz-Caldwell, Brooklyn, N. Y.; $2000; to deal in automobiles; K. S. Caldwell, G. C. Dietz, G. W. Lewis.

Frick Auto Sales Company, Buffalo, N. Y.; $10,000; J. L. Frick, F. H. Rickett, C. R. Jackson.

Baker Electric Car Company, Richmond, Va.; $3000; N. R. Elrich, P. B. Smithson.

Dixie Motor Company, Richmond, Va.; $20,000; B. R. Wrenn, G. DeBree.

Cordell Ford Company, Cordell, Okla.; $4000; G. C. Naden, M. E. Naden, C. R. Davis.

Kimball Auto Company, Logan, Utah; $25,000; N. W. Kimball, W. R. Sloan, R. Kimball, H. G. Hayball.

Specialty Sales Company, Boston, Mass.; $50,000; F. N. O'Neill, T. W. Cotton, M. V. O'Neill.

Taylor Motor Car Company, Eau Claire, Wis.; $5000; J. A. Taylor, F. N. Ferguson, Frank H. Stillman, Alexander McDonnell.

Commonwealth Motor Company, Richmond, Va.; $5000;

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A. G. Collins, D. E. Taylor.

Portage Motor Sales Company, Akron, O.; $8000; H. E. Petley, Henry Petley, N. H. Hagelbarger.

Diamond Apperson Motor Company, Albany, N. Y.; J. Renwick, T. Diamond, A. C. Train.

Edwards Motor Car Company, Milwaukee, Wis.; $10,000; to deal in automobiles; Frank J. Edwards, Arthur A. Mueller, Margaret Mollerus.

C. H. Washburne, Albany, N. Y.; $35,000; C. H. Washburne, H. P. Washburne, E. H. Lamb.

Spengler Automobile Company, Albany, N. Y.; $10,000; E. E. Braendle, G. Supper, Henry Spengler.

Co-Operative Motors Corporation, Boston, Mass.; $500,000; R. C. Boyd, H. I. Bailey, F. B. Fayler.

E. W. Brown & Co., Detroit, Mich.; $5000; to deal in automobiles; E. W. Brown, C. Rasmussen, O. H. Dawson.

Gibson & Domham Company, Mineola, N. Y.; $1000; to deal in automobiles; Joseph L. Domham, Robert M. Gibson, Charles Liebeck.

Paige Motor Car Company, Oklahoma City, Okla.; $8000; J. T. Wheatly, W. H. Crane, J. L. Daniel.

Alfred O. Poirier Company, Providence, R. I.; $30,000; to deal in automobiles; F. Poirier, J. H. Malpolt, A. Moreau.

Tulsa Automobile Association, Tulsa, Okla.; F. Shaw, L. N. Ewing, J. M. Berry, J. I. Gillespie, C. S Avery, O. R. Howard, J. A. Hull, D. D. Wertsberger, A. L. Funk.

Terrace City Motor Car Company, Yonkers, N. Y.; $25,000; R. S. Connant, W. Smith, H. B. Mook.

Service Sales Company, Richmond, Va.; $1000; C. E. Rixford, E. J. Smith.

C. R. & J. I. Phillips, Mannington, W. Va.; $10,000; to deal in automobiles; C. R. Phillips, J. I. Phillips, Mary Phillips, Ortha Phillips, Laura McCrea.

L. & H. Auto Sales Company, Milwaukee, Wis.; $10,000; L. E. Ehrhardt, H. E. Toelle, Benjamin Ross.

Burgett & Co., Milwaukee, Wis.; $25,000; to deal in automobiles; J. C. Coxe, W. G. Burgett, F. C. Durham.

DeWitt-Schank Motor Sales Company, Milwaukee, Wis.; $50,000; G. A. DeWitt, W. G. DeWitt, E. S. Schank.

Georgetown Motor Company, Columbia, S. C.; $5000; J. M. Powell, L. H. Carraway, J. H. Carraway.

Bates Motor Company, Columbus, O.; $10,000; O. E. Bates, W. D. G. Bates, C. E. Bates, A. E. Gebhart, J. C. Schaffer.

Mutual Motor Sales Company, New York City; $25,000; J. B. Kalmuk, W. P. Bunchlock, G. O. Canne.

Detroit Electric Sales Company, Indianapolis, Ind.; $10,000; Andrew Hutchison, Maybelle E. E. Hutchison, Fred E. Barrett.

Pugh Motor Car Company, Montgomery, Ala.; $2000; T. N. Pugh, Lela F. Pugh, Alice Faber.

Baker Electric Motor Service Company, Albany, N. Y.; $20,000; F. A. Jennicky, F. Bowers, B. R. Shears.

Brooklyn & Long Island Auto Association, Albany, N. Y.; $20,000; A. J. Farrell, C. G. Batt, R. P. Lumely, J. G. Snyder.

Armfield-Percival Motor Company, Fayetteville, N. C.; $10,000; E. W. Percival, Jr., M. D. Armfield, D. F. Armfield.

H. S. Wakeman Company, Walton, N. Y.; $3000; H. S. Wakeman, M. T. Smith, W. G. Smith.

Lansden Company, New York City; $1000; to deal in automobiles; M. Lippman, E. Ullmann, E. L. Meyer.

Mutual Motor Sales Company, New York City; $25,000; G. Ozanne, W. P. Buchler, J. B. Kalmuk.

Gamble-Waggener Company, Burlington, Penn.; $25,000; to conduct a general automobile business; J. N. Gamble and others.

Lone Star Motor Company, El Paso, Tex.; $25,000; Frank T. Pickrell, E. G. Perry, L. J. Trotti.

Rolls-Royce, Ltd., Albany, N. Y.; $1,000,000; to deal in automobiles; P. Jones and others.

Spooner-Campbell Company, Gouvernour, N. Y.; $40,000; to deal in automobiles; A. F. Spooner, V. S. Campbell, E. W. Campbell.

Barrick-Hennings Company, Lyons, N. Y.; $15,000; E. J. Barrick, C. W. Barrick, J. E. Jennings.

W. H. Cahn, New York City; $10,000; W. H. Cahn, J. H. Hobbs, T. J. Canty.

ACCESSORIES AND SUPPLIES.

National Tire Service Company, Los Angeles, Cal.; $25,000; L. N. Landfield, J. D. Landfield, J. J. Craig.

Paragon Oil & Supply Company, Oshkosh, Wis.; $15,000; E. L. Thompson, T. F. Coffey, E. Thompson.

Empire Wheel and Tire Company, Montgomery, Ala.; $2000; J. W. Gannon, W. S. Webber, F. H. Elmore, Jr.

Rubbertown Tire Company, Akron, O.; $1000; O. J. Schwab, J. F. Darcey, N. W. Greenberger, F. Falch, H. A. Sullivan.

Haines Auto Accessories Company, Albany, N. Y.; $5000; N. F. Ray, D. S. Edward, H. S. Hechheimer.

Moline Muffler Manufacturing Company, Moline, Ill.; $10,000; Ray Pupton, A. C. Walker, E. D. Jones.

Brickner's Auto Supply Company, New York City; $5000; N. Brickner, M. Brickner, H. Widowsky.

Spokane Cycle and Auto Supply Company, Spokane, Wash.; $125,000; J. D. Alexander, H. A. McKellar, J. B. McKenzie.

D. & M. Lamp and Lighting Company, New York City; $5000; A. J. McKinney, George L. Deverall.

Community Rubber Company, Trenton, N. J.; $25,000; P. S. Martinette, J. R. D. Bower, H. S. Allen.

Searle Unburstable Inner Tube Company, Albany, N. Y.; $400,000; F. K. Hall, O. Kolburn, J. Campbell.

McClurg Rubber Company, Coshocton, W. Va.; $250,000; J. S. McClurg and others.

Eastpark Corporation, Albany, N. Y.; $10,000; to deal in automobile accessories; F. C. Scofield, R. Weldman, F. A. McGurk.

Three Star Tire Company, Trenton, N. J.; $50,000; Edward H. Steel, A. F. Updike, Richard G. Whitehead.

Shoger Manufacturing Company, Chicago, Ill.; $2500; to manufacture automobile supplies; H. C. Peterson, Ernest W. Clark, George D. Wellington.

Meyers-Hoffman Tire Company, Detroit, Mich.; $50,000; Edward A. Hoffman, Charles E. Meyers, Franklin A. Houb.

Aero-Cushion Tire Company, New York City; $750,000; J. A. Le Daux, F. Rause, G. A. Le Daux, W. S. Locks, W. L. Biddle, M. C. Callius, E. M. Orive.

Service Auto and Supply Company, San Antonio, Tex.; $6000; T. S. Carow, W. F. Thurmond, H. M. Sehuehle.

Star Tire and Rubber Company, Madison, Wis.; $5000; to deal in automobile supplies; John W. Mart, C. E. Mart, Minnie Mart.

Gillette Safety Tire Company, Portland, Me.; $1,000,000; to manufacture automobile tires; A. F. Jones, T. L. Croteau.

Protectyre Company, Albany, N. Y.; $20,000; to manufacture tire protecting devices; A. Alexander, H. J. Rosenblum, L. Neustaedter.

Motor Tire and Sales Company, Dover, Del.; $100,000; H. E. Latter, W. J. Maloney, O. J. Reichard.

Superior Tubes and Accessories Company, Ltd., Ottawa, Ont., Can.; $300,000; to manufacture automobiles and accessories; W. A. J. Case, J. B. Taylor, C. G. Lynch.

Gibraltar Tire and Tube Company, Newark, N. J.; $100,000; to manufacture tubes and tires; H. L. Brown, R. Bradshaw, R. Brown.

American Double Service Tire Company, Detroit, Mich.; $3000; H. Dawson, J. G. Pennell, B. C. Pennell.

Dujardin Rubber Company, Albany, N. Y.; $100,000; to manufacture automobile tires, tubes and accessories; F. E. Hutcheon, F. B. Hutcheon, Henry Dujardin.

Eastern Tire and Supply Company, Albany, N. Y.; $5000; A. Smith, W. T. Kincaid, J. G. Barclay.

Cole-Arbogast Auto Company, St. Louis, Mo.; $10,000; William B. Hunt, William Schmidt, John E. Bishop, Fred A. Lyons, Edward Ward, E. W. Arbogast, A. N. Engle.

Xylos Rubber Company, Akron, O.; $50,000; to manufacture rubber goods; H. G. Pohlemus, M. S. McGregor, G. Sisler, J. H. Focht, W. E. Davis.

Standard Tire and Rubber Company, Philadelphia, Penn.; $250,000; to deal in accessories and parts; F. R. Hansell, G. C. Seymour, G. H. B. Martin.

United States Rubber Export Company, Brooklyn, N. Y.; $100,000; E. H. Huxley, H. S. Hotchkiss, J. D. Carberry.

Jewell Auto Device Equipment Company, Los Angeles, Cal.; $75,000; M. A. Nelson, H. L. Nelson, J. P. Fulmer, W. P. Schaefer.

Summers Motor Devices Company, Kansas City, Mo.; $5000; C E. Summers, W. E. Robbins, C. E. Adams.

K. E. Patch Company, Cleveland, O.; $1000; to deal in rubber goods; H. E. Laudeman, L. K. John, L. M. Young, N. L. Black.

Peerless Oil Company, Chicago, Ill; $5000; to deal in oils and supplies; H. A. Maher, T. Cannon, Frank P. Page.

GARAGES AND REPAIR SHOPS.

Home Garage, Paducah, Ky.; $2000; F. W. Katterjohn, Herbert Melton, F. W. Paxton.

Evanston Electric Company, Evanston, Ill.; $15,000; to conduct a garage, etc.; William Greenretch, Otto C. Dwors, H. J. Margraf.

Wills Garage, Newark, N. J.; $10,000; John H. Wills, J. J. Wills, George Braudenbough.

Ford Garage Company, Bloomington, Ill.; $5000; Frank D. Hackett, J. C. Harvey, Jr., J. C. Harvey, Sr.

Mayville Hardware and Garage Company, Mayville, N. Y.; $25,000; Harry Arnold, S. E. Sweetland.

Rutherford Garage, Rutherford, N. J.; $25,000; Frank Van Roden, J. Thais Biering, Frank Biering.

Fashion Electric Garage, Peoria, Ill.; $15,000; B. E. Adams, F. B. Kamarel, W. R. Bennett.

West Suburban Garage Company, La Grange, Ill.; $2500; H. D. Howe, C. C. Collister, H. L. McConnell.

Service Garage and Supply Company, North Yakima, Wash.; $4000; W. C. L. Halsey, K. M. Woods.

Columbus Garage, Columbus, O.; R. E. Williams, C. E. Shockley, F. T. Price, J. Bernhardt.

Auto Repair and Manufacturing Company, Tulsa, Okla.; $10,000; L. F. Barnes, M. O. Randall, M. A. Campbell.

Island Garage, Potsdam, N. Y.; $5000; J. L. Dandy, W. H. Bartholomew, L. B. Bartholomew.

Motor Car Repair Shop, Wilmington, Del.; E. E. McDaniel, R. C. Pancoast, W. S. Hilles.

Port Arthur Garage, Port Arthur, Tex.; $3000; T. P. Smith, Albert Perkins, T. E. Linn.

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DIXON GRAPHITE.

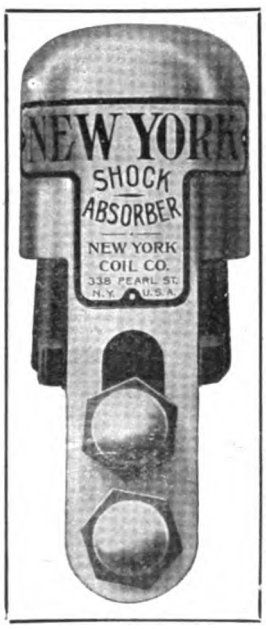
Jersey City Company Has Unexceptionally Attractive Proposition for Dealers.

The Joseph Dixon Crucible Company, Jersey City, N. J., maker of the world renowned Dixon graphite automobile lubricants, is carrying on its usual strong selling campaign for its products. This company is the only concern in the world that produces the peculiar form of graphite that goes to make up its lubricant. With this rare form of flake as a basis it has produced a line of graphite lubricants specially designed for every separate part of the car. No. 677 is a special graphite for differentials, and repeated tests have proven that more mileage and greater smoothness of running will result from its use. This graphite is unaffected by heat or cold, and will not turn thin. Dealers are invited to write for complete details of selling campaigns and service plans.

NEW YORK SHOCK ABSORBER.

New York Coil Company Announces New Design for Ford Car, One That Is Easily Attached.

The New York Coil Company, 338 Pearl street, New York City, announces a new shock absorber for the Ford car, termed the New York. It differs from conventional types in that it may be installed without displacing the rear wheels or front axle spring perches, as the absorbers replace the original spring shackle. It is stated that it is not necessary to employ even a jack.



New York Shock Absorber.

The device consists of but three pieces aside from the bolts. The housing is of a special heat treated steel, which contains the spring designed to carry the weight of the car. A sliding member is arranged to rest on top of the spring perch, which is free to move up or down, as slots are provided in the two outside arms, which are integral with the main member. The maker calls attention to the operation of the absorber in that it has two motions, up and down, as well as a side motion to compensate for the lengthening and shortening of the spring, which is caused by the movement of the body. It is stated that side sway of the body is eliminated. Bushings are not necessary with the device, which the maker states practically floats without any side strain or twist. It is also said that a Ford car has been run with the New York absorbers with the upper shackle bolt entirely removed. This is held to be due to the sliding member resting on the spring perch instead of on the shackle bolt. The maker points out that the device cannot come in contact with the front fender braces, and that ample clearance of the spokes of the rear wheels is provided, as the absorber moves away from the fender braces. The complete set of four retails for $7. Attractive literature will be supplied upon request.

NEW APCO CATALOGUE.

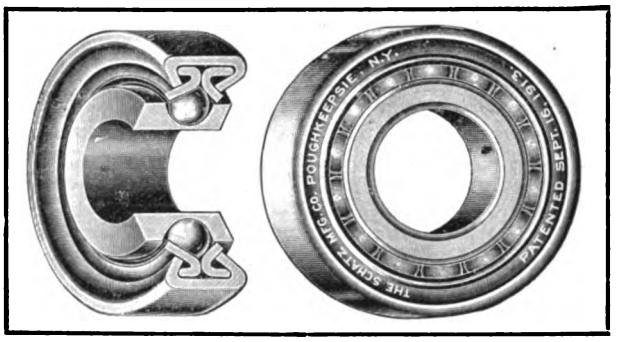
Auto Parts Company, Providence, R. I., Issuing New List of Specialties, Including Many New Ones.

The 1915 catalogue of Apco specialties, supplies, parts, etc., for the Ford car is being distributed by the Auto Parts Company, Providence, R. I., the manufacturer. Many new devices are noted in the book and a number of the trade prices have been revised. The catalogue will be supplied upon request.

UNIVERSAL BALL BEARINGS.

Schatz Manufacturing Company Producing Two Distinct Types of Annular Members.

The Schatz Manufacturing Company, Poughkeepsie, N. Y., is producing two distinct types of annular ball bearings to meet the demand of the manufacturers of light motor vehicles, accessory makers and the trade in general. These bearings are known as the Universal. That for the light car trade and accessory manufacturers is made in inch sizes and in these designs the bore, the ball races in both the cone and cup rings and the



Illustrating Construction of Schatz Ball Bearings.

outside diameter dimensions are carefully ground within standard limits. The bearings are made with a solid steel cone, pressed steel cup rings, and a soft steel outer jacket which grips and holds the outer cup rings rigidly in place. The ends of the soft steel jackets are turned in, in an angular position, against the cup rings, as shown, affording a finish and also reinforcing the cup rings.

The maker calls attention to the three-point contact obtained by the construction, and states that it is impossible to break a ball under the most severe conditions of service. It is further stated that the design obtains all of the advantages of the annular type, and that 70 per cent. radial thrust is secured. The cone and cup rings are made of chrome vanadium steel, carefully heat treated, hardened and tempered.

The other type is made in metric dimensions to interchange with the conventional series of international standards. The same construction and materials are employed as in the other form, with the exception that the bearings are silent and are assembled with a pressed steel spacer or cage. The Schatz Manufacturing Company will supply complete details of its line upon request.

DEALERS ORGANIZE.

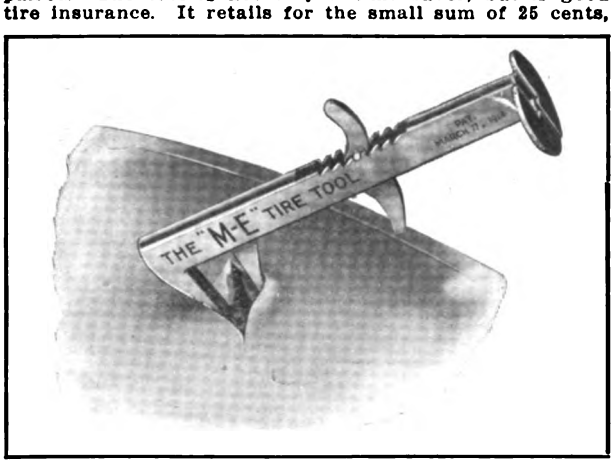
Milwaukee, Wis., Tire and Accessory Houses Form a Permanent Organization at Recent Meeting.

The automobile, tire and accessory dealers of Milwaukee, Wis., held a meeting recently in that city and decided to form a permanent organization.

THE "M-E" TIRE TOOL.

A Convenient Device for Holding Open Surface Cuts While Making Repairs to a Casing.

W. Lewis Mack, 24 West Jackson boulevard, Chicago, Ill., general distributor for motor vehicle specialties, is marketing the "M-E" tire tool, shown herewith, which is a most convenient tool for holding open surface cuts in tires when the apertures are to be cleaned and repaired. The tool is not only a time saver, but is good tire insurance. It retails for the small sum of 25 cents,



The "M-E" Tire Tool for Holding Open Surface Cuts.

and the discounts are liberal. Particulars of the line marketed by W. Lewis Mack, some of which are described elsewhere in this issue, will be supplied to those interested upon request.

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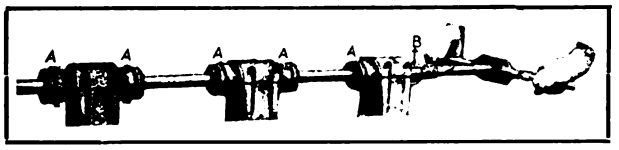
FITTING BEARINGS.

How Martell Aligning Reamer Scrapes in Bearings and Saves Over 75 Per Cent. in Time.

New and improved repair shop equipment has not only made possible better work, but makes for economy in time and labor. Scraping in the bearings of a motor by



Martell Aligning Reamer Fitted to a Three-Bearing Crankshaft.

hand has now given way to newer methods in the motor vehicle factory and up-to-date repair shops and service stations.

An accompanying illustration shows the Martell aligning reamer set up in a three-bearing crank case and ready to ream out bushing No. 1. The tapered aligning bushings, each having micrometer adjustments, are indicated at A, and the adjustable reamer at B. The Martell is not only an instrument of precision, but it can be operated by any workman. The Harding Distributing Company, Boston, Mass., is publishing a book on the subject of motor bearings, which also explains in detail the operation and advantages of the Martell aligning reamer.

A TEST CLIP FREE.

R. S. Mueller & Co. Will Supply Sample of the Universal to the Trade to Demonstrate Its Worth.

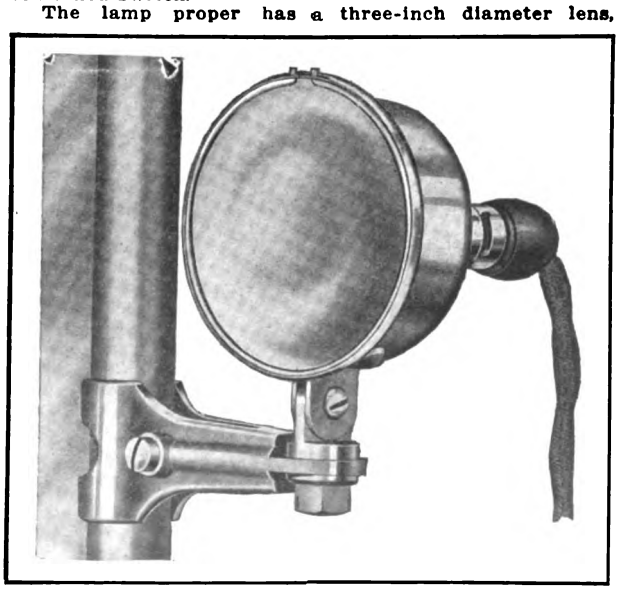
R. S. Mueller & Co., 431 High avenue, Cleveland, O., will forward free one Universal test clip, provided the request is made upon the letter head of the dealer, garage or repair shop. The Universal test clip is a practical time and labor saving device and may be utilized for a number of useful purposes which the company will explain upon request.

C-S HAND LAMP.

Culver-Stearns Manufacturing Company Producing Electric, Swivelling Windshield Lamp.

The Culver-Stearns Manufacturing Company, Worcester, Mass., has brought out a practical and useful electric lamp termed the C-S hand lamp. As may be noted by the accompanying illustration, it is attached to the windshield and, having a swivel joint, its rays may be directed where wanted. The method of attachment permits of locating the light as desired, and one of the noticeable qualities of the design is that it has a self-contained switch.

The lamp proper has a three-inch diameter lens,



Culver-Stearns Electric Hand Lamp Having a Swivel Joint.

which fully protects the reflector. The finish is nickel plate. The C-S hand lamp is supplied for double contact, but a special plug permits the use of the one-wire system. Bulbs are provided for service with any electric lighting system. The regular equipment comprises a 10-foot extension cord, attachment plug, and a six-volt, eight-candlepower tungsten bulb. The lamp retails for $2.50, but the discount to the trade is very liberal. This equipment should be in demand by the motorist, as it can be utilized for a number of useful purpose, such as noting sign boards, street numbers, etc.

WATERBURY DEALERS DINE.

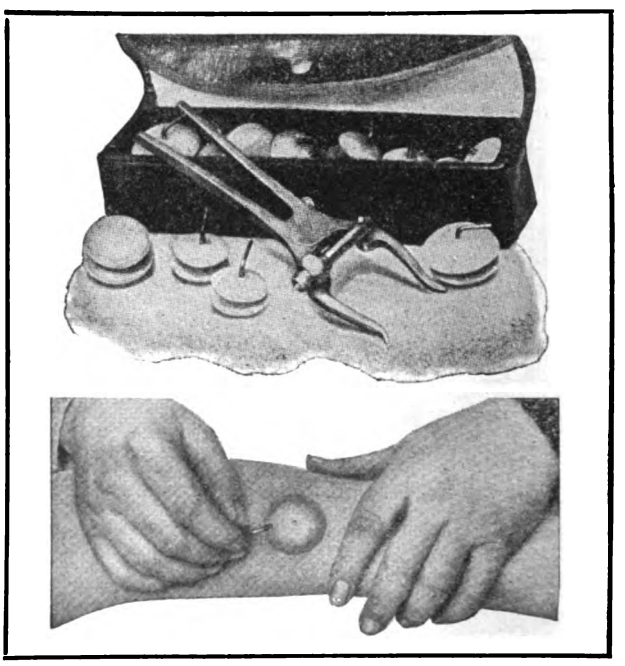
Hold Meeting Previous to the Banquet and Discuss Programme for the Coming Year.

The automobile dealers of Waterbury, Conn., and vicinity held a meeting recently and outlined their programme for the year of 1915. Following the discussions a banquet was served.

SAMPSON REPAIR PLUG.

Permanently Cures Punctures Without Aid of Gasoline, Cement or Patches, by Novel Method.

Stevens & Co., 378 Broadway, New York City, is marketing the Sampson repair kit shown herewith, which is



Showing Sampson Repair Kit and Method of Breaking Wire from Plug.

a complete equipment for repairing punctured inner tubes. One of the desirable qualities of the Sampson plug is that its use requires no cement, gasoline or cleaning of the tube or plug.

The plug is made in two sections as shown, and these are drawn together by means of a threaded wire. A special tool is provided for distending the opening in the tube while the plug is inserted, and afterwards the two halves are screwed together by means of the threaded wire. The last named member is then broken off as indicated in the illustration.

The advantages of the Sampson plug are: A quick repair of a puncture, a permanent sealing of the opening and convenience. With one of these kits tubes can be mended on the road and at a small expense, as the plugs are inexpensive. The Sampson tool and plugs come in a neat container, and interested dealers should write for discounts and details of the selling proposition.

NEW CARLETON GENERATOR.

Porcupine Drive, Preventing Slippage of Belt, a Feature of New Lighting Equipment.

The Carleton No. 68 generator, which provides current for lighting, and which may be utilized with or without a storage battery, is now being featured with a new drive. The Porcupine drive prevents belt slippage and reduces bearing stresses to the minimum. The Carleton generator lists at $15 and the discounts to the trade are very liberal. Complete details of the lighting equipment, which is adaptable to all machines, will be forwarded upon request.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3885—Ohio House wants information relative to the agency of gasoline pleasure cars selling from $400 to $2500.

COMMERCIAL CAR AGENCIES.

6167—New York Dealer is anxious to secure gasoline trucks selling from $850 to $2500.

6170—Ohio Concern is in the market to represent gasoline trucks ranging in price from $450 to $2500.

ACCESSORIES, EQUIPMENT, SUPPLIES.

576—New York Dealer wants air compressors, anti-rattlers, arbor presses, asbestos, axles, batteries, bearings, belts, bodies, bolts, brakes, brushes, bulbs, bumpers, burners, cable, carbide, carburetors, castings, chains, clamps, clips, clutches, coils, drills, elevators, fenders, forgings, gaskets, gasoline, jacks, knuckles, machinery, metal parts, mufflers, packing, paints, pedals, polishes, reamers, shims, shock absorbers, springs, tools, turntables and waste.

577—Connecticut Dealer wants a first-class line of automobile supplies.

580—Ohio Firm is anxious to hear from an up-to-date line of air compressors, cranes, elevators, gasoline, glass, hoists, lathes, machinery, tires and tools. These goods are to be used for garage equipment, which is to be thoroughly fitted out by Jan. 1, 1915.

583—Massachusetts House wants air compressors, boilers, cabinets, cranes, doors, glass, hoists, storage systems, tanks, vulcanizers, washers and washstands. The above products to be used in a garage.

586—Pennsylvania Firm wants to get in touch with a line of batteries, bulbs, cable, carbide, carburetors, cements, chains, charging apparatus, coils, connectors, drills, dynamos, generators, headlights, horns, ignition, lamps, lubricators, magnetos, mechanical starters, motors, nuts, pinions, pistons, platinum, plugs, pullers, pumps, rectifiers, rims, shock absorbers, speedometers, storage systems and tires. The goods to be used for retailing purposes.

588—Michigan Dealer wants prices on air compressors, anti-rattlers, batteries, bolts, castings, chemical tanks, cups, discs, forgings, gaskets, gauges, headlights, hubs, lamps, metal parts, packing, plugs, rubber, shock absorbers, springs, stampings, vulcanizers and wheels.

591—Kansas Firm is interested in batteries and radiators.

594—Illinois House wants information in regard to air compressors, air pumps, anti-rattlers, fire extinguishers, goggles, graphite, jacks, maps, packing, racks and rectifiers. The goods to be used for sale on jobbing basis.

595—Kentucky House wants 5000 pleasure car and power wagon parts to be used for Overland and Willys Utility cars.

598—Illinois Concern wants air compressors, air pumps, batteries, bodies, bulbs, bumpers, carburetors, fire extinguishers, gasoline, graphite, lamps, lubricators, maps, mechanical starters, plugs, polishes, pumps, radiators, shock absorbers, tire accessories, tires, tools, waste and wrenches.

599—Iowa Firm is interested in anti-rattlers, batteries, brakes, brushes, bulbs, bumpers, burners, cable, carburetors, chains, connectors, cutters, cushions, dimmers, drills, engines, gaskets, glass, goggles, hammers, headlights, horns, hose, ignition, jacks, lamps, magnetos, nuts, patches, platinum, plugs, pumps, shock absorbers, waste and wrenches. The goods to be used for retail purposes.

602—Tennessee Dealer wants information relative to batteries, burners, cements, chains, dynamos, gasoline, headlights, horns, indicators, magnetos, odometers, packing, carbon removers, speedometers, storage systems, tires, vulcanizers, whistles and wrenches.

605—Maryland House is in the market for batteries, belts, bolts, celluloid, gasoline, hose, lathes, soaps, rubber stampings and waste.

608—Massachusetts Concern wants air compressors, batteries, bolts, dimmers, dynamos, lathes, printed matter, carbon removers, starters, tire accessories, vulcanizers and wrenches.

613—Pennsylvania Dealer is in the market to carry a full line of automobile supplies.

617—New York Dealer wants air compressors, air pumps, anti-rattlers, batteries, bearings, bulbs, carbide, carburetors, cements, coils, dimmers, drills, emblems, fans, fenders, gasoline, goggles, hydrometers, lubricators, magnetos, maps, odometers, paints, printed matter, pumps, radiators, reflectors, carbon removers, rims, searchlights, shock absorbers, soaps, speedometers, springs, storage systems, switches, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, turntables, vaporizers, vulcanizers, waste, wearing apparel, whistles, wire and wrenches. The above goods are to be used to equip an automobile store.

620—New Jersey Dealer is interested in axles, batteries, bodies, castings, engines, fenders, forgings, frames, lamps, mufflers, radiators, springs, steering wheels, steps, transmissions, wheels and windshields.

621—California Company wants air pumps, axles, batteries, bearings, bodies, bumpers, cable, carburetors, coils, commutators, couplings, dimmers, emblems, engines, fans, generators, headlights, horns, ignition, indicators, jacks, lamps, magnetos, mechanical starters, motors, packing, paints, platinum, plugs, polishes, printed matter, pumps, punches, radiators, rims, scrapers, searchlights, shock absorbers, speedometers, starters, steering wheels, switches, timers, tools, vaporizers, waste, wheels and wrenches.

624—Ohio House wants bearings, chains, cups, gasoline, hoists, ignition, odometers, plugs, ratchet drills, reamers, springs and tools.

626—Massachusetts Concern wants arbor presses, charging apparatus and soaps.

627—Michigan Dealer wants a line of Ford accessories, also starters.

631—California Company is interested in batteries, headlights, storage systems and tires.

633—Ohio Concern is interested in carbide, clamps, clips, gaskets, gasoline, goggles, horns, jacks, lamps, rims, terminals, tire racks, tire tape, tire accessories, tires (seconds), tubing and wrenches. The goods are to be sold at wholesale and retail.

636—California Dealer wants indicators.

638—Michigan Firm is interested in batteries, chains, gaskets, gasoline, generators, jacks, maps, packing, plugs, polishes, primers, printed matter, soaps, solder, tires, tools, tops and parts, turntables, vulcanizers, waste and wrenches.

641—Texas Dealer wants information relative to air pumps, batteries, brushes, bulbs, clutches, jacks, starters, tape and tires.

643—Washington House is desirous of securing tungsten valves.

645—Arkansas Dealer wants tools, equipment and supplies for a garage.

646—Ohio Firm is interested in air compressors, air pumps, anvils, batteries, bulbs, ratchet drills, reamers, tire accessories, tires, tools, vises and wrenches.

649—West Virginia Dealer wants aluminum stampings to be used for vulcanizing tires, rubber, tire accessories and valves. The products are to be used in a tire repair shop.

652—Massachusetts Firm is interested in shock absorbers and speedometers.

653—Wisconsin Dealer wants tire accessories and tires.

655—California Concern is interested in axles, carburetors, chains, emblems, engines, fenders, gear cutting machines, gears, joints, levers, mechanical starters, metal parts, motors, paints, pedals, pinions, pistons, polishes, printed matter, radiators, reamers, rims, screws, stampings, steps, tanks, transmissions, upholstery, varnishes, waste and wheels. The above goods are to be used in the manufacture of half-ton and one-ton trucks.

657—Oklahoma House wants information relative to air compressors, air pumps, anti-rattlers and chains.

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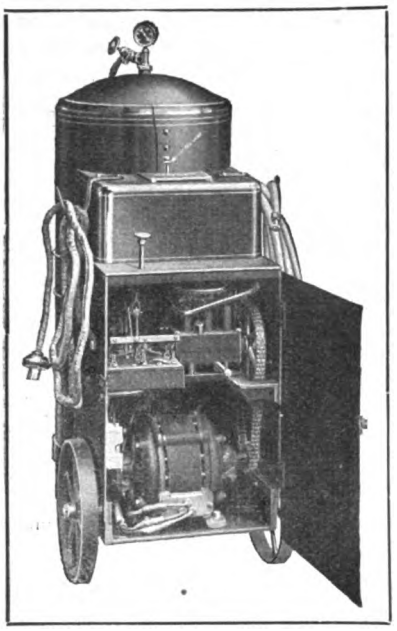
KELLOGG GARAGE PUMP.

An Electrically Driven Motor Garage Pump of the Portable Type and Having Many Practical Features.

The advantages of the portable tire pump in the garage are well established by practise, as with it air can be delivered to the car inside or outside of the garage. It eliminates the trouble and time lost in moving the machine to the pump, thereby effecting economy.



Kellogg Motor Driven Garage Pump.

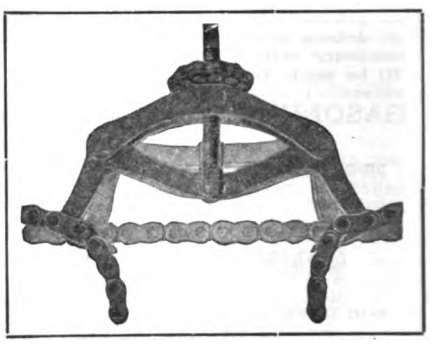
The Kellogg Manufacturing Company, Rochester, N. Y., has brought out a highly perfected unit that, it is stated, will save from $15 to $20 a month in power bills over conventional types.

The outfit is shown in an accompanying illustration and, as may be noted, it is complete in every respect. It is an electrically driven motor garage pump and has 200 pounds capacity, insuring about 100 per cent. more volume than a tank of 150 pounds capacity. The maker states that it will inflate 16 - 34 by four-inch tires from flat to 80 pounds pressure without replenishing the supply. The pump will fill the tank to its capacity in 20 minutes. One of the features of the equipment is the automatic cut-out, which makes for absolute safety and saves time. The details of the cut-out and the equipment, with trade discounts, will be supplied by addressing the Kellogg Manufacturing Company, 271 Circle street, Rochester, N. Y. In writing, ask for details of the special offer, cash or trial.

HANDY SPROCKET CLAMP.

Inexpensive and Practical Tool for Repairing Motor Vehicle and Motorcycle Driving Chains.

The difficulty of drawing together the ends of the driving chains of the motor vehicle or motorcycle, especially when these members break on the road, is well known to those who have attempted to connect the master link. The Racine Auto Specialty Sales Company, 826 Consumers' building, Chicago, Ill., is marketing the Handy sprocket clamp, shown herewith. The tool is very compact and the heaviest of chains may be handled easily and quickly. As may be noted by the illustration, the device has a pair of jaws for gripping the ends of the chain, which are drawn together by a toggle construction actuated by a threaded bolt in the linkage. The truck size Handy sprocket clamp retails for $1.25, and that for motorcycles lists at $1. The discounts are liberal. Details supplied by addressing department E.



Handy Sprocket Chain Clamp.

CONVERTIBLE BODY FOR FORD.

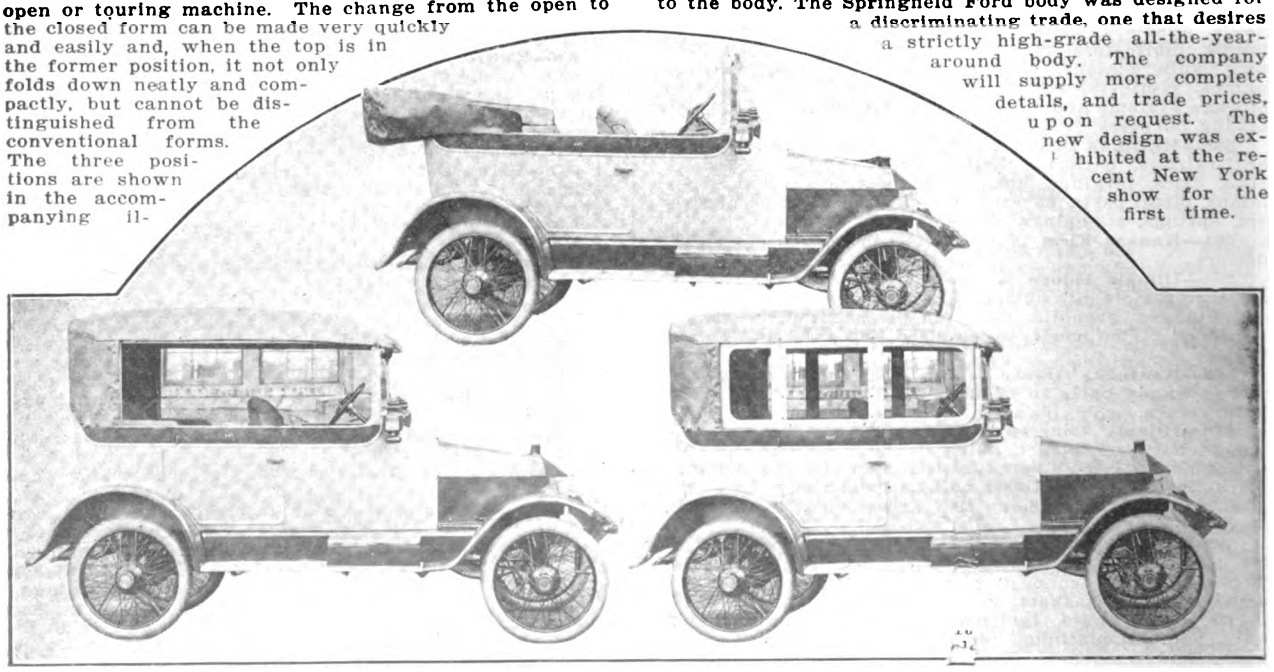
Springfield Metal Body Company Brings Out a Special All-the-Year-Around Type.

The Springfield Metal Body Company, Springfield, Mass., which has been specializing on the convertible type of body for years, and whose product is well and favorably known to the industry, announces a design adaptable to the model T Ford chassis. The details of the new type have been carefully worked out and, as may be noted by the accompanying illustrations, the body greatly enhances the appearance of the car.

One of the several desirable qualities of the Springfield body is that it provides an all-the-year-around motor vehicle, obtaining all of the comforts and protection of the enclosed car, as well as desirable features of an open or touring machine. The change from the open to the closed form can be made very quickly and easily and, when the top is in the former position, it not only folds down neatly and compactly, but cannot be distinguished from the conventional forms. The three positions are shown in the accompanying illustrations. That at the top depicts the vehicle with the top folded. The view at the left shows the top up and glass windows folded, providing protection from the sun. That at the right is similar with the exception that the windows are in place.

As is true with all Springfield bodies, the new design is rattle, dust, water and weather proof; its sides have large openings without posts or framing to obstruct the view other than the molding around the glass, and the occupants of the rear seat have a clear view at all times. The doors are wide, making for easy entrance and exit, and the same space and conveniences are provided as are obtained with the limousine or enclosed types.

The top structure is very light and the folding process is performed more easily than with the conventional tops. As may be noted by the accompanying illustration at the right, there are three windows on each side or six to the body. The Springfield Ford body was designed for a discriminating trade, one that desires a strictly high-grade all-the-year-around body. The company will supply more complete details, and trade prices, upon request. The new design was exhibited at the recent New York show for the first time.



Illustrating the Open, Top Up and Closed Position of the New Springfield Convertible Body Designed for Attachment to the Model T Ford Chassis.

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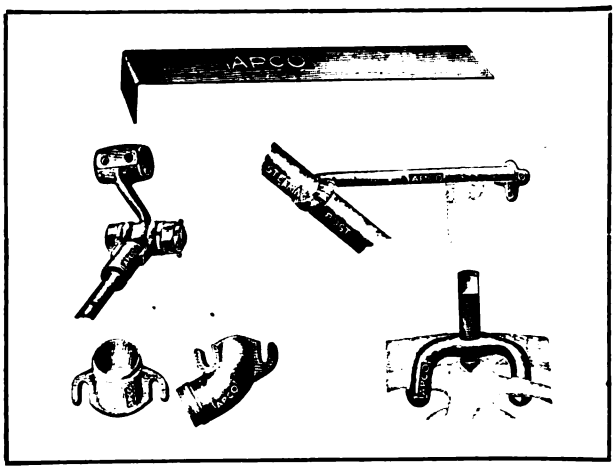
NEW APCO SPECIALTIES.

Auto Parts Company, Providence, R. I., Announces a Number of Useful and Practical Devices for Ford Cars.

A number of new Apco specialties are offered the trade by the Auto Parts Company, Providence, R. I., the well known maker of accessories, equipment and parts for the model T Ford car. One of these, a lined brake shoe, fills a long felt want. The production of an emergency brake shoe for the Ford involved a number of problems, but these have been overcome and the Apco brake shoe is so constructed that it can be lined with an asbestos friction material, and the lining renewed from time to time as required. The shoe is a malleable casting, and a set of two lists for $1. The lining and rivets are supplied for renewal for the small sum of 25 cents. This renewal feature will be appreciated by owners.

Another useful Apco specialty is the steering wheel puller, which sells for 50 cents. The steering wheel on the Ford is not easily removed, as it is a drive fit on the column. Displacing it with ordinary tools generally results in damage to the spider and, as the supply of grease in the gears must be renewed from time to time, the Apco wheel puller will do the work easily and quickly. The tool is constructed from semi-steel and is black enamelled.

The cylinder water connections of the motor are stated to have given more or less trouble, and generally are difficult to remove without breaking. The Apco connections are made of malleable iron, and a desirable quality of the design, one that will appeal to the owner undertaking his own repairs, is that slots are incorporated in the connections for the bolts instead of the usual holes. This makes it a simple matter to displace the connection when desired. The new part is made for either top or side and retails for 25 cents each.



Some of the New Apco Specialties and Parts for the Ford Car, Including Brake Rod Clevis Anti-Rattler, Steering Column Brace, Cylinder Water Connections and Steering Wheel Puller.

Many owners of the Ford car make it a practise to use the steering wheel for a handle when entering and leaving the car. This results in loosening its supports and produces play. To strengthen the steering column, the Auto Parts Company has brought out a brace, one end of which is clamped to the steering column and the other secured to the dash. The device is practical and can be installed in a few minutes with a wrench and a screw driver. It sells for $1.

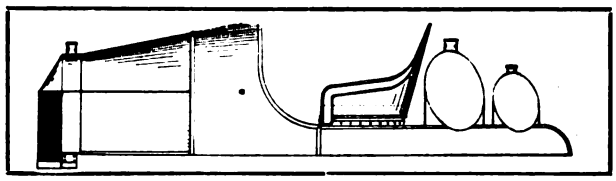
Another useful part is the brake rod clevis anti-rattler, consisting of a special hardened bolt with a nut, a cotter pin and lock washers. The new device is for eliminating the rattle caused by a worn clevis pin. The Apco device not only prevents rattling, but it is adjustable, permitting of taking up lost motion from time to time. Four of these are required on the Ford car and they sell for the small sum of 10 cents each. Descriptive matter and trade discounts will be supplied the trade upon request. In writing, ask for the 1915 Apco catalogue.

FORD SPEEDSTER BODY.

Auto Parts Company, Chicago, Ill., Supplying Complete Equipment for Changing Car into Attractive Model.

To meet the increasing demand for a streamline body and speedster effect, the Auto Parts Company, 739 West Jackson boulevard, Chicago, Ill., is producing an equipment which will change the Ford car into a snappy and attractive roadster type of automobile. One of the desirable qualities of the equipment is that it can be attached by the most inexperienced Ford owner, making it a good selling proposition for garages and dealers.

An accompanying illustration shows the Auto Parts



Streamline Speedster Type of Body, Including New Hood, Dash, Seats, Radiator, Oil and Fuel Tanks, Marketed by the Auto Parts Company, Chicago, Ill., for Attaching to Ford Chassis.

equipment and, as may be noted, the lines are graceful, and the body obtains that desired quality, the appearance of a large motor vehicle. The equipment includes a V shaped radiator, a tapered hood, dash, shroud, upholstered seats, metal streamline body, large gasoline tank and a receptacle for oil. When desired a trunk tool box is supplied in place of the oil tank.

The body is of leaded steel, is substantial, and is nicely finished. It obtains the true streamline effect, and the seats have comfortable backs. Any colored leather is supplied. The radiator comes in nickel or brass. The entire equipment lists for $75, but any part of it will be supplied. Discounts and particulars of the new equipment will be forwarded upon request.

WEED COMPANY CO-OPERATING.

Tire Chain Concern Has Excellent Campaign to Build Up Business of Its Dealers.

An offer to furnish an attractive board for the display of the cross chains which are in constant demand by automobile owners is one of the generous offers being made to dealers by the Weed Chain Tire Grip Company, Bridgeport, Conn. At this season of the year the laying in of a supply of tire chains means a quick turning over of money for the enterprising dealer. The advertising that the company does, together with the attractive displays it offers, assure a live product and no carry over for the next season. It would be of benefit for new concerns, as well as old, to write to the company for the display board and a statement of terms, etc.

PRICE WRECKERS.

Times Square Automobile Company Issues Special Sheet of Attractive Bargains for Dealers.

The Times Square Automobile Company, 1743 Broadway, New York City, and 1210 Michigan avenue, Chicago, Ill., has completed a new Price Wrecker catalogue, which will be supplied the trade on request. This concern carries everything for the motor vehicle.

"X" REPAIRS RADIATORS.

A Liquid Preparation for Stopping Leaks, and It Will Mix with the Anti-Freezing Solution.

The "X" Laboratories, 630 Washington street, Boston, is manufacturing a liquid preparation termed "X", which differs from the conventional compounds marketed for repairing leaks in the radiator, in that the fluid is left in the cooling system. The maker states that it will not affect the anti-freezing solution, and that it will prevent rust and scale from forming. The preparation can also be used for repairing leaks in steam and hot water heaters. It comes in cans containing a supply sufficient to repair two radiators of five gallons capacity or under. Various sizes are marketed to meet requirements. "X" liquid is the result of careful experimentation and the preparation was thoroughly tested before being placed on the market. It is sold under a money back guarantee, and the maker has an interesting dealers' proposition, the details of which will be supplied upon request. "X" liquid will be exhibited at the Chicago show.

"X" Radiator Liquid.

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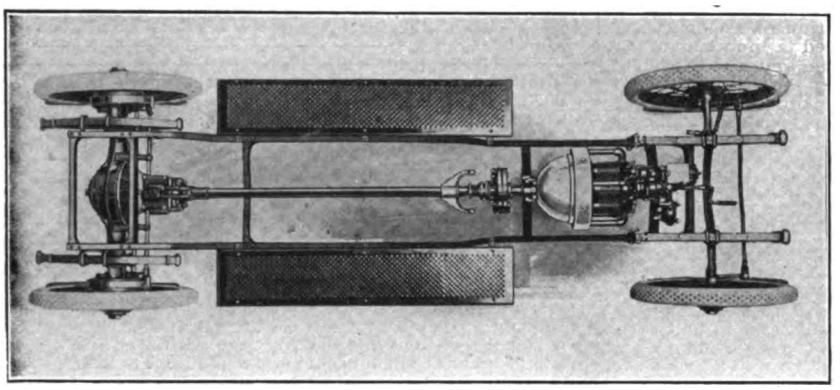
NEW AND DESIRABLE LINES IN DEMAND.

AN APPLICATION of the rotary type of internal combustion engine to the pleasure vehicle is noted in the Eagle-Macomber car, manufactured by the Eagle-Macomber Motor Car Company, 1350 Michigan boulevard, Chicago, Ill. The rotary type of motor has been highly developed in aviation service, and that utilized in the Eagle-Macomber chassis is the invention of W. G. Macomber, a Los Angeles, Cal., engineer. The exclusive sales and manufacturing rights have been acquired by the Eagle-Macomber Motor Car Company.



Illustrating the Compactness and Simplicity of the Macomber Rotary Motor Installed in the Eagle-Macomber Car.

The new motor has been subjected to severe road and laboratory tests, and its utility from a practical standpoint has been demonstrated in aeroplane and motor boat service.

One of the desirable qualities of the motor is its perfect balance. Photographs taken of the engine revolving at 1500 revolutions a minute in the chassis fail to reveal that blur generally accompanying illustrations of mechanical constructions rotating at high speeds.

In addition to the absence of vibration, its compactness and light weight are noticeable. It is stated that the five-cylinder Macomber motor, rated at 14 horsepower, weighs but 115 pounds, including the muffler. The seven-cylinder engine, held to have a horsepower production of 60, weighs but 250 pounds.

The construction eliminates radiators, pumps, fans, etc., and the cooling is by air. Simplicity is a feature of the design, and this is especially true of the ignition system, which consists of a true high-tension magneto that provides a spark for the spark plugs as they pass a sparking plate attached to the magneto.

The bore of the 14-horsepower Macomber motor is 2 9/16 inches and the stroke is three. Any standard type of magneto or carburetor is adaptable to the engine, which is to be built in sizes to meet requirements.

It is stated that the mechanical efficiency and power of the Macomber is about 30 per cent. greater than a reciprocating engine of similar rating, and that it has shown 82.6 per cent. efficiency in laboratory tests.

An accompanying illustration shows the Macomber engine installed in the chassis of the Eagle-Macomber car. Details of this motor, which is adaptable to a number of purposes, will be supplied upon addressing the Eagle-Macomber Motor Car Company, 1350 South Michigan boulevard, Chicago, Ill.

LUBRICATION SYSTEMS.

Various Types Defined and Charted in Instructive Book Given by Platt & Washburn Refining Company.

Every dealer, garage man and repair man should have a practical working knowledge of the various lubrication systems employed with the motor vehicle, for such information is of decided value. One of the most interesting and instructive publications compiled on the subject of lubrication is being printed in its first edition by the Platt & Washburn Refining Company, New York City.

This company has spent a number of years gathering its data, which are based upon practical and laboratory tests, and among the contributors of material are well known motor vehicle manufacturers. There is hardly any detail of the lubrication problem that is not clearly explained in the book, which comprises 44 pages and includes 48 colored illustrations.

Of particular interest to the trade is the defining of the various lubricating systems in vogue. These are so illustrated that the flow, etc., of the oil is clearly shown, and the principles of each type are comprehensively explained.

The subject of carbon is treated in some detail with illustrations showing how the various tests of lubricating oil are made, such as for flash, fire, viscosity, carbon, cold, etc., and the descriptions accompanying each picture are concise. This is one of the many interesting features of the book and a careful study of this department will enable the dealer, repair man and garage man to talk intelligently on the subject of oils and qualify him to answer all questions of the prospective purchaser.

Among the subjects treated at length in the book are the following: Operating Temperatures, Operation of the Two-Cycle Motor, Operation of the Four-Cycle Motor, the Subject of Carbon, Disc Clutch Lubrication, Transmission Lubrication, Differential Lubrication, Chassis Lubrication (with charts), What Happens to the Oil in the Motor, Tests of Liquid Fuels, Motor Efficiency at High Altitudes, Etc.

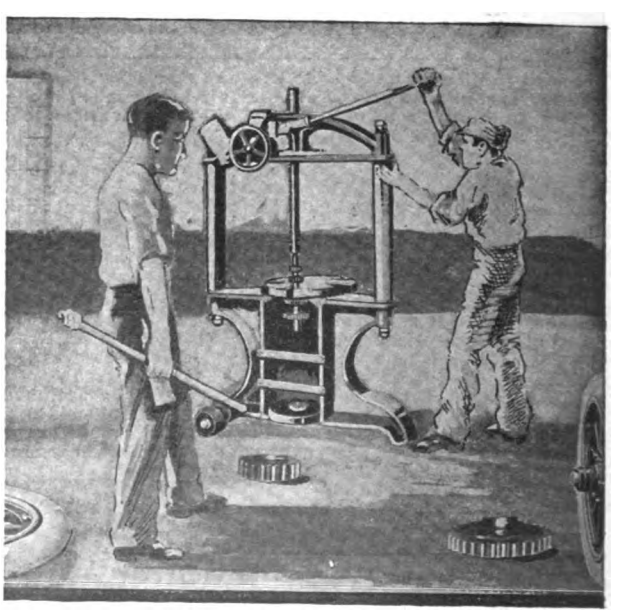
Last, but not least, is the Veedol chart, which occupies the last four pages in the book. In this will be found listed the name of every American car and the best grade of oil adapted to it. The book will be given away as long as the limited first edition lasts. After that it will be sold. Those desiring a copy of this valuable publication may obtain one free by writing the Platt & Washburn Refining Company, 11 Broadway, New York City, and mentioning the Accessory and Garage Journal.

GREENERD NO. 15 ARBOR PRESS.

Particularly Adapted to Motor Vehicle Work and Has a Pressure Capacity of 16 Tons.

Many operations are possible with an arbor press, and among them may be named the straightening of axles and crankshafts, removing bushings and gears, forcing on wheels, broaching holes, pressing ball races on or off shafts, straightening rear axle housings, etc.

Generally the work that requires good equipment is productive of large profits, and, in these days of keen competition, the garage and repair shop must be supplied with time and labor saving equipment. The Greenerd No. 15 arbor press is particularly adapted to motor vehicle work, and an accompanying illustration shows one of the many uses for the press. It has a pressure capacity of 10 tons with one man or 16 tons with two men. The Greenerd press is an economical equipment because of the great diversity of work that can be performed with it. Prices and details will be supplied by the maker, Edwin E. Bartlett, 322 A street, Boston.



Showing One of Many Practical Applications of the No. 15 Greenerd Arbor Press.

The Dallas Automobile and Accessory Dealers' Association, Dallas, Tex., has been formed by 40 dealers in that city.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period for purposes of comparison. Antimony rose 2½ cents; northern iron fell 50 cents; bessemer and open hearth steel increased 50 cents a ton for the month; electrolytic copper rose 37½ cents a hundred pounds, as did lake, which advanced 35 cents for the past four weeks; tin dropped $1.60 a hundred pounds. Pennsylvania crude rose five cents on the barrel, raw linseed advanced 13 cents and cottonseed oil fell 30 cents on the barrel. Rubber dropped eight cents.

	Dec. 21		Dec. 28		Jan. 4		Jan. 11			
	High	Low	High	Low	High	Low	High	Low	Dec. 15	Jan. 15
Antimony	12½	12½	13½	12½	14½	13½	14½	14½	12	14½
Iron, fdy., S., ton	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50
Iron, fdy., N., ton	13.00	13.00	13.00	13.00	13.00	13.00	12.50	12.50	13.00	12.50
Iron, Bessemer, ton	13.75	13.75	13.75	13.75	13.75	13.75	13.75	13.50	....	13.50
Steel, Bessemer, ton	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.00	18.50
Steel, open hearth, ton	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.00	18.50
Beams and chan., 100 lbs.	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
Copper, elec., 100 lbs.	13.12½	12.87½	12.65	12.65	13.37½	12.75	13.55	13.45	13.12½	13.50
Copper, lake, 100 lbs.	13.25	12.25	13.12½	13.12½	13.37½	13.00	13.62½	13.50	13.25	13.60
Lead, 100 lbs.	3.80	3.80	3.80	3.80	3.80	3.70	3.75	3.70	3.80	3.70
Tin, 100 lbs.	33.62½	33.25	33.50	32.75	33.37½	32.75	33.75	33.00	34.60	33.00
Petroleum, Kan., cr., bbl.	55	55	55	55	55	55	55	55	55	55
Petroleum, Penn., cr., bbl.	1.45	1.45	1.45	1.45	1.50	1.50	1.50	1.50	1.45	1.50
Linseed oil, raw	50	50	50	50	50	50	54	54	47	60
Rapeseed oil, refined	71	71	71	71	71	71	75	71	71	71
Lard oil, prime	90	90	90	90	90	90	90	90	90	90
Fish oil, Menhaden, br.	38	38	38	38	38	38	38	38	38	38
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	21	21	21	21	21	21	21	21	21	21
Cottonseed oil, bbl.	5.70	5.65	5.83	5.68	6.34	5.85	6.60	5.35	5.65	5.35
Silk, raw, Japan	3.50	3.47½	3.55	3.55	3.60	3.55	3.65	3.62½	....	....
Silk, raw, Italy	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	....
Rubber, fine up-river Para	76	76	75	75	75	67	67	62	71	63
Tire, scrap	5	5	5	5	5	5	5	5	5	5

QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week. It will be noted that for the most part the market has been fairly steady since the opening of the New York stock exchange, which took place Dec. 12.

	Dec. 21		Dec. 28		Jan. 4		Jan. 11	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb, com.	250	..	250	..	250	..	..	..
Ajax-Grieb, pfd.	100	..	100	..	100	..	..	..
Aluminum Cast., pfd.	95	..	95	100	95	100	100	..
Borne, Scrymser	260	280	260	280	260	280	260	275
Case, J. I., pfd.	..	82	..	95	..	85	..	..
Chalmers Motor, com.	..	90	..	90	..	88	..	97
Chalmers Motor, pfd.	87½	92½	87½	92½	..	92½	..	93½
Electric Stor. Bat.	48½	49½	..	..	..	..	..	..
Firestone Tire, com.	340	..	350	360	350	355	348	352
Firestone Tire, pfd.	109	111	110	111	110	112	109½	111
Garford Co., pfd.	..	..	..	..	..	..	..	..
General Motors, com.	80	82	79	82½	83½	85½	86	87
General Motors, pfd.	91½	92	88	92½	92	94	93	94
Goodrich, B. F., com.	24	24⅝	24½	25	26½	26¾	31⅞	32
Goodrich, B. F., pfd.	91	94½	139	140	..	..	95¼	96
Goodyear Tire, com.	185	191	188	191	185	188	188	191
Goodyear Tire, pfd.	101	102	100	102	101	102	100¼	101¼
Gray & Davis, Inc., pfd.	..	..	..	..	..	..	..	..
International Motor, com.	..	..	..	..	..	..	..	..
International Motor, pfd.	..	..	..	..	..	..	..	..
Kelly-Springfield Tire, com.	68	69	65	68	69	70	75	77
Kelly-Springfield Tire, 1st pfd.	77½	78½	79	80	75	79	79	80
Kelly-Springfield Tire, 2nd pfd.	95	97	95	97	93	95	95	100
Maxwell Motor, com.	14½	14½	14⅝	14¾	15½	16	17½	18
Maxwell Motor, 1st pfd.	43½	45	44	44½	43½	45	48	49
Maxwell Motor, 2nd pfd.	17½	18½	17½	18	18	19	18	20
Miller Rubber	160	..	160	..	150	158	150	158
New Departure, com.	..	..	..	..	101	..	110	120
New Departure, pfd.	..	..	..	..	..	120	102	..
Packard Motor Car, com.	..	100	..	100	..	100	..	100
Packard Motor Car, pfd.	90	..	90	..	90	..	93	..
Peerless Motor Car, com.	15	20	15	20	15	20	15	20
Peerless Motor Car, pfd.	..	55	..	55	..	55	..	55
Pope Mfg. Co., com.	..	..	..	..	..	..	..	..
Pope Mfg. Co., pfd.	..	..	..	..	..	..	..	..
Portage Rub., com.	25	30	25	30	25	30	33	36
Portage Rub., pfd.	80	85	80	85	80	85	80	85
Reo Motor Car	21½	22½	21½	22½	22¼	..	24½	25½
Reo Motor Truck	10½	11½	10½	11½	10½	11½	11½	12¼
Splitdorf Electrical	..	..	..	..	..	..	..	..
Stewart-Warner, com.	47	49	52	54	52	54	52½	53½
Stewart-Warner, pfd.	97	100	98½	101	99	101	100	102
Studebaker, com.	31½	33¼	36⅛	36⅜	36½	36¾	41⅜	41¾
Studebaker, pfd.	85	87½	90	91¾	92	93½	92	93½
Swinehart Tire	87	88	69	71	69	71	69	71
Texas Co.	128	133	131	134½	134	135	133	135½
U. S. Rubber, com.	52	56	51	55½	57½	58	57½	58
U. S. Rubber, 1st pfd.	101	102½	100⅞	102	102¾	103½	104	104½
Vacuum Oil	198	204	..	..	199	201	198	201
White Co., pfd.	107	110	108	110	108	110	108	110
Willys-Overland, com.	80	84	83	87	83	85	86	90
Willys-Overland, pfd.	86	90	90	95	92	94	90	95

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DEALERS ORGANIZE TO PROTECT INTERESTS.

ABOUT 175 tire dealers, handling the products of the Goodyear Tire and Rubber Company, met at Providence, R. I., recently and formed an organization for protecting their business interests. A. E. Goodby was appointed temporary chairman and Charles Paine secretary. An advisory board was appointed consisting of the following: A. W. Flynn, Narragansett Pier; L. S. Huntington, Pawtucket; John Y. Letendre, Woonsocket; E. E. Davenport, East Greenwich; George Wood, Riverpoint; A. J. Stark, Newport; A. B. Smith, Westerly; Howard Duckworth, F. J. Murray, Guy Gifford, Charles Manchester, Frank Kellogg and Frank Glover, all of Providence.

The meeting of the dealers was the outcome of the efforts of A. M. Bannister and S. M. Beatty, connected with the Providence branch of the Goodyear Tire and Rubber Company. The meeting was supplemented by a number of addresses, among the speakers being W. R. Bliss, manager of the Boston branch of the Goodyear Tire and Rubber Company; L. C. Rockwell, manager of the tire division at the Goodyear factory, and George P. Brophy, president of the dealers' association of Boston, Mass. W. T. Teagan, New England manager of the Goodyear Tire and Rubber Company, officiated as toastmaster.

PERFECT ORGANIZATION.

Bristol County, Mass., Dealers in Motor Vehicles and Supplies Form New Association.

Bristol County, Mass., dealers in motor vehicles, supplies and equipment, have formed an organization and propose to eliminate existing trade evils, as well as to protect interests. The meeting was held at Taunton, Mass., and the following officers were elected: J. Edward Newton, Fall River, president; John W. Robertson, Taunton, first vice president; John S. Coy, New Bedford, second vice president; Howard L. White, Taunton, treasurer; Arthur Fontaine, Fall River, secretary. The board of directors comprises the following: Harry Carlow and Fred Shaw, Taunton; A. W. Childs and Mr. Atchinson, New Bedford; Henry Horton and David Cornell, New Bedford.

ELECTS NEW SECRETARY.

Tidewater Automobile Association Appoints W. E. Virnelson to Succeed C. J. Mains.

At a recent meeting the Tidewater Automobile Association, Norfolk, Va., elected W. E. Virnelson as secretary to succeed C. J. Mains, whose term expired the first of the year. A committee has been named to discuss the report of the tax commission, which will be acted upon by the state legislature this month.

"ACQUAINTANCE" LUNCHEON.

Buffalo Automobile Dealers' Association Attends Novel Affair Which Is Well Conducted.

Members of the Buffalo, N. Y., Automobile Dealers' Association were the guests at the weekly "Acquaintance" luncheon at the Chamber of Commerce in that city recently. Each dealer wore a yellow badge at the dinner with the name of the car he represented upon it in black. The trade interests were well represented.

KANSAS CITY MEN MEET.

Motor Car Dealers' of That City Perfect Affiliation with Chicago Automobile Trade Association.

Affiliation with the Chicago Automobile Trade Association in the organization of a new dealers' association was accomplished at the recent meeting of the Kansas City, Mo., Motor Car Dealers' Association. All of the Convention hall space for the annual automobile show, Feb. 8-14, has been allotted, it was announced.

ORGANIZE FOR MUTUAL HELP.

Dealers in Nebraska Form Organization to Crusade Against the Cut Rate Evil.

Uniform prices and an earnest crusade against the "cut rate" automobile man were two of the plans of 60 automobile dealers who met in Omaha, Neb., recently. A temporary organization was formed and this will be made permanent at an early date. Omaha, South Omaha and Council Bluffs were represented at the meeting. All lines of industry relating to automobile traffic will be represented in the organization.

Temporary officers were elected, these being L. W. Prenica, president; Henry Nygaard, secretary, and H. G. Montgomery, treasurer.

GARAGE OWNERS COMBINE.

The United Garage Association of New York State Has Been Formed and Officers Elected.

At a recent meeting of garage owners, service men and automobile repair men in New York City, the United Garage Association of New York State was formed. William Haradon of New York City was elected president. Other officers are: John Van Beuschoten, Poughkeepsie, first vice president; W. D. Sweet, Binghamton, second vice president; A. H. Dudley, Rochester, treasurer, and Henry Waring, New York, general secretary. The association plans to present a bill at Albany asking for a garage lien law in an effort to eliminate undesirables from the garage business.

ST. PAUL MEN BUSY.

Trade Abuses Are Expected to Disappear as Result of Planned Monthly Meetings.

The elimination of trade abuses is expected as the result of a newly organized automobile trade association at St. Paul, Minn. The association will hold monthly meetings at which cordial business and social relations between the dealers will be fostered. H. K. Harrison was elected president at the first meeting. Other officers elected were: H. T. Heberle, vice president; George W. Read, secretary; J. E. Olen, treasurer, and S. B. Dean, Fred Messenger and C. W. Norton, directors.

CONSIDERS AFFILIATION.

Washington Automobile Trade Association Postpones Action on Combining with Retail Merchants' Association.

At a meeting of the Automobile Trade Association, Washington, D. C., affiliation with the Retail Merchants' Association was discussed, but definite action was postponed. The following officers were elected: Joseph M. Stoddard, president; S. A. Luttrell, vice president; Robert H. Martin, treasurer; board of directors, W. S. Keeler, H. B. Leary, Jr., and Claude E. Miller.

FORM RETAIL ASSOCIATION.

Motor Vehicle and Motorcycle Dealers at Buffalo, N. Y., Get Together to Discuss Business.

At a banquet given by the Goodyear Tire and Rubber Company, Buffalo, N. Y., recently, 175 dealers in motor vehicle accessories and supplies formed the Retail Automobile and Motorcycle Accessories Dealers' Association. The purpose of the organization is for the dealers to meet and discuss methods for overcoming business evils.

CHANGE BY-LAWS.

Portland Automobile Dealers' Association to Admit to Membership All State Dealers.

At a recent meeting of the Portland, Me., Automobile Dealers' Association the by-laws were amended so as to admit to membership dealers throughout the state, and the rapid growth of the organization is expected to result.

NEW DISTRIBUTOR.

The Isotta-Fraschini Motor Company, New York City, to Handle the Scripps-Booth Car.

The Isotta-Fraschini Motor Company, New York City, has been appointed distributor of the Scripps-Booth car for that city. The machine is the product of the Scripps-Booth Company, Detroit, Mich.

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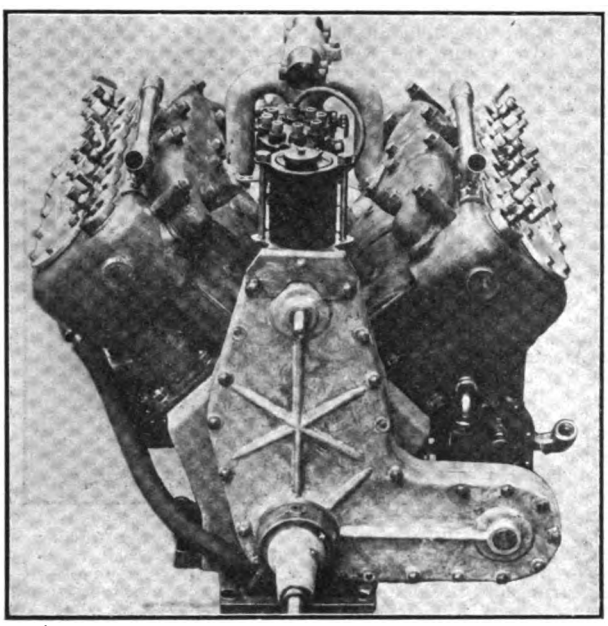
REMINGTON GREYHOUND EIGHT.

New Model Sells for $1495 and Four-Cylinder Holds to Price of $695, Fully Equipped.

The Remington Motor Company, 2 Columbus circle, New York City, took the New York automobile show by surprise when it announced an eight-cylinder model as a running mate to its popular four. The company has been experimenting with an eight for some time, and the new offering is the result of much effort and time on the part of the Remington engineers. The company has an attractive dealers' proposition and the eight-cylinder car today is a self-advertiser. At the Chicago show the company will occupy space 1, basement, and it is expected that the car will attract large crowds as it did at the recent New York exhibit.

A summary of the specifications shows that the eight-cylinders are V shape, being placed 90 degrees to each other. The water cooled motor has a bore of 3⅛ inches and a stroke of 4½, giving it a horsepower rating of 31.20, S. A. E. formula. However, the maker states that 45 horsepower can be developed with ease. The water circulation is by a centrifugal pump, driven by a silent chain, and the cellular radiator furthers cooling.

The ignition is furnished by the Atwater Kent system, and the carburetor is a Zenith. The lubrication is by splash and force feed, and the clutch is of the dry disc type with 13 plates, the alternate plates being faced with Raybestos. The bearings are of the highest grade throughout, Timken being used in the front wheels, Schaefer imported annular in the rear wheels, F. & S.



View of the New Remington Eight-Cylinder Motor, Which Was One of the Big Surprises at the New York Automobile Show.

for the transmission and Timken long series for the differential. The bearing dimensions are: Front crankshaft, 1⅝ by 2 3/32 inches; rear crankshaft, 1¾ by 4½ inches; connecting rod, 1⅝ by 2⅜, and the camshaft three bearings are cast integral with the cams.

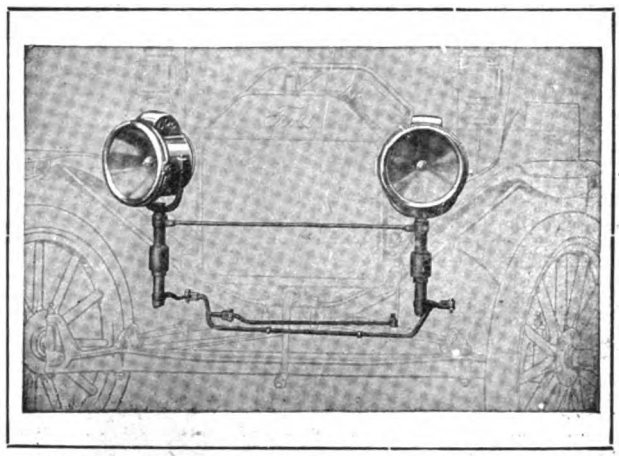
Gray & Davis furnishes the starting and lighting system, and all the lamps are lighted direct from the generator. When the motor is not running the current is supplied direct by an automatic storage battery. The springs are underslung, semi-elliptic in front and three-quarter elliptic in the rear. The front axle is drop forged, I beam, and the rear is of the full floating type. The steering gear is worm and gear, irreversible, with an 18-inch ebony steering wheel. The transmission is the selective sliding gear design, having three speeds forward and reverse. The tread is standard and the wheelbase 116 inches. The regular equipment carries wood wheels, demountable rims taking tires 35 by 4½ inches. Five wire wheels are offered at $100 additional.

LAMP CONTROL BRACKETS.

Operated by Steering Gear and Automatically Direct Rays of Light by Simple Mechanism.

The Automatic Lamp Control Company, 418 East First street, Dayton O., is manufacturing the double safety first automatic lamp control brackets shown herewith. The equipment comprises a set of lamp brackets, and operating mechanism which is made of the best material and is equipped with ball bearings.

The lamp brackets are actuated by the steering gear,



Automatic Control Lamp Brackets Attached to Car.

as may be noted by the accompanying illustration, and as is obvious the rays of the lamps are directed accordingly. The device is especially valuable in turning corners, as the lamps illuminate sections not lighted by the conventional apparatus. It is made for standard types of machines and the Ford set retails for $12. Details and prices will be supplied the trade upon request.

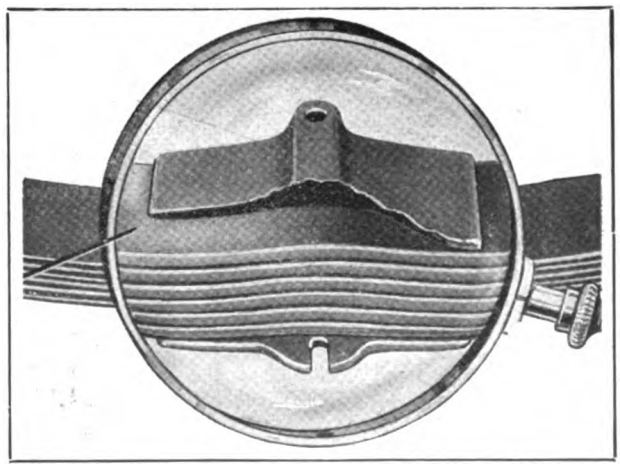
UNBREAKABLE SPRINGS.

Product of Tuthill Spring Company Sold with Unusually Broad Guarantee Against Breakage.

The dealer, garage man and repair man are frequently called upon to replace broken springs with new, and invariably the owner demands prompt service. The trade will be pleased to learn that the Tuthill Spring Company, 776 Polk street, Chicago, Ill., maker of the Tuthill Titanic unbreakable springs, carries a large stock and can make instant shipment for all makes and models of motor vehicles for which there is a general demand. This enables the garage man to obtain a spring at short notice. Special springs can be furnished at a few days' notice.

One of the desirable qualities of the Tuthill spring is that it has no bolt through its middle, as may be noted by the accompanying illustration, and because of this construction the company guarantees its product against centre breakage, as well as against defects in material and workmanship. The maker points out that the elimination of the centre bolt affords much more elasticity, as well as greatly strengthens the construction. All Tuthill springs are graphited between the leaves, and squeaking is unknown.

The profits obtained by handling the Tuthill springs are large, and the maker will supply the trade with details of its product and explain its selling plan and guarantees. A list of the springs made by this company for motor vehicles should be in the hands of every dealer,



Illustrating the Construction of the Tuthill Titanic Spring in Which the Centre Bolt Is Eliminated—The Springs Are Guaranteed Against Breakage.

garage man and repair man, as the information will be of decided value when inquiry is made for spring data, or replacements are desired.

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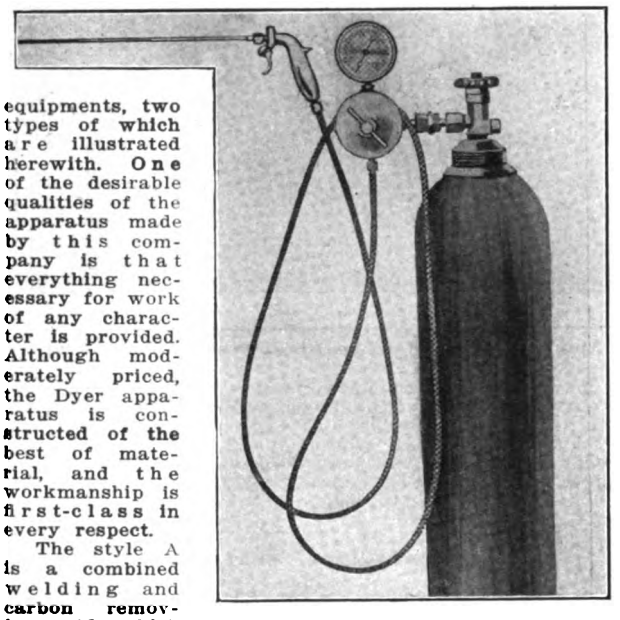
WELDING EQUIPMENTS.

Dyer Apparatus Company Producing High-Grade, Complete Outfits to Meet All Requirements.

The Dyer Apparatus Company, Cambridge, Mass., is producing a wide variety of welding and decarbonizing equipments, two types of which are illustrated herewith. One of the desirable qualities of the apparatus made by this company is that everything necessary for work of any character is provided. Although moderately priced, the Dyer apparatus is constructed of the best of material, and the workmanship is first-class in every respect.



Dyer Carbon Removing Outfit—Note the Design of Torch.

The style A is a combined welding and carbon removing outfit which is complete in every particular, and the equipment is a very profitable one for the garage and repair shop, as the range of work it will perform is practically unlimited.

The torch is designed for lightness, which is essential when operating in difficult positions such as overhead work for example, and it is so arranged that a straight tube may be inserted in place of the bent member if desired. This permits of welding at the bottom of a hole such as the inside of a cylinder. The standard torch includes six tips, ranging from the No. 3 to the No. 8, but smaller or larger ones may be utilized if desired. The No. 3 tip is adaptable to about 90 per cent. of aluminum work, and on steel up to ⅛-inch in thickness, while the No. 8 will handle the largest job, such as frames, axles, etc.

The Dyer Apparatus Company calls special attention to its regulators, stating that actual tests on a mercury column have proven their high degree of efficiency. The flow of gases is regular and steady, as the desired proportions are always maintained, assuring accurate and satisfactory results.

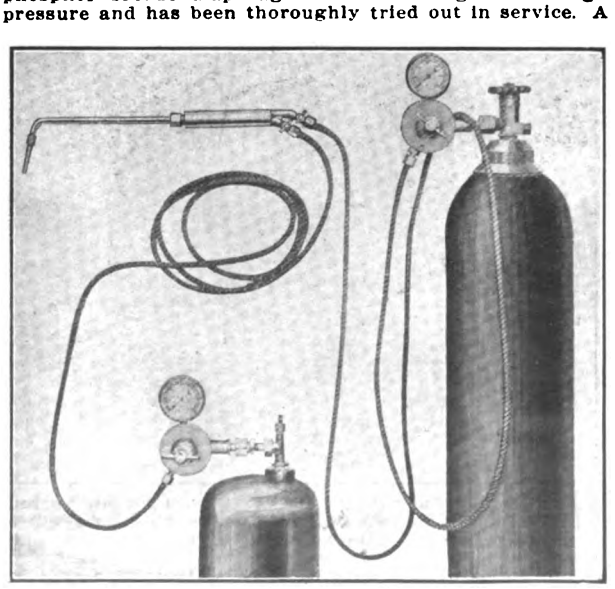
The style A carbon removing outfit shown herewith is a high-grade, popular-priced apparatus. The regulator is of the diaphragm type with a hard rubber seat and phosphor bronze diaphragm. It was designed for high pressure and has been thoroughly tried out in service. A double connection is employed at the tank end, fitting either the standard Linde tank or the ¾-inch straight thread sometimes used on oxygen tanks.

The gauge is of 150 pounds reading and has a bevel glass. The hose is the best grade, having a woven linen cover, and is tested to high pressures. Couplings are provided at either end, making for easy and rapid assembly and disassembly.

Particular attention is directed to the torch which is built for service. The drop handle maintains the hose in a natural position, preventing wear and breakage at the joint, and the trigger valve is instantaneous, enabling the shutting off of the supply of gas, or bringing it into service without using both hands. The tube is of flexible copper, a decided advantage.

The maker states that with this outfit carbon can be completely removed from a gas engine cylinder in from two to five minutes. An extra long nozzle is supplied for removing carbon from mufflers when desired.

The Dyer Apparatus Company is manufacturing an equipment which makes it possible to convert a decarbonizing apparatus into a combination outfit at a very moderate cost. Details of this outfit, as well as others produced, and trade prices, will be supplied upon addressing the company. The Dyer Apparatus Company cordially invites the trade to visit its plant, as it operates one of the largest welding shops in New England.



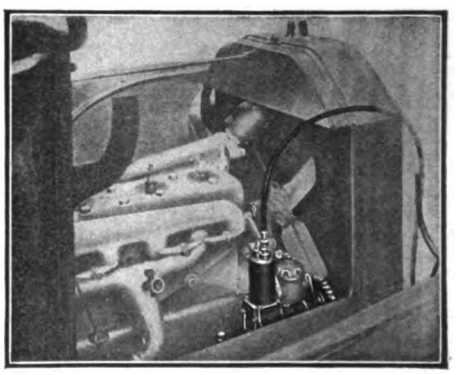
Style A Combined Welding and Decarbonizing Equipment Manufactured by the Dyer Apparatus Company.

KELLOGG FORD PUMP.

Kellogg Manufacturing Company Brings Out Engine Driven Pump Known as the Model 111.

To meet the demand of Ford owners for an engine driven tire pump, the Kellogg Manufacturing Company, Rochester, N. Y., has brought out what is known as its model 111. This is an all-metal pump and was built expressly for the model T Ford motor.

The new model is constructed with the same care and of the high-grade material that characterize the products of this company, and the design is identical with that utilized on the large motor vehicle. The cylinder is constructed of the finest grade of close grained gray iron, and the piston is fitted with ground steel rings. The crankshaft is a drop forging. All bearings, such as the connecting rod and main, are of phosphor bronze, carefully and accurately fitted. The lubrication is by the Kellogg system, which prevents any oil spray in the air conveyed to the tire.



Kellogg Power Tire Pump Installed on Ford Car.

One of the desirable qualities of the Ford model is that the pump may be fitted in 30 minutes without any alterations, drilling or machining. The company supplies a new Ford timer case, which replaces the old member, and the unit and pump may be installed without disturbing the radiator, etc. The only work involved is that of tightening two bolts after placing the gear screws on the end of the camshaft.

The gears are sturdy, and being chamfered, the pump may be placed in service with the motor operating. The rubber tubing supplied is high-grade and sufficiently long to reach any wheel of the car. A gauge is incorporated in the air line.

The Kellogg model 111 pump is guaranteed, and solves the tire problem for the Ford owner. This pump retails for $9.50 complete and affords the dealer a splendid opportunity, as the discounts are liberal. For prices and details, address the Kellogg Manufacturing Company, 272 Circle street, Rochester, N. Y.

ISSUES JOBBERS' EDITION.

National Motor Supply Company, Cleveland, O., Mailing Catalogue Describing New Specialties.

The National Motor Supply Company, Cleveland, O., manufacturer of motor vehicle specialties, announces its jobbers' edition catalogue for 1915 and copies will be mailed the trade upon addressing the home office at Cleveland.

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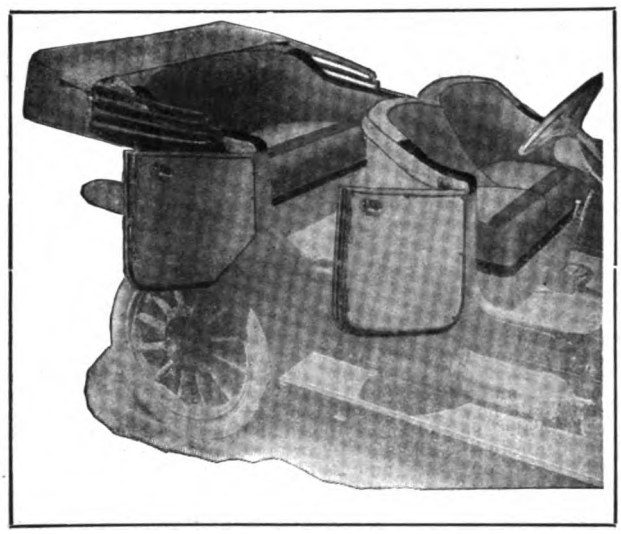
BADGER SEAT COVERS.

Wisconsin Auto Top Company Issuing New Catalogue Giving Prices and Details of Its Product.

The Wisconsin Auto Top Company, Racine, Wis., announces to the trade that its new catalogue is ready for distribution. This concern is the maker of the well



One of the Many Types of Badger Seat Covers Produced by the Wisconsin Auto Top Company.

known line of Badger seat covers, and offers a great selection of materials at attractive prices. The catalogue is most complete and every dealer, garage man and repair man should secure a copy of the book, as well as write for the trade discounts, which will be supplied upon addressing department 7.

FORD DELIVERY BODIES.

Highland Body Manufacturing Company Will Fill Order One Hour After Receipt at Factory.

The Highland Body Manufacturing Company, Cincinnati, O., which is stated to be the largest maker of service and truck bodies in the world, is specializing the production of a series of body equipment for Ford chassis that is of the highest quality and, because of the standardized types, is sold for prices that are extremely moderate. The company is securing agencies in all communities, which can be made unusually profitable by active men, because of the unlimited demand for light, fast delivery wagons, such as the Ford, Buick, Overland, and practically all other makes.

The company carries these bodies in stock, and can supply any required number at short notice, the statement being made that it can fill an order in an hour after its receipt at the factory. The bodies are designed to have extreme strength and light weight, and are of all models, adapted either for the stripped chassis or for fitting to the roadster. The bodies are interchangeable and can be used with any Ford chassis, so that they may be utilized with several machines if desired.

The bodies are both open and closed, of panel and express type, with and without canopies, with screen sides or door, and are constructed of material that insures great strength and endurance. The standard types can be equipped with fittings to meet special service requirements. The finish and trimming are excellent from every view point.

The company is perfecting its selling organization, making connections with men who can obtain business, and through its factory resources arranging to fill orders in any part of the country in very brief periods. Catalogue 15A is for dealers only.

RUSCO BRAKE LINING.

Russell Manufacturing Company Will Send Dealers' Samples, Terms and Trade Discounts.

The Russell Manufacturing Company, Middletown, Conn., maker of the Rusco brake lining, offers to send dealers' samples, price lists and trade discounts to any dealer who is interested in handling a high-class brake lining product. Rusco is made in all sizes to nine inches width and one-half inch thick. This lining is sold with the fullest guarantee for qualty, service and satisfaction. Innumerable tests have proven its high resistance to wear and its efficiency for braking, heat resisting, slow wearing, shock reducing and safety insuring value. A letter to the Middletown office will bring particulars.

UNIQUE RATCHET WRENCH.

W. B. Lane Producing a Tool for Close and Difficult Work, and It Is Sold Under Guarantee.

Will B. Lane, 180 North Dearborn street, Chicago, Ill., is manufacturing a ratchet wrench which is designed for close and difficult work and for service where the space is limited. One of the desirable qualities of the Unique wrench is that it turns nuts very close to the wall. The equipment is most complete, including as it does sockets that will not break or split, extension bar, etc., and the tool is sold under a broad guarantee. Repair men and garage men will do well to investigate the merits of the Unique equipment, as it accomplishes much work formerly performed by the cold chisel.

MOTOR VEHICLE SUPPLIES.

Chicago Automobile Supply House Is Preparing New Catalogue and Mailing Advance Supplement.

Announcement is made by the Chicago Automobile Supply House, 1353 South Michigan boulevard, Chicago, Ill., that its 1915 catalogue will be ready for distribution about April 1. The advance supplement is now being mailed to the trade and may be obtained by addressing department A of the company. Dealers desiring the complete catalogue should send in their names promptly. This will be considerably larger than in past years and in it will be listed a large number of new accessories and specialties.

HEINZE MAGNETO.

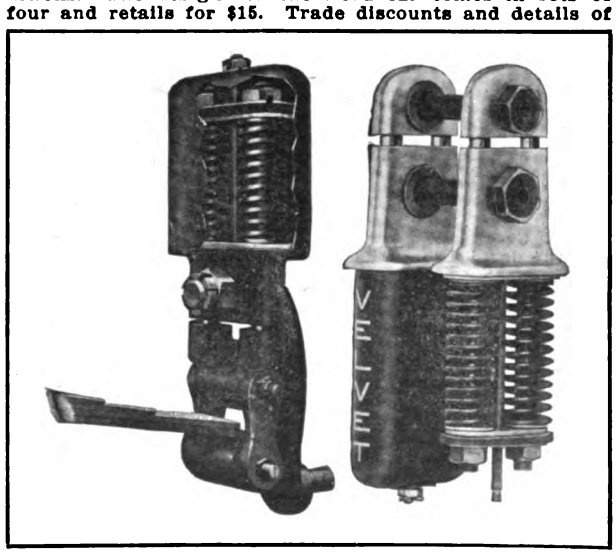
The Heinze Electric Company, Lowell, Mass., and with sales offices at Detroit, Mich., is manufacturing a new model magneto, designed expressly for small motors. Descriptive matter will be supplied upon request.

NEW VELVET ABSORBERS.

John W. Blackledge Manufacturing Company Brings Out New Design for the Model T Ford Car.

The well known Velvet shock absorbers, made by the John W. Blackledge Manufacturing Company, 2110 South Michigan avenue, Chicago, Ill., have been improved for 1915. The more important changes include a different method of fastening the covers, which prevents rattling and loss, and an extended self-lubricating sliding block.

The Velvet shock absorber for the Ford car is a new design. It has an arrangement of multiple coils and sliding rods with long, lubricated bearings, so designed as to provide maximum service and the elimination of side play. The device is equipped with a dirt and oil proof cover, and the absorber is constructed to adjust itself automatically to any load irrespective of road conditions. The design for the Ford car comes in sets of four and retails for $15. Trade discounts and details of



The 1915 Velvet Shock Absorbers Which Have Been Improved.

the 1915 line will be supplied upon request. The eastern distributor is Locke & Co., 220 West 84th street, New York City.

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PERSONAL NEWS OF THE INDUSTRY.

Frank E. Smith, Indianapolis, Ind., who has been receiver of the Premier Motor Manufacturing Company, has been elected trustee of this organization. At a meeting held recently it was brought out that the company is enjoying prosperity under his administration.

Frank E. Smith, Trustee of the Premier Manufacturing Company.

R. R. Bush, Moline, Ill., formerly sales manager of the Velie Motor Vehicle Company and the Velie Engineering Company, has been promoted to the position of manager and will have charge of the entire affairs of both concerns. George H. Lloyd has succeeded Mr. Bush as sales manager.

Paul H. Bruske, Detroit, has resigned as publicity director of the Studebaker Corporation. He has become identified with the Maxwell interests on the Pacific Coast, where he will have charge of Maxwell publicity during the Panama Exposition at San Francisco.

Temple Wheeler, Fort Worth, Tex., has been appointed general manager of the Bryant Machinery Company. He was formerly district sales manager of the Chalmers Motor Company.

J. T. Hart, Chicago, Ill., has been appointed general manager of the Auto Parts Company.

C. B. Heath, Bantam, Conn., has been appointed general sales manager of the Bantam Anti-Friction Company, with headquarters at the factory.

J. H. Trumbull, Hartford, Conn., has been elected president of the Hartford Auto Parts Company, and James Carney has also been elected treasurer of that company.

David Harper, Newark, N. J., was unanimously chosen president of the recently organized Motor Truck Club of New Jersey.

F. W. Kramer, Grand Rapids, Mich., manager of the Grand Rapids Overland Company, has severed all connection with that concern in order to devote his time to other interests.

C. A. George, Detroit, Mich., has become export manager for the O. K. light delivery truck. He was formerly export sales manager of the Willys-Overland Company.

H. T. Boulden, Syracuse, N. Y., has assumed general sales management of the Chase Motor Truck Company. He will have charge of selling and, in addition, will look after all advertising.

L. I. Ris, New York City, has become affiliated with the Knight Tire and Rubber Company's branch in that city, which is located at 215 West 51st street. He was formerly travelling sales representative for the Republic Rubber Company in New York state and Connecticut.

R. W. Harris, Boston, Mass., has been appointed manager of the Ford system department of Gray & Davis, Inc.

F. George Walker, Detroit, Mich., has taken charge of the local branch of the Royal Equipment Company, Bridgeport, Conn.

W. J. Marshall, Detroit, Mich., formerly representative for the Paige car, is now associated with the Monroe Sales Company, local agent for the Chevrolet and Monroe automobiles.

H. J. Aughe, Detroit, Mich., has been elected treasurer of the Chalmers Motor Company, succeeding C. A. Pfeffer, who has been promoted to the position of assistant sales manager.

Fred H. Coxzens, Clintonville, Wis., has been made eastern and foreign sales manager for the Four-Wheel Drive Company. He will have charge of truck sales in the territory east of Pittsburg and north of Wilmington, N. C.

F. R. Humpage, Syracuse, N. Y., well known to the automobile industry because of his previous connection with the Packard Motor Car Company and the E. R Thomas Motor Company, has become general manager of the Dyneto Electric Company, manufacturer of the Dyneto electric lighting and starting system.

Edward S. Madden, Toledo, O., has become assistant treasurer of the Willys-Overland Company. He was formerly connected with the M. Rumely Company, Laporte, Ind.

Gilbert S. Loomis, Louisville, Ky., is now general manager of the Southern Motors Company. He was formerly connected with the sales division of the Packard Motor Car Company, Detroit, Mich.

William Kelly, Detroit, Mich., one of the pioneer engineers of the industry, has withdrawn from the manufacturing division to establish an office as consulting engineer in the Kresge building.

O. S. Beroth, Marion, Ind., has resigned as manager of the service department of the Rutenber Motor Company.

E. B. Finch, Detroit, Mich., has become sales manager of the Standard Motor Truck Company. He will also assist in the supervision of the company's branches.

Henry A. Kroh, Boston, Mass., has been appointed New England representative for the Continental Asbestos Corporation, with headquarters at 171 Huntington avenue.

William Shirk, Kansas City, Mo., who for many years has been with the selling force of the Winton Motor Car Company, is now connected with the local branch of the Nordyke & Marmon Company.

W. H. Bell, San Francisco, has become Pacific Coast branch manager of the Kelly-Springfield Tire Company and will have charge of the territory from Bakersfield to the British Columbia line and from the eastern border of Utah to the Coast. He was formerly connected with the Firestone Tire and Rubber Company, Akron, O.

William C. Little, Chicago, Ill., formerly with the Lozier, Rauch & Lang and Chandler companies, has been appointed Michigan representative of Brandenburg & Co., with offices in the Dime Bank building.

Sherman P. Bristow, Columbus, O., formerly connected with the Goodrich station in South America, has been transferred to the local branch of the B. F. Goodrich Company.

H. B. Shonts, St. Paul, Minn., has been appointed sales manager of Merritt J. Osborne, Inc., distributor of Overland and White cars in that city. For the past four months he had been factory representative of the Willys-Overland Company for the State of Minneapolis.

Charles J. Forbes, Cleveland, O., president of the Forbes Varnish Company, died recently.

C. D. Studebaker, New York City, has been appointed office manager of the local branch of the Firestone Tire & Rubber Company, Akron, O.

Z. F. Harshberger, Indianapolis, Ind., has been appointed manager in the State of Indiana for the H. W. Johns-Manville Company, New York City.

W. J. Ackerman, Detroit, Mich., has retired as an official of the Standard Motor Truck Company. He still retains his stock in the company, however.

R. F. Jack, Toronto, Ont., has been appointed chief engineer of the Russell Motor Car Company, Ltd. He was formerly identified with the Cadillac Motor Car Company, Detroit, Mich.

C. W. Brown, Seattle, Wash., has been appointed manager of the Firestone Tire & Rubber Company, Akron, O. He was formerly connected with the San Francisco office.

C. S. Crawford, Indianapolis, Ind., is doing some splendid work for the Cole Motor Car Company of which he is chief engineer. He has assisted the company in making some world's record tests, one of which was the 24⅛ miles covered on one gallon of gasoline with a Cole stock four-cylinder model.

C. S. Crawford, Chief Engineer of the Cole Motor Car Company.

R. T. Walsh, Detroit, Mich., has become advertising manager of the Maxwell Motor Company, Inc., of that city.

David Graham, Detroit, Mich., engineer and sales representative of the Bower Roller Bearing Company, is recovering from injuries sustained recently.

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OPPORTUNITIES FOR DEALERS.

CUTS COST OF NON-FLUID OIL.

Improved Manufacturing Facilities Responsible for New Schedule of Prices.

As the result of improved manufacturing facilities and largely increased business during 1914, the New York & New Jersey Lubricant Company, New York City, has been enabled to reduce the price of its Non-Fluid oil. The company, however, has not decreased the high quality of its product, and will maintain the same standard of excellence that it has held in the industry for the past 15 years.

In speaking of this cut in price, Joseph H. Bennis, vice president of the company, says: "For over 15 years, or practically since the advent of the automobile, Non-Fluid oil has been recognized as one of the highest grade lubricants on the market. It has attracted and consistently retains the patronage of the great majority of those car owners who believe that the best lubricant is the cheapest, because it protects their car investment most surely.

"But with the great influx of medium and low-priced cars during the last few years, we have found that some owners, especially those of moderate means, 'shy' at the first cost of Non-Fluid oil. While it has the reputation of being one of the best, they do not know that it is also the cheapest in last cost, because they have never tried it.

"We are now in a position to meet this situation, and to place Non-Fluid oil within the reach of every motorist. The large volume of our sales during the past 10 years has enabled us to perfect our machinery processes to the last degree. From the assembling of the raw materials to the placing of the filled cans in the packing cases, Non-Fluid oil is now 'untouched by the hand of man'. Special machinery designed by us and built to our order, makes its production practically automatic and a continuous process".

For the dealer who is looking for a high-grade oil, it would be advantageous to get the benefit of the company's free sample offer. Write the New York & New Jersey Lubricant Company, 165 Broadway, New York City, and ask for sample cans of "K-No. 00 Special", and "K-No. 000" grades of Non-Fluid oil. Both will be sent gratis to any address.

HARRIS LINE A BIG SELLER.

Dealers Have a Live Wire Product to Handle in A. W. Harris Oils and Greases.

At the recent New York automobile show the A. W. Harris Oil Company, 326 South Water street, Providence, R. I., demonstrated the virtues of its product to a record number of dealers and car owners. This concern offers to exemplify why it considers Harris oils and greases superior, and it offers a most attractive proposition to dealers in the way of co-operation, counter and window displays, etc. These products are made of the finest Pennsylvania premium crude oil, and are refined by a special process which eliminates all carbon and soot producing elements. A letter to the company will enable the prospective dealer to get full details of all sales plans, terms and co-operative selling schemes.

POLACK'S SALES PLAN.

Progressive Company Is Making Quick Money Turn Overs for Live Truck Tire Dealers.

In keeping with its general progressive and straight forward business policy, the Polack Tyre & Rubber Company, 246 West 59th street, New York City, is doing excellent work in all its sales branches. This concern manufactures a truck tire that is guaranteed for 10,000 miles and, according to all statements made, this is invariably exceeded. For the worth-while dealer this product offers unlimited possibilities, and the ever growing number of trucks in each community, combined with the excellent sales campaigns of the Polack Company, insure a quick turn over of the money invested. A letter to the above address will receive careful attention and bring full details of any information desired.

ALDING PORCELAIN PLUGS.

The Alsten & Goulding Company Invites Dealers to Write for Terms, Etc.

The Alsten & Goulding Company, 36 Foster street, Worcester, Mass., maker of the well known Alding porcelain spark plugs, and Alding oil, has some special territory open for dealers and invites those interested to write for full details of selling plans, terms, etc. The Alding plug sells for 50 cents each, but, according to the manufacturer, they are a regular 75-cent value. The Alding oil is delivered to any address in a "duck" can for 75 cents a gallon. Both products are of high standard, and are well worth any dealer's attention.

HYATT ROLLER BEARINGS.

Give Extended Service and Run Quietly as Long as They Are Used.

Hyatt bearings are used on so great a majority of American motor cars that repairs or replacements for most makes can be obtained at short notice, and the Hyatt service stations in many cities, or the Hyatt Roller Bearing Company, Newark, N. J., will give on request full information as to all forms of bearing equipment. This product is giving long and quiet service on thousands of cars in this country and abroad, and is standard equipment on the majority of American models.

BROWN OIL BOX.

Automatically Supplies Liquid Lubricant to the Intermediate Surfaces of Leaf Springs.

The Brown Trailog Company, 6550 Carnegie avenue, Cleveland, O., is manufacturing a practical device for lubricating motor vehicle springs of the leaf type. The Brown oil box, as it is called, supplies the oil automatically to the intermediate surfaces of the springs, and not only is the device easily attached, but requires no attention other than an occasional renewal of the lubricant. The proposition to the dealer is an interesting one.

CARRIES LARGE STOCK.

Auto Parts Company, Chicago, Can Supply Motor Vehicle Parts, Accessories, Supplies, Etc.

Garages and repair shops rebuilding cars or making replacements will find that the Auto Parts Company, 737 West Jackson boulevard, Chicago, Ill., can supply about everything in the line of motors, transmissions, steering gears, axles, etc.; in fact, the company can furnish at bargain prices all motor vehicle components, accessories, supplies and equipment. A postal will bring the company's bargain sheet.

ELECTRICAL SPECIALTIES.

Mabey's Electric and Manufacturing Company Producing an Attractive Line of Devices.

A cigar lighter retailing for $1, a trouble lamp selling for $1.25 and a vulcanizing tool listing for $2.75 are among the electrical specialties produced by Mabey's Electric and Manufacturing Company, 940 North Pennsylvania street, Indianapolis, Ind., specialist in electrical devices for the motor vehicle. Descriptive matter and trade prices will be forwarded upon request.

NEW MACHINERY CATALOGUE.

Sears, Roebuck & Co., Chicago, Ill., Issuing New Book Describing Products Adapted to Garage, Etc.

Garages, repair shops and service stations in the market for lathes or any form of machinery will do well to write Sears, Roebuck & Co., Chicago, Ill., for the new catalogue 64 A 140, which will be sent free upon request. The bargain prices offered by this well established concern are too well known for further comment.

CARBURETOR DATA.

Zenith Carburetor Company, Maker of Well Known Zenith, Issuing Booklet on Carburetion.

The fundamental principles of carburetion are explained in the booklet issued by the Zenith Carburetor Company, Detroit, Mich., maker of the well known Zenith carburetor. Those interested in carburetors and their principles should write for the book, which is free for the asking.

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RECENT PATENTS.

Auxiliary Air Inlet for Internal Combustion Engines, Ernest H. Ashlock and Henry H. Ashlock, San Diego, Cal.; No. 1,120,118. Filed Nov. 19, 1913.

Carburetor, Arthur Benjamin Brown, Branford, Conn.; No. 1,120,128. Filed Jan. 15, 1914.

Method and Means for Obtaining Gaseous Fuel, Gogu Constantinescu, Bloomsbury, London, England; No. 1,120,135. Filed Feb. 26, 1913.

Auxiliary Oiling Device for Automobile, Andrew C. Danver, Providence, R. I.; No. 1,120,137. Filed Feb. 15, 1913.

Electrical System of Distribution, Justus B. Entz, Cleveland, O., assignor to Electric Storage Battery Company, Philadelphia, Penn.; No. 1,120,140. Filed Oct. 28, 1910.

Spring Wheel, John A. Hagerstrom, Brooklyn, N. Y.; No. 1,120,142. Filed July 25, 1911.

Electrical System of Distribution, Robert C. Hull, Philadelphia, Penn., assignor to Electric Storage Battery Company, Philadelphia, Penn.; No. 1,120,148. Filed July 28, 1911.

Valve Mechanism for Explosion Motors, Antoine Jean Baptiste Jaubert, Simiane, France; No. 1,120,149. Filed Aug. 16, 1912.

Adjustable Headlight for Motor Vehicles, William H. Martin, Yountville, Cal., assignor of one-half to Hiram Wilson, Yountville, Cal.; No. 1,120,154. Filed April 24, 1914.

Resilient Wheel, Eugene Albert Palmer, Belle Plaine, Ia.; No. 1,120,156. Filed April 5, 1913.

Carburetor, Ralph A. Duff, Nebraska City, Neb.; No. 1,120,183. Filed Oct. 6, 1909.

Carburetor, Ralph A. Duff, Nebraska City, Neb.; No. 1,120,184. Filed March 5, 1912.

Carburetor, Ralph A. Duff, Nebraska City, Neb.; No. 1,120,185. Filed April 25, 1913.

Motor Vehicle, Godfrey Felty, Cumberland, Md.; No. 1,120,188. Filed April 9, 1912.

Starter for Gas Engines, William Kelley, Detroit, Mich., assignor to Maxwell Motor Company, Detroit, Mich.; No. 1,120,205. Filed Sept. 9, 1911.

Tire Pump Connection, Charles H. Newton, Plainville, Conn.; No. 1,120,228. Filed Oct. 20, 1913.

Combined Motor Vehicle Spring and Shock Absorber, Jacob O. Parrish, Pomona, Cal.; No. 1,120,235. Filed March 31, 1913.

Engine Starter, Neils Pedersen, Genoa, Ill.; No. 1,120,236. Filed Sept. 28, 1911.

Valve Gear of Internal Combustion Engines, Alfred Arnold Remington and Arthur John Rowledge, Birmingham, England, assignors to Wolseley Tool and Motor Car Company, Ltd., Birmingham, England; No. 1,120,240. Filed July 8, 1911.

Motor Starter, Vincent Bendix, Chicago, Ill.; No. 1,124,264. Filed Nov. 24, 1913.

Motor Truck, B. M. Beskow, New York City, assignor to Commercial Tractor Company; No. 1,124,275. Filed July 7, 1908.

Brake Gear, E. de H. Caldwell, Dunkirk, N. Y.; No. 1,124,291. Filed Feb. 24, 1914.

Breather for Motor, Lyman H. Cobb, Fitchburg, Mass., assignor to M. E. Johnson, trustee; No. 1,124,297. Original application filed Jan. 31, 1913; present application March 25, 1914.

Resilient Wheel, J. A. Stahle, Boston, Mass., and C. W. Stahle, Everett, Mass., assignors by mesne assignments, to Stahle Mechanical Tire Company; No. 1,124,349. Filed April 7, 1910.

Automobile Sleigh Runner, C. E. Anderson, Duluth, Minn., assignor of forty-five one-hundredths to Daniel W. Cusick; No. 1,124,384. Filed May 28, 1914.

Heater, C. R. Faruolo, New York City; No. 1,124,403. Filed Oct. 17, 1913.

Resilient Tire, C. E. Hoops, Kansas City, Mo.; No. 1,124,439. Filed Nov. 24, 1913.

Steering Gear, Russell Huff, Detroit, Mich., assignor to Packard Motor Car Company; No. 1,124,444. Filed Feb. 5, 1912.

Automobile Puller, Richard Irwin, Farmington, Mo.; No. 1,124,451. Filed May 13, 1913.

Radiator Heating Apparatus, R. C. Knudson, Clinton, Ia.; No. 1,124,462. Filed Dec. 5, 1912.

Indicating Device, Herman Kramer, New York City; No. 1,124,463. Filed April 23, 1914.

Rotary Gas Engine, J. J. McTavish, Jr., Detroit, Mich.; No. 1,124,494. Filed Dec. 5, 1912.

Signal for Vehicles, Oscar Menard and A. E. Wittig, Rochester, N. Y.; No. 1,124,497. Filed Jan. 23, 1914.

Internal Combustion Engine, Joseph Pierce, Philadelphia, Penn., assignor to American Cycle Car Company; No. 1,124,512. Filed Dec. 11, 1913.

Fuel Control, J. G. Wallmann, Oakland, Cal.; No. 1,124,564. Filed Dec. 3, 1913.

Chassis, E. F. Altman, Minneapolis, Minn., assignor of one-half to O. M. Oulman; No. 1,124,578. Filed Sept. 11, 1913.

Shock Absorber, Edward V. Hartford, Deal, N. J.; No. 1,124,612. Filed Dec. 10, 1910.

Portable Turntable, J. Lieskovan, Bach, Mich.; No. 1,124,628. Filed June 11, 1914.

Cushion Wheel, Jacob Thissen, Kane, Penn.; No. 1,124,675. Filed May 15, 1913.

Automobile Body, J. T. Trumble, Saginaw, Mich., assignor of one-half to C. C. Spreen; No. 1,124,676. Filed April 29, 1912.

Lamp Signal, J. T. Wright, Metuchen, N. J.; No. 1,124,681. Filed Oct. 17, 1912.

Automobile Construction, R. C. Bartlett, South Porcupine, Ontario, Can.; No. 1,124,687. Filed Aug. 4, 1913.

Needle Valve Operating Mechanism for Carburetors, W. C. Carter, St. Louis, Mo.; No. 1,124,697. Filed Oct. 2, 1911.

Pneumatic Tire, J. H. Clune, Springfield, Mass.; No. 1,124,715. Filed Jan. 17, 1914.

Emergency Brake, A. A. Doty, Greenwood, Ind., assignor of one-half to Hence Orme; No. 1,124,716. Filed Aug. 5, 1913.

Internal Combustion Engine, E. B. Galbreath and C. O. Guernsey, Indianapolis, Ind.; No. 1,124,721. Filed May 20, 1912.

Carburetor, W. M. Gentle, Los Angeles, Cal.; No. 1,124,724. Filed Sept. 2, 1913.

Planetary Transmission Gearing, H. B. Zehlendorf, near Berlin, Germany; No. 1,124,834. Filed Jan. 19, 1914.

Internal Combustion Engine, C. M. Blanchard, Elyria, O.; No. 1,124,837. Filed July 25, 1913.

Cylinder Construction, C. M. Blanchard, Willoughby, O.; No. 1,124,840. Original application filed Jan. 22, 1913; present application March 25, 1914.

Micrometer Gauge, L. C. Crescio, New York City; No. 1,124,867. Filed Aug. 12, 1914.

Carburetor, R. E. Krause, Cleveland, O.; No. 1,124,918. Filed April 18, 1911.

Lifting Jack, C. W. Parker, Kansas City, Mo., and T. W. Wittliff, North Fort Worth, Tex., assignors to Automatic Lifting Jack Company; No. 1,124,942. Filed June 1, 1914.

Carburetor, J. W. Raymond, Dayton, O., assignor to Air Friction Carburetor Company; No. 1,124,949. Filed Feb. 9, 1914.

Locking Valve for Fuel Oil Tanks, W. H. Smith, Cleveland, O.; No. 1,124,965. Original application filed Dec. 31, 1910; present application filed April 22, 1913.

Controller for Explosion Engines, Alexander Winton, Cleveland, O.; No. 1,124,987. Original application filed Dec. 5, 1904; present application filed Feb. 13, 1909.

Shock Absorber, L. R. Dudley, San Francisco, Cal.; No. 1,125,012. Filed March 29, 1913.

COMING EVENTS.

Jan. 23-30—Show, Montreal, Que.
Jan. 23-30—Show, Coliseum and Armory, Chicago.
Jan. 25-30—Show, Fall River, Mass.
Jan. 27-28—Meeting of National Garage Association, Chicago, Ill.
Jan. 30-Feb. 6—Show, Minneapolis.
Jan. 30-Feb. 6—Show, Columbus, O.

February.

Feb. 1- 6—Show, Louisville, Ky.
Feb. 2- 6—Show, Kalamazoo, Mich.
Feb. 4- 6—Show, Marinetta, Mich.
Feb. 8-13—Show, Toledo, O.
Feb. 8-14—Show, Troy, N. Y.
Feb. 8-15—Show, Kansas City, Mo.
Feb. 9-12—Show, Eau Claire, Wis.
Feb. 9-12—Show, Peoria, Ill.
Feb. 15-20—Show, Bridgeport, Conn.
Feb. 15-20—Show, Omaha, Neb.
Feb. 15-21—Show, Grand Rapids, Mich.
Feb. 22—Vanderbilt Cup Race, San Francisco, Cal., Panama-Pacific Exposition grounds.
Feb. 22—Hill climb, Light Car Club, Teaneck, N. J.
Feb. 22-27—Show, South Bethlehem, Penn.
Feb. 22-27—Show, New Haven, Conn.
Feb. 23-27—Show, Fort Dodge, Ia.
Feb. 23-27—Show, Syracuse, N. Y.
Feb. 27—Grand prize race, San Francisco, Cal., Panama-Pacific Exposition grounds.

March.

March 3—Convention of Associated Garages of America, Albany, N. Y.
March 6-13—Show, Mechanic's Building, Boston.
March 8-13—Show, Canton, O.
March 8-15—Show, Des Moines, Ia.
March 14—Panama-Pacific cup race, San Francisco, Cal., Panama-Pacific Exposition grounds.
March 17—Road race, Venice, Cal.

May.

May 17-18—A. A. A. annual meeting, Boston, Mass.
May 29—500-mile race, Indianapolis, Ind.

June.

June 9—Track meet, Galesburg, Ill.
June 16—500-mile race, Chicago, Ill.
June 25—Track meet, Sioux City, Ia.

July.

July 4—Road race, Tacoma, Wash.

August.

Aug. 20-21—Road race, Elgin, Ill.

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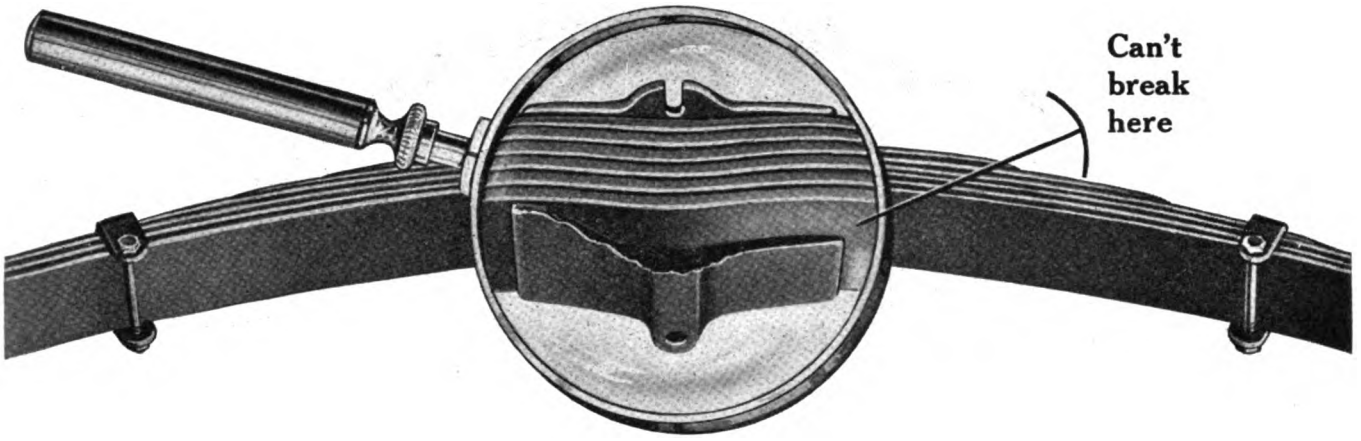


Sell your trade a guaranteed breakless—squeakless spring

Better Quality

The Tuthill Titanic Spring has no bolt through the middle.

All springs with a bolt through the center must be clipped so tightly that they are inflexible in the center—a big disadvantage because it not only shortens the elastic surface of the spring, but the hole in the center weakens the spring at the point where the strain is greatest.

It's the old story—a battleship or a spring is no stronger than its weakest point.

The Tuthill Titanic Spring is the result of 35 years of spring building. They are guaranteed forever against center breakage—and also guaranteed against defects in material or workmanship.

Tuthill
Titanic Unbreakable
Spring

Guaranteed
Against Center Breakage

Easier Riding

Here at last is a spring which you can recommend and sell to your trade—the spring with no "comebacks."

It is easy riding—and the graphite between the leaves prevents squeaking.

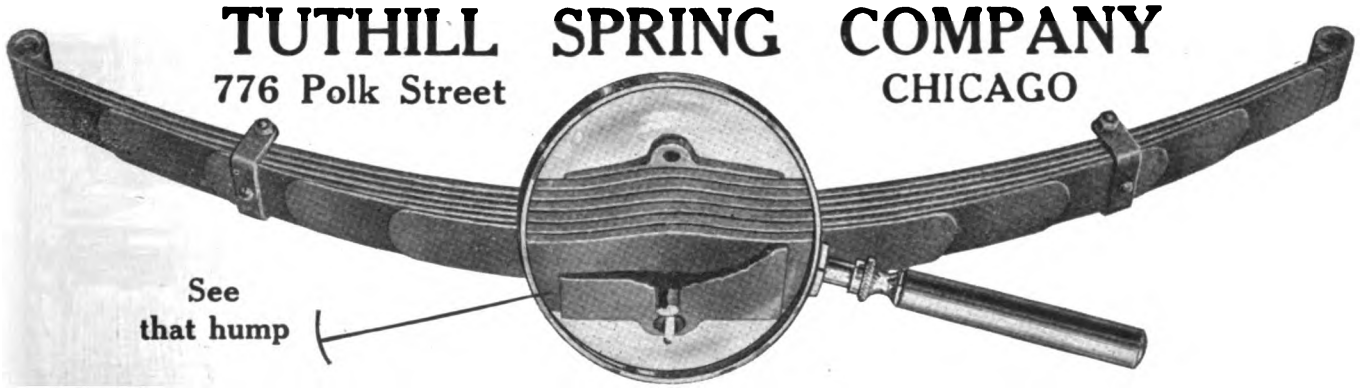
The Tuthill Titanic Spring will be a profit maker for you because it is a friend maker.

Write us today—learn the truth about springs and "guarantees." Ask us to tell you how to carry a small stock of best sellers on a small investment.

We have ready for instant shipment springs for all makes and models of cars for which there is a general demand—and can furnish special springs on a few days' notice.

TUTHILL SPRING COMPANY

776 Polk Street CHICAGO



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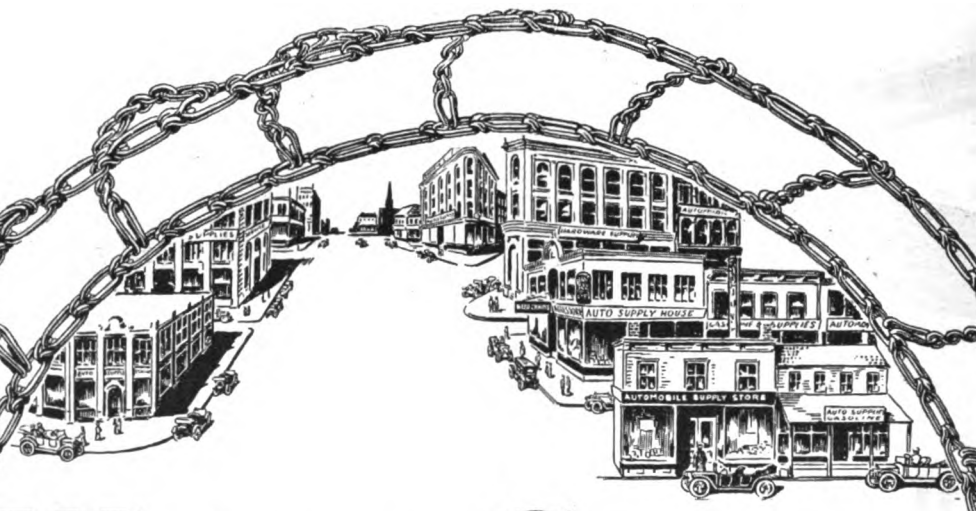

WEED Anti-Skid CHAINS

The Magnet

that draws profitable trade.

DISPLAY WEED CHAINS IN YOUR WINDOWS AND SALES ROOMS AND YOU DISPLAY GOOD SOUND BUSINESS JUDGMENT AS WELL. You will attract all types of cars to your doors—they all must use Weed Chains for safety's sake.

Post mortems are never held over Weed Chains—they never make dead stock. Even when roads and pavements are dry the experienced motorist will buy—*"In time of sunshine he prepares for rains, stops at his dealer's and buys Weed Chains."*

Don't forget to order a stock of Weed Cross Chains, too. We will send you an attractive board on which you can display our Cross Chains to the best advantage if you will but write for it. Now's the time. Write for it now.

Weed Chain Tire Grip Company

Bridgeport, Connecticut

Manufactured for Canada by
DOMINION CHAIN COMPANY, Limited
Head Office: Shaughnessy Building, Montreal, Canada

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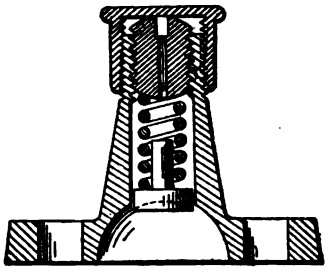
Infringers, Beware!

Patented Nov. 10, 1914



DACO Combination Anti-Rattler and Grease Cup

This is the ONLY PATENTED Ball Socket Anti-Rattler made to fit Ford Cars, that has a screw adjustment in the CLAIMS.

SMALL SIZE, List Price 45c. Each LARGE SIZE, List Price 55c. Each

Jobbers and Dealers, Write for Discounts

DANVER ACCESSORY CO. 18 Broadway, Pawtucket, R. I.

We Sell Everything

pertaining to the automobile at half regular prices. Send for our great "PRICE WRECKER" No. 5, containing 3000 auto bargains at cut prices. TIMES SQUARE AUTOMOBILE CO. World's largest dealers. S. W. Cor. 56th St. and Broadway, N. Y. 1210 Michigan avenue, Chicago.

3500 TRADE CHANGES

ARE LISTED IN THIS ISSUE OF

The Accessory and Garage Journal

$2.00 the Year

All Trade Show Number

The Accessory and Garage Journal

Will reach all dealers who will attend the Boston Show. You can reach such interests before the exhibition opens, in the February Number.

Proof of this service at request

ACCESSORY and GARAGE JOURNAL
Times Building Pawtucket, R. I.

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1915

Auto Mailing Lists of All Lines For Sale

30,370 Auto Dealers, U. S.—$40.00 or $2.50 per M.
6,200 Auto Ford Dealers, U. S.—$15.00 or $3.00 per M.
19,543 Garages, U. S.—$30.00 or $2.50 per M.
20,924 Auto Supply Dealers, U. S.—$30.00 or $2.50 per M.
21,983 Auto Repair Shops, U. S.—$30.00 or $2.50 per M.
1,680,000 Auto Owners.....$2.00 per M.
353,000 Auto Ford Owners....$3.00 per M.
Have Every Other Auto Trade List.
All Typewritten, Showing Financial Rating.
Ask for Particular Territory Wanted.
A. F. WILLIAMS, Mgr.
166 West Adams St., Chicago.
Franklin 1182.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

THE AUTOMOBILE JOURNAL

$1.50 the Year 24 Issues

The Most Practical Magazine for Car Owners and Operators Issued.

Times Building Pawtucket, R. I.

The Motor Truck

12 ISSUES $2 THE YEAR

A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . .

Times Building, Pawtucket, R. I.

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BRUNNER AIR COMPRESSORS

THERE'S A BRUNNER TO SERVE FOR EVERY PURPOSE

Facilities for Service Are Absolutely Necessary with Every Garage That Is a Business Enterprise, for Continuous Patronage Will Always Insure Good Profits.

FREE AIR for customers means a big saving in the time and labor of the garage force as well as the use of the machine for innumerable purposes.

A Complete BRUNNER Outfit does not mean heavy investment. An installation will last a lifetime. Maintenance of all Brunner machines in service for a period of six years and seven months, shown by a thorough audit, averaged

Less Than 2 Cents a Machine a Year

Good lubrication is the only attention required.

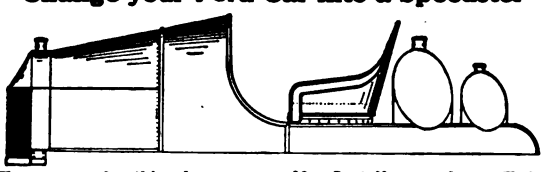
No. 42, Double-Cylinder, Vertical.

BRUNNER Compressers are built for service, are standardized, and are stationary or portable, hand or automatic regulated, and in whatever capacity may be required.

There's a jobber who specializes "BRUNNER" equipment who serves your territory. Write us for his address.

BRUNNER MANUFACTURING CO., Utica, N. Y.

Change your Ford Car into a Speedster



You can make this change yourself. Install one of our V-shaped radiators, tapered hood, roadster seats, oil and gasoline tanks. We furnish trunk tool-box in place of small oil tank if desired.

YOU CAN BUY ANY PART OF THIS OUTFIT.

We also furnish any part of this outfit at the following prices:

V-type radiator	$28.00
Tapered hood	12.00
Dash	4.00
Shroud	9.00
Upholstered seats	23.00
Metal stream-lined body	9.00
Large gasoline tank	3.75
Small gasoline tank or trunk tool-box	3.00

The Outfit Complete Sells for $75.

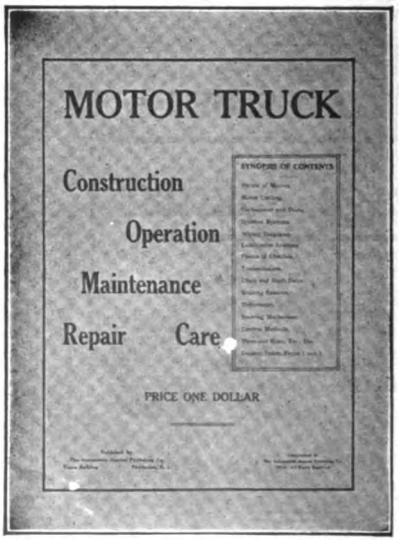
AUTO PARTS COMPANY
Dept. T.
737-739 W. Jackson Blvd. Chicago, Ill.

TRADE NAMES
SAVE 50%

We can save this for you—and supply the most complete list of active trade names in America.

Accessory and Garage Journal
Times Building Pawtucket, R. I.

The A B C OF Motor Truck Operation



PRICE $1.00 Postpaid

The Motor Truck

TIMES BUILDING PAWTUCKET, R. I.

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"NORMA"
BALL BEARINGS

You'll never get high-speed satisfaction from moderate-speed bearings. When you find "NORMA" Speed Bearings in a magneto, lighting generator or starting motor, it is because the builder knows that the "NORMA" Bearing brings out the best there is in his machine, in the way of service. You cannot afford to use another bearing—and impair the builder's design.

THE NORMA COMPANY
OF AMERICA
1790 Broadway NEW YORK

"NORMA" *Ball, Roller, Thrust and Combination Bearings*

In 1915, 12,000 Dealers All Over The Globe Will Make Bigger Profit Selling

"X" Stops Leaks In Radiators AND Waterjackets In 10 Minutes. "X" Works In Non Freezing Mixtur.

"X" Trade Mark
The Wonderful LIQUID RADIATOR MEDICINE

"X" Eliminates Scale, Prevents Corrosion. "X" Is Sold Under A "Money Back" Guarantee

Why Not You? Our Attractive Folder Gives Details
Write To-Day For Proposition To Dealers
"X" Laboratories, Boston, Mass.

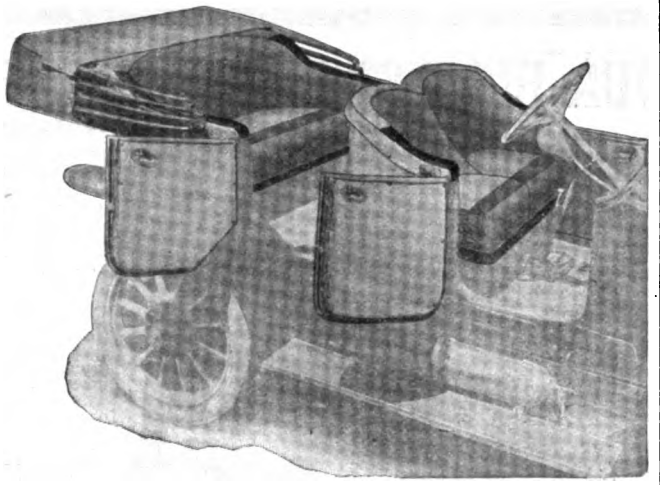
Trade Mailing Lists

We have the most interesting story ever told in connection with the practical method of using such names. Saves money, time and bother—and gives 100 per cent. efficiency.. . . . .

Full details at request.

Accessory and Garage Journal
TIMES BUILDING PAWTUCKET, R. I.

BADGER
SEAT COVERS



More than 32% of all live Auto Dealers are now buying **Badger Seat Covers—there's a reason.**

We offer the greatest selection of materials, a better product and and our prices permit you to make increased sales and more profit.

It will pay you to get our catalogue and prices. Send for them at once.

Wisconsin Auto Top Co.
Dept. 7
Racine Wisconsin

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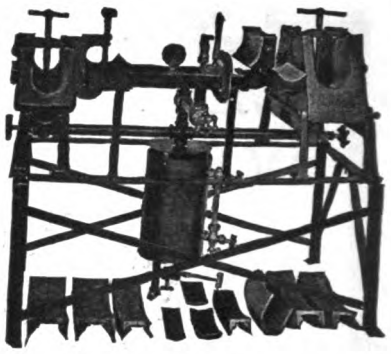
THERE IS MONEY IN IT

IF YOU USE A VANDERPOOL SHOP VULCANIZING OUTFIT



The only practical equipment for a public service station or repair shop. With the two cavity outfit any work on tubes or casings can be done with minimum labor and time. No expense after the initial investment. The cost is reasonable and every sale is made with an absolute guarantee of material and workmanship. Make the profit on the work you now send to others. It is UP TO YOU.

Catalogues and Full Information Sent You at Request.

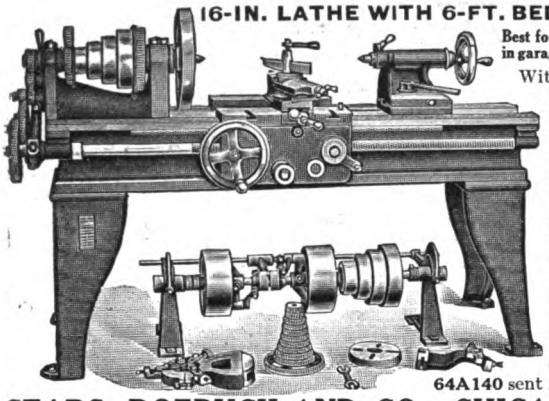
VANDERPOOL COMPANY - - - - - Springfield, Ohio.

Earl Grey, Saskatchewan, Canada, August 24, 1914.
Vanderpool Co.
Vulcanizer is working fine.
R. R. Clarke.

Winkleman, Ariz., September 9, 1914.
Vanderpool Co.
Gents:—The Vulcanizer does very nice work. Am very well pleased with it. Yours very truly,
J. F. Merino.

OUR BIGGEST LATHE VALUE

16-IN. LATHE WITH 6-FT. BED, $252.00.



Best for all around work in garage and repair shop.

With one of these lathes you can handle repair jobs that carry bigger profits—make more money. Other sizes at proportionately low prices. Every Sears-Roebuck lathe is a guaranteed lathe. Buy *your* lathe from us and save $50.00 or more.

Machinery Catalog No. 64A140 sent free on request.

SEARS, ROEBUCK AND CO., CHICAGO, ILL.

CARBON REMOVED IN A FLASH! WITHOUT INJURING OR TAKING DOWN THE ENGINE

Ball Carbon Remover

A chemical compound in convenient tablet form, which destroys carbon in a flash, and automatically deposits a film of lubricant in the cylinders. Its use insures a *smooth running engine* and a *saving in gasoline.*

Territorial rights open. Address Dept. A.

BOWLING GREEN SALES CO.
42 BROADWAY, NEW YORK, N. Y.
Sole Distributors for U. S. A. and Canada

Century Automobile Cigar Lighter. Complete $1.00 Each, F. O. B. Indianapolis.

Mabey's Trouble Lamp Complete with Lamp $1.25 F. O. B. Indianapolis.

Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

Mabey's Electric & Mfg. Company
940 N. Pennsylvania Street, Indianapolis, Ind.

"LAX-FAL"

Guaranteed Tubes

Red or Grey
An excellent Para rubber inner tube fully guaranteed at

40% Off Standard List

Are you interested?
Territory open for responsible agents
Write Now

LAX-FAL RUBBER CO.
77 Chambers Street Dept. S New York City

SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

Our selling policy and proposition is the most liberal ever offered to the trade.

One Model, 3,000 Lbs. Capacity Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
Rochester, New York

Coxajusto

ADJUSTABLE TO ANY LOAD

Shock Absorbers are comfort producers and money makers. They are the **only** spring shock absorbers having the **adjustment feature.** Built strong and durable. Have a tapered helical spring made of the best imported Swedish Steel. Other parts of Manganese Bronze. Coxajustos are easy to attach.

Send for Folder today. Address Dept. A. Established 1872

COX BRASS MFG. CO., Albany, N. Y.

1777 Broadway, New York City; 2267 Michigan Ave., Chicago, Ill.; 899 Boylston St., Boston, Mass.; 870 Woodward Ave., Detroit, Mich.; 1216 Van Ness Ave., San Francisco, Cal. Export Representative, Auto Supplies Export Co., 1779 Broadway, New York City.

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PERFECT LUBRICATION WITH ANY FUEL

MONOGRAM OIL

"Zoline", a new motor fuel, was officially tested at the Indianapolis Speedway Nov. 19, 1914, a Marmon touring car, with top and windshield raised and carrying four passengers, being driven 1032 miles, at a rate of 50.2 miles for 20 hours and 32 minutes, making a world's record.

MONOGRAM OIL

was the lubricant used. Examination of the motor at the end of the trial showed it was in condition to continue indefinitely.

No greater demonstration was ever made of the perfect lubricating qualities of Monogram Oil.

NEW YORK LUBRICATING OIL CO.

Consolidated with Columbia Lubricants Co. of N. Y.
116 Broad Street, New York City

"Don't Gamble With Safety!"

Brakes Lined With S-M-C Are GOOD Brakes

S-M-C Improved Brake Lining is the best that can be made. It is sold with the manufacturer's guarantee that it will satisfy every requirement, or the purchase price will be refunded.

It Is the Brake Lining For You

You are the judge,—if the lining is not satisfactory, we refund the purchase price and, in addition, 10% interest.

(IMPROVED)

Improved S-M-C Brake Lining, when quality and service are considered, is the cheapest that can be bought. When cars are equipped with S-M-C Brake Lining the highest degree of safety and efficiency is realized. The owners of cars so equipped do not take chances or "gamble" with the safety of their own, or with the lives or property of others.

S-M-C lined brakes cannot be burned, nor affected by water, oil or gasoline. They are equally efficient from first to last.

A SPECIAL LINING FOR FORD CARS

S-M-C Improved Brake Lining is standard wherever vehicles are used. There is a width and thickness for every type of brake.

There are certain and constant profits for S-M-C dealers, and satisfaction for their customers, who eliminate all their brake lining troubles.

"SOMETHING MOR'N COTTON."

STAYBESTOS MFG. CO.

Germantown, Philadelphia, Pa.

Makers of
Asbestos and Rubber Packings, Gaskets, and Radiator Hose

Stevens Valves

Stevens Auto Tire Check Valve

Patents issued

Actual Size Complete Valve — **1,043,724---1,050,942---1,078,347 and others Pending.** — **Actual Size Dust Cap Removed**

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve System.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Fire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

The Quickest Selling Accessory in the Market.

Agencies Wanted in All Unassigned Territory.
Write for Terms and Discounts.

STEVENS MANUFACTURING & SUPPLY CO.
Fisher Building — **Chicago, Ill.**

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Stop the Blinding Headlight Glare!

The law says it must be done —blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street —the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on any car. The average car owner can place it on his car.

Dealers: At $3.50 the Chaney Dimmer is the best value in the accessory field and a fast seller. Our liberal trade terms make your margin of profit generous. You can clean up in your territory, for the dimmer is a legal necessity, and the Chaney is the best of all dimmers, and the only one sold under a ten year guarantee.

Write now for full details and Dealer's Proposition

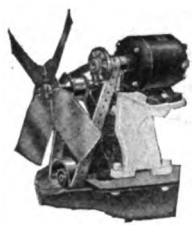
THE L. F. CHANEY CO., SPRINGFIELD, OHIO

New Carleton No. 68 Generator

48 watt Direct Current. Steady Light either with or without Storage Batteries.

COMPLETE ELECTRIC LIGHTING EQUIPMENT FOR USED OR NEW CARS

MOST EFFICIENT LOWEST PRICED



Simple and positive drive, easy to install, and its output is guaranteed to meet all requirements.

SPECIAL EQUIPMENT FOR FORD CARS is shown in illustration

No machining or alterations are necessary. It can be installed with a screw driver and a wrench.

OUR NEW PORCUPINE DRIVE Operates All Generators. No Slipping of Belt, No Unnecessary Wear on Bearings.

The Carleton No. 68 Generator Lists at $15.

Automatic Cut Outs, Ammeters, Storage Batteries, etc.

Patent Applied For

DEALERS' DISCOUNTS WILL INTEREST THE TRADE

The Carleton Company 172 Summer St., Boston, Mass.

Time Savers

For Charging Storage Batteries

Universal Test Clips

MADE of copper—indestructible—may be used over and over again—will carry 15 amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Write for a free sample, using your company's letter head. No attention paid to postals.

Single Lots - -	Each 15c.
Lots of 10 - -	Each 12 1-2c.
Lots of 100 - -	Each 10c.

R. S. MUELLER & CO, 431 High Ave., S. E., CLEVELAND, OHIO

Do you want the automobile trade in lubricants?

Then stock the Dixon line, including

Dixon's Graphite Transmisson and Differential Grease No. 677

Motorists are looking for service today. They'll tie up to the dealer who sells them real lubricating service in the Dixon line of Graphite Automobile Lubricants.

Write for prices and Automobile Literature, No 49.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827

DO TIRE REPAIRING

Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it.

$150 to $500 for complete outfit. Write us now.

The Williams Foundry & Machine Co.

Ash St., Akron, Ohio

The Waterhouse & Lester Co. San Francisco, Exclusive California Distributors.

BOSTON STARTER FOR FORD CARS

The One Practical Mechanical Starter for Ford Machines.

WE WANT DEALERS AND HAVE THE MOST ATTRACTIVE SELLING PLAN EVER MADE TO THE TRADE.

Learn the Number of Ford Machines in Your Territory. Then Write

AUTOMATIC APPLIANCE CO.

172 Columbus Avenue Boston, Mass.

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HY-FLEX-ROL

Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated.

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Boston, Mass. Los Angeles, Cal.
Chicago, Ill. New York, (Harrison, N. J.)

SERVICE AGENTS

High Wycombe, Broom & Wade England

HYATT ROLLER BEARING CO.
DETROIT, NEWARK, N. J. CHICAGO

THE MOTOR TRUCK

A Magazine Devoted to the Commercial Vehicle Field.

IT IS READ BY A MAJORITY OF THE DEALERS IN BUSINESS WAGONS IN AMERICA, and Supplies the Kind of Information That Can Be Used in the Selling, Operation, Car and Repair of Power Wagons.

A Business Investment for You **Subscribe Today**

12 Issues. $2.00 the Year.

HOUK

DETACHABLE

Wire Wheels

Made by the largest wire wheel manufacturer in America

HOUK MFG. COMPANY
1709 Elmwood Ave. BUFFALO, N. Y.

Get this Catalog

It contains descriptions of all the famous Campbell Motor Car Accessories; Seat Covers, Percama, Johnson Model "D" Carburetor, Straps, Boots, etc., etc.

Territory open for reliable established dealers.

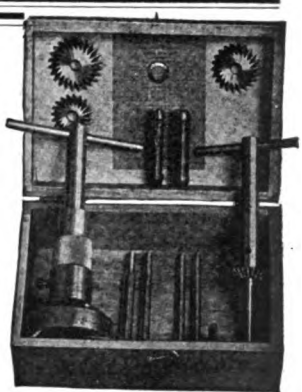
THE PERKINS-CAMPBELL CO.
603 Broadway - - - - - - Cincinnati, Ohio.

Fosnacht Valve Reseater

For Garage and Repairmen

CUT the valves and seats in a few minutes time at identically the same angle, insuring perfect fitting valves. You will save more than double its cost in two months. Do not waste time grinding your valves.

Operation Simple
Results Positive
Nominal Cost
Satisfaction Guaranteed



McPars

Exceptional Agents Proposition
Suite 718-19 Michigan Boulevard Bldg.,
CHICAGO, 30 North Michigan Ave. ILLINOIS

American Made for American Trade
New Departure
Ball Bearings
THE NEW DEPARTURE MFG. COMPANY,
BRISTOL, CONN.

MAKES OLD TOPS NEW

$3 to $5 will waterproof the outside and re-dye the lining, making any auto top good as new. Send for information.

RUB-ON MANUFACTURING COMPANY
93 Brayton Street Buffalo, N. Y.

DEALERS
In Automobile Supplies
ATTENTION

Send for our 1915 Advance Supplement and get your name on our list for 1915 complete catalogue. Will be ready about April 1st.

CHICAGO AUTOMOBILE SUPPLY HOUSE
Dept. A.
1349-1351-1353 So. Michigan Blvd. Chicago, Ill.

Automobile Journal $1.50 the Year

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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HIGHLAND DEALER'S DOLLARS BODIES FOR FORD CARS

ESTABLISH A BUSINESS WITHOUT INVESTMENT

Represent the largest commercial body building company in America, selling the most perfected vehicle equipment engineering has produced, and at prices remarkably low when quality is the measure.

There's no more fertile market than the thousands of owners of Ford Cars. The light, fast machine is almost in universal demand for delivery and general purposes.

STANDARDIZED HIGHLAND BODIES

Are built in all types, enclosed and open, to meet the demands of any service. They are designed to have great endurance, are constructed of highest grade materials, and in appearance and finish are equal to the finest special work.

Highland Body Agents have the resources of a great factory at their command, no stock is needed to do business, orders can be shipped in any number, and a customer given better, quicker and cheaper service than if he had bodies specially built. Time and money are saved and quality is guaranteed.

The Highland 1915 contract is a real asset.

HIGHLAND Bodies are interchangeable with any Ford Chassis. Can be supplied with special fittings for any service. This applies to Overland, Buick and practically all other makes and models.

DEALERS: Write today for catalogue 15 A, specifications, and details of our Agency Proposition.

HIGHLAND BODY MFG. CO.
Cincinnati, O.

New BETTER AND QUICKER Way To Scrape Bearings

Did You Ever Spend Three to Five Days In

"HAND SCRAPING"

In a set of main bearings and then get an unsatisfactory PRINT? DON'T DO IT AGAIN. Use a scientific and accurate method.

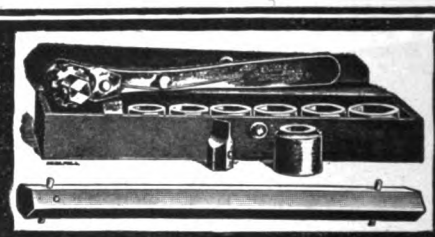
Use The Martell Aligning Reamer

A Motor Finished Every Day

and the bearings will outlast the hand scraped bearings many times over.

We can show you how at our exhibit at Chicago Auto Show, space 9-B Coliseum basement.

Harding Distributing Co.
Boston, Mass., U. S. A.



DON'T USE A COLD CHISEL

USE THE LANE UNIQUE RATCHET WRENCH

FOR CLOSE AND DIFFICULT WORK

IT TURNS NUTS VERY CLOSE TO THE WALL.

is easily and quickly reversed, sockets will not break or split and fits three standards and automobile nuts.

MADE FOR HEAVY SERVICE

Wrench is machine made. Sockets are turned from steel bars, cold broached and case hardened. Fully warranted. Every repairman should have a UNIQUE RATCHET WRENCH SET.

SPECIAL SET FOR FORD CARS

Dealers, Jobbers and Garagemen. Write for Trade Discounts

STANDARD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
7 Sockets to fit semi-finished hex. nuts as follows:
U. S. Standards from 1-4 in. to 1-2 in.
A. L. A. M. Standards from 5-16 in. to 11-16 in.
Cap screw heads from 5-16 in. to 5-8 in.
Price in leather case, $2.50.

THE FORD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
1 Extension bar 7 inches in length.
SIX SOCKETS to fit all nuts and bolt heads on Ford car, including the cylinder head.
Price in leather case, $3.00.
Sold by dealers everywhere.

WILL B. LANE, Manufacturer, 180 N. Dearborn Street, Chicago, Ill.

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Buyers' Reference and Guide

ACCESSORY MANUFACTURERS AND JOBBERS.

Alsten & Goulding Co., Worcester, Mass.

Auto Parts Co., Providence, R. I.

Motor Parts Co., 185-187 Columbus Ave., Boston; 818 No. Broad St., Philadelphia; Springfield, Mass.

Times Square Auto Co., 56th St., at Broadway, New York City.

AIR COMPRESSORS AND TANKS.

Brunner Mfg. Co., Main Office and Factory, Utica, N. Y.; New York Office, Hudson Terminal Bldg., 30 Church St. (Brunner.)

Williams Foundry & Machine Co., Akron, O.

ARBOR PRESSES.

Bartlett, Edwin E., 322 A St., Boston. (Greenerd.)

AUTOMOBILES. (See Cars.)

AUTOMOBILE SPECIALTIES.

American Auto Supply Co., 1741 Broadway, New York City; 1408 Michigan Ave., Chicago.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Brass Goods.)

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Motor Specialties Co., Waltham, Mass.

BALLS AND BALL BEARINGS.

Ahlberg Bearing Co., 2624 Michigan Ave., Chicago; 1790 Broadway, New York City; 805 Woodward Ave., Detroit.

Boyd, F. Shirley, 903 Boylston St., Boston. (R. I. V.)

Marburg Bros., Inc., 1790 Broadway, New York. (S. R. O.)

New Departure Mfg. Co., Bristol, Conn. (New Departure.)

Norma Co. of America, 1790 Broadway, New York City. (Norma.)

BATTERIES.

Geissler Bros. Storage Battery Co., 514 W. 57th St., New York.

BODIES—WOOD AND METAL.

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

BRAKE BANDING OR LINING.

Royal Equipment Co., 1378 Bostwick Ave., Bridgeport, Conn. (Raybestos.)

Russell Mfg. Co., Middletown, Conn. (Rusco.)

Standard Woven Fabric Co., Framingham, Mass. (Multibestos.)

Staybestos Mfg. Co., Lena and Armat Sts., Germantown, Philadelphia, Penn. (Staybestos.)

BRUSHES, WIRE.

Williams Foundry & Machine Co., Akron, O.

BUMPERS AND FENDERS.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Diamond.)

CARBON REMOVERS. (See Cylinder Cleaning Compound.)

CARBURETORS.

Air-Friction Carburetor Co., Dayton, O. (Model C.)

Findeisen & Kropf Mfg. Co., 2127 Rockwell St., Chicago. (Rayfield.)

Zenith Carburetor Co., Detroit. (Zenith.)

CARS—GASOLINE PLEASURE.

Cartercar Co., Pontiac, Mich. (Cartercar.)

Inter-State Motor Co., 804 West Willard St., Muncie, Ind. (Inter-State.)

Metz Co., Waltham, Mass. (Metz.)

Nordyke & Marmon Co., Indianapolis. (Marmon.)

Paige-Detroit Motor Car Co., Detroit. (Paige.)

Peerless Motor Car Co., Cleveland, O. (Peerless.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Salvador Motor Co., Farragut Bldg., Massachusetts Ave., Boston. (Salvador.)

Scripps-Booth Co., Detroit. (Scripps-Booth.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Stutz Motor Car Co., Indianapolis. (Stutz.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Overland.)

Winton Motor Car Co., 131 Berea Road, Cleveland, O. (Winton.)

CARS—GASOLINE COMMERCIAL.

Adams Bros. Co., Findlay, O. (Adams.)

Alma Motor Truck Co., Detroit. (Republic.)

Bessemer Motor Truck Co., Grove City, Penn. (Bessemer.)

Cartercar Co., Pontiac, Mich. (Cartercar.)

Driggs-Seabury Ordnance Corp., Sharon, Penn. (Vulcan.)

Federal Motor Truck Co., Junction and Leavitt Sts., Detroit. (Federal.)

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)

Gramm-Bernstein Co., Lima, O. (B. A. Gramm's.)

Independent Motors Co., Port Huron, Mich. (Independent.)

Palmer-Moore Co., Syracuse, N. Y. (Palmer-Moore.)

Peerless Motor Car Co., Cleveland, O. (Peerless.)

Pierce-Arrow Motor Car Co., Buffalo, N. Y. (Pierce-Arrow.)

Sanford Motor Truck Co., Syracuse, N. Y. (Sanford.)

Signal Motor Truck Co., Detroit. (Signal.)

Studebaker Corp., Detroit, Mich. (Studebaker.)

Sullivan Motor Car Co., Rochester, N. Y. (Sullivan.)

Velie Motor Vehicle Co., Moline, Ill. (Velie.)

White Co., Cleveland, O. (White.)

Willys-Overland Co., Toledo, O. (Willys Utility and Garford.)

CARS—ELECTRIC COMMERCIAL.

General Motors Truck Co., 26 Cadillac Ave., Pontiac, Mich. (GMC.)

General Vehicle Co., Long Island City, N. Y. (G. V.)

CEMENTS.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y. (Sta-Fix Radiator Mend.)

"X" Laboratories, Boston. (X Radiator.)

CHAIN LUBRICANTS.

Motor Accessories, Inc., 749 A Boylston St., Boston. (Chain-Lub.)

CHAINS, TIRE, AND ANTI-SKIDDING DEVICES.

Weed Chain Tire Grip Co., 28 Moore St., New York. (Weed.)

CHAINS—TRANSMISSION OR DRIVING.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

CIGAR LIGHTERS. (See Lighters.)

COILS.

Heinze Electric Co., Lowell, Mass.

CYLINDER CLEANING COMPOUND.

Bowling Green Sales Co., 42 Broadway, New York City.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

DRESSINGS, TOP AND LEATHER.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

ELECTRIC LIGHTING EQUIPMENT.

Carleton Co., The, 172 Summer St., Boston. (New Carleton No. 68.)

Culver-Stearns Mfg. Co., Worcester, Mass.; Detroit.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

FAN BELTS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

FIRE EXTINGUISHERS.

Pyrene Co. of N. E., 88 Broad St., Boston.

FORD AUTOMOBILE SPECIALTIES.

Danver Accessory Co., 18 Broadway, Pawtucket, R. I. (Daco.)

Russell Mfg. Co., Middletown, Conn.

FUNNELS, AUTO.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Dover.)

GEARS, STEERING.

Ross Gear & Tool Co., 794 Heath St., Lafayette, Ind. (Ross.)

GENERATORS.

Carleton Co., The, 172 Summer St., Boston. (New Carleton No. 68.)

GUNS, GREASE. (See Pumps, Oil & Grease.)

HEADLIGHT DIMMERS.

Chaney Co., L. F., Springfield, O. (Chaney.)

HEATERS.

Superior Mfg. Co., N. S. Pittsburg, Penn. (Superior Safe Garage.)

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BUYERS' REFERENCE and GUIDE—Continued

HORNS.

Garford Mfg. Co., Elyria, O. (Tuto.)

JACKS.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J.

Motor Specialties Co., Waltham, Mass. (Excel Auto.)

LAMPS.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric Trouble.)

Mueller & Co., R. S., 431 High Ave., S. E., Cleveland, O. (Clamp.)

LEATHER GOODS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

LIGHTERS, CIGAR.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)

LIGHTING SYSTEMS, ELECTRIC.

Carleton Co., The, 172 Summer St., Boston. (New Carleton No. 68.)

Garford Mfg. Co., Elyria, O. (Dynalux.)

LUBRICANTS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Continental Asbestos Corp., Worcester, Mass. (Spedolene.)

Dixon Crucible Co., Jos., Jersey City, N. J. (Graphite.)

Eagle Oil & Supply Co., 104 Broad St., Boston. (Eagleine No-Karbon.)

Harris Oil Co., A. W., 326 So. Water St., Providence, R. I.; 143 No. Wabash Ave., Chicago. (Harris.)

New York Lubricating Oil Co., 116 Broad St., New York City. (Monogram.)

New York & New Jersey Lubricant Co., 165 Broadway, New York. (MotoRol, Non-Fluid, Kejex.)

Standard Oil Co., New York. (Polarine.)

Vacuum Oil Co., Rochester, N. Y. (Gargoyle Mobiloil.)

Valvoline Oil Co., 27 State St., Boston. (Valvoline.)

MAGNETO COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

MAGNETOS AND SUPPLIES.

Bosch Magneto Co., 223-225 W. 46th St., New York.

Eisemann Magneto Co., 32 33d St., Brooklyn, N. Y. (Eisemann.)

Heinze Electric Co., Lowell, Mass. (Heco.)

Marburg Bros., 1790 Broadway, New York. (Mea.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

MAILING LIST.

Trade Circular Addressing Co., 166 W. Adams St., Chicago.

MEASURES.

Dover Stamping & Manufacturing Co., Cambridge, Mass. (Auto and Savol.)

MOTORS.

Auto Parts Co., Dept. T, 737-739 W. Jackson Blvd., Chicago, Ill. (Michigan.)

MOTOR STARTERS.

Automatic Appliance Co., 172 Columbus Ave., Boston. (Boston.)

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Hartford.)

PATCHES, TIRE.

Braender Rubber & Tire Co., Rutherford, N. J. (Cementless.)

PISTON RINGS.

McQuay-Norris Mfg. Co., Dept. D, St. Louis, Mo. (Leak-Proof.)

POLISH.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

PRESSES. (See Arbor Presses.)

PUMPS, OIL AND GREASE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

PUMPS, TIRE.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y.

Kellogg Mfg. Co., Rochester, N. Y. (Kellogg.)

RADIATOR CEMENT. (See Cements.)

REAMERS.

Harding Distributing Co., Boston. (Martell Aligning.)

RIMS—REMOVABLE AND DETACHABLE.

Boyd, F. Shirley, 903 Boylston St., Boston. (Dorian.)

RINGS. (See Piston Rings.)

ROAD BUILDING MATERIALS.

Barrett Manufacturing Co., New York. (Tarvia.)

ROLLER BEARINGS.

Hyatt Roller Bearing Co., Detroit. (Hyatt.)

Norma Co. of America, 1790 Broadway, New York City. (Norma.)

SEAT COVERS.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

Wisconsin Auto Top Co., Dept. 7, Racine, Wis. (Badger.)

SEATS.

Auto Parts Co., Dept. T, 737-739 W. Jackson Blvd., Chicago, Ill. (Racing.)

SELF-STARTERS. (See Motor Starters.)

SHOCK ABSORBERS AND SUPPLEMENTARY SPRINGS.

Boyd, F. Shirley, 903 Boylston St., Boston.

Hartford Suspension Co., 147 Bay St., Jersey City, N. J. (Truffault-Hartford.)

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

Sager Co., J. H., 271 South Ave., Rochester, N. Y. (Peerless.)

SPARK PLUG CASES.

Perkins-Campbell Co., 622 Broadway, Cincinnati, O.

SPARK PLUGS AND IGNITERS.

Alsten & Goulding Co., Worcester, Mass. (Alding.)

Bosch Magneto Co., 223-225 W. 46th St., New York.

Heinze Electric Co., Lowell, Mass. (Heco Priming.)

Milwaukee Auto Specialty Co., 705-711 Chestnut St., Milwaukee, Wis. (Centerfire.)

Silvex Co., The, 60 Wall St., New York City. (Bethlehem Five Point.)

Splitdorf Electrical Co., 98 Warren St., Newark, N. J.

SPRINGS FOR AUTOMOBILE SUSPENSION.

Marburg Bros., Inc., 1790 Broadway, New York. (Marburg-Hagen.)

Tuthill Spring Co., 776 Polk St., Chicago. (Titanic Unbreakable.)

SPROCKETS.

Boyd, F. Shirley, 903 Boylston St., Boston. (Baldwin.)

TEST CLIPS.

Mueller & Co., R. S., 431 High Ave., S. E., Cleveland, O. (Universal.)

THERMOS CASES.

Dover Stamping & Manufacturing Co., Cambridge, Mass.

TIMERS.

Motor Specialties Co., Waltham, Mass. (Bemus.)

TIRE ACCESSORIES.

Braender Rubber & Tire Co., Rutherford, N. J.

Cox Brass Mfg. Co., Dudley Ave., Albany, N. Y. (Holders.)

Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens Valves.)

TIRE CHAIN GRIPS. (See Chains.)

TIRE PRESERVATIVES AND PROTECTORS.

Braender Rubber & Tire Co., Rutherford, N. J.

TIRE REPAIR EQUIPMENT.

Stevens & Co., 373 Broadway, New York City. (Sampson Inner Tube Plug and Outfits.)

TIRES, CASINGS AND INNER TUBES.

Braender Rubber & Tire Co., Rutherford, N. J. (Braender.)

Goodyear Tire & Rubber Co., Madison St., Akron, O. (No-Rim-Cut.)

Lax-Fal Rubber Co., Dept. S, 77 Chambers St., New York City. (Lax-Fal Guaranteed.)

Miller Rubber Co., Akron, O. (Miller.)

Polack Tyre & Rubber Co., 246 W. 59th St., New York City. (Polack.)

TOPS AND ATTACHMENTS.

Highland Body Manufacturing Co., Station P, Cincinnati, O. (Highland Coupe.)

Mandel Limousine Co., 1455-1457 West Congress St., Chicago, Ill. (Mandel Limosette.)

Springfield Metal Body Co., 20 Medford Ave., Springfield, Mass.

TRUCKS AND TRACTORS. (See Cars, Commercial.)

VALVE LIFTERS AND RESEATERS.

Paro, H. G., Suite 718-719 Michigan Blvd. Bldg., 30 No. Michigan Blvd., Chicago.

VALVES, TIRE.

Stevens Mfg. & Supply Co., Fisher Bldg., Chicago. (Stevens.)

VARNISHES, ETC.

Rub-On Mfg. Co., 87-97 Brayton St., Buffalo, N. Y.

VULCANIZERS.

Mabey's Electric & Mfg. Co., Indianapolis. (Mabey's Electric.)

Vanderpool Co., Springfield, O.

Williams Foundry & Machine Co., Akron, O.

WELDING OUTFITS.

Waterhouse Welding Co., 3 Pelham St., Boston, Mass.

WHEELS, WIRE.

Houk Mfg. Co., 1709 Elmwood Ave., Buffalo, N. Y. (Houk Detachable.)

WINDSHIELDS, ETC.

Mutual Auto Accessories Co. of America, 58-60 W. 65th St., New York City. (J. H. Tonneau.)

WRENCHES AND COMBINATION OUTFITS.

Coes Wrench Co., Worcester, Mass.

Lane, Will B., 180 No. Dearborn St., Chicago. (Unique Ratchet.)

Mossberg Co., Frank, Attleboro, Mass.

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Tire Savers that Save

GOODYEAR AKRON, OHIO

When you need a Tire Saver, "a hundred miles from nowhere," you want it quick, you want it right. That is where Goodyear quality serves you.

...ong the Goodyear line of twenty-...r qu... ...for tubes and ...all ...of p... ...tha...

Repair Gum that *Holds*

The automobile owner who repairs his own tires will find Goodyear Repair Gums most efficient. They come in handy rolls for use in connection with small vulcanizers.

These are made of practically pure gum, like inner tubes, so the patches will give with the tire. A patch made of inferior rubber that cannot stretch with the tube will pull loose. This is only one of the Goodyear line of twenty-two Tire Savers—the kind you can rely upon when you need them.

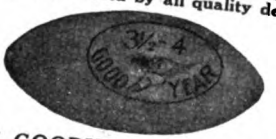
Sold by all quality dealers.

GOODYEAR AKRON, OHIO

THE GOODYEAR TIRE & RUBBER CO., Akron, Ohio (1986)
Makers of Goodyear No-Rim-Cut Automobile Tires

A Valve Patch that Stretches with the Tube

Here is a valve patch that is different. It is a Goodyear valve patch. It is made so that it will stretch with the tube, yet stays rigid around the valve stem at the base. It is made of two plies of Egyptian fabric, gum coated on either side, of the same quality of material used on Goodyear patches. The patch is feather-edged. Edges will not pull loose and curl up. Surface is roughened, so that the cement will get a firm hold. Sold by all quality dealers.



GOODYEAR AKRON, OHIO

THE GOODYEAR TIRE & RUBBER CO., Akron, Ohio (1985)
Makers of Goodyear No-Rim-Cut Automobile Tires

Big Business in Little Things

Above are shown some of the consumer advertisements on Goodyear "Tire Savers" which will appear month by month in a wide list of motor publications.

Get their selling spirit. Consider what sales-producing results will be effected by their regular appearance. Remember that back of them is all the quality-prestige of Goodyear Automobile Tires. Better accessories are not made. Confidence is won and held with the Goodyear kind.

FREE Show-Case Offer!

With various assortments of Goodyear "Tire Savers" valuable show-cases are given free. These serve as constant reminders to customers and also add to the attractiveness of every dealer's store.

The value of these show-cases runs as high as $50. Yet they go to Goodyear dealers absolutely free. The one pictured here would cost you $25, bought in the regular way. It has a wood top, three shelves, double-strength glass ends and sides, and hinged glass door. It is 62 inches high, 34¾ inches wide, 19 inches deep. It is a **beauty.**

GOODYEAR AKRON, OHIO
Accessories

Confidence Builders

Such a small thing as a tube patch or a piece of repair tape may some day hold or lose you a good customer. When "Tire Savers" are needed, they are wanted quick, and right. And, if the article you sell fails, it works to your disadvantage as much as if it had been a costly tire.

And that is why you should carry Goodyear "Tire Savers." They are confidence builders. They bring business back to you. And, nowadays, you cannot afford to slight even the smallest department of your business. The scientific way is to make the business pay everywhere and always.

Send the Coupon

Send the coupon and learn how easily you can secure magnificent show-cases that would cost you money elsewhere. Sending the coupon binds you to nothing. It will bring you information about Goodyear "Tire Savers" that will surely show you a way to add to sales, profits and prestige.

Send the coupon now. It holds a real opportunity for you.

The Goodyear Tire & Rubber Co.
AKRON, OHIO—Desk 18

Without any obligation on my part, send me full particulars of your accessory proposition to dealers. Also tell me how I can obtain, free, one of the show-cases you offer.

Name.....

Business.....

Address.....

THE GOODYEAR TIRE & RUBBER CO., Akron, Ohio
Makers of Goodyear Automobile Tires 2038

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Guarantees

WHOEVER YOU ARE—

Mossberg No. 5 Set

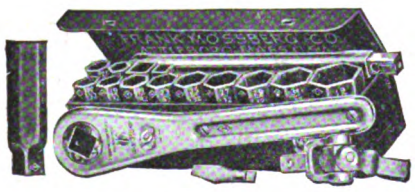
$1.10

Contains:
5 Pressed Steel Sockets and Offset Handle

Mossberg No. 7 Set

$3.00

Contains:
14 Guaranteed Sockets
1 Spark Plug Socket
1 Offset Handle
1 Take Down "T" Handle



Mossberg No. 16 Set

$6.00

Contains:
13 Steel Sockets
1 Spark Plug Socket
1 Reversible Ratchet Handle
1 Universal Joint
1 Extension Bar
1 Screw Driver Bit

Mossberg No. 10 Set

$8.00

Contains:
19 Positive Steel Sockets
2 Spark Plug Sockets
1 Reversible Ratchet Handle
1 Universal Joint
1 Extension Bar
2 Screw Driver Bits

Mossberg No. 14 Set

Contains:
23 Hex. Sockets
11 Square Sockets
Spark Plug Socket
Reversible Ratchet Handle
Offset Handle
Take Down "T" Handle
1 Universal Joint
1 Extension Bar
1 Pair Finest Pliers

$12.00

3 Screw Driver Bits
5 Open End Engineers' Wrenches (10 Openings)
1 Alligator Wrench
1 Cotter Pin Extractor

MOSSBERG CO.

has thought of you.

For there is an "Ab-so-lute-ly" Guaranteed Set of

Socket Wrenches

to fit your particular case.

Curiously enough the No. 14 Set Sells Best of All

FRANK MOSSBERG CO.
ATTLEBORO, MASS.

Your new catalogue No. 141 A is Ready

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20 CENTS the COPY

MARCH TRADE BUYERS' NUMBER.
22,500 COPIES GUARANTEED
A $250.00 A PAGE ADVERTISING VALUE FOR $60
An Unequalled Service—The Greatest Known Trade Distribution.

$2.00 the YEAR

THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., FEBRUARY, 1915. NO. 10

SPEDOLENE

The Wonder Lubricant

SPEDOLENE DEALERS

Spedolene is sold by the trade with a guarantee that in economy, efficiency and lubricity, there is no lubricant to equal it. That Spedolene in service will give twice the mileage that can be obtained from the same volume of any other lubricant.

Spedolene is sold with a guarantee to give greater power and to increase the mileage of any vehicle. It will not gum, solidify, flow or drip, and it will retain all lubricating qualities to the last ounce. It is heat resisting and is not affected by low temperature.

It is guaranteed not to affect metal, but to penetrate between all bearing surfaces, affording positive lubricity and to carry the loads. It will cushion gears, prevent wear and all noise.

Spedolene is compounded from the highest grade asbestos and refined mineral oil. It is for all parts of a motor car except the engine.

Made in two grades—Grade S for the average machine, and Grade SS for worn and noisy gears. Sold in 5, 10, 25 and 50 lb. cans and barrels and half-barrels. Delivered under seal.

DEALERS: there is a reason for the constant and ever increasing demand for Spedolene. Every trade interest can sell it.

Our special dealers' proposition and price list at request

CONTINENTAL ASBESTOS CORPORATION
7-11 SUMMER STREET, WORCESTER, MASS.

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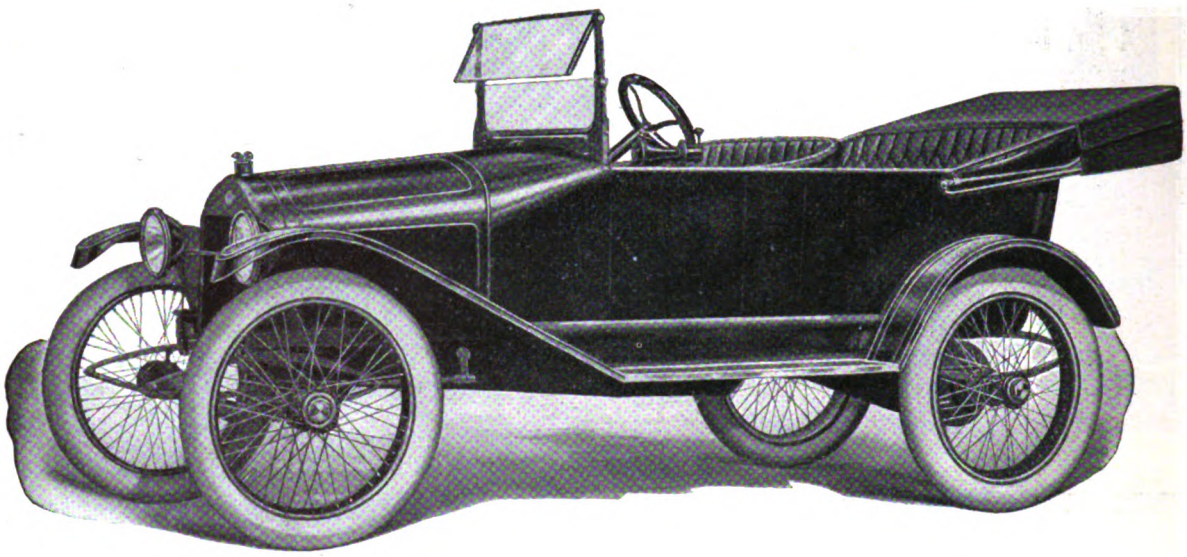

METZ "25"

The Quality Car

$600 Touring Model, Equipped Complete, Including Electric Starter and Electric Lights

Gray & Davis electric starter and lighting system.
Plate glass rain-vision, built-in wind shield.
Stream line body, instant one-man top.
32-inch wheels.
3½-inch Goodrich clincher tires.
Tufted upholstering, deep cushions.

108-inch wheel base, standard tread.
Left-hand drive, center control, fibre grip gearless transmission, 25 h. p. water-cooled motor, Bosch magneto, Hyatt roller bearings, speedometer, built-in gasoline gauge, full elliptic springs, signal horn, jack, tools, etc.

SELL THE METZ

And Control the Popular Price Business in Your Territory

THERE'S no getting away from the fact that the METZ is the popular car in the popular price class. The man who is looking for a strictly first class car, with complete up-to-date equipment, and at a price that he feels he can properly afford to pay, knows he has **found what he wants** when you show him this new Metz Touring Model.

In addition to its attractive price, every feature is a selling point. It is easy-riding, stylish in appearance, luxuriously finished, and simple in operation. Its equipment is equal both in **quality** and **completeness** to that of cars which are priced much higher, and its fibre grip gearless transmission does away entirely with all gear and clutch trouble.

We want representation in your territory.
Write for particulars and new catalog "F."

METZ COMPANY - - - WALTHAM, MASS.

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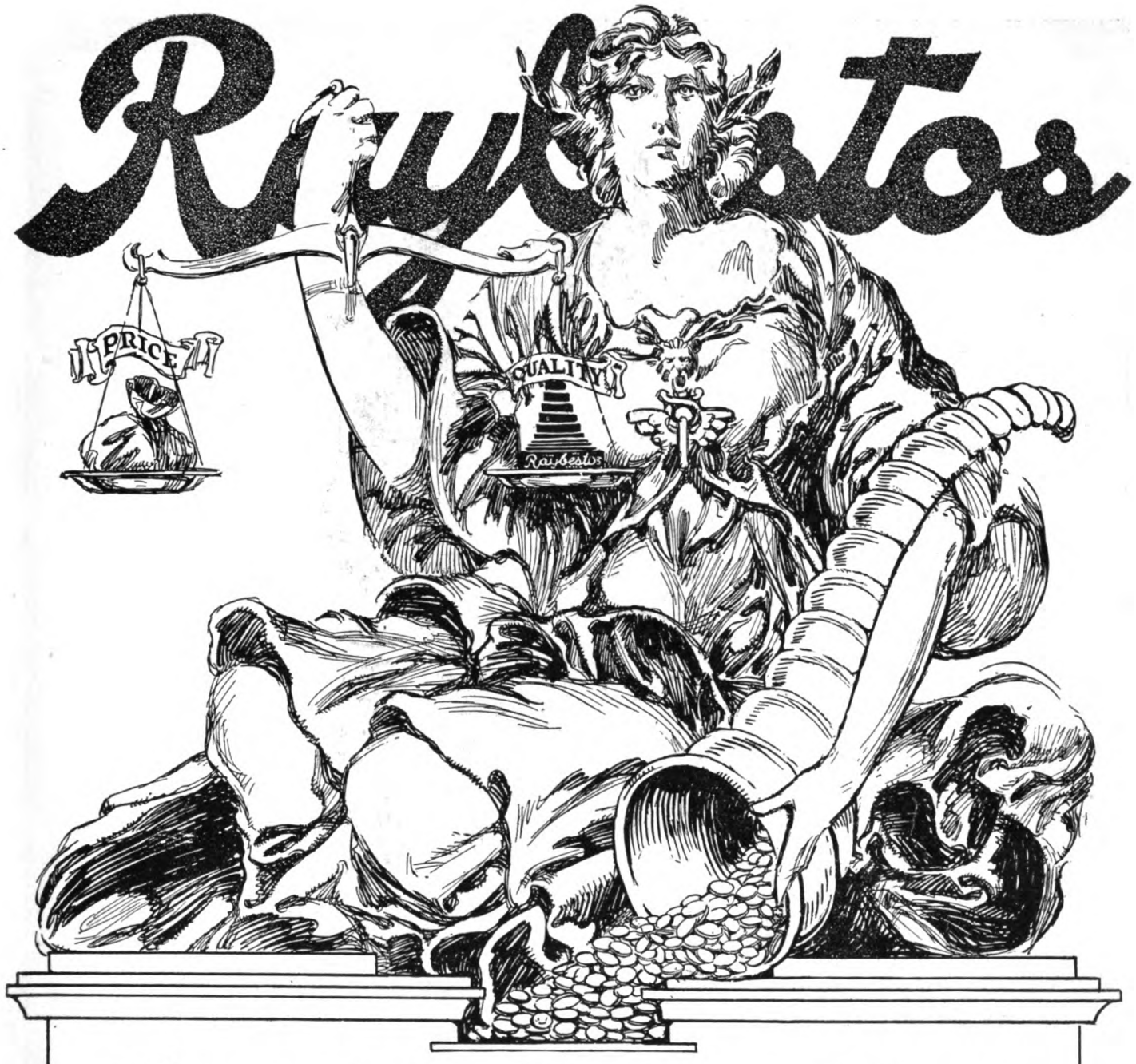
Raybestos



Price and Quality Must Balance

The quality of the brake lining you sell must be consistent with the price you charge for it, or you will not be able to hold your trade.

This is so—and nobody knows it better than you. That Price and Quality must balance is just as true with respect to net prices as it is with list prices.

What is the Quality of brake linings which list the same as RAYBESTOS, and in some cases higher, but are offered you at a lower net price?

What do you suppose is the lowest net price?

How do you know when you get it?

How long before juggled discount prices will affect you?

RAYBESTOS prices—both net and list—are fixed, the same to all—and at all times consistent with RAYBESTOS Quality.

The Royal Equipment Company

1380 Bostwick Avenue Bridgeport, Conn.

732

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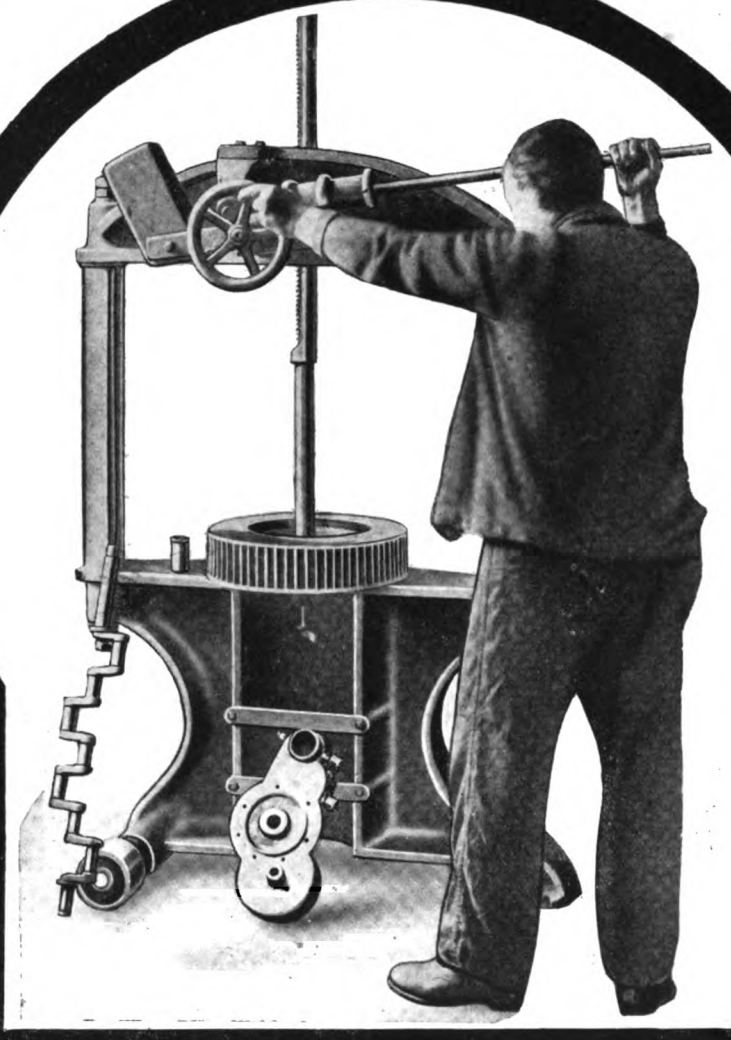
BIG JOBS PAY BEST



No. 15

NEW GREENERD ARBOR PRESS

The new No. 15 Greenerd Arbor Press; capacity, one man, 10 tons; two men, 16 tons.

The new No. 15 Greenerd Arbor Press is designed especially for service-stations, garages, repair and machine shops. The first cost is small; the utility, great.

Not too big for a small shop. A big thing for any shop.

A Greenerd Arbor Press in your shop is like a good friend. Increases in value as you become better acquainted.

Your shop is a reflection of yourself. You are a mechanic, reason truly, think accurately. To bring your shop up to your standard you need a No. 15 Greenerd Arbor Press.

Built in 16 sizes, exerting from a few pounds to forty tons pressure.

More Than 50,000 Greenerd Arbor Presses in Use.

EDWIN E. BARTLETT

322 A STREET **BOSTON, MASS.**

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A Partial List of Automobile Repair Shops using the Number 15 Greenerd Arbor Press. These people, insofar as we are able to learn, run "up-to-date" shops in their locality. Don't you owe your shop a Number 15 Greenerd Arbor Press? The reason why Massachusetts has so many is because we have exhibited the Number 15 in four Automobile Shows. If you could see the press, you would have one.

Kleiber & Co., San Francisco, Cal.

The United Motor Co., Ltd., Regina, Can.

Johns-Pratt Co., Hartford, Conn.
The Saybrook Garage, Saybrook, Conn.
Kinsler-Bennet Co., Hartford, Conn.
The Nash Engine Co., South Norwalk, Conn.
General Electric Co., Windsor, Conn.
Geometric Tool Co., New Haven, Conn.
The Comstock-Cheney Co., Essex, Conn.
R. D. & C. O. Britton, Hartford, Conn.

Minot Auto Company, Minot, No. Dakota.

Foss-Hughes Motor Car Co., Wilmington, Del.
DuPont de Memours Powder Co., Newbridge, Del.

Stenstrom's Garage, Wauchula, Fla.

H. B. Odell, Atlanta, Ga.
The Owens Auto Co., Albany, Ga.
Lombard Iron Works Sup. Co., Augusta, Ga.

Cedar Rapids Auto & Supply Co., Cedar Rapids, Ia.

The Hally Garage, Hally, Idaho.
Trist Automobile Co., Pocatello, Idaho.

Armour & Company, Chicago, Ill.
Old Reliable Motor Truck Co., Chicago, Ill.
National Auto Maintenance Co., Chicago, Ill.
J. S. Losee, Hebron, Ill.
American Well Works, Aurora, Ill.
John J. Griggs, Bridgewater, Ill.

Auburn Automobile Co., Auburn, Ind.
Shambaugh's Garage, Lafayette, Ind.
George Seneuller, Great Bend, Ind.
Fisher Automobile Co., 400 N. Capitol Ave., Indianapolis, Ind.
Kixmiller & Son, Bicknell, Ind.

The Coffeyville Garage & Mach. Shop, Coffeyville, Kan.

Waterville Motor Co., Waterville, Me.
Read Garage & Machine Co., Belfast, Me.
Morrison Motor Co., Waterville, Me.
Miles B. Mank Motor Car Co., Portland, Me.
The Portland Garage, Portland, Me.
R. P. Swan, Portland, Me.
Buzzell & Drew, Guilford, Me.
Bangor Motor Co., Bangor, Me.

E. L. Grimes Co., 122 Pearl St., Boston, Mass.
Taxi Service Company, Boston, Mass.
Warren Bros., 87 Church St., Boston, Mass.
George M. Miller, 81 Chestnut St., Boston, Mass.
Cadillac Motor Car Co. of Boston, Boston, Mass.
Sivuia & Raust, 116 W. Brooklyn St., Boston.
Boston Lockport Block Co., 100 Condor St., E. Boston, Mass.
Middleboro Auto Exchange, Middleboro, Mass.
J. Edward Newton, Fall River, Mass.
J. F. Kemp & Co., Quincy Adams, Mass.
Packard Motor Car Co., Springfield, Mass.
Norcross-Cameron Co., Springfield, Mass.
G. M. Chase, 73 Glenwood St., Brockton, Mass.
John J. Adams, 81 Mechanic St., Worcester, Mass.
Saco Lowell Shops, Newton Upper Falls, Mass.
Ford & Lyons, Fitchburg, Mass.
Matthew Doyle, Lawrence, Mass.
Myerscough & Buchan, Andover, Mass.
G. W. Rush Co., Newton, Mass.
Bridgewater Inn Garage, Bridgewater, Mass.
Wollaston Centre Garage Co., Wollaston, Mass.
H. P. Hood Sons' Co., Charlestown, Mass.
Highland Machine Co., 58 Kemble St., Roxbury, Mass.
Litchfield & Peare, Egypt, Mass.
O. R. Hutchinson, Lenox, Mass.
Wright Garage Co., Merrimack, Mass.
Rambler Motor Car Co., Haverhill, Mass.
Plymouth Garage & Mach. Shop., Plymouth, Mass.
J. H. Proctor, Ipswich, Mass.

Solt Frederick Auto Garage, Frederick, Md.
The Garage Co., Westminster, Md.

Chapin Brothers' Garage, Detroit, Mich.
Michigan Auto Co., Calumet, Mich.
Wm. E. Hill Co., Kalamazoo, Mich.

The Zamboni Garage, Owatonna, Minn.
Marshall Garage, Marshall, Minn.
Ann Arbor Garage, Ann Arbor, Mich.
Albert Lee Motor Co., Albert Lee, Minn.
Duholm Brothers, Austin, Minn.
Mutual Auto Co., Duluth, Minn.
Pioneer Traction Mfg. Co., Winona, Minn.
Mueller & Aab, New Ulm, Minn.
The Billings Auto & Machine Co., Billings, Mont.
Story Motor Supply Co., Bozeman, Mont.

Greenerd Arbor Presses——Built in 17 Sizes

The Webb City Auto Co., Webb City, Mo.

Noyes Auto Co., Omaha, Neb.

Spaulding & Frost, Fremont, N. H.
Charles Hicks, Wolfboro, N. H.

New York Telephone Co., 140 Canal St., Newark, N. J.
Hedden Place Mach. Co., 40-44 Hedden Pl., East Orange, N. J.
Brach's Garage, Inc., Canal St., Trenton, N. J.
Bridgeton Chandler Co., Bridgeton, N. J.
Stidworthy Bros., Netcong, Morris Co., N. J.
Sheeley Motor Co., 464 Main Ave., Passaic, N. J.
K. Kurkjain, Princeton, N. J.
The E. W. Bliss Co., Brooklyn, N. Y.

S. M. Bixby & Co., Brooklyn, N. Y.
Ball & Jewell, 26 Franklin St., Brooklyn, N. Y.
Robert F. Shay, Canandaigua, N. Y.
Hasey's Garage, Eastnampton, L. I., N. Y.
Jaburg Brothers, Stapleton, L. I., N. Y.
Schultz Bread Co., 26 Douglass St., Jamaica, L. I., N. Y.
Thomas Callister, Queens, L. I., N. Y.
The Clark Estate, Cooperstown, N. Y.
L. R. Sponsler, Bucyrus, N. Y.
Overland-Rochester Co., Rochester, N. Y.
Empire State Vehicle Co., Rochester, N. Y.
Ward Motor Vehicle Co., Mt. Vernon, N. Y., 2 No. 15 Presses.
Carthage Auto Co., St. Paul St., Rochester, N. Y.
Wagener Bros., Auto Exchange, Penn Yan, N. Y.
E. R. Thomas Motor Car Co., Buffalo, N. Y.
Wm. H. Penseyers, 889 Main St., Buffalo, N. Y.
Augustine Automatic Rotary Eng. Co., Buffalo, N. Y.
Fremming Bros., Care Fornes Garage, Olean, N. Y.
Stewart Automobile Co., New York, N. Y.
Harry S. Houpt, Inc., 1751 Broadway, New York City. N. Y.

The New Columbus Buggy Co., Columbus, O.
Hanauer Automobile Co., 115 E. Seventh St., Cincinnati, O.
Arnold & Urban, Cambridge, Ohio.
National Supply Co.'s Shop, Toledo, Ohio.
Decoe & Girwin Co., Gibsinburg, Ohio.
Alliance Motor Car Co., Alliance, Stark Co., Ohio.
Wood's Engineering Co., Alliance, Ohio.
L. R. Spencelier, Bucyrus, Ohio.
Standard Welding Co., Cleveland, O.
Standard Auto Sales Co., Youngstown, Ohio.
Singer & Brotsman, Barberton, Ohio.
Conpo Garage Co., Defiance, Ohio.
United Motor Cleveland Co., Cleveland, O.
Jones & Kuhlke, Akron, Ohio.
O. H. Larwill, Wooster, O.
The Gage Auto Co., Logan, O.

Frank C. Riggs Auto Co., Portland, Ore.
Fifth Avenue Auto Supply Co., Eugene, Ore.

Stokes & Smith, Philadelphia, Pa.
Winton Motor Car Co., Philadelphia, Pa.
Baker Bell Motor Co., Philadelphia, Pa.
General Motor Car Co., Philadelphia, Pa.
Louis G. Bergdoll Motor Co., Philadelphia, Pa.
N. Sneelenburg & Co., 10th & Berks Sts., Philadelphia, Pa.
McNichol Paving & Con. Co. Garage, Cheery St., Philadelphia, Pa.
Peerless Motor Car Company, 251 North Broad St., Philadelphia, Pa.
Snell & Meharg, Hamburg, Pa.
Adams Express Co., Philadelphia, Pa.
The Wolf Co., Chambersburg, Pa.
Shamokin Automoblie Co., Shamokin, Pa.
Warren Unger, 309 West Spruce St., Shamokin, Pa.
West End Garage and Machine Co., Lancaster, Pa.
A. M. Lowentritt, Relief St., Oil City, Pa.
Berks Auto & Garage Co., Reading, Pa.
Hub Shock Absorber Wheel Co., Lancaster, Pa.
Vernam-Bentz Co., New Kensington, Pa.

E. G. Davis, Providence, R. I.
Crown Garage, Providence, R. I.
Corp Brothers, Providence, R. I.
Armory Garage, Woonsocket, R. I.
Winsor & Jerrauld, Providence, R. I.
United States Mill Supply Co., Providence, R. I.
D. Wilcox Flint, Ford Service Station, Providence, R. I.
Hamlet Ave. Garage Co., Woonsocket, R. I.
E. R. Darling, Woonsocket, R. I.
The Crompton Co., Quidnick, R. I

Elliott Motor Co., Suffolk, Va.

C. H. Goss Co., St. Johnsbury, Vt.

Genoa Junction Auto Co., Genoa Junction, Wis.

EDWIN E. BARTLETT

322 A STREET BOSTON, MASS.

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Every Gasoline Station
Every Garage Owner
Every Car Dealer

Should carry Weed Chains in stock because the motoring public demands them.

For safe and successful car operation, there are three absolute necessities:

Gasoline, Oil, and Weed Chains

If you are not selling this ***third necessity*** you are missing some real profits, some comparatively easy money that your customers are willing to surrender —because they are coming to realize more and more that ***Weed Chains are the only positive safe-guard against skidding.***

If you are not selling Weed Chains, write us at once. We will put you in touch with a decidedly pleasing profit plan that you should take advantage of ***immediately.***

Weed Chain Tire Grip Co.

Bridgeport, Conn.

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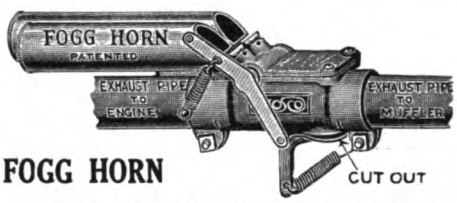
MOSCO FORD FITTINGS

Master Vibrators
Bow Clamps
Door Check Anti-Rattler
Number Plate Holder
Gasoline Gauge
Bemus Timer
Fan Belt Guides
Tire Pump, Engine Driven
Front Number Holder
Gasoline Economizers
Spring Leaf Oiler
Shock Absorber
Fogg Exhaust Horns
Brake Shoes
Adjustable Wheel Pullers
Brake Rod Guides
Muffler Cut-Outs
Radius Rod Anti-Rattler (2 Styles)
Steering Rod Anti-Rattler (2 Styles)



FOGG HORN

A NEW 1915 MODEL WITH CUT-OUT.

The new model is equipped with a cut-out in the body of the horn. In buying this model **you have two appliances in one:** an exhaust horn and a muffler cut-out. Furnished with two pedals—one of the locking type to hold open the cut-out when desired. Guaranteed for life of car.

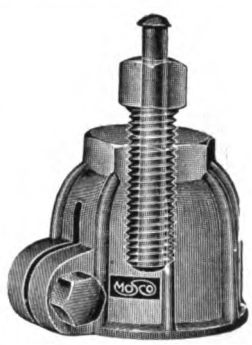
Price, With Cut-Out, $5.00. Without Cut-Out, $4.50.

MOSCO NO. 2.

Adjustable Wheel Puller for the Ford Car.

A new, exclusive feature of this model is the loose plunger extending through the center of the screw. This plunger affords a means of starting off a wheel which is stuck or "frozen" to the axle. A sharp blow with a hammer against the end of the plunger materially helps to free the wheel.

Price, $1 Each.



MOSCO BRAKE SHOE.

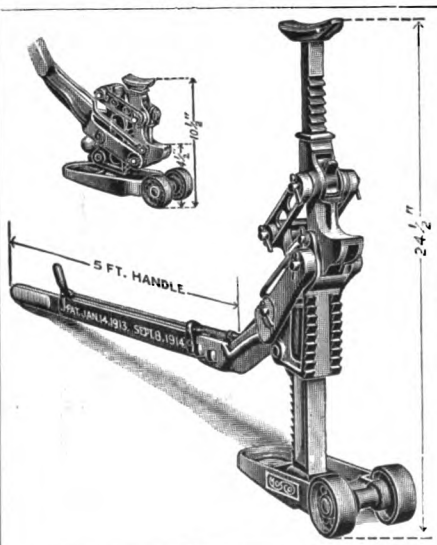
Made in one piece of best quality gray iron casting and covered with asbestos lining. These shoes grip the drums much more securely than the plain iron shoes. They are positive money savers, as the lining may be replaced for only a few cents.

Packed two in carton. Price, $1.50 per pair.

MOSCO ANTI-RATTLING BALL SOCKET, NO. 1. (Large Size.)

For radius rods of Ford Cars. Made from high-grade semi-steel. Is used for adjusting end of radius rod, terminating in a ball socket at front of transmission case. It provides a quick and easy method of taking up lost motion at this joint and eliminates rattle.

Price, 50 Cents Each.



"EXCEL" GARAGE JACK

A Heavy Powerful Tool for Rapid and Easy Handling of Large or Small Cars.

The only Jack in the world suitable for the work of Garages, Service Stations, Repair Shops, Tire Agencies, etc. This Jack weighs fifty pounds, has five foot handle with enormous leverage, and will raise either end of a car four and one-half inches with a single stroke of the handle. Range 5 inches to 26 inches from the floor.

Liberal discount to Garages and Dealers

Price, East Mississippi River, $16.00
Price, West Mississippi River, $18.00

MOSCO

Anti-Rattling Ball Sockets for Radius Rods and Steering Rods of Ford Cars.

Equipped with Compression Grease Cups.

Radius Rod Anti-Rattler, Price, 75 Cents.

Steering Rod Anti-Rattler, Price, 60 Cents.

Dealers: Write for 1915 MOSCO Catalog

MOTOR SPECIALTIES CO.

WALTHAM MANUFACTURERS MASSACHUSETTS

Dealers: Write for 1915 Discount Sheets

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Federal Service Is Extra Service

USERS of Federal Tires enjoy so many advantages that instinctively they think of Federals as the tires of extra service. And back of the tires they find the Federal Company, through its branches and distributors and dealers, ever ready to meet them, more than half-way, with the spirit of fair dealing.

It is easy for us to *stand back of*

The Exclusive Federal *Double-Cable-Base Tires*

("Rugged" and Plain Treads)

for Federal Tires are not only made of pure para rubber and best quality "square" woven fabric, but Double-Cable-Base construction *eliminates* the four common and costly tire troubles:—rim-cutting, tube-pinching, side-wall blow-outs just above the rim and the danger of tires slipping from their rims. Federal users do not experience these annoyances and items of expense.

Genuine Protection Against Skidding

The Federal "Rugged" Tread is scientifically designed to safe-guard your car from skidding, *and it does* From every angle, the big round projections grip the slippery roadway *tenaciously*

Double-Cable-Base Tires are made in all styles and sizes

Federal Rubber Manufacturing Co.
MILWAUKEE, U. S. A.

Branches, Distributors and Service Stations in all Principal Cities Dealers Everywhere.

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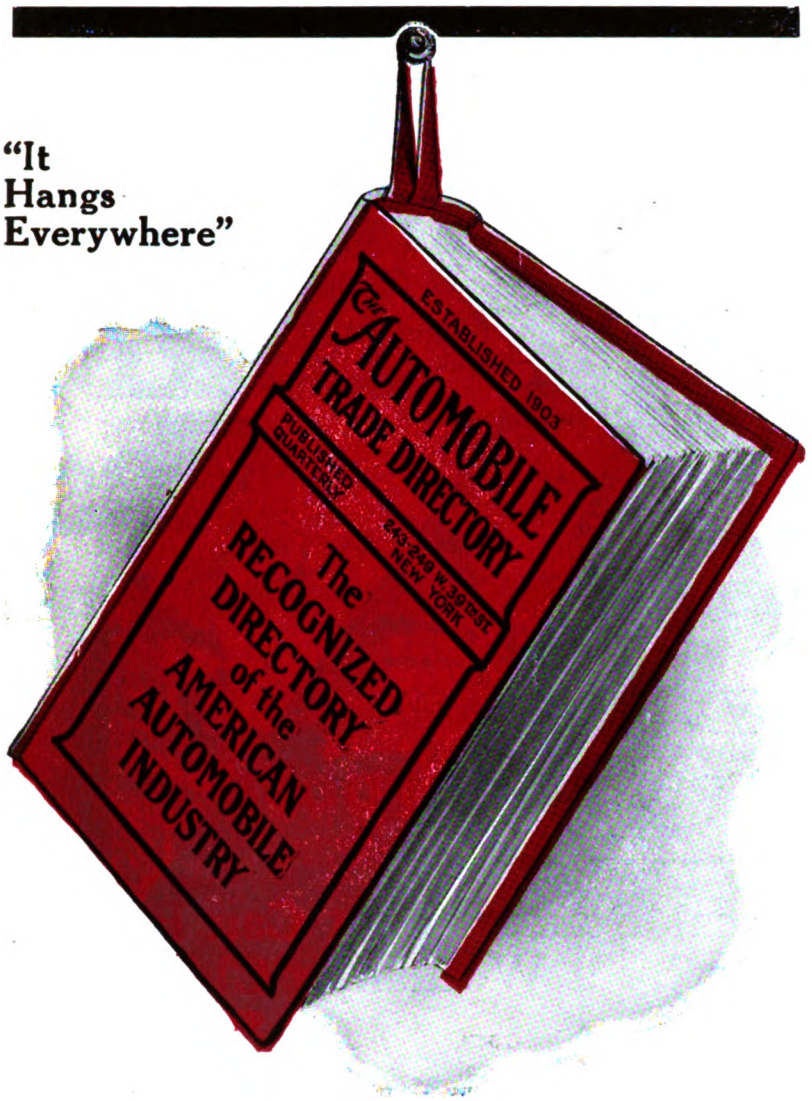
"It Hangs Everywhere"



Free to Ford Dealers

On April 20th

The Automobile Trade Directory will issue a Directory of

FORD SPECIALTIES

THIS Directory will be complete and authentic in every detail—on a par with the service that has made The Automobile Trade Directory the Standard Buyers' Reference of the American Automobile Industry.

Each and every Ford Dealer, from the big metropolitan distributor to the rural sub-agent, will receive a copy of this book with our compliments.

FORD DEALERS

To ensure receiving your copy fill out and send us the coupon with your ***BUSINESS CARD*** or ***LETTER HEAD.*** The book will be sent to you absolutely free of charge. It will be worth many dollars to you in the saving of time and trouble.

THE AUTOMOBILE TRADE DIRECTORY
239 W. 39th St., New York

Enclosed find *business card* or *letter head.* Send me free of charge a copy of your Directory of Ford Specialties. We have the {agency / sub-agency} for the Ford car.

Name.....

Address.....

City.....State.....

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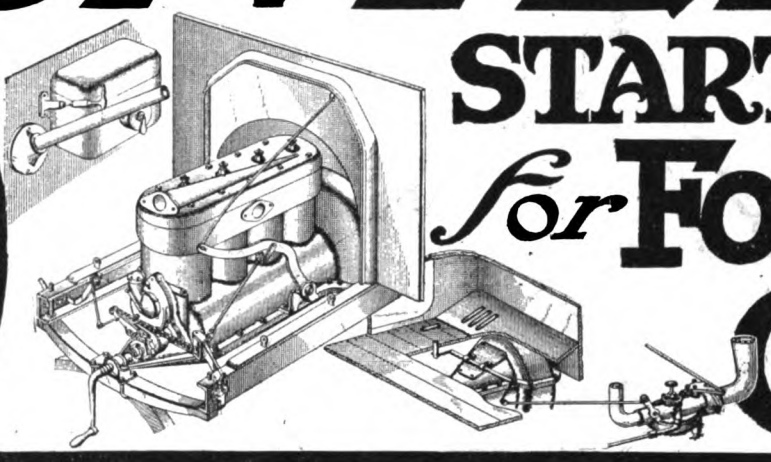
HUNTER

$10 STARTER for FORD CARS

F.O.B. CHICAGO



Makes Every Ford An Ideal Car For Every Purpose

A Positive Mechanical Starter That Can Be Operated from the Seat by a Woman or Child.

An equipment that will make a Ford the equal of any car for convenience and motoring satisfaction, and sold at a price within the reach of every Ford owner.

Simple in construction, every part of great strength and always fully accessible, it requires no adjusting or attention after installation and connection. Starting the motor is by simply drawing a handle from the dash toward the seat, then releasing it to be withdrawn by spring pressure. Compound leverage insures a start with a slight effort.

With an attachment to close the air intake of the carburetor by foot pedal when ready, the engine can be started in lowest temperature. This efficiency is guaranteed.

OWNER CAN INSTALL IT

The Hunter starter can be installed by an owner in an hour's time. Replacing four bolts with other bolts supplied with the starter and placing the nickel plated bracket and handle on the dash. One hole to be bored in the dash and the bracket attached by screws. The starting crank is retained and the entire system is under the hood.

Dealers: At $10. a guaranteed Starter should go on a big percentage of cars in your territory. Write us.

HUNTER AUTO SUPPLY CO.

333 W Madison St. CHICAGO, ILL.

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STIMULATE YOUR SPARK PLUG PROFITS

Concentrate your sales effort on quality plugs—Plugs th give your Customers service and pay you better profits.

This new Display Case will do it.

It provides a counter or window display that attracts—

Contains a complete stock—

Saves space, keeps the stock clean—insures a quick turnover, and yields *100%!*

It is

A Display
A Stock
A Salesman

For $25.00

BETHLEHEM FIVE POINT SPARK PLUG

Guaranteed for the Life of the Car

There is a Bethlehem for *every* motor.

In the Display Case are instructions as to the right plug to sell for each car.

SERVICE brings profits—that is what Bethlehem's give the customer—it is what The Silvex Company gives you. Write us.

THE SILVEX COMPANY, 171 Madison Ave., New York

Factory: South Bethlehem, Pennsylvania.

Pacific Coast Branch: Oakland, California.
W. N. DAVIDSON, Manager

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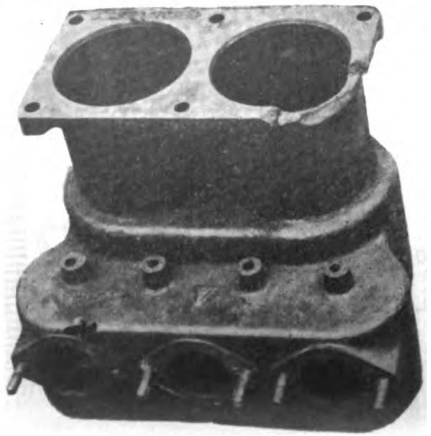
1907 WATERHOUSE 1915
FREE TRIAL OFFER

Free Trial Offer

If at the end of two weeks' trial in your shop, you decide you do not want the outfit, ship it back to us and we will refund your money **in full.** No strings to this offer. Not necessary to give any reasons.



Why a WATERHOUSE gives you the most for your money

1. Only equipment made that has a NON-FLASHING torch.

2. Burns equal amounts of acetylene and oxygen, thus giving the hottest flame at the lowest possible cost.

3. Guaranteed by a concern who are willing to make a guarantee and are capable of standing behind it.

4. Sold on terms to prove its superiority. Free trial offer.

5. Order a WATERHOUSE and try it in your own shop, on our free trial offer and see for yourself its superiority. It will show you what it will do. If it can be done a WATERHOUSE will do it best.

MR. GARAGEMAN! This is the class of work that can be done with the WATERHOUSE Equipment. It saved many dollars in this case. Give it a chance to make and save for you.

TERMS:

5% discount cash with order or C. O. D. OR $20.00 cash with order, balance in two payments, first of $12.00 in 30 days, $10.00 in 60 days, AFTER RECEIPT OF OUTFIT BY YOU.

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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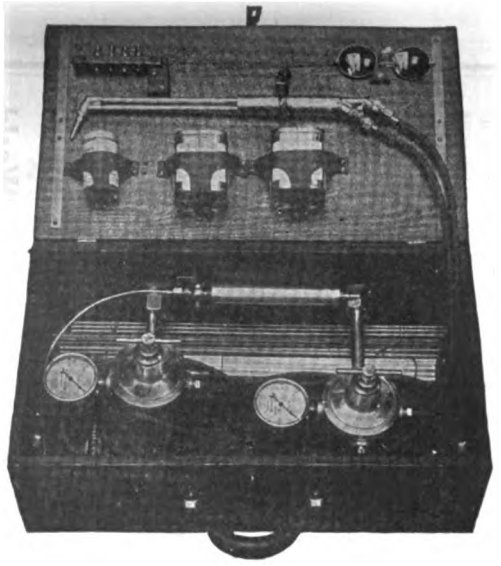


The Waterhouse Outfit

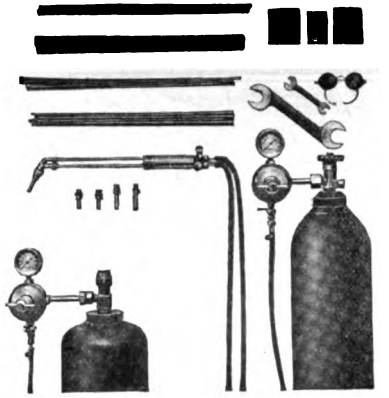
	Value
1 B Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50-lb. line pressure gauge	10.25
1 Acetylene Reducing Valve with 50-lb. line pressure gauge	11.00
1 Set of Special Welding Hose (20 ft.)	3.00
1 Pair Welding Glasses	.75
1 Carbon Burning Torch	Free
1 Set Instructions	Free
Net Cost Complete	**$42.00**

If you have a regulator for carbon burning, the oxygen regulator with the outfit is unnecessary, and you can deduct the price ($10.25), from the above total price.

TERMS: 5% discount cash with order or C. O. D. OR $20.00 cash with order, balance in two payments, first of $12 in 30 days, $10 in 60 days, AFTER RECEIPT OF OUTFIT BY YOU.

If supplies are desired as well, we will sell for $4.50 additional the following, making you ready for any auto welding:

1 Bottle Aluminum Flux
1 Can Cast Iron Flux
1 Can Copper and Brass Flux
2 pounds Brass Welding Rods
5 pounds Cast Iron Welding Rods
2 pounds Aluminum Welding Rods
2 pounds of Steel Welding Rods



Waterhouse users can secure free tank service.

Our information bureau is always at your disposal.

Remember

The WATERHOUSE is:

1. **NON-FLASHING**
2. **Gas Saving**
3. **Guaranteed**

The early bird gets the worm. The first owner of a WATERHOUSE WELDING EQUIPMENT in your community will make the most money. Build up a big welding business before the other fellow wakes up.

The WATERHOUSE

Equipment makes money in thousands of shops. Let it make money for you.

WATERHOUSE WELDING CO.

"Makers of the Torch That Never Flashes"

AMERICA'S PIONEER WELDER

3 Pelham Street : : : Boston, Mass.

See WATERHOUSE Advertisements in previous issues of this paper

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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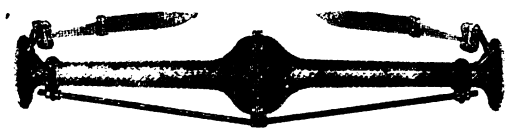
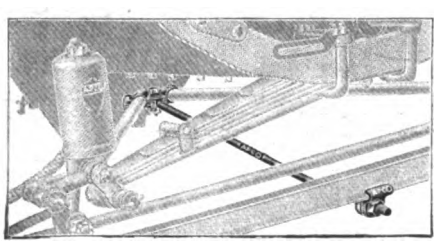
NEW FORD SPECIALTIES
AT THE BOSTON SHOW
SPACE 556 MAIN BALCONY

APCO Rear Axle Truss



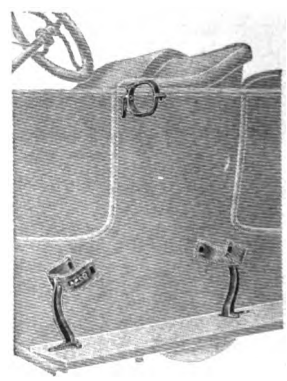
The rear axle on the 1915 Ford car has been strengthened about 50% over any previous type, and this is not the first year that improvements have been made on this unit. To strengthen the old cars, we offer the APCO truss, which is made from steel rods and semi-steel castings finished in black enamel. The rods are ½-inch in diameter and strong enough to give the axle the stiffness lacking in its original construction. The clamps go around the castings at the extreme end of axle housing, and do not put any strain on the pressed steel parts. The cradle that fits under the center of housing is fitted with square sockets to accommodate the square heads that are made integral with rods. Bolts for clamps are square headed, sunk flush in square sockets to prevent turning and to improve appearance. The whole outfit comes packed in a corrugated box 24" long and weighs 5½ pounds. If your axle housing leaks grease or your rear gears are noisy, you need an APCO truss to remedy the trouble. If not, you need the truss to prevent it. Installation is a matter of 10 minutes with no tools, but a wrench. Price complete, $1.50.

APCO Front Axle Brace



The front Radius rod on the Ford is made of a tubing in which there is more or less spring or give. This give causes the bottom of the front axle to tip or bend back in going over rough roads, causing an unsteadiness in steering. The APCO Brace consists of two ingenious clamps and a half-inch steel rod with a square head made integral. One of the clamps is attached to the extreme end of the front axle truss rod with three bolts, all having square heads to prevent turning, and the square head on the rod is held in this clamp. The other clamp is attached to the front axle and is held there by two nuts on the rod which goes through the clamp. This device is one of the best accessories we have ever offered and it is one that you need. Finished in black enamel. Can be put on the car with a wrench in five minutes. Packed in corrugated box 24" long, weighs three pounds, and there is no need of adding 20 pounds to the weight and $5 to the cost of your car when ours will do the work. A new radius rod costs $3.00. You will never need a new one if your car is equipped with an APCO Brace. Price complete, $1.50.

APCO Side Tire Holders



There are so many new rear tire holders on the market that the public is inclined to overlook the good points in favor of a side tire carrier. Absolutely the only advantage of having the tires on the back of the car is that of balance, and as a pair of shoes weighs but 20 pounds, this is purely an imaginary one. There are hundreds of reasons, however, why you should use APCO Side Tire Holders, and the following are a few, any one of which is sufficient for you to decide in their favor.

1.—They keep the tires clean. 2.—They keep the tires away from the hot exhaust. 3.—The tires can be removed in five seconds and replaced in the same time. 4.—They cannot be lost off the car. 5.—They are much neater in appearance. 6.—They can be installed in 10 minutes. 7.—With them it is possible to carry a trunk at the rear. 8.—They make unnecessary the changing of tail light location. 9.—They weigh seven pounds less than the lightest rear holder on the market. 10.—There are no straps to lose or break. 11.—Price is the lowest of any tire holder on the market, irrespective of advantages. 12.—Special catch on top bracket locks automatically when closed and lock need not be used unless wanted. 13.—Screws that hold bracket to body cannot be removed with tires in place. 14.—Lock is solid brass mail type, which opens automatically when key is turned. 15.—Lock clasp is rubber covered to prevent rattle.

Furnished in black enamel only. Packed in corrugated carton 6x11x7½ and weighs seven pounds. Complete with bolts and lock. Will fit two 3½" tires or one 3" and one 3½". Price, $2.00.

APCO Spring Leaf Lubricators

One concern selling an oiling or lubricating device for the leaves of automobile springs spent $20,000 advertising their product during the year. Another spring maker makes great claims for his springs because they are self-lubricating. There is no question about the advantages of having the springs well oiled. It's only a question of the means. The APCO Lubricators as shown in the cut consist of a pair of plates with oil reservoirs and felt inserts. These inserts soaked with oil rest against the sides of the spring leaves and give the constant lubrication which increases the riding qualities 100%. They are made from semi-steel, black enamelled and are guaranteed to do the work as well as the highest priced article on the market. Set includes four pairs, two pairs for each spring. The only ones on the market that oil both sides of the spring. Price complete in a box, $2.00.

The APCO Line is for sale by every jobber and garage in New England that considers satisfied customers an asset. There always will be imitators and the fact that they all claim "just as good as APCO" is proof enough that APCO is the best. Why not get it when it costs you no more? Our complete new catalog will be out March 10th. Ask *your* jobber for one, if he is alive he will get it quick.

AUTO PARTS COMPANY OF PROVIDENCE RHODE ISLAND | **The Largest Manufacturers of Ford Specialties in the World**

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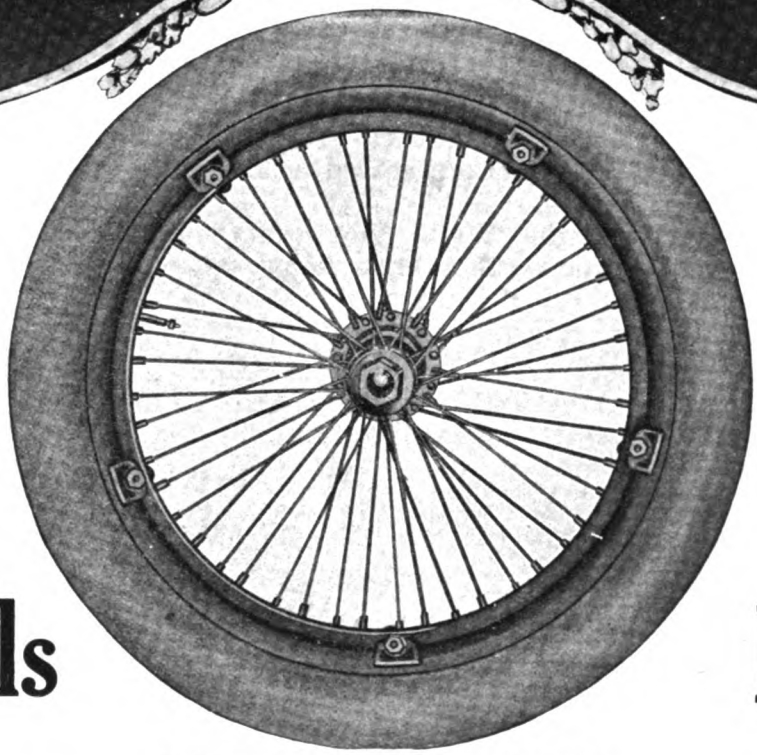
for **FORD** *cars*

MOTT



Wire Wheels

(Four)

With Rims

(Five)

$35.00——DEMOUNTABLE——$35.00

Guaranteed for One Year. ***Shipped Ready to Install.***

Wise owners are buying wire wheels because of their greater comfort, safety and economy, and improved appearance. There are more than 1,000,000 Ford cars in use.

Mott Wire Wheels are made only for Ford cars, are constructed of the best of materials, and are produced by a manufacturer of highest quality wheels, with years of experience.

DEALERS

Mott Wire Wheels are received by you complete, with ball cups, balls, dust protectors and cups. The change can be made by anyone in a few minutes. We desire to establish Mott Agencies in all centers. The Mott Agents are assured the fullest co-operation of our selling organization and its resources.

Write for our Dealers' Selling Proposition. Now is the time to plan for 1915.

MOTT WHEEL WORKS - - - Utica, N. Y.

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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MULTIBESTOS REG.U.S.PAT.OFF. PAT.APPD.FOR

An Outward Expression *of* Inward Worth

Honesty and sincerity are woven into the very warp and woof of MULTIBESTOS Brake Lining. In making it complete in our own factory we are mindful of the important work it has to do when finished and in actual use.

To us it is serious business—this manufacturing of an article upon which the safety of thousands of our fellow men depends.

It is so easy to be mislead in the purchase of brake lining; so many have the same outward appearance, that we are now marking MULTIBESTOS with "White Foot Prints", or plain white lines which run across the fabric at intervals of exactly one foot.

Not only do these "White Foot Prints", protect MULTIBESTOS users; they also afford a great saving of time and inconvenience to the men in the trade who are handling it, for the marks are spaced exactly and can be used for measurement.

So, look for the "White Foot Prints"—the outward expression of true worth in brake lining.

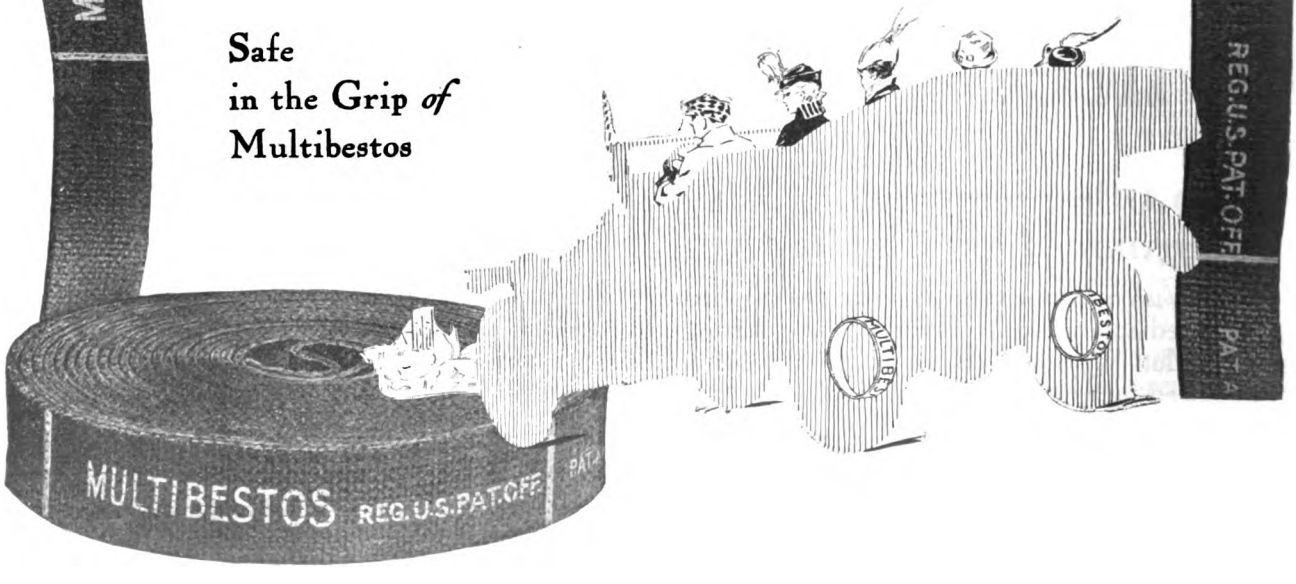
Standard Woven Fabric Company

FRAMINGHAM, MASSACHUSETTS

SALES BRANCHES

BOSTON—903 Boylston Street, F. S. Boyd
PHILADELPHIA—1309 Race Street, N. A. Petry Co., Inc.
CHICAGO—1430 Michigan Boulevard, F. W. Sparks
SAN FRANCISCO—Cor. First and Howard Streets, Fred Ward & Son

Safe
in the Grip *of*
Multibestos



MULTIBESTOS REG.U.S.PAT.OFF. MULTIBESTOS REG.U.S.PAT.OFF.

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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., FEBRUARY, 1915. No. 10.

WONDERFUL BUSINESS PROMISED FOR 1915.

From the Prospect of Production, Value and Sales, the Automobile Industry of the United States Will Surpass All Previous Records.

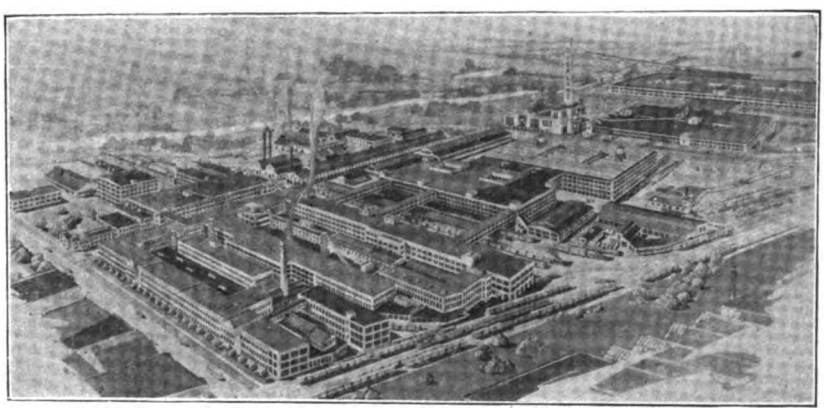
THE motor vehicle and accessory dealers and the garage men will profit from the prosperity that will undoubtedy be experienced throughout the country during 1915. Production of more cars will directly benefit both the automobile and the accessory dealers, and the garage and repair men will later realize substantial profits. That 1915 will be the most productive in the history of the industry is evidenced by unmistakable figures. From the standpoint of the manufacturer, the production and value of cars, the domestic consumption and the total amount of investment will exceed any previous year. Estimate is made that the total number of pleasure and commercial cars produced will reach 750,000 in 1915, with value of approximately $700,000,000, and this will exceed the production number and valuation total yet of record.

During the closing months of 1914 the automobile industry was materially affected by many conditions, chief of which were: (1) The European war; (2) the admitted general business depression in this country, and (3) the stagnation of commercial affairs in the South as the result of the cessation of cotton buying abroad. While the financial conditions were threatening, business has largely adjusted itself, and there is no reason for apprehension that there will be material influence upon the automobile industry. Considering these factors in the order stated, it is seen that the European conflict has caused a cessation of pleasure car exports but, since the beginning of the war, the export of approximately 5000 commercial vehicles will more than make up the loss. War orders have kept the factories running day and night, and enabled the manufacturers to dispose of all surplus vehicles and turn them into cash at a time when cash was needed. Likewise, it has added to the army of workers in the export trade, while the domestic consumption will more than take care of itself.

The exceptional prosperity of the Middle West agricultural communities on account of the record crop values, and the establishment of the federal reserve, is rapidly relieving the financial stringency. Record crops and the favorable disposition of the farmer towards the motor car will provide means for domestic sales, and without a doubt 1915 will far exceed the past year in this respect. Over 50,000 of the 106,250 automobiles in Iowa and over 33 per cent. of the 53,161 machines in Wisconsin are owned by farmers. The era of good roads making that has followed the automobile has enabled the farmer to reduce the haulage cost of his products, with the result that larger profits have been realized by the tillers of the soil during the past few years. Just what this will mean to the automobile industry will be better appreciated when it is stated that there are 12,500,000 people engaged in agriculture in this country today.

Always first to relieve financial distress, the automobile trade came to the front in the South's cotton crisis, and the generous action of the motor car manufacturers in the "buy a bale" movement materially helped to alleviate conditions. This, together with the action of nearly every trade interest and individual effort, has carried the South over its critical period.

Added to this is the optimistic note throughout New England of the textile mills working full blast. The orders received from abroad are causing this industry to more than make up for the depression of 1914, and as the cotton industry constitutes the backbone of New England, it is evident that a new era of prosperity is due for this section also.



The Mammoth Willys-Overland Plant at Toledo, O., Where 75,000 Overlands Will Be Turned Out in 1915.

Never since its establishment in the latter years of the 19th century has the progress of the automobile industry received a setback. Each successive year sees larger production, larger investment in plant and equipment and, above all larger payrolls for the army of the workers that constitute its backbone.

Country's Greatest Industry.

Characterized today as the country's greatest asset, the automobile has become a necessity and has securely intrenched itself in the social and commercial life of the country. While the motor car industry proper has become the support of hundreds of thousands, it has carried an army of accessory and supply industries with it that are successfully and soundly capitalized into the billions. The 1,808,441 automobiles in the United States, valued at approximately $2,000,000,000, turned $11,925,245 into the coffers of the various state treasury departments during 1914. These automobiles caused 9,000,000 tires to be produced, valued at $300,000,000, and this alone gave work to thousands, besides making a profit and giving additional employment in the shops of the 15,500 dealers. Likewise, the 13,630 garages, 1280 repair shops and the 680 supply houses were carried on the flood of the automobile prosperity, and some 200,000 clocks are now being turned out for use in automobiles, not to mention the leather concerns who are supplying the hides of millions of cattle for use in motor car manufacture. A constant payroll, including over 250,000 men,

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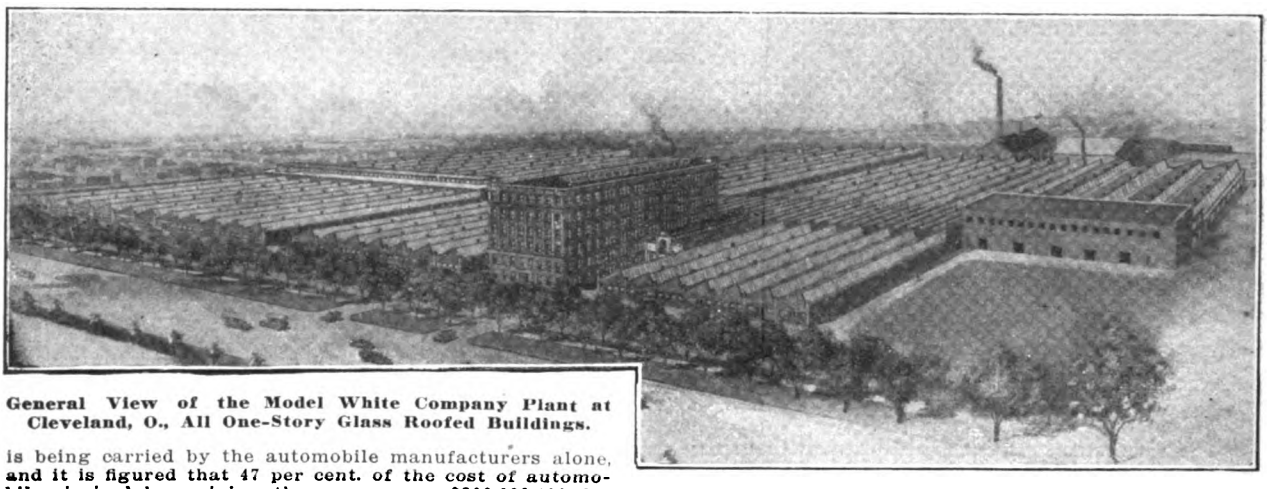


General View of the Model White Company Plant at Cleveland, O., All One-Story Glass Roofed Buildings.

is being carried by the automobile manufacturers alone, and it is figured that 47 per cent. of the cost of automobiles is in labor, giving these men over $300,000,000 for 1915.

From the outline given above it is seen that financially the United States is righting itself and the market for automobiles is receiving an impetus as the result. Figures convincingly tell the story of the way in which the automobile has become a leading factor in American life. A brief summary of the growth of the industry since 1900 shows:

	1914	1910	1900
Number of manufacturers	450	350	15
Production of cars	515,000	130,000	4,000
Value of cars	$485,000,000	$250,000,000	$5,000,000
Domestic consumption	450,000,000	238,800,000	4,850,000
Exports of cars	33,000,000	11,200,000	150,000

Another striking example that is graphically denoted in figures may be seen from the following comparison, showing how American manufacturers have climbed from $5,502,214 exports in 1907 to $33,198,806 in 1914.

	Exports of Cars	Imports of Cars
1907	$5,502,241	$4,842,279
1908	5,277,847	2,991,039
1909	5,992,200	3,679,134
1910	11,190,220	3,837,084
1911	15,509,229	2,250,759
1912	25,657,294	2,438,325
1913	31,253,533	2,023,207
1914	33,198,806	1,432,576

This wonderful record is undoubtedly due to the development of the low-priced car in America. A steady decline in the average price is one of the feature accomplishments of the American industry, which has been made possible by the wonderful quantity production. The price of the average car is placed at about $980 today, as compared with $2130 in 1907, and at the present time more than 50 per cent. of the cars produced sell for less than $700.

What is perhaps the greatest optimistic note of 1915, is the confidence that the public is placing in the automobile industry, i. e., speaking from the financial standpoint as well as that of buying. The automobile consolidations that have been formed are paying large dividends and are firmly intrenched in the financial world, having the highest standing and best of rating. An analysis of the terms and conditions underlying the securities bring forth some interesting results, and such that cause investors to give every consideration to these investments.

Growth of the Ford Company.

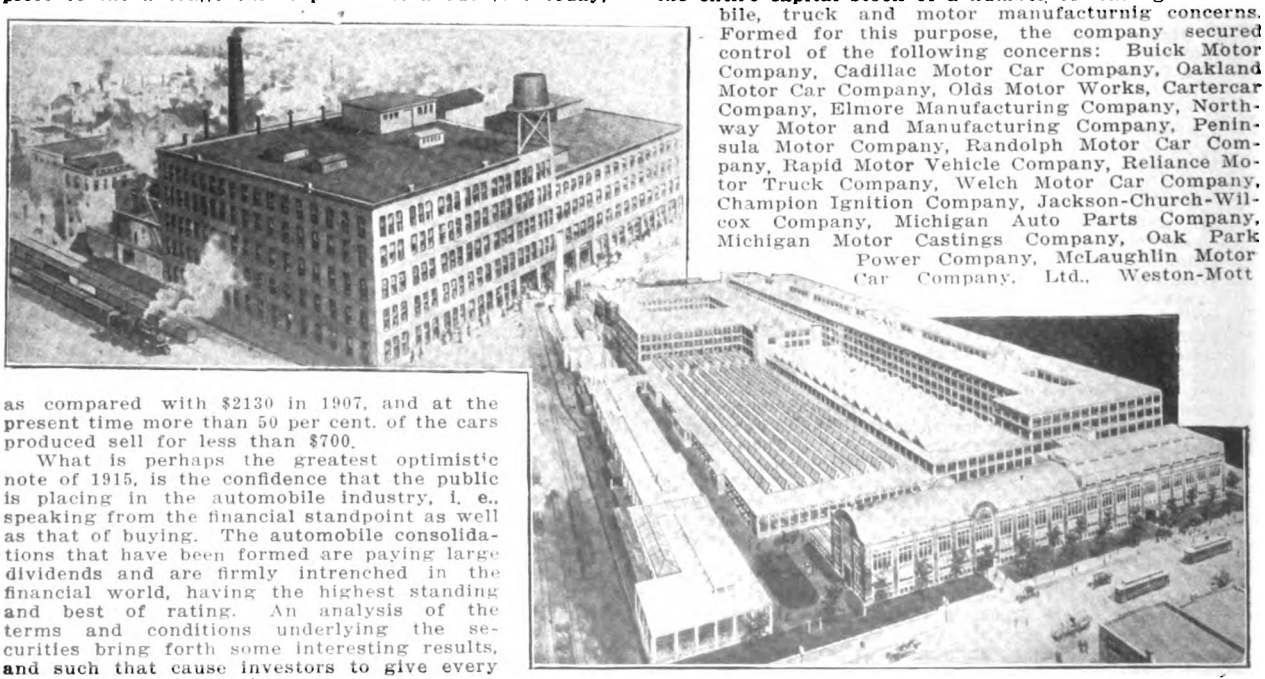
Without a doubt the greatest example of industrial honesty in the history of the world is being set by the Ford Motor Company, Detroit, Mich. Giving a dollar-for-dollar value, and maintaining working conditions that was a dream of Bellamy 25 years ago, the eyes of the whole world are focussed on Henry Ford. Starting June 16, 1903, with $100,000 capital, 311 employees, a factory space of a trifle over a quarter of an acre, and an output of 1708 cars for the first year, the Ford Company has climbed to dizzy heights. But throughout the years of wonderful production, this concern has shunned over-capitalization, and today it holds a place in the financial world that undoubtedly has never been equalled by any other compnay in any industry.

With a total capitalization of $2,000,000, it earned a gross of between $80,0000,000 and $90,000,000 last year, of which $25,000,000 was surplus. The company's output for 1915 will be in excess of 300,000 cars, and the present capacity of the plant is approximately 2000 cars a day, or 600,000 a year. The Ford factory, Ford, Ont., Canada, has a capacity of 35,000 cars annually. This company is capitalized at $1,000,000 and its stock is quoted at $450 a share. The Ford plant at Manchester, England, contributes another 15,000 cars to the annual output. Mr. Ford pays a minimum wage of $5 a day and divides $10,000,000 annually among his employees, "not in the sense of a gift, but because they earn it".

Earnings of the General Motors Company.

With earnings of $170,977,223 for the past two years, the General Motors Company, New York City, may be termed a huge success in every respect. For 1913 its gross was $85,603,920, and for 1914 it showed a total earning capacity of $85,373,303. The decrease was due, of course, to the general disturbed financial conditions, but despite this the company increased its working capital over $1,000,000, having $24,331,333 for this purpose.

By way of explanation it should be pointed out that the General Motors is a holding company, having acquired the entire capital stock of a number of leading automobile, truck and motor manufacturnig concerns. Formed for this purpose, the company secured control of the following concerns: Buick Motor Company, Cadillac Motor Car Company, Oakland Motor Car Company, Olds Motor Works, Cartercar Company, Elmore Manufacturing Company, Northway Motor and Manufacturing Company, Peninsula Motor Company, Randolph Motor Car Company, Rapid Motor Vehicle Company, Reliance Motor Truck Company, Welch Motor Car Company, Champion Ignition Company, Jackson-Church-Wilcox Company, Michigan Auto Parts Company, Michigan Motor Castings Company, Oak Park Power Company, McLaughlin Motor Car Company, Ltd., Weston-Mott



In the Upper Photograph the Factory Where the First Pierce-Arrow Cars Were Constructed Is Shown, and in the Lower Picture the Present Plant of That Company Is to be Seen.

(Continued on Page 41.)

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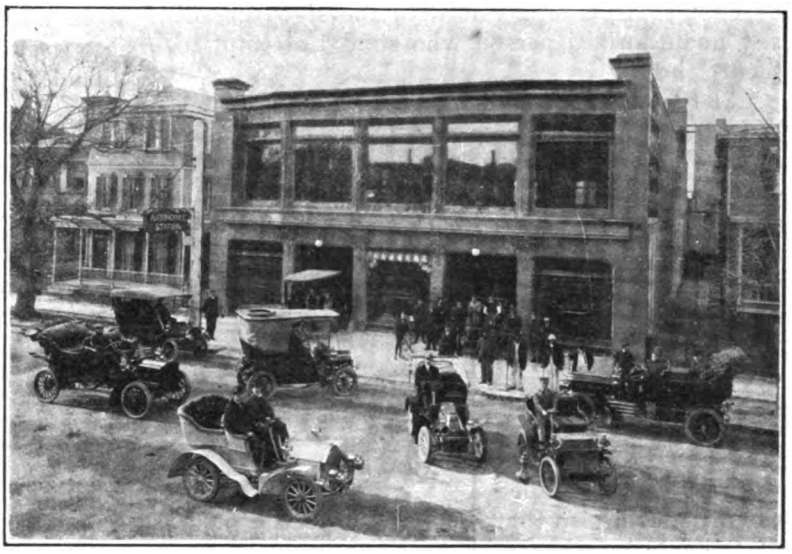
GARAGE ECONOMIES FROM ACCOUNTING.

Record System Developed for the General Service Station of the Atlantic Automobile Company, Atlantic City, N. J., Which Has an Established Local Patronage and Does a Large Business with Transients.

TO INSURE success in operating a garage or repair shop, as in any other business, it is of the utmost importance that it be conducted on strictly systematic and business-like principles. By developing or adopting a suitable system, by which it becomes an easy and simple matter to keep a check on all receipts and expenditures, there is no doubt that the average garage or repair shop business can be made to yield a substantial profit. But it is necessary that careful attention be given to even minute details, so that any leak, however small, may be promptly discovered and effectually remedied, and a workable system, strictly adhered to, should prove of invaluable assistance. It should be of such a nature, moreover, as to impress the patron with the idea that his interests are being protected to the fullest possible extent, and his needs properly attended to. There should not be too much red tape to mystify or antagonize the customer, but it should be so simple that he may readily apprehend the details of that part with which he is required to come in touch.

A business which presents a number of interesting features, and to a large extent exemplifies the foregoing principles, is that conducted as the Atlantic Automobile Company, Atlantic City, N. J., by F. A. Brodhead, G. F. Currie and G. W. Meredith, who have been in the garage field for a number of years and which, by close study of the needs of its patrons has built up a service which has afforded splendid satisfaction.



Front View of the Atlantic Automobile Company, Atlantic City, N. J.

The garage proper is situated on North Carolina avenue, between Atlantic and Pacific avenues, and has a frontage of 65 feet and a depth of 150 feet, containing 19,500 square feet of floor space. The building was designed and built especially for the company and is constructed along the most up-to-date lines. It was the first reinforced steel and concrete building erected in that city. The garage is lighted throughout by electricity, is heated by hot water and is equipped with an air compressor, the company maintaining its own plant for operating these.

In the rear of the garage are two wash paves, on each of which two cars may be washed at a time, affording quick service. An elevator of four tons' capacity connects with the second floor. Since the garage is open day and night, it is necessary to have competent help in attendance at all hours and only capable men are employed. The garage is open every day in the year. One man is employed solely for the purpose of cleaning the floor of the garage, as the company has found that a clean garage makes a good impression. As soon as any oil or dirt collects under a car it is promptly removed and a drip pan placed to receive whatever oil may afterward drip. An idea of the plan adopted for handling its business will be gained from the following:

As a car enters the garage it is tagged with a manila tag, shown at Fig. 1, which measures 6¼ by 3¼ inches. This tag is perforated, dividing it in three sections. In the upper part is entered a serial number, the date, whether the car is to be washed and polished, also what other work may be found necessary. The middle portion of this tag bears the same serial number, together with the date, the owner's name and address, the make of car, car number, and the exact number of lamps and spare tires carried on the machine. Notation is also made if the car is to be washed and polished. The lower part has the same serial number and the make of car as well as the registration number of the machine. This tag is made out by the man in charge of the floor with the exception that the name and address is filled in by the owner of the car. The string end of this tag is tied to the car, the middle part is sent to the office to be filed and from which the patron's bill is made out, and the small check at the bottom of the tag is given to the customer as a receipt for his car, it being necessary for the owner to present this receipt in order to secure his car. It

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Atlantic Automobile Company

Atlantic City, N. J.

F. A. Brodhead, - - Manager.

CHARGE SLIP

Date.....Tank No.....

Car.....No. .....

Owner .....

Gas. Gal.....Oil qts.....

Supplies .....

.....

.....

.....

1243-36

.....

Filed by.....

Rec'd by.....

TO CORRECT ERROR BRING THIS SLIP.

Fig. 4—Charge Slip from Which the Customer's Account Is Rendered; This Is Made Out in Duplicate Form.

is further required that the owner sign his name on the tag, so that the garage management will be enabled to compare it with the signature of any unauthorized person who should attempt to secure the car.

At Fig. 4 is shown the daily charge slip which is made out in duplicate and printed on paper, five by 3½ inches. Spaces are reserved for the date, tank number, make and number of the car, and also the name of the owner. Under the double rule is entered the quantity of gasoline and oil that has been used and also the other supplies. The amount is carried out at the extreme right and totalled. At the bottom of this record spaces are reserved for the signatures of the persons who filled the order and also that of the person who received it. From these charge slips the customer's account for supplies, etc., is rendered. The duplicate record is given to the customer at the time of purchase, while the original is filed in the office for future reference. In case of a transient patron the bill is paid and receipted. The method of keeping track of supplies, oil and gasoline for a regular customer is very simple and effective, as the owner can at once see what material has been used by referring to the duplicate charge slip and be assured that he is not paying for goods used on another's car.

The company's method of keeping a check on gasoline is also very simple and effective. There are two underground tanks of 600 and 1000 gallons capacity, numbered respectively 3 and 4. The pumps for these tanks are always locked and the keys kept in the office. Two wheel tanks numbered 1 and 2 are used on the floor of the garage. To illustrate the method followed, 500 gallons of gasoline is put in the 600-gallon tank, number 3, upon receipt of which the tank is charged with that amount on the records. The wheel tanks used on the floor of the garage are always kept filled, it being the duty of the foreman to see that this is done. As gasoline is required from the large tanks to fill the floor tanks, the foreman is required to fill out the charge slip seen at Fig. 4, with the date, the number of the reserve tank from which he will draw and the quantity of gasoline taken out. He signs the slip which is sent to the office, which in turn is filed in number 3 file, corresponding with the number of the reserve tank from which the gasoline was taken. He is then given key number 3, which will give him access to the tank of that number, from which he takes out 50 gallons and puts it into the wheel tank number 1. When this is completed he must immediately return the key to the office. The customer's needs are then supplied and the charge for gasoline entered on the same charge slip which is sent to the office for reference. The charge slip must always show the number of the tank from which the gasoline was drawn. As soon as the number 1 tank is empty and it is necessary to refill it, the foreman again

WASHED
POLISHED
TOTAL

Fig 2.

Atlantic Automobile Co.

DAILY CAR REPORT DATE..... ATLANTIC CITY, N. J.

MAKE OF CAR	N. J. No.	WASH	POLISH	MAKE OF CAR	N. J. No.	WASH	POLISH
1 A				5			
2				6			
3				1 F			
4				2			
5				3			
1 B				4			
2 D				5 C			
2				1 L			
3				2			
4				3			
5				4			
1 E				5			
2				6			
3				7			
4							
				(OVER)			

Fig. 2—Daily Car Report, Which Is Arranged Alphabetically, Showing All the Makes of Cars in the Garage.

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fills out the charge or requisition slip and hands it into the office. It is then ascertained whether the previous 50 gallons has been sold as shown by the slips on file. Should the slips total less than 50 gallons an explanation is at once demanded. If gasoline is required for any other purpose besides retail sale, the man in charge fills out the charge slip in the same manner and denotes for what purpose it has been used. This quantity is charged to the running expenses of the company. The requisition slips from number 3 reserve tank are credited to that tank and by adding the totals it may be easily ascertained whether the reserve tank is getting low. The wheel tanks also have a register, which records the quantity of gasoline taken out each time and any discrepancy in the charge slips is readily detected. However, it is very rarely that this occurs, as the method is simple and easy to follow.

The daily car report sheet is shown at Fig. 2, printed on linen ledger, 13 by nine inches. In the upper right hand corner of this form is seen the number of cars washed and polished and also the date. It is the duty of the night foreman to make out this report and all cars in the garage are reported on this sheet, and whether any work has been done upon them. Spaces are reserved for the name of the car, which are arranged alphabetically and both sides of the report sheet are used. A has five spaces, B, six; C, 16; D, five; E, six; F, four; G, two; H, 10; I, two; J, two; K, six; L, nine; M, 10; N, two; O, six; P, 25; Q, two; R, four; S, 11; T, three; U, two; V, two; W, three; X, two; Y, two, and Z, two. The foreman must sign this report and as every car is accounted for and in its exact place, the management is able to see if all patrons are getting proper attention. The name of the car, the license number and, finally, the work that has been done upon it are entered. This report must check up with the car checks turned in during the day. These reports are filed in the office and arranged according to the day of the month, each month being kept separate, and from them the regular patrons' statement for washing and polishing is made out.

The patron's bill, illustrated at Fig. 3, shows the make of car, the state license number, and when the car was received at the garage. Under the double rule is a blank space for every day in the month properly ruled, with spaces for the charge of storage, gasoline, oils and the amount charged for washing and polishing. Under the heading of "Sundries" is entered the amount of supplies, etc., that have been used and the date on which these goods were sold. These items are made out from the charge slips, one of which, the duplicate, is already in the possession of the patron, and he is able to verify his account by referring to this duplicate. At the extreme right is the total amount of the bill. This statement is also made out in duplicate form and is presented at the beginning of the month. When the bill is rendered it is expected by the garage management that it will be promptly paid, as the margin of profit in the garage field does not allow the company to carry only desirable and prompt paying customers. All work is of the very best and articles are sold at the lowest prices consistent with the prevailing market prices. This record is also printed on bonded stock and measures 11 by 8½ inches. On the reverse side of this statement is a map of the State of New Jersey, showing the good roads, also giving the distance in miles from Atlantic City to all of the principal cities of that state. Marginal notes are also given of the street directions in the chief cities.

Bell Phone 750 "WE TREAT YOU RIGHT" Coast Phone 1337

Fig3. **ATLANTIC AUTOMOBILE CO.**

12 and 14 S. North Carolina Ave., Atlantic City, N. J.

F. A. BRODHEAD, Gen. Mgr. **GARAGE** GEO. P. CURRIE, Pres. GEO. W. MEREDITH, Sec. Treas.

Sold to ..... *Address* .....

Owner of ..... *Car N. J. No.* ..... *Arrival* .....

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Storage																	
Gas. Gallon																	
Oil Quarts																	
Wash and Polish																	

Date	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		Total
Storage																	
Gas. Gallon																	
Oil Quarts																	
Wash and Polish																	

SUNDRIES

Amount Forward

Date		$	Cts.	Date	

Bill Rendered

Fig. 3—Monthly Statement of the Atlantic Automobile Company, Showing Method of Rendering an Account.

Tires are a very important feature at the Atlantic Automobile Company. All incoming tires are tagged with a duplicate tag, bearing space for the customer's name and address. Other spaces are filled in with the size, make, serial number and date of receipt from the factory. When the tires are sold the duplicate portion of the tag is filled in with the customer's name and

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address and date of sale, and this form is put on file in the office for future reference. The original tag is kept in the stock room, notifying the stock clerk of the quantity of tires sold, and also giving the correct sizes, etc., which simplifies matters in reordering tires.

Lockers are provided in the garage for chauffeurs who desire to have access to their robes and wearing apparel, checks being used for same, as the garage management assumes no responsibility for articles left in the cars when being washed and polished. In these lockers, different parts of the car, such as batteries, spare tires, etc., may also be checked, and this precaution has been found of great satisfaction to both patrons and

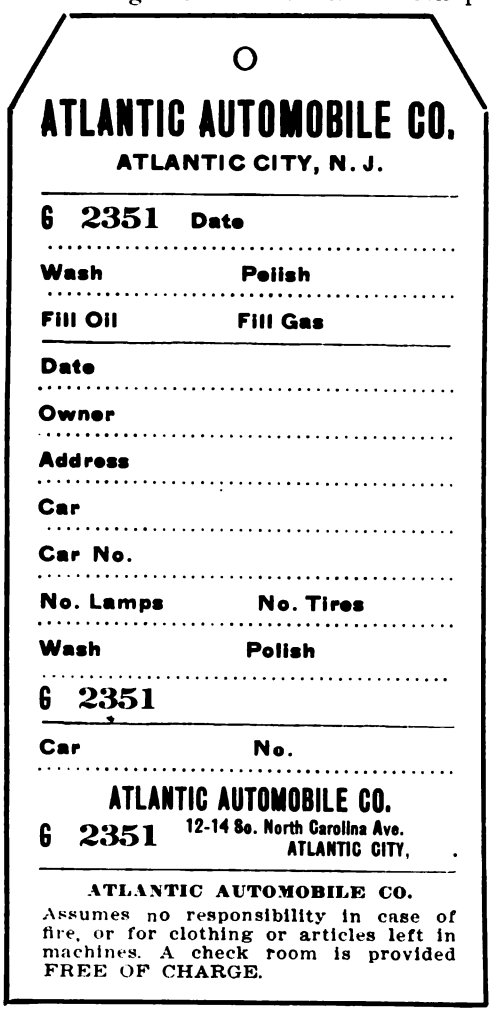

Fig. 1—Showing the Method of Taking Care of Cars as they Enter the Garage; Upper Portion Is Tied to the Car; Middle Section Is Sent to the Office and the Lower Part Is Given the Customer, Which Is Presented to Secure His Car.

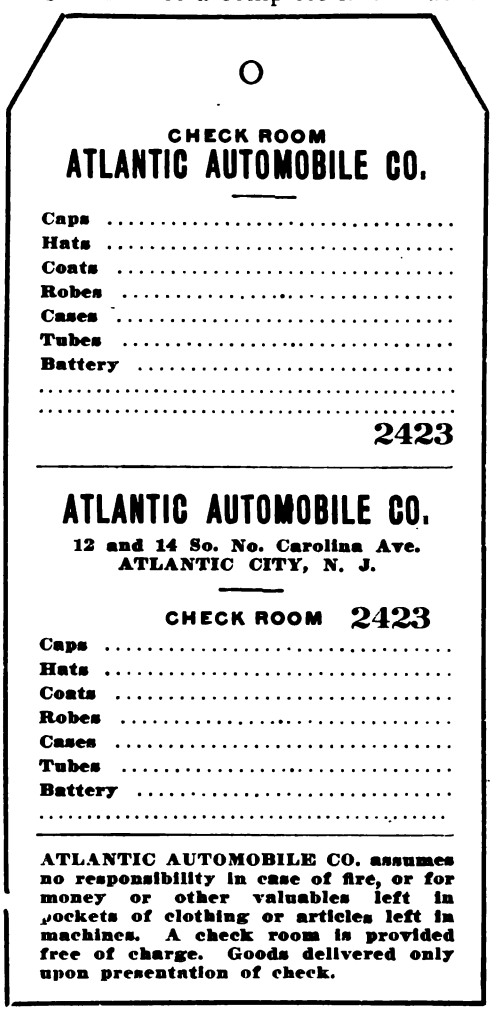

Fig. 5—Check Room Tag for Chauffeurs or Owners to Check Wearing Apparel or Parts of the Car—Upper Half Is Put in the Locker and Lower Half Is Given to the Chauffeur or Owner of the Car.

garage. The check room tag is shown at Fig. 5, which is printed on manila stock, and measures 5½ by three inches. It is divided by a perforated line through the centre. The upper half is put into the locker, together with a full description of the goods placed there, and the lower half given the chauffeur, who cannot secure the articles without presenting the check. These tags bear a serial number, that on the upper half coinciding with that on the lower portion.

The store of the Atlantic Automobile Company is situated in front of the main building and a complete line of automobile accessories and supplies are carried for all makes of cars. Under the ground, outside of the building, are placed the two reserve gasoline tanks of 1600 gallons capacity. Oil is kept in a separate room and is fitted with tanks for the different grades of lubricants, this room being located in the store of the company. As oil is required for work upon the cars, it is passed out from the store to the garage by the person in charge.

The Atlantic Automobile Company states that it owes its success to the careful study of the needs of its patrons, and promptness and courtesy in attending to them, and to the carrying in stock of a complete line of accessories and supplies for all makes of automobiles.

The accommodations are ample for a considerable number of cars without crowding and the facilities are adequate for the care of all cars both regular and transient.

A. R. Mosler & Co., New York City, makers of the well known Spit Fire, Vesuvius and Superior spark plugs, has published a book containing the Mother Goose rhymes in a new way. These are made to do the duty of advertising the Mosler products, and the rhymes are illustrated throughout. In addition to this, the 24-page book contains a complete list of American pleasure cars with spark plug sizes, also the proper Mosler plugs to use on them.

In addition, the Mosler Company has issued a chart containing the names of every car, commercial or pleasure, manufactured, and the size of the spark plug to use in connection with it. Motorcycles are also included in the list. The book is well worth the car owner's time and the chart will be sent to dealers or garage men who ask for it. At the top of the chart is a series of pictures showing the complete line of Mosler plugs. These plugs are printed in silver, gold and black and the Spit Fire plug has its red card, guaranteeing its platinum point.

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PERSONAL NEWS OF THE INDUSTRY.

John N. Willys, Toledo, O., president of the Willys-Overland Company, at present is in California. He will spend several months on the Coast.

Herbert A. Githens, Milwaukee, Wis., has gone to Jamaica for his health. He is the vice president and sales manager of the Federal Rubber Manufacturing Company.

John N. Willys, President of the Willys-Overland Company.

B. W. Collins, Muskegon, Mich., has become associated with the Campbell, Wyant & Cannon Foundry Company. He was formerly connected with the Lozier Motor Company, Detroit.

Edgar E. Muller, Cleveland, O., is now associated with the Cleveland Varnish Company as territorial representative, having resigned from the Yuster Axle Company as assistant general manager.

C. H. Martin, Springfield, Mass., is developing a caterpillar tractor of his own design. He is well known to the industry, especially as the designer of the Martin tractor.

W. E. Stalnaker, Chicago, Ill., has been elected vice president of the Motor Car Sales Company. He was for a number of years in charge of the sale of Premier cars in that city.

John Guy Monihan, Indianapolis, Ind., is now vice president and general manager of the Marion Motor Car Company. He was for a number of years associated with the advertising and sales department of the Premier Motor Car Company and later became sales manager of the Cole Motor Car Company.

W. L. Burgess, Cincinnati, O., has resigned as sales manager of the Enger Motor Car Company.

Garnet C. Brown, Detroit, Mich., formerly with the Buffalo Electric Vehicle Company, Buffalo, N. Y., has joined the engineering staff of the Packard Motor Car Company.

John H. Basinger, Jamestown, N. Y., has accepted a position as mechanical engineer with the Gurney Ball Bearing Company. He was formerly connected in the same capacity with the Willys-Overland Company, Toledo, O.

Charles M. Hall, Reading, Penn., has severed his connection with the Parrish Manufacturing Company. He represented that company in Detroit and the West.

H. H. Kneeper, Detroit, Mich., has become affiliated with the National Electric Starter Company. He was formerly a special representative of factory equipment for the H. W. Johns-Manville Company.

Walter Schimpf, New York City, has been appointed manager of the service station of the Saxon Motor Car Company. He was formerly engineer of the E. R. Thomas Motor Car Company.

Frank B. Willis, Detroit, Mich., formerly supervisor of the sales for the Lozier Motor Company, has joined the sales staff of the Chalmers Motor Company.

J. E. Schneider, Troy, O., has become identified with the Troy Carriage Sunshade Company as purchasing agent. He was secretary-treasurer and purchasing agent for the Speedwell Motor Car Company previous to accepting a position with the former company.

Myron Townsend, Detroit, Mich., has severed his connection with the Timken-Detroit Axle Company, to become associated with the publication department of the H. E. Lesan Advertising Agency. He was the editor and copy writer of the house magazine issued by the Timken Company.

John V. Move, Detroit, Mich., has become assistant sales manager of the Kelly-Springfield Tire Company. He was formerly connected with the Goodyear Tire and Rubber Company.

William Ellenback, Jr., Brooklyn, N. Y., who has been identified with the automobile tire trade for a number of years, recently severed his connection with the Ellenback Tire Company.

Lester I. Rice, Canton, O., who was formerly a travelling representative of the Republic Rubber Company, has become associated with the Knight Tire and Rubber Company. His headquarters will be at 216 West 51st street, New York City, where he will distribute Knight tires and tubes in eastern New York, New Jersey and western Connecticut.

L. E. Wood, New York City, is now associated with the Duplex Engine-Governor Company, Inc. He was formerly a road engineer for the Milwaukee Locomotive Manufacturing Company.

G. A. Toas, Detroit, Mich., has been appointed chief draftsman of the Maxwell Motor Company, Inc. He was designer for the Northway Motor and Manufacturing Company previous to his joining the Maxwell Company.

Fred Halligan, Boston, Mass., has charge of the used car department of the Chalmers Motor Company. He was formerly associated with the local branch of the Locomobile Company.

H. C. Faust, Buffalo, N. Y., has been appointed manager of the local branch of the H. C. Faust Company, manufacturer of the Panther spark plug. The company is located at 20 Goodrich street.

E. D. Smith, Detroit, Mich., has become manager of the local branch of the Reed Self-Adjusting Weather Strip Company of Wichita, Kan. Offices have been secured at 805 Chamber of Commerce building. He was until recently manager of the car order department of the Chalmers Motor Company.

Charles R. Talbot, Detroit, Mich., vice president of the National Bank of Commerce, has become president of the Holihan Manufacturing Company, succeeding J. A. Holihan. The company manufactures automobile radiators and other metal specialties for automobiles.

C. E. Poyer, Orange, N. J., has been appointed assistant general sales manager of the Edison Storage Battery Company. He has been with the Edison interests for about four years, having served first on the personal engineering staff of Mr. Edison in the development of a special application of the alkaline battery. He was later assistant advertising manager and for the past two years he has been manager of the house lighting department.

James A. Abeles, New York City, has become identified with the Motor Car Equipment Company, succeeding Carl Kaufman, who retires as general manager and treasurer of that company. Mr. Abeles will continue secretary of that company.

G. C. Brown, Detroit, Mich., is now in the engineering department of the Packard Motor Car Company. He was formerly associated with the Buffalo Electric Vehicle Company.

Channing Parsons, Alma, Mich., has been appointed superintendent of the Republic Motor Truck Company. He was formerly production engineer.

C. R. Green, Dayton, O., has accepted a position as chief engineer of the Mead Engine Company. He resigned as chief engineer of the Speedwell Motor Car Company.

K. W. Najder, Rockford, Ill., has been appointed representative for the Cotta Gear Company, with offices in Detroit at 805 Chamber of Commerce building.

G. V. Nelson, Kansas City, Mo., former advertising manager and second vice president of the Auto Parts Company, Chicago, will organize a new company in the former city, which will be known as the Kansas City Auto Parts Company. He will be president and general manager.

G. V. Nelson, President of the Kansas City Auto Parts Company, Kansas City, Mo.

J. Walter Drake, Detroit, Mich., has been appointed a member of the legislative committee of the National Automobile Chamber of Commerce. He is sales manager of the Hupp Motor Car Company.

W. A. Clare, Syracuse, N. Y., has joined the ranks of the Chase Motor Truck Company and will have charge of the dealers' aid and research department, which was established by H. T. Boulden, who recently became general sales manager of the Chase concern.

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James Ryan, Detroit, Mich., has become identified with the Detroit Lubricator Company, manufacturer of the Stewart carburetor. He has had 12 years' experience in the automobile and carburetor field as engineer and demonstrator, and is well known in the industry.

Charles L. Derrickson, General Representative of the McQuay-Norris Manufacturing Company.

Charles L. Derrickson, St. Louis, has been appointed general representative to travel the entire country by the McQuay-Norris Manufacturing Company, manufacturer of the Leak-Proof piston rings. He will work in conjunction with the numerous branch offices in the United States and Canada.

Henry G. Morris, Philadelphia, Penn., died recently at the age of 76. He was one of the pioneers of the electric automobile industry and was a mechanical engineer.

W. J. Drumpleman, Lansing, Mich., has been appointed general district manager of the Olds Motor Works. Previous to his connection with the Olds Company he was central district manager of the Lozier Motor Company.

H. D. MacIntyre, Boston, Mass., for some time with the Stutz Motor Car Company, resigned recently and has joined the sales staff of the Paige-Detroit Company.

W. S. Jameson, Boston, Mass., has been appointed manager of the Rauch & Lang branch, succeeding Mr. Boulden, resigned.

Frederick H. Adams, Boston, Mass., one of the pioneers in the motor truck selling business, has joined the sales force of the Reed-Crockett Company.

H. L. McClaren, Racine, Wis., has been re-elected president and general manager of the Mitchell-Lewis Motor Company.

Joseph Galamb, Detroit, Mich., has joined the ranks of the benedicts. He was married recently to Miss Dorothy A. Beckman of Toledo. He is a member of the engineering department of the Ford Motor Company. Henry Ford, president of the company, was present at the ceremony.

Orrel A. Parker, Cleveland, O., is now manager of the wheel department of the Hydraulic Pressed Steel Company. He was for a number of years manager of the Newmastic Company of New York City, and still retains his interests in the Newmastic Company.

R. B. Parrott, Indianapolis, Ind., recently bought an interest in the Oakes Pressed Steel Company and is actively engaged with the company having charge of the buying. He is well known to the industry, having been associated with the automobile business for a number of years.

Frank Witt, Chicago, Ill., has been appointed wholesale and retail sales manager of the Farrington Automobile Company, distributor of the Briggs-Detroiter car. He was one time associated with the Studebaker racing team.

Arthur C. Warren, New York City, is now a member of the sales staff of the Whiting Motor Company, the representative of the Mercer car.

G. W. Squires, Indianapolis, Ind., has been appointed manager of the retail sales department of the local branch of the Oakland Motor Car Company.

C. Louis Allen, Boston, Mass., general sales manager of the Pyrene Manufacturing Company, has gone to the Pacific Coast for a business trip.

C. A. Radcliffe, Louisville, Ky., has been appointed manager of the local branch of the Buick Motor Company, succeeding M. A. MacDonell, who has been made district manager over the Kentucky agencies, also of a part of the State of Indiana.

Berton J. Steelman, Hammond, Ind., has become vice president and sales manager of the Hammond Malleable Iron Company. He was formerly vice president of the Inland Steel Castings Company, Terre Haute, Ind.

R. K. Roberts, San Francisco, Cal., manager of the Oakland Motor Car Company, is on a business trip through the Northwest. He reports an increasing business in that section.

E. F. Bunker, Cleveland, O., has resigned his position with the Perfection Spring Company.

H. L. Connell, Milwaukee, Wis., for the past two years secretary and treasurer of the Detroit section of the Society of Automobile Engineers at Detroit, Mich., will establish a motor car testing laboratory in the former city and will also be a member of the engineering faculty of the Central Continuation school. He was formerly connected with the experimental and truck engineering departments of the Packard Motor Car Company and the Commerce Motor Car Company.

G. A. Sabourin, Tacoma, Wash., has become manager of the newly established factory branch of General Motors Truck Company.

Ralph Estep, New York City, formerly with the Packard Motor Car Company, Detroit, Mich., has become affiliated with the Cheltenham Advertising Agency.

Bruce Brier, Seattle, Wash., has become associated with the General Motors Truck Company in the capacity of sales manager.

Ginder Abbott, New Orleans, La., has been elected a member of the board of directors of the Association of Commerce. He is a member of the Abbott Automobile Company.

Roy W. Anselm, St. Louis, Mo., is now associated with the Kardell Motor Car Company, distributor of the Reo and Chevrolet cars. He was formerly president and general manager of the Anselm-Ganahl Motor Car Company.

A. L. Fussey, Detroit, Mich., was re-elected president of the Detroit Brass Works at the annual meeting of the stockholders held recently.

Valentine Jobst, Peoria, Ill., was elected president of the Peoria Automobile Club. The other officers elected are as follows: Vice president, S. L. Nelson; secretary, W. A. Bunn; treasurer, C. E. Ulrich.

G. F. Burmeister, Rock Island, Ill., was elected president of the Tri-City Auto Dealers' Association. The following officers were elected: Vice president, P. C. Peterson; secretary-treasurer, Ross Beede.

Charles S. Pope, Detroit, Mich., has become a member of the engineering department of the Hupp Motor Car Company.

William Cairns, Cleveland, O., has resigned as general manager of the Parish & Bingham Company, manufacturer of automobile frames and metal stampings.

L. J. Ollier, Detroit, Mich., sales manager of the Studebaker Corporation, has fully recovered from his recent illness and is calling on the Studebaker dealers in southern California.

E. O. Hoopengarner, East Palestine, O., has become identified with the McGraw Tire and Rubber Company, in charge of the New York City territory. He was formerly associated with the Swinehart Tire and Rubber Company in that city.

Charles E. Stone has resigned as manager of the Motor Truck Club of America.

W. J. Pedler, Portland, Ore., who for some time past has been assistant general manager of J. W. Leavitt & Co., distributor of the Overland car on the Pacific Coast, has become northwestern manager of that company. He will have jurisdiction of the branches at Seattle and Spokane, Wash., and will make his headquarters in Portland.

E. W. Spencer, Detroit, Mich., is the new manager of the sales follow up and sales promotion division of the Studebaker Corporation. He makes his headquarters at the factory. He was formerly superintendent of sales in the eastern district.

Walter E. Flanders, President of the Maxwell Motor Company, Detroit, Mich.

Walter E. Flanders, Detroit, president of the Maxwell Motor Company, Inc., announces that the company's sales for the past six months have been far beyond all expectations. Production figures are very satisfactory and a prosperous year is fully expected.

G. W. Tiffany, Detroit, Mich., has become affiliated with the Gibney Tire and Rubber Company. The company specializes in truck tires. He was formerly associated with the truck tire department of Goodyear Tire and Rubber Company.

D. W. Chamberlain, Cleveland, O., has been appointed local branch manager of the Kelly-Springfield Tire Company.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period for purposes of comparison. Antimony is steadily rising, having gone up 2½ cents for last month and 4½ cents for this month. Both coppers advanced, electrolytic going up $1 and lake $1.02½. Lead rose 10 cents a hundred pounds; tin soared to $3.25 a hundred pounds over last month's figures. Pennsylvania crude dropped 10 cents on the barrel; rapeseed, refined, advanced four cents, and Menhaden brown fell four cents on the barrel. Cottonseed oil gained $1.70 over last month. Rubber showed a tendency downward and fell five cents for the month.

	Jan. 18		Jan. 25		Feb. 1		Feb. 8			
	High	Low	High	Low	High	Low	High	Low	Jan. 15	Feb. 15
Antimony	16	15	17	16	17	17	17	17	14½	18
Iron, fdy., S., ton	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50
Iron, fdy., N., ton	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50
Iron, Bessemer, ton	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Steel, Bessemer, ton	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50
Steel, open hearth, ton	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50
Beams and chan., 100 lbs	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
Copper, elec., 100 lbs	14.00	13.70	14.62½	14.12½	14.62½	14.50	14.50	14.37½	13.50	14.50
Copper, lake, 100 lbs	13.87½	13.75	14.62½	14.37½	14.75	14.62½	14.62½	14.62½	13.60	14.62½
Lead, 100 lbs	3.70	3.67½	3.80	3.67½	3.80	3.80	3.80	3.80	3.70	3.80
Tin, 100 lbs	35.00	33.65	37.25	35.00	38.00	36.50	37.00	36.00	33.00	36.25
Petroleum, Kan. cr., bbl	55	55	55	55	55	55	55	45	55	45
Petroleum, Penn. cr., bbl	1.50	1.50	1.55	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Linseed oil, raw	60	60	60	60	60	60	60	60	60	60
Rapeseed oil, refined	71	71	71	71	71	71	75	75	71	75
Lard oil, prime	90	90	90	90	90	90	92	90	90	92
Fish oil, Menhaden, br	41	41	41	41	41	41	41	41	38	41
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	21	21	21	21	21	21	21	21	21	21
Cottonseed oil, bbl	6.70	6.45	7.00	6.55	7.60	7.00	7.12	6.95	5.35	7.05
Silk, raw, Japan	3.70	3.67½	3.65	3.62½	3.57½	3.57½	3.52½	3.52½	..	3.52½
Silk, raw, Italy	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	..	3.90
Rubber, fine up-river Para	63	60	62	60	59	57½	58½	58	63	58
Tire, scrap	5	5	5	5	5	5	5	5	5	5

QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market, as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week. It will be noted that the market still continues to reveal a satisfactory situation:

	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
	Jan. 18		Jan. 25		Feb. 1		Feb. 8	
Ajab-Grieb, com	250	..	250	..	250	..	250	..
Ajax-Grieb, pfd	100	..	100	..	100	..	100	..
Aluminum Cast., pfd	95	100	95	100	95	100	95	100
Borne, Scrymser	260	275	265	280	260	270	255	260
Case, J. I., pfd	..	..	..	..	..	..	..	..
Chalmers Motor, com	..	96½	..	96	..	96	..	94
Chalmers Motor, pfd	..	93½	90	93½	90	93½	91	94
Electric Stor. Bat	..	..	48½	49½	..	..	47½	48½
Firestone Tire, com	365	370	370	376	370	375	370	375
Firestone Tire, pfd	109	111	109	111	109	111½	109	111
Garford Co., pfd	..	..	..	..	..	..	..	..
General Motors, com	90½	92	94	94¼	93½	94½	93½	94½
General Motors, pfd	94½	95½	95¼	95¾	95	95½	95½	95½
Goodrich, B. F., com	31⅝	31¾	31½	32	32⅞	33⅛	32¾	33
Goodrich, B. F., pfd	96	98	97	100	96½	97	96⅝	97
Goodyear Tire, com	194	196	194	196	193	196	190	194
Goodyear Tire, pfd	101	102	102	103	101¾	102½	101	102
Gray & Davis, Inc., pfd	..	..	..	..	..	..	..	..
International Motor, com	..	1	..	1	..	..	..	..
International Motor, pfd	4	10	..	10	..	..	..	..
Kelly-Springfield Tire, com	78	79	93	94	97	100	107	107½
Kelly-Springfield Tire, 1st pfd	79	80	82	83	82	83	83	..
Kelly-Springfield Tire, 2nd pfd	100	102	105	107	112	116	117	120
Maxwell Motor, com	18	19	16½	17½	17	17½	17¾	18¼
Maxwell Motor, 1st pfd	53½	54½	53	54	54	56	58¼	59¼
Maxwell Motor, 2nd pfd	21	22	21	21	20¼	21¼	22¼	22½
Miller Rubber, com	158	165	158	165	158	156	158	165
Miller Rubber, pfd	101	103	101	103	101	103	101	103
New Departure, com	..	120	..	120	..	..	117	122
New Departure, pfd	101	..	101	..	..	..	105	107
Packard Motor Car, com	..	100	..	100	..	100	..	100
Packard Motor Car, pfd	93	..	93	..	93	..	93	..
Peerless Motor Car, com	15	20	15	20	13	20	13	20
Peerless Motor Car, pfd	..	55	..	55	..	55	..	55
Pope Mfg. Co., com	..	..	..	..	..	..	..	..
Pope Mfg. Co., pfd	..	..	..	..	..	..	..	..
Portage Rub., com	30	36	30	36	30	36	30	36
Portage Rub., pfd	80	85	80	85	80	85	80	85
Reo Motor Car	25	26	25	25¾	24½	25	24½	25
Reo Motor Truck	11¼	12½	12	12¾	11½	12	11⅝	12¼
Splitdorf Electrical	..	..	..	..	69	71	..	..
Stewart-Warner, com	52½	53½	51	52½	48	50	49½	50½
Stewart-Warner, pfd	100	102	99	102	101	103	100½	103
Studebaker, com	43⅜	43¾	42	42½	46⅛	46½	47⅛	47⅝
Studebaker, pfd	96	98	93½	94½	95	96	95	96¼
Swinehart Tire	69	71	69	71	69	71	69	71
Texas Co	134	135	135	135½	133	135¼	132½	134
U. S. Rubber, com	57⅝	57⅞	57	58	57⅞	58⅛	57	57¼
U. S. Rubber, 1st pfd	102⅞	104	102⅝	103	103⅜	103¾	103¼	103½
Vacuum Oil	200	202	199	201	195	198	198	196
White Co., pfd	108	110	108	110	108	110	108	110
Willys-Overland, com	87	89	91½	92	90	91	96½	98½
Willys-Overland, pfd	93	95	93	95	93	95	95	97

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THE ACCESSORY AND GARAGE JOURNAL

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PROSPECT FOR 1915 BUSINESS.

That business will be good—in fact, unusually improved—as the year grows older, is a conviction established in the mind of every man who has given the subject thought. Conditions that were simply appalling when precipitated by the European war have been met and dealt with, and while volume of transactions may have contracted because of the limited buying, this lessened business was in part offset by the economies that were found practical. During the seven months since the beginning of the conflict in Europe the industrial and commercial interests of the United States have adjusted themselves to national and international conditions, and today no one will question the statement that American industry and commerce have been proven, and that no matter how long the period before peace is declared, business will continue to develop and improve.

When the facts relative to the commerce and trade of 1914 are carefully considered, one realizes that there was not the shrinkage of transactions or values that might be believed, and that the results following the opening of the war were not what were apprehended. The possibilities for the season that is now at hand are such as to justify the most conservative business man buying not only in considerable quantities, but with confidence that there will be demand largely in excess of what has been experienced in former years. This, of course, applies particularly to the motor vehicle and allied industries and trades.

During 1914 the number of automobile cars, wagons and trucks increased very largely—20 per cent. increase being a conservative estimate—and there will be not only the additional business that will come from the use of these machines, but there is every reason to believe that economic reasons will impel the buying of at least an equal number of machines, if not more, than were bought in 1915. This justifies the belief that the market for cars, trucks, accessories, supplies and equipment, will be larger than ever before, and that there will be unusual selling opportunities for standard productions.

The necessity of providing for this increased trade need hardly be impressed upon those who are engaged in business. Those who have established custom can expect that there will be very large buying within the next two months, and a continuance of patronage throughout the year.

The March edition of the Accessory and Garage Journal will be the most valuable to the trade that has ever been published. It will include features that will make it a trade necessity. The distribution will be in excess of 25,000 copies, which will reach every buying and selling interest, and the contents will be of a character that will impel attention. It will contain as one feature the complete specifications of all pleasure cars and wagons and trucks, both gasoline and electric, which were never before published in a single number of any publication, and in addition to these innumerable accessories, equipment and supplies will be described, illustrated and priced.

This information will make this number the most complete reference for the business man and for the buying motorist that has ever been published, and because it will be placed in the hands of those who will utilize it for the entire season it will have far greater value than the ordinary buyers' guide or business directory. Publicity in its pages will reach many times the number who can be reached through trade mailing lists, and the cost to the advertisers will be trifling when measured by the service.

The March edition of the Accessory and Garage Journal will be more useful to any motor vehicle trade interest than any series of information obtainable, because it will contain specialized data that can be instantly referred to, which will be up to the minute, absolutely accurate, and so presented that any fact desired can be learned almost at a glance. And in addition, the Accessory and Garage Journal has other qualities that recommend it to business men.

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NEW CONCERNS AND BUSINESS CHANGES.

GARAGES AND REPAIR SHOPS.

The Goldsmith & Fields Hardware Company, Dunkirk, N. Y., has opened a Ford garage at 381 Leopold street. C. T. Roberts is in charge.

L. F. Bertrau, Big Rapids, Mich., has opened an up-to-date garage.

Floyd H. Johnson, Mt. Pleasant, Mich., has opened a first-class garage and show room on West Broadway. He represents the Ford car.

Chase & Wheeler, Meriden, Conn., is the name of a new concern located on Hanover road. The garage has accommodation for 11 cars. A first-class repair shop will also be maintained.

The Litter Garage and Machine Works, Columbus, O., is the name of a new concern at 792 North High street. An up-to-date repair shop is also maintained.

Fred Miller, Clio, Mich., has opened an up-to-date repair shop for automobiles.

Roy Carroll, Richmond, Ind., has opened a garage in the Hunt building and represents a well known make of car.

Bowers & Son, Frankfort, Ind., has opened a modern garage. A line of automobile accessories is also carried.

T. H. Elkington, San Francisco, Cal., has opened a repair shop at 1135 Van Ness avenue. The company handles the Norfolk tubes and tires and a complete line of accessories.

H. F. Daniels, Seattle, Wash., has opened a co-operative repair shop at 1107 East Pike street, under the firm name of the Lions Auto Repair Shop.

The Auto Sales Company, Portland, Ind., has opened a garage on North Meriden street.

Walter R. Horning & Co., Cleveland, O., has opened a service station at 733-37 East 12th street. The firm specializes in the repair of electric starters, generators and storage batteries.

The Service Garage, Frankfort, Ind., is the name of a new company there. Stanley Lusader is the proprietor. The garage is fireproof, has 11,616 square feet of floor space, and is thoroughly equipped to do a machine and repair shop business. A paint shop and vulcanizing plant are included.

John M. Osmond, Seattle, Wash., formerly with the Mitchell, Lewis & Staver Company, has opened a service station at 1722 Broadway and will handle the Mitchell car.

Butzer Brothers, Lancaster, Penn., has opened new headquarters at 28 East Chestnut and South State streets. A first-class repair shop is maintained.

Webb & Rhose, Corning, N. Y., is a new concern operating an up-to-date garage on East Market street. The company is agent for Ford cars.

Grehan's Garage, Woodhaven, N. Y., has been opened at 1166 Jamaica avenue. It is thoroughly equipped.

George Kendall, Stevens Point, Wis., has established a repair shop at North Second street. Painting and trimming will also be specialized in.

Frank Lyon, Phoenix, Ariz., has opened a garage and repair shop at 227 East Adams street under the name of Lyon's Garage. He has been in the automobile repair business for over seven years.

J. D. McIntyre, Cambridge, Mass., has started business at 29 Green street, where he has opened an automobile repair shop. He was formerly connected with the Premier Motor Car Company, Boston.

The Pine Lake Garage, Boyne City, Mich., a new concern, opened recently in the old postoffice block. John Street and Loyal Newville are the owners.

Norman W. Gibbs, Cobb., Wis., and his brother have established a garage and will handle several lines of pleasure cars. The garage is modern throughout.

Charles R. Tomlin, Bridgeton, N. J., will open a garage in the Hitchner building.

W. G. Rosser, Georgetown, S. C., has opened a garage and repair shop which is modern throughout.

W. E. Ellis, Findlay, O., has opened a garage and repair shop at 225 North Main street. A complete line of repair and vulcanizing tools and machinery have been installed. Rebuilt cars will be a feature of the company's business.

The Central Garage, Hanover, Penn., has opened for business in the Melhorn building. H. M. Sterner is the owner.

W. W. Pass, Lancaster, N. H., has opened an up-to-date garage in the rear of the Lancaster house.

R. H. Erskine, Meriden, Conn., formerly with the Jones garage, has opened an up-to-date repair shop on Church street. He is thoroughly conversant with the automobile repair business.

The Awadawagam Motor Service Company, Grand Rapids, Wis., has opened a repair shop and accessory store under the management of Verne P. Rumsey.

N. H. Gerber, Monticello, Wis., will open a thoroughly equipped garage and repair shop.

The Deitsel & Gilbertson Garage, Whitewater, Wis., has opened its modernly equipped garage.

J. C. Atkins, Des Moines, Ia., has opened the Walnut Street Auto Repair and Supply Company, at 1012 Walnut street.

H. Storley, Eau Claire, Wis., has opened an up-to-date garage and repair shop.

M. H. Wood & Co., Jopling, Mo., has opened its new large modern garage on Wall street. The Chalmers car is handled.

S. M. Gabuey, Orange, Tex., will open a modern garage on Fifth street, which will be known as the Central Garage.

LeRoy B. Maloy, Waterbury, Conn., has entered the garage field.

M. J. Joyner, Jacksonville, Fla., has opened an automobile repair shop at 23 East Beaver street.

The Motor Inn, Mandan, N. D., a new firm, located in the Ronco building, at the former stand of the Massey Star garage, conducts an up-to-date repair shop. The Reo car is represented.

R. W. Stewart, Findlay, O., has opened for business at 531 West Hardin street. Two experienced repair men have been engaged to attend to repairs on all makes of cars.

The New Cadillac Company of Oklahoma, Tulsa, Okla., is the title of a concern beginning operations in that city, at 503 South Boulder street. A service station and general repair shop will be conducted at First and Denver streets.

The New Garage, Morris, Minn., was opened recently on Atlantic avenue under the management of Clifford A. Lee, who will operate it with the assistance of several experienced mechanics. An up-to-date garage and repair shop will be conducted and a first-class line of pleasure cars carried. The building is of concrete block construction without pillars or posts.

Hughes & Co., Johnstown, N. Y., is conducting an up-to-date garage on West Main street. W. H. Shepard and William E. Hughes are the owners.

The Reliable Garage Company, Mitchell, S. D., a new organization composed of H. R. Leonard and J. H. Mueller, has located at 217 First avenue, west, and will conduct a garage and repair shop and handle the Metz, Herff-Brooks and Cartercars.

J. W. Wozencraft, Cincinnati, O., has opened a first-class garage and repair shop at 326-28 West Seventh avenue, formerly occupied by the Winton agency.

E. W. Jones, Marquette, Mich., has opened a repair shop in the Superior garage on Spring street. Ford cars are also represented.

The Dassel Auto Company, Dassel, Minn., has opened a garage and repair shop in the Nels Rudberg building.

The Litchfield Automobile and Repair Company, Litchfield, Ill., was organized recently by A. G. Haeverle and H. W. Pass. The company will conduct a garage and repair shop and is located at 508-10 North State street. Arrangements are being made to handle the agency for one or two popular-priced cars.

RECENT TRANSFERS.

The Estes Garage, Warrensburg, Mo., has been purchased by J. S. Pollock. He is located at South Holden street. He will make many improvements.

Ludington & Reese, Hamilton, Ill., has sold its garage and equipment to Kopsicker & Wiley.

W. C. Robinson, Farmington, Mo., has bought the automobile repair shop of F. Schleicher.

J. W. Smith, Shelbina, Mo., has bought a half interest in the Swinney garage and the firm name will be the Swinney & Smith Garage.

The Universal Oxygen Company, Sheboygan, Wis., has purchased the business and shop of the Wisconsin Welding and Cutting Company, at 167 Barclay street, Milwaukee. The shop is to be enlarged at once. The former company produces welding and cutting apparatus and tanked gas for such plants.

Christian T. Christianson, Rice Lake, Wis., has purchased a half interest in the garage of C. J. Boortz. The firm name has been changed to Boortz & Christianson. New quarters have been opened on Marshall street in the Automatic Trip Carrier factory, where the facilities for a garage will be doubled.

F. H. Underhill & Sons, Maxwell, Ia., has purchased the machinery, repair department and the agency for Overland cars from Trout Brothers, proprietors of the Maxwell Automobile Company agency.

The Cameron Auto Company, Princeton, Mo., has sold to Richard Watson and George Harris the interests of George Groebe and J. S. Moore. The new company will have charge of all supplies and repair work. The business will continue under the name of the Cameron Auto Company.

J. W. Eggleson, Butler, Mo., has purchased the stock of cars and other property from McFarland & Sons, and has rented the garage for a term of years.

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A. J. Caltrider, Casey, Ia., has sold his garage to Warren Cline and Glen Brown, who will continue it under the name of the Casey Auto Company.

The McGivern Motor Company, Davenport, Ia., has purchased the business of the Wagner Motor Company and is now distributor for the Mitchell car in eastern Iowa.

Harold Barr, La Porte, Ind., has purchased the Coliseum garage on Michigan avenue.

Albert Stafrin, Utica, Neb., has sold his interest in the automobile business to his partner, Oscar Craige, who will conduct it alone.

Christopher Hansen, Bloomington, Neb., has sold his garage to W. F. Bogenhagen.

F. N. Dorland, Peru, Neb., has purchased the garage of H. E. Patterson.

Bert Woodside, Buffalo, N. Y., has purchased the garage business of Collins & Akres.

Roy Dickinson, Clio, Mich., has purchased the garage of Thomas Warren. Ford cars are carried.

Swenson & Rosholt, Iola, Wis., is the new name of the former Swenson garage, Robert Swenson having sold his interest to Jacob Rosholt. C. J. Swenson still remains in the firm. Overland, Ford and Case cars are represented.

L. W. Leib, Volga, S. D., has purchased the Brown garage. He is an up-to-date repair man.

Henry Blankfort, Grand Rapids, Mich., has become the owner of the former Willey garage and the business will hereafter be conducted as the Colonial Garage Company. It is located at Charles avenue and Wealthy street.

Daniel H. Thomas, Monroe, N. Y., has sold his interest in the Monroe Garage Company to Vernon Freer.

Fred McCammon, Hagerstown, Md., has purchased the Standard Vulcanizing Company at 5 North Locust street. He will make a number of improvements.

James A. Hayes, Union Springs, Ala., has purchased a half interest in the City Auto and Supply Company and the business will continue to be conducted under the same name. Repair work will be specialized in and a complete line of automobile accessories carried.

The William A. Waite Storage Corporation, New York City, has purchased the one-story garage at 1824 Webster avenue.

Clarence H. Werner, Rockport, Ind., has purchased the Rockport Garage and Supply Company. The new firm will be known as Werner's Garage. Mr. Werner was formerly associated with the De Mott garage, Huntington, Ind.

Dewitt & Robinson, Grand Rapids, Mich., has taken over the repair shop formerly occupied by Bouse & Sons, at 1835 Plainfield avenue.

The Auditorium Garage, Houston, Tex., has been taken over by Z. E. Schofield and C. H. Beard.

E. Blisner, St. Louis, Mo., has purchased the business of the Central Motor and Cycle Company at 3536 Lindell avenue, and will change the name to the Grand Lindell Motorcycle Company. The repair department has been remodelled. The company handles the Henderson car.

Boyd and Dayton Mahaffey, Corning, N. Y., has purchased the Daniel Kelley garage business at 105 East Market street. The company proposes to handle several makes of cars.

The Coffeyville Garage, Coffeyville, Kan., on East Eighth street, has been purchased by Jesse Sigsbee and Guy Bayless of the United States Garage Company on Spring street.

The Blowing Rock Auto Line, Lenoir, N. C., has been purchased by A. W. Dula. He is also owner of the Lenoir, Blowing Rock and Boone Auto line, and has consolidated under the name of the Blowing Rock line.

P. Barrett, Dolgeville, N. Y., has purchased the garage business of Smith & Lewis on West Albany street. James Barrett is also interested.

R. J. Hitt, Winston-Salem, N. C., has purchased an interest in the Auto Repair Company on North Trade street. He has been associated with the Montague garage for some time.

E. O. Leets, Mt. Pleasant, Ia., of the Harlan house, has purchased the business of the Davison Automobile Company at Burlington.

James M. Donohue, Niagara Falls, N. Y., who has been associated with the Power City Auto Company, at 312 Third street, has purchased the interest of his partner and will operate the business alone.

John F. Kedian, Brockton, Mass., has purchased the interest of Harold W. Austin in the Austin-Kedian Company at 38 West Elm street. The new owner will continue the business himself under the name of the Kedian Auto Supply Company.

Frank W. Elwell, Winner, S. D., has become owner of the Winner garage. He will conduct the business.

The Union Motor Company, Davenport, Ia., at 527 West Third street, has been purchased by John Bolte.

Sanderson & Little, New Lisbon, Wis., has sold its garage, auto livery and machine shop to Frank W. Bunker. G. M. Little has left the company.

The Lampan & Brown Garage, Edgerton, Wis., has been purchased by W. F. Mabbett and Herman Stark. The new owners are well known to the trade.

The Hub City Auto Company, Marshfield, Wis., has been purchased by John McDonald, he having bought his partner's interest.

The Aetna Garage, Hartford, Conn., at 1225 Main street, has been taken over by Arthur A. McLeod. He is well known to the industry, having been for a number of years with the Pope Manufacturing Company.

B. F. Stanley, Mingo, O., has purchased the interests of J. W. Cox in the Mingo Junction garage and repair shop, located on Commercial street.

The Charles City Motor Car Company, Charles City, Ia., has been bought by L. R. Smith and A. N. Norford, but the firm name will not be changed. The company will handle the Glide, Overland and KisselKars, as well as carry a complete line of accessories and supplies.

R. L. Baldwin, Columbia, Mo., recently purchased a half interest in the garage of W. S. Roberts, 1105 Broadway.

The King's Beach Garage, Swampscott, Mass., has been purchased by F. Richardson. The company is located at 44 Humphrey street.

CHANGE OF NAME.

The Burgett Auto Company, Milwaukee, Wis., has changed its name to the Milwaukee Motor Sales Company.

The Spear Auto Company, Portland, Me., has changed its name to the Peterson Motor Company.

The Pittsburg Chalmers Company, Pittsburg, Penn., has changed its name to the Wyckoff Motor Sales Company. The company handles the Reo, Chalmers and Saxon cars.

The White Front Garage Company, Niles, O., has changed its name to the Trumbull Buick Company. Edward Thorpe has purchased an interest. Buick cars are handled.

The Western Iron Works, Manitowoc, Wis., has changed its name to the Grimm Aluminum Castings Company.

The Gibney Motor Supply Company, Philadelphia, Penn., has changed its name to the Gaur, Derr & Shearer Company. The company is a pioneer accessory house located at 217 North Broad street.

The Selden-Maxwell Company, St. Joseph, Mo., has changed its name to the Maxwell-Hudson Motor Company. The company is located at 11th and Faraon streets. Maxwell and Hudson cars are carried.

The Gibson Automobile Company, Indianapolis, Ind., has changed its name to the Gibson Company.

The White Motors Company, Kansas City, Mo., has changed its name to the Scarritt Motor Car Company.

The Moorehead Auto and Supply Company, Moorehead, Minn., has changed its name to the Schranz Brothers Auto Company. A repair shop is maintained and Buick cars are handled.

AGENCIES AND DEALERS.

The Broome-Bergeber Abe Sales Association, Burlington, Wis., has been organized to represent the Ford in that territory and to distribute a varied line of supplies and accessories in Wisconsin, Minnesota and north Illinois. The company is located in the Kruckmann building.

A. A. Coxson and E. S. Fairchild, Mason City, Ia., will engage in the automobile business.

Louis Otto, Davenport, Ia., has entered the automobile field and handles the Marmon car.

The Cornelius-Browning Auto Company, Toledo, O., is the name of a company organized recently by R. C. Cornelius and H. H. Browning, to take over the business of the Cornelius Auto Sales Company at 817 Jefferson avenue. The company represents the Krit car.

The Central Motor Car Company, Alliance, O., organized by M. E. Biery, has taken the agency for Herff-Brooks cars, and for Republic and Gramm trucks. An up-to-date garage will also be maintained.

E. E. Moser Company, Omaha, Neb., has opened sales rooms at 2218 Farnam street. The company was organized recently, and represents the Commerce, Denby, Federal and Standard trucks.

The Durbin-Thomson Company, Ltd., Milwaukee, Wis., was recently formed by W. N. Durbin and W. R. Thomson, both well known to the trade. The company handles the Moon car for that state.

Clarence N. Peacock & Co., New York City, in addition to the Ames equalizing springs, has secured the distribution of the S-M-H chain tool, the Clincher tire plow and the Boyce hand horn.

The Platt-Fawcett Company, Denver, Col., is a newly organized concern located at 1249-55 Broadway. The company handles the Chalmers car.

Lexington Sales Company, New York City, has established ware rooms and a service station at 238 West 56th street. The company was recently organized to market the Lexington car in the East.

The Southern Tire Company, Louisville, Ky., was recently opened at 453 South Third street. F. W. Potts is in charge.

G. H. Woodbury, Nashua, N. H., and A. H. Brown have taken the agency for Lee puncture proof tires for that territory.

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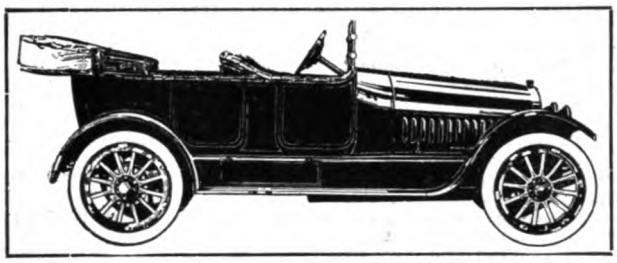
HERFF-BROOKS MODELS.

Four Has Larger Bore and an Increased Wheelbase.

In keeping with its usual progressive policy, the Herff-Brooks Corporation, Indianapolis, Ind., maker of the widely known Herff-Brooks four and six-cylinder cars, invited all dealers and others interested to make space C-20 their headquarters at the New York automobile show. The company also extended the same invitation in connection with the Chicago show.



The Herff-Brooks Six-Cylinder Car, Selling for $1375, Fully Equipped, with Electric Starting and Lighting.

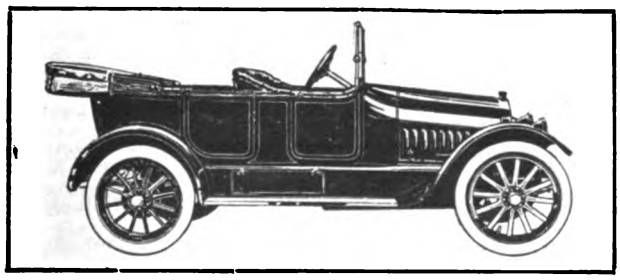
Dealers were attracted by the $1100 four-cylinder model and the $1375 six, exhibited by the company at the recent national shows. These cars, fully equipped, and having Stromberg carburetor, Bosch ignition, Timken and New Departure bearings, electric lighting and starting, etc., present a big value.

Taking the six-cylinder model first, it is seen that this car has an L head motor, with the cylinders cast separately. The bore is four inches, and the stroke 4½, giving a horsepower rating of 38.4, according to the S. A. E. formula. However, the maker states that 50 horsepower can be developed. The method of casting calls for a long crankshaft and hence more than the usual number of supports. Altogether seven bearings are used in this model. The power transmission is through an inverted cone clutch equipped with a brake to a three-speed gearset redesigned slightly to care for the central control. The body is a full streamline and a folding down steering wheel is employed, hinged so that the driver may enter or leave the car without inconvenience. Another change is the right drive and centre control instead of the left and centre. The lighting and starting system employed is the Apelco, and the new one-man top has been substituted for the regular type.

In the four-cylinder model a larger motor is used and the cylinders are cast en bloc. The design is the L head and a bore of 4½ inches by a stroke of five gives a horsepower rating of 32.4, S. A. E., but the manufacturer claims that 40 horsepower can be developed with ease. The bore has been increased three-eighths of an inch compared with the previous year's model, and the wheelbase of the four has been increased from 116 to 118 inches. The five-passenger models now have an extra folding seat for a sixth person which, when not used, is placed in a tool box under the front seat.

The wheelbase of the six, 124 inches, remains unchanged. Both cars have the honeycomb radiator, and in both cases the cooling is by pump. The lubrication is by splash and the carburetor is fed by gravity.

Throughout the entire car is an excellent example of workmanship from the mechanical parts to the deep Turkish upholstery. These cars are built complete in one huge factory and the manufacturers state that the small overhead makes the price possible. Dealers are invited to write for catalogue P. A. W. for full particulars regarding terms, etc.



The $1100 Four-Cylinder Herff-Brooks Model, Which Has an Increased Bore and Wheelbase.

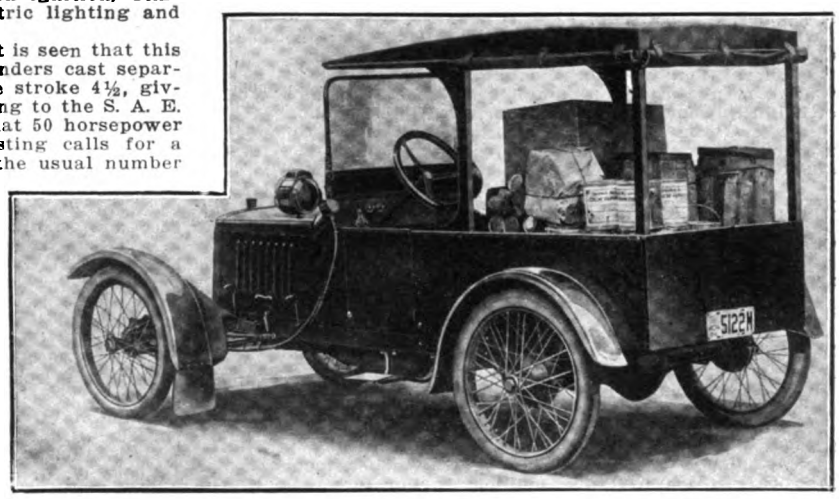
SAXON'S TWO SURPRISES.

Has New Six at $785 and New Delivery Car at $395.

The 1915 offering of the Saxon Motor Car Company, Detroit, Mich., is featured by a record low six, selling for $785, and a four-cylinder delivery car. The Saxon Company has established a great many records in more ways than one. A year ago it produced its first sensation by announcing a four-cylinder car to sell under $400. Since that time the Saxon has progressed steadily, and it is the claim of the company that it shipped more cars during the first year of production than any other company in the history of the automobile business.

A Saxon recently travelled 3389 miles in 30 days overland from New York to San Francisco across the Lincoln highway; another made a non-stop run from Detroit to New York in a running time of 51 hours, and still another ran 135 miles a day for 30 consecutive days, 4050 miles, averaging 30 miles to the gallon of gasoline and 150 miles to the quart of oil, making the entire distance on the original tires. These facts speak well for the stamina and high quality of the Saxon product.

The new $785 Saxon six has a long stroke, is of the L head type, water cooled and develops 35 horsepower on a block test, according to the maker. The car is fitted with a Gray & Davis starting and lighting system, and the equipment is complete in every respect. The transmission has three speeds forward and reverse, and a dry plate clutch is employed. The ignition is furnished by the Atwater Kent system. Cantilever rear springs are used, these being made of vanadium steel. The shipping weight is approximately 1950 pounds and the tires are 32 by 3½, demountable rims being included in the regular equipment. Other items that go to make this complete include one-man top, speedometer, two-piece rain vision windshield, extra demountable rim, electric horn, foot and robe rails, tools, etc.



Three-Quarter Rear View of the $395 Saxon Four-Cylinder Delivery Car.

The Saxon delivery car, shown herewith, offers an enormous field for the dealer. This powerful little machine, selling for $395, presents great possibilities in every line of merchandise. Speaking of this delivery car, Lawrence Moore, director of sales, says that much attention has been given by the Saxon engineers to securing simplicity of the control of operation, so that inexperienced drivers may have no difficulty in operating it. "The new Saxon delivery car is designed for the thousands who need motor delivery in their business, yet who have always thought of motor delivery cars as being expensive", says Mr. Moore. "After a long period of experimenting, we have produced a delivery car which costs no more than a good horse and wagon and at the same time has every advantage over horse delivery in point of distance covered, new business possible to handle, mile for mile economy and dependability".

The motor of the Saxon delivery is a four-cylinder, L head type, cast en bloc, with a bore of 2⅝ inches and a stroke of four. The cooling is by thermo-syphon system, with a cellular radiator fan. The carburetor is a special Mayer, with adjustments for air and gas on the dash. Likewise the ignition switch is located on the leather covered instrument board, and further convenience is provided by making the spark control automatic.

At all of the recent automobile shows the Saxon six and the smaller model attracted large crowds, and the dealers realized some very excellent sales at New York, Philadelphia, Detroit, Chicago, Cleveland, etc., wherever the cars were exhibited.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Transport Tractor Company, Albany, N. Y.; $100,000; A. W. Moffat, F. B. Stimson, F. J. Stimson.

Hunter Auto Supply Company, Chicago, Ill.; $30,000; to manufacture and deal in automobiles and accessories; W. A. Bither, R. H. Farrell, C. R. F. Bither.

Dennis Tractor Grader Company, Milwaukee, Wis.; $10,000; Philip Koehring, William Dennis, W. J. Koehring.

Hub Motor Truck Company, Columbus, O.; $300,000; T. C. Hanly, John L. Herpich, John B. Haas, R. Wilke, John J. Chester.

S. G. Safety Fending Company, Philadelphia, Penn.; $300,000; to manufacture motorcycles.

Pull-More Truck Company, Augusta, Me.; $500,000; to manufacture motor trucks; Ernest L. McClean, M. O. Yeaton, Samuel Titcomb, R. S. Buzzell, L. I. Goodell, E. M. Leavitt.

Utility Steel Tractor Company, Antigo, Wis.; $24,000; to manufacture tractors and trucks; S. D. Stewart, N. C. Woodin, F. A. Hecker.

Baxter Manufacturing Company, Boston, Mass.; $80,000; Edward T. Roche and others.

Dort Motor Car Company, Flint, Mich.; $500,000.

Gutman Tractor Company, Cleveland, O.; $10,000; E. K. Hoy, L. M. Henges, B. A. Shatto, M. J. Kurka, O. D. Eshelman.

Consolidated Car Company, Detroit, Mich.; $100,000; R. A. Palmer, M. J. Hammers, A. C. Knapp.

International Wire Tire Company, Trenton, N. J.; $1,000,000; to manufacture motor cars, tires and rims; J. S. Lyones, G. T. Brown, T. A. Zukoski.

Pilgrim Motor Car Company, Detroit, Mich.; $200,000; C. H. Leete, W. H. Radford, Leonard C. Welford.

General Construction Company, Salem, Mass.; $250,000; to manufacture automobiles and boats; Louis Charetti, Philip Coache, J. A. Boucher, Evariste Coache.

Baker-Duffy Company, Chicago, Ill.; $50,000; to manufacture automobiles, accessories, etc.; Jones E. Morgenstein and others.

Field & Feydt, Waterbury, Conn.; $50,000; Robert C. Field, Herman G. Feydt, Arthur H. Dayton.

Biddle Motor Company, Wilmington, Del.; $100,000; Charles B. Bishop, Clarence J. Jacobs, Harry W. Davis.

E. M. Holmes Sales Corporation, Indianapolis, Ind.; $25,000; E. M. Holmes, E. E. Bowers, Emery Moon.

PARTS AND FITTINGS.

Re-Ac Company, New Castle, Penn.; to manufacture shock absorbers; Luther P. Maggart and others.

Atterburg Boston Company, Cambridge, Mass.; $25,000.

New Speed Carburetor Company, San Francisco, Cal.; $100,000; to manufacture motors, carburetors, etc.; L. W. Sanborn and others.

Baily Manufacturing Company, Allentown, Penn.; to manufacture automobile bodies, etc.; E. Baily.

Universal Safety Brake Company, Albany, N. Y.; $25,000; S. Weisenberg, L. M. Bernefield, R. Bernefield, H. Waldman.

Kramer Auto and Carriage Company, Lancaster, Penn.; to manufacture automobile bodies and carriages.

Pirate Motor Manufacturing Company, Milwaukee, Wis.; $50,000; to manufacture engines; H. Roth, J. Tanch, J. Krohn.

K-T Lever Spring Company, New York City; $50,000; to manufacture springs for automobiles; W. F. Cornell, T. Johnson, S. Gross.

Lever Spring Company, New York City; $50,000; to manufacture automobile devices; Emil Koeb, William Koeb, William F. Kornell.

Cornitt-Vanden Hosch Carburetor Company, Grand Rapids, Mich.; $50,000.

Safety Signal Company, New York City; $200,000; Arthur W. Dennen, Stanley C. Fowler, Rebecca Hilliker.

Hecht's Magneto Exchange, New York City; $5000; to deal in ignition products, etc.; Alexander S. Hecht, Emil M. Lowry, Leo L. Lowry.

Winegrat Auto Top and Body Company, Boston, Mass.; $10,000; Brant Winegrat, Nicholas Isaacson, S. Burtwitz.

Auto Body Company, Indianapolis, Ind.; $20,000; to manufacture automobile bodies; H. Putnam Wood, J. E. Wood, Roy M. Stuart.

Ohio Engine Company, Columbus, O.; $25,000; C. E. Hogan, H. L. Kelly.

Wolverine Winter Top Company, Detroit, Mich.; $2000; J. E. Murphy, H. H. Creamer, G. F. Monahan.

Auto Air Brake Company, Boston, Mass.; $200,000; H. I. Lazarus, A. Gaulin, A. R. Van Dyke.

Pondelick Piston Ring Company, Chicago, Ill.; $30,000; to manufacture metallic piston rings, motors, etc.; A. A. Landry, C. Pondelick and others.

GARAGES AND REPAIR SHOPS.

Ward's Garage, Johnson, Tenn.; $5000; Charles D. Vance, O. P. Ward, P. M. Ward, Charles Bayless, David Miller.

James Tool and Machine Company, Syracuse, N. Y.; $500; Frank P. Davis, Jesse M. Whiteside, Eliza Davis.

Lincoln Garage Company, South Bend, Ind.; $1000; Harry E. Garlanger and others.

Hancock Garage and Repair Company, Brooklyn, N. Y.; $6000; Fred Hoffman, Joseph P. Murray, Arthur Brauner.

Fisk Garage Company, Middletown, Conn.; $50,000; John L. Fisk, Jennie A. Fisk, Charles L. Fisk.

Sour Lake Garage, Sour Lake, Tex.; $4000; S. S. Jackson, V. B. Daniels, E. E. Getaz.

University Circle Garage and Sales Company, Cleveland, O.; $50,000; R. F. Allen and others.

Central Garage of La Salle, La Salle, Ill.; $50,000; L. R. Stever and others.

Practical Repair Company, New York City; $5000; Johann Kahrs, Albert Boehm.

Marshfield Garage Company, Marshfield, Mass.; $4000; F. E. Chandler, W. C. Chandler, A. P. Goodell.

Valley Garage Company, Yorkville, Ill.; $2500; Fred L. Wright, Charles A. Bogardus, William Hauden and others.

Centre Moriches Garage Company, Centre Moriches, N. Y.; $5000; C. C. Ross, J. S. Penny, J. S. Roberts.

Chatfield Garage, Addison, N. Y.; $5000; Alfred B. Chatfield, Charles R. Owens, Festus H. Wheaton.

West End Garage and Machine Company, Trenton, N. J.; $25,000; E. B. G. Hancock, C. E. Hancock, W. T. Johnston.

McCleary Garage Company, Defiance, O.; $20,000; A. C. McCleary, D. W. Cook, D. A. Baker, W. J. Miller, E. R. Mallett.

James M. Royce Garage, New Haven, Conn.; $10,000; S. W. Royce, L. Royce, Mary C. Royce.

Nonpareil Garage, Albany, N. Y.; $5000; J. E. Kerr, H. Redelsheimer, S. Goldberg.

West Sixty-Seventh Street Garage, New York City; $5000; L. Carlin, S. L. Cohen, R. O'Rourke.

Wells Garage Company, Milwaukee, Wis.; $10,000; C. Bublin, E. A. DeSarnelle, S. Carroll.

Michel-Schneider Garage, Mount Vernon, N. Y.; Edward H. Michel, George W. Schneider, Henry G. Schneider.

Portable Garage and Construction Company, Columbus, O.; $5000; to build portable garages; B. H. Thompson, C. O. Leonard, J. C. Markly, J. H. Doelker, L. F. Wells.

Iroquois Garage, Buffalo, N. Y.; $2500; Edward D. Emerson, Charles C. Page, Francis J. Handel.

Hansen Auto and Machine Works, Los Angeles, Cal.; $25,000; W. G. Hansen, David B. Dewey, B. L. Hansen.

Dean Garage Company, Brooklyn, N. Y.; $1000; Patrick Howard, F. L. Johanns, Charles E. Fiske.

Greencastle Garage Company, Greencastle, Ind.; $5000; Henry O'Hair, Howard C. Dean, F. O'Hair.

Motor Car Repair and Supply Company, St. Louis, Mo.; $2000; A. R. Hoffman, F. Schneider, F. W. Kretschmar.

Litchfield Auto and Repair Company, Litchfield, Ill.; $5000; A. G. Haeberle, H. W. Pass.

Uno Garage Company, Brooklyn, N. Y.; $1000; H. D. Bristol, F. W. Shaw, C. Rossa.

Dunbar Avenue Garage Company, Boston, Mass.; $10,000; H. S. Rockwell, F. J. Rockwell.

Interstate Garage, Clifton Forge, Va.; $1000; Eugene Mathews, L. W. Farrier.

Cole Garage Company, Albany, N. Y.; $12,000; J. A. Sherwood, J. Hovanus, W. W. Cole.

Wisconsin Garage Company, Milwaukee, Wis.; $20,000; George Ashley Dewitt, George A. Daly, Louis M. Kotscki.

Anna Machine Shop and Garage Company, Anna, Ill.; $5000; R. W. Hynes, H. P. Sealey, J. P. Hynes, H. W. Smith.

Tarrytown Garage, Tarrytown, N. Y.; $5000; Mary J. Keith, C. Fritz Offenhauser, C. R. Keith.

Hilltop Automobile Station, Albany, N. Y.; $10,000; to conduct a garage; L. Johansen, M. Johansen, R. B. Hand.

Krider Garage Company, Meadville, Penn.; $30,000; W. L. Krider, G. H. Kepner, Bertha Woodring, C. Theodore Campbell.

Indianapolis Garage Owners' Association, Indianapolis, Ind.; $5000; H. L. Bevington, A. W. Bowen, K. R. Vaught and others.

Olewines Garage, Albany, N. Y.; $50,000; F. R. Hansell, G. Purnell, S. C. Seymour.

Reid Avenue Garage and Machine Shop, Albany, N. Y.; $5000; O. E. Weidleib, R. K. Allison, A. Goldfarb.

Southwestern Garage Company, Los Angeles, Cal.;

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$10,000; M. A. Berne, W. V. Minteer, L. R. Labory, J. Zenz, L. Levy, W. H. Clark, F. S. Hutton.

One Hundred and Thirtieth Street Garage, New York City; $5000; Mendick Johnson, Agnes Johnson, John Mortenson.

American Falls Auto Company, American Falls, Ida.; $25,000; Benjamin Adof, A. W. Davis, J. L. McKnown.

Schulter Auto Repair Company, Richmond, Va.; Harry T. Moore, Guy B. Gillard and others.

ACCESSORIES AND SUPPLIES.

Estes Airless Tire Company, Newark, N. J.; $50,000; to manufacture automobile tires, rubber goods, etc.; J. C. Walker and others.

Delaware Tire and Rubber Company, Trenton, N. J.; $125,000; to manufacture rubber goods; Bernard C. Cohen, W. Eugene Turton and others.

Motor Owners Supply Company, Camden, N. J.; $60,000; S. C. Seymour and others.

Standard Fuel Oil Company, Willoughby, O.; $50,000; to manufacture automobile engines; J. E. Morley, C. H. Gale, H. C. Jones, B. A. Kittinger, W. T. Kinder.

Southeast Automobile Specialty Company, Woodburn, Ky.; $2000; H. O. Kirby, L. J. Kirby, E. Kirby.

Western Auto Specialty Company, Iowa City, Ia.; $50,000; J. H. Maggard and others.

American Safety Appliance Company, North Attleboro, Mass.; $15,000; to manufacture automobile accessories and supplies; John H. Swallow and others.

Searle Unburstable Inner Tube Company, Albany, N. Y.; to manufacture inner tubes, tires, etc; G. F. Hall, A. Kilhorn, J. C. Thompson.

Southern Auto Supply Company, Chattanooga, Tenn.; T. F. Sanford, C. H. Huston, D. A. Graves, J. Larew, J. M. Hogshead.

Commonwealth Motor Specialty Company, Jackson, Mich.; $5000.

Star Rubber Company, Akron, O.; $1000; to manufacture rubber goods; George W. Carmichael, J. W. Miller, D. B. Duff, W. E. Wright, W. M. Dabney.

Non-Pneumatic Suspension Tire Company, Cincinnati, O.; $10,000; to manufacture tires, etc.; Anthony Schemel, George Webofritz, E. H. Gorssman, G. W. Mackenbach, H. Serkowich.

Auto Towing and Supply Company, Brooklyn, N. Y.; $1500; G. H. Seeth, W. F. Seeth, C. E. Hiscox.

Humphrey-Kennard Company, Cleveland, O.; $10,000; to deal in automobile tires; J. R. Humphreys, F. C. Waite, C. A. Colvin, E. G. Hoag, L. M. Sewell.

Rennex Manufacturing Company, Boston, Mass.; $500,000; to manufacture automobile accessories; J. A. Potter, M. H. Rennex, F. C. Rennex.

Penn Square Tire Reclaiming Company, Cleveland, O.; $10,000; to manufacture and repair tires; H. L. Heller, O. A. Erb, J. F. Krajewski, L. Gauer Herstauer, Nathan Herstauer.

Suncott Motor Sales Company, Albany, N. Y.; $10,000; to deal in automobile accessories and supplies; P. A. Sullivan, R. A. Kellogg, D. E. Knowlton.

Self-Raising Seat Appliance Company, Trenton, N. J.; $100,000; to manufacture automobile accessories; S. M. Elsner, L. Lasser, S. O. W. Jakson.

Tire-Seal Company, New York City; $500; to deal in tire supplies; George A. Orr, Joseph L. Stiebel, Morton Worton.

Everready Tire and Rubber Company, Brooklyn, N. Y.; $40,000; to deal in tires and accessories; W. J. Woodcock, A. W. Norwalk.

Yankee Heavy Oil Motor Company, Albany, N. Y.; $50,000; George Keisler, E. J. Dooling, J. A. Clynes.

Standard Devices Company, Dover, Del.; $50,000; to manufacture automobile accessories; H. E. Latter, W. J. Maloney, O. J. Reicard.

Hahn's Accessory Company, Connersville, Ind.; $5000; to deal in automobile accessories and supplies; J. T. Marich, S. Rushevich, M. Caleber.

Tarbell-Watters Company, Springfield, Mass.; $6000; to deal in automobile supplies and accessories; F. B. Watters, E. N. Tarbell, A. H. Goettling.

Sapulpa Gasoline and Oil Company, Sapulpa, Okla.; $15,000; P. E. Smith, L. E. Smith, P. F. Smith.

Champion Electric Manufacturing Company, Albany, N. Y.; $50,000; to manufacture automobile accessories; Frank Scognamilo, S. Scognamilo, M. Lamparelli.

Dals Auto Supply and Accessory Company, Albany, N. Y.; $25,000; B. Schane, A. Schane.

Grant Manufacturing Company, Louisville, N. Y.; $9000; to manufacture chemicals and automobile supplies; A. C. Grant, R. E. Shinns, J. L. Lenihan.

Monarch Stitched Tire Company, Augusta, Me.; $5,000,000; to manufacture tires; H. Mitchell, H. A. Paul and others.

New Castle Rubber Company, New Castle, Penn.; to manufacture tires; J. S. Wilson, E. N. Ohl, James D. Rhodes, A. C. Hoyt, C. H. Bolton.

Monarch Rubber Company, Carrollton, O.; $1,000,000; to manufacture tires; E. S. Henderson, I. E. Friedler, H. E. Henderson, F. W. McCoy, H. R. Kemerer.

Ohio Gas and Oil Company, Cleveland, O.; $10,000; E. M. Conrad, George B. Marty, E. A. Peters, W. D. Royce, C. A. McKinley.

Bay Ridge Rubber Corporation, Brooklyn, N. Y.; $6000; Michael Seltzer, Morton DeWalthorff, Florence Wimpie.

Chandler Oil and Gas Company, Cleveland, O.; $6200; Isidor Grossman, Harry C. Gahn, H. B. Howell.

A-B Vulcanizing Company, Fort Wayne, Ind.; $10,000; to deal in rubber goods; Bernard R. Barva, R. H. Anspach, Grace Barva.

Wisconsin Tire Company, Milwaukee, Wis.; $40,000; F. G. Simmons, G. A. Bading, L. M. Kotecki, J. P. Carney.

Dunham & Black, Brooklyn, N. Y.; $15,000; to deal in automobile accessories and conduct a repair shop; Allen Black, F. G. Dunham, J. G. Stockham.

American Vacuum Company, Indianapolis, Ind.; $50,000; to manufacture automobile accessories; R. L. Head, F. C. Sherman, Julius Shepard.

Automatic Lighter Company, Indianapolis, Ind.; $10,000; to deal in automobile accessories; George W. Infield, O. J. Boulden, C. E. Haviland.

Chester Rubber Tire and Tube Company, Chester, W. Va.; $2,000,000; Philip Freshwater, J. C. Freshwater, Elmer Freshwater, A. L. Skinner, George A. Hasson.

Overland Stores Company of Illinois, Springfield, Ill.; $10,000; to deal in automobiles and accessories; Nathan S. Smyser, Charles R. Young, Arthur A. Basse.

AUTOMOBILE DEALERS.

Drown Motor Car Company, Barre, Vt.; $50,000; H. D. Graves, E. A. Drown and others.

H. H. Johnson Company, Norfolk, Va.; $5000; George F. Edwards, Victor de Murguiondo, H. C. Sherritt.

Dominion Motor Company, Richmond, Va.; $10,000; John E. Swartwout, W. J. Miller.

Exposition Motor Coach Company, Bridgeport, Conn.; $400,000; D. P. Bergheimer, R. W. Gates, J. J. Gallagher.

National United Service Company, Augusta, Me.; $150,000.

Harrington-Gifford Company, Springfield, Mass.; $15,000; John S. Harrington, C. R. Lee, Charles W. Chehore, A. L. Gifford, Fred R. Brown.

Bay Shore Motor Sales Company, Bay Shore, N. Y.; $5000; C. M. Hart and others.

Packard Auto Company, Kansas City, Mo.; $5000; J. A. Kelly, John R. Neale, Joseph H. White.

National Service Corporation, Wilmington, Del.; $100,000; H. W. Davis, Charles B. Bishop, Clarence J. Jacobs.

Williams & Tschanz Automobile Company, Brooklyn, N. Y.; $1000; Emile Tschanz, Annie Tschanz, Edward B. Keough, Emma Williams.

Lilly-Rausch Company, Evansville, Ind.; $1000; J. E. Rausch and others.

Buse-Patten Motor Car Company, Buffalo, N. Y.; $10,000; G. Buse, E. A. Buse, R. S. Patten.

Motor Sales and Supply Company, Youngstown, O.; $10,000; W. V. Burnett, D. L. Rose, A. C. Hendry, D. F. Griffith, R. C. Fuhrman.

Motor Sales Agency of the Oranges, Trenton, N. J.; $25,000; H. F. Hersman, A. T. Muir and others.

Uxbridge Auto Company, Uxbridge, Mass.; $5000; C. C. Ames, L. G. Farnum, C. L. Richardson.

Clinesmith Motor Company, Wakita, Okla.; $5000; F. L. Clinesmith, John Clinesmith, W. Clinesmith.

Levet Auto Livery Company, Cleveland, O.; $1000; Hazel Levet and others.

O. & L. Auto Company, Oak Park, Ill.; $2000; W. H. Hartigan and others.

Lewis Brothers Company, Oskaloosa, Ia.; $20,000; J. W. Lewis and others.

Shaw Pearson Motor Corporation, New York City; $2000; O. F. Shaw, H. E. Meyn, F. A. Hallock.

Clove Branch Shop, Hopewell, N. Y.; $5000; W. A. Martin, Frank Schier, L. M. Woodruff.

Cole Sales Company, Indianapolis, Ind.; $10,000; J. F. Minthorne, H. C. Lathrop, A. P. Conklin.

Universal Motor Company, Oshkosh, Wis.; $25,000; J. D. Termaat, L. J. Monahan, A. B. Dye.

Moon Motor Sales Company, Springfield, Mass.; $15,000; L. B. Clark, S. McI. Broga, A. M. Clark.

American Motor Sales Company, Detroit, Mich.; $6000; J. C. Pennell, H. Dawson, E. E. Sullivan, B. C. Pennell.

Eagle-Macomber Motor Car Company, Dover, Del.; $1,500,000; I. Parker, U. B. Curtis, E. G. Lancaster.

Grand Rapids Saxon Company, Grand Rapids, Mich.; $5000.

Burnham Motor Company, Lawrence, Mass.; $1000; C. R. Burnham, L. E. Burnham, E. L. Burnham.

Dicke Motor Car Company, Manitowoc, Wis.; $1000; W. C. Dicke, L. S. Dicke, H. Menzel.

Lion Sales Company, Middletown, N. Y.; $5000; R. F. Finch, C. M. Breiner, D. A. Heffernan.

Syracuse Motor Vehicle Trade Corporation, Syracuse, N. Y.; $2000; Ferdinand Crosby, Stewart W. Monroe, George W. Bartlett.

Johnson Rose Auto Company, Camden, N. J.; $10,000; Frank A. Rose, James Kershaw, Benjamin F. Savage, Frank G. Homan.

Hercules Sales Company, Louisville, Ky.; $100,000; Charles L. Caron, Charles D. Kelso, Alonzo H. Ross, J. R. Duffin, Warren T. Godfrey.

State Touring and Auto Company, San Francisco,

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Cal.; $25,000; F. J. Cleary, J. E. Colston, S. L. Evans, H. L. Freudenburg, J. J. Manning.

Standard Motor Truck Sales Company, Cleveland, O.; $10,000; C. W. Moody, A. F. Schroeder, T. L. Petersilge, A. M. Petersilge, Emil Petersilge.

I. Zagon & Co., Brooklyn, N. Y.; $2000; Isidor Zagon, Rae Zagon, Jacob Glaessir.

Simcott Motor Sales Company, Buffalo, N. Y.; $10,000; R. A. Kellogg, D. E. Knowlton, P. A. Sullivan.

Broadway Automobile Company, Brooklyn, N. Y.; $5000; Herman Lasky, Henry Lasky, Max Lasky.

Stuyvesant Heights Motor Car Service Company, Brooklyn, N. Y.; $1000; Vincent Folger, Joseph Folger, Joseph F. Brozek.

Charles S. Smith, Philadelphia, Penn.; $25,000; Charles S. Smith, H. G. Smith, Bryn Athyn, Joseph J. Matthews.

Thompson Motor Car Company, Montgomery, Ala.; $2000; D. E. Thompson, Meta Haynes Thompson, J. F. Doster.

Signal Motor Truck Sales Company, Detroit, Mich.; $5000.

R. S. Corporation, San Francisco, Cal.; $75,000; L. H. Rose, P. Smith.

Frank A. Storer Company, Cambridge, Mass.; $25,000; Frank A. Storer, C. Harold Storer.

Rochester Case Sales Company, Rochester, N. Y.; $10,000; George H. Parker, William F. Hill, Frank L. Elliott.

M-P-M Automobile Company, Mt. Pleasant, Mich.; $5000; H. A. Sanford, W. A. Keen, N. J. Brown.

Viall Motor Car Company, Chicago, Ill.; $5000; Frank S. Righeimer, G. D. Kendall, Edward Hartigan.

Glarus Auto Company, Monticello, Wis.; $500; Nickolas Z. Zweifel, Henry M. Stuessy and others.

Auto Transit Company, Fort Worth, Tex.; $9000; E. M. Rogers, D. W. King, E. W. Scott.

Mammoth Auto Exchange, Pittsburg, Penn.; $5000; E. A. Cohen, B. Himmelrich, L. C. Pettler.

Hercules Sales Company, Louisville, Ky.; $100,000; Charles D. Kelson, Alonzo H. Ross, Charles L. Caron and others.

Lobell-Aborn Auto Company, 940 Tiffany street, New York City; $6000; M. Jawitz, J. Aborn, M. B. Lobell.

Tenafly Service Company, Tenafly, N. J.; $150,000; James H. Munro, Charles M. Rosenthal, Joseph H. Baum.

Adams-Oakland Company, Cleveland, O.; $55,000; H. M. Adams, A. A. Stearns, J. C. Royon, John A. Chamberlain, L. A. Kraus.

F. H. Primeau Company, Detroit, Mich.; $10,000; F. H. Primeau, John B. Primeau, John B. Primeau, Jr.

Collins Auto Renting Company, North Hempstead, N. Y.; $1000; H. M. Day, H. L. Collins, C. R. Collins.

Mutual Motor Sales Company, Albany, N. Y.; $25,000; G. Ozanne, J. B. Kalmuck.

Kissel Service Company, Columbus, O.; $10,000; C. G. McCune, R. T. Fisher, W. Gaither, J. M. Garard, L. B. Dunning.

Johnson Rose Auto Company, Trenton, N. J.; $10,000; N. Johnson, F. A. Rose, J. Kershaw, B. F. Savage.

Magnolia Motor Sales Company, Austin, Tex.; $12,000; J. D. Kerr, P. H. Carr, G. E. Gilmore.

Motor 'Bus Company, Austin, Tex.; $2500; J. V. Robins, J. J. McCourt, J. W. Kirkpatrick.

Allbaugh Motor Sales Company, Cleveland, O.; $10,000; J. W. Allbaugh, C. S. Allbaugh, T. K. Allbaugh, W. A. Allbaugh, B. K. Allbaugh.

Sidney Auto Sales and Supply Company, Sidney, O.; $20,000; W. H. Persinger, W. L. Allton, E. L. Allton, B. H. Mires, J. D. Barnes.

Mathewson Taxi Company, Danbury, Conn.; $50,000; Edwin E. Mathewson, Nellie E. Mathewson, Selina Mathewson.

Incas Automobile Company, Brooklyn, N. Y.; $5000; John H. Eckhoff, Jr., Charles H. Jacob, Malcolm McPhial.

Gas Electric Motorbus Corporation, Eddyville, N. Y.; $10,000; H. B. Weaver, S. L. Conklin, R. R. Conklin.

Grove & Stewart, Atlantic City, N. J.; $125,000; Theodore Schimpf, Chandler Stewart, J. Koch.

C. A. Robinson Company, Boston, Mass.; $15,000; Willard F. Cottrell, Charles A. Robinson, Henry F. J. Klagge.

Southwest Automobile and Supply Company of Springfield, Springfield, Mo.; $25,000; H. F. Fellows, F. J. Curran, H. B. McDaniels.

C. H. Washburn, Inc., Rochester, N. Y.; $25,000; Edward H. Lamb and others.

James McLaughlin Auto Company, Hoboken, N. J.; $125,000; J. McLaughlin, A. M. McLaughlin, E. F. Bosworth.

Paige Sales Company of North Carolina, Greensboro, N. C.; $100,000; Claude Kiser, J. H. Thurman, E. D. Broadhurst.

E. Schoonmaker Company, Albany, N. Y.; $25,000; H. I. Huber, L. N. Mansuy, E. Schoonmaker.

Kay-See Motor Service Company, Albany, N. Y.; $15,000; E. L. Marshall, A. E. Barger, H. B. Perry.

Gholson Auto Company, Cleveland, O.; $10,000; K. M. Gholson, W. F. Gholson, A. N. Meyer, E. Hayes, J. G. Murphy.

A. T. Hart Company, Boston, Mass.; $5000; A. H. Perry, A. T. Hart.

Alter Motor Sales Company, Bucyrus, O.; $10,000; L. D. Pickering, W. H. Drause, D. Kissling, E. Pickering, M. S. Drause.

Manhattan-Joliet Autobus Company, Joliet, Ill.; $1000; T. V. Corey, Edward J. Corey, E. Meers.

Elerick Jitney Auto Company, Oklahoma City, Okla.; $25,000; C. F. Elerick, A. M. Elerick, L. C. Palmer.

Willis-Halff Company, Waco, Tex.; $25,000; Percy Willis, G. A. C. Halff.

Randall Company, Quincy, Mass.; $25,000; L. W. Newell, H. D. Waterhouse.

Ernst & Beavers Company, Scranton, Penn.; $10,000; Herman J. Ernst, A. G. Beavers.

National Automobile Service Company of New York, Utica, N. Y.; $100,000; W. H. McCarry, F. J. Seaton, A. J. Seaton.

Mt. Pleasant Motor Company, Mt. Pleasant, Mich.; $5000; N. J. Brown, H. A. Sanford, W. A. Keen and others.

Robertson Auto Company, Montgomery, Ala.; $2000; W. M. Parker, Thomas M. Robertson, J. H. Robertson.

Tripp Manufacturing Company, $25,000; C. K. Tripp and others.

MISCELLANEOUS.

Martin-Forsburg Teaming Company, Chicago, Ill.; $25,000; to conduct a teaming and automobile business; H. E. Whyte and others.

Auto Truck and Drayage Company, Youngstown, O.; $10,000; N. L. Norris, J. W. Parkin, C. E. Norris, Evan Butler, E. H. Evans.

Ennis Auto Top Company, Hartford, Conn.; to conduct an automobile painting and trimming business.

Century Cycle Company, Louisville, Ky.; $5000; B. S. Murphy and others.

Electric Motor 'Bus Company, Albany, N. Y.; $10,000; E. R. Conklin, S. L. Conklin, H. B. Weaver.

Detroit Speedway Club, Detroit, Mich.; $500,000; Phillip Breitmeyer, George Fulwell, A. E. Gordon.

Self-Propelled Car Company, New York City; $500; M. E. Harby, Emy Clauss, Eva De Tranaltes.

Wisconsin Automobile Business Association, Milwaukee, Wis.; Oscar F. Fischedick, Roland Mueller, H. Terry Andrae, Jesse A. Smith.

International Tri-Rickshs Company, New York City; $500,000; to operate a motor livery; John P. Mahan, Archibald McClintock, Francis Kaley.

Speedograph Sales Corporation, New York City; $150,000; to manufacture instruments for recording the speed of vehicles; V. V. Lebedjeff, A. B. White, J. W. Bondy.

Akron Motor Lock Company, Akron, O.; $1200; M. M. Smith, J. H. Dugan, J. S. Hill, G. M. Hill, J. F. Miller.

F. J. Erney Manufacturing Company, Cleveland, O.; $3000; J. F. Folk, Jr., A. J. Kasch, J. F. Pavolik, F. J. Erney, A. A. Lutton.

Adams Automobile and Supply Company, Chillocothe, Mo.;$10,000; C. F. Adams and others.

Muskogee Automobile Dealers' Association, Muskogee, Okla.; W. A. Campbell, C. L. Anderson, H. Kitto, H. Waterton, S. J. Miller.

FIRES OF THE MONTH.

Schultz Auto Company, Sioux City, Ia.; **building,** $30,000.

Frank F. Bellinger, 208 South Rebecca street, Philadelphia, Penn.; automobile, $800.

Bernhart Marks, Troy, N. Y.; automobile.

Frederick Heindler, 948 Trinity avenue, New York City, automobile, $1000.

William Sharp, Dorchester, N. J.; automobile.

L. E. Huddle, West Main street, Lancaster, O.; garage and contents, $50,000.

Jacobs Auto Company, Shelbyville, Tenn.; building and contents.

Baker Auto Company, Chippewa Falls, Wis.; repair shop and contents, $20,000.

H. C. Hansen, Newton, Mass.; garage and contents, $1000.

Louis Hermann, 36 Lawton street, Brooklyn, N. Y.; garage, $4000.

Arlington Garage, Arlington, Ia.: garage and contents, $5000.

Kinney & Wyman, Norwich, Conn.; garage and contents, $10,000.

H. J. Turck, 632 Jackson street, Milwaukee, Wis.; garage and contents, $1100.

James Waddell, Jeannette, Penn.; garage and contents, $20,000.

Frank A. Mikler, Great Barrington, Mass.; automobile store and contents, $25,000.

Belmont B. Magee, North Hempstead pike, Flushing, N. Y.; garage, $5000.

Frederick Locker, Watertown, Mass.; automobile, $1000.

Ford Garage, Harrisburg, Penn.; garage and contents, $35,000.

A. G. Whiting, Neenah, Wis.; garage and contents, $10,000.

American Motor Company, West Main street, Battle Creek, Mich.; garage damaged.

Bolton & Myers, Troy, N. Y.; garage and contents, $32,000.

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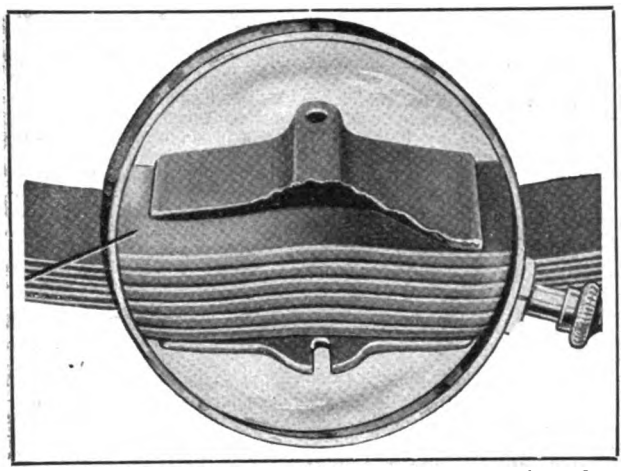
A GUARANTEED SPRING.

Tuthill Product Is a Breakless, Squeakless Construction and a Profit Maker for the Trade.

Dealers, garage men and repair men desiring high-grade motor vehicle springs will be interested in the product of the Tuthill Spring Company, 776 Polk street,



In the Tuthill Spring the Centre Bolt Is Eliminated.

Chicago, Ill. This concern has been specializing in springs for over 35 years and its Titanic unbreakable spring is the result of careful experimentation and road tests.

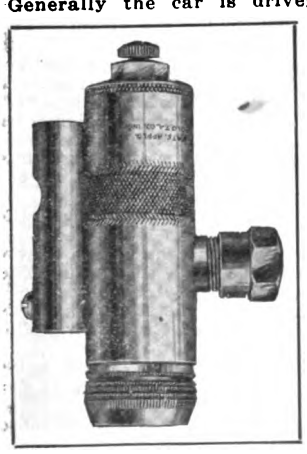
The Tuthill differs from other types in that the centre hole, used for the bolt retaining the leaves, and the usual clips, are eliminated. Such a construction as the Tuthill affords maximum elasticity as well as makes for extreme strength and durability, for the point subjected to the greatest strain is not perforated.

The Tuthill is sold under a "forever" guarantee against centre breakage, and is also warranted against defects in material or workmanship. The company is an old established concern, carries an enormous stock and can fill rush orders promptly, a feature that will appeal to the trade. The profits obtainable with the Tuthill springs will interest the trade. The company will supply details of its spring proposition, as well as of its product, upon request.

NEW POLO TIRE ALARM.

A Practical Device for Notifying Driver of the Car When Pressure Falls Below Safety Point.

W. Lewis Mack, general distributor, 24 West Jackson boulevard, Chicago, Ill., is marketing the improved Polo tire alarm shown herewith. It is a very compact, practical device, which informs the driver of a motor vehicle equipped with pneumatic tires when the pressure falls to the minimum safety point. The alarm gives a signal that can be easily distinguished from the sounds of traffic, etc., and when the machine is in motion. The signal, of course, is sounded when the pressure falls. The equipping of a car with the tire alarm makes for tire economy, as the operator is notified of a soft shoe. Generally the car is driven until a condition obtains termed "riding on the rim".



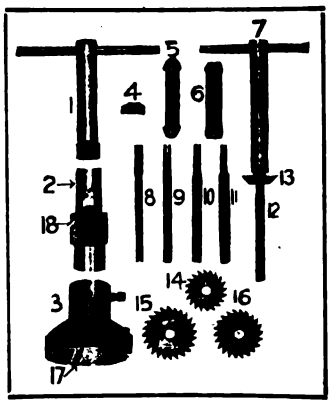
New Polo Tire Alarm.

The model No. 15 Polo tire alarm is an automatic pressure gauge that is attached to the valve stem. One of its desirable qualities is that the tire can be inflated or use made of a gauge without removing the alarm. If the service of the signal feature be not desired, it can be dispensed with. The Polo tire alarm comes four to the set, is moderately priced, and should interest every operator of a motor vehicle. The maker has an attractive proposition for the trade, and details will be supplied upon request. W. Lewis Mack is also marketing the "Motor Eye", which is attached to the filler cap of the car. It indicates the temperature of the cooling fluid. The "Motor Eye" has been thoroughly tested out, is nicely made, and retails for $2.50.

VALVE SEATING DATA.

H. G. Paro Supplying Garages and Repair Shops with Book Describing Methods of Regrinding Valves.

This is the busy time of the year with the garages and repair shops, as the motorists are beginning to send in their cars for overhauling. Within a few weeks the rush will come, as with the approach of spring the owners will want their machines in a hurry. Consequently, the garage and repair shop equipped with up-to-date tools, etc., will be able to turn out considerably more and better work than the shop relying upon old-fashioned methods.



Fosnacht Valve Reseater.

Valves have to be reground and reseated in the overhaul of the motor and a method that will save 75 per cent. of the time usually required is described and illustrated in the book issued by H. G. Paro, suite 730, Michigan Boulevard building, Chicago, Ill. This book describes how valves should be treated and explains in detail the time and labor saving advantages of the Fosnacht valve reseating equipment. The book will be mailed free upon addressing the maker.

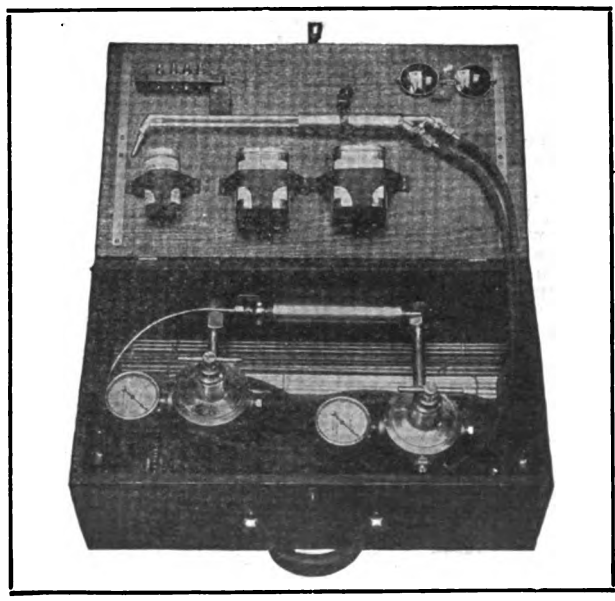
IN NEW QUARTERS.

The Automobile Manufacturers' and Dealers' Association of St. Louis, Mo., has taken possession of its down town offices at the headquarters of the Automobile Club of St. Louis in the Planter's hotel.

WELDING PROFITS.

Waterhouse Welding Company Makes Liberal Offer to Concerns Interested in Such Apparatus.

Garages and repair shops interested in welding and decarbonizing equipment should investigate the free trial offer of the Waterhouse Welding Company, 3 Pelham street, Boston. This company has specialized in welding apparatus for years, and produces equipments to meet all requirements. One of the features of the Waterhouse product is the non-flashable torch. The advantages of a welding and decarbonizing outfit are well known. Not only can work be performed in the garage at a profit, but considerable on outside jobs that can be made to pay. The Waterhouse Welding Company's free offer should be investigated by every garage or repair



Carrying Case of the Waterhouse Welding and Decarbonizing Equipment.

shop in need of such equipment. The Waterhouse product is sold under a liberal guarantee. Details of the offer will be forwarded upon request.

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NEW LOCATIONS AND REMOVALS.

J. Riley Graham, Santa Ana, Cal., has leased the Huntington Beach garage and will take immediate possession.

The Excelsior Motorcycle Company, Harrisburg, Penn., is planning to establish permanent quarters at 10 South Market square.

The Waterman Truck and Auto Company, Norfolk, Va., has removed to 125 Brooke avenue.

Charles N. Norman, Hibbin, Minn., has rented a store at 215 Centre street and will locate there. Motorcycles and bicycles are sold, as well as a complete line of accessories stocked.

The Reading Standard Sales Company, Boston, Mass., New England distributor for the Reading Standard motorcycle, has located at 141 Columbus avenue.

The De Dion Tire and Rubber Company, New York City, has leased stores at 1789 Broadway. The company's headquarters are at Trenton, N. J.

H. H. Kelly, Santa Ana, Cal., agent for the Cadillac and Paige cars, has moved into a new garage on Main street.

The Sphinx Motor Sales Company, Indianapolis, Ind., has opened headquarters at 616 North Capitol avenue.

The Automobile Clearing House, San Antonio, Tex., has moved to larger quarters in the Menger Garage building.

F. Shirley Boyd, Boston, Mass., distributor of high-grade automobile accessories, has moved to larger quarters at 175 Massachusetts avenue.

The Williams Motor Car Company, Springfield, Mass., is now located in its new sales rooms at the corner of Worthington and Chestnut streets. The company is agent for the Dodge car.

The Marathon Motor Car Company, Merrill, Wis., has moved to new and commodious quarters on Main street.

The Stutz Automobile Company, St. Louis, Mo., has moved to its new headquarters at 4130 Olive street.

The Huffman Motor Car Company, Omaha, Neb., has opened its new garage at 2206 Farnam street. It is thoroughly equipped.

The Overland-Florida Company, Jacksonville, Fla., has moved into its new quarters at 314 West Monroe street. Overland cars are handled.

R. M. Owen & Co., New York City, has opened its show rooms at 737 Seventh avenue. Owen Magnetic cars are handled.

Paul O'Brien and William Merz, Columbus, O., have leased the Spring street garage, 58 East Spring street, and will operate a garage and taxicab station.

The Economical Garage Company, New York City, has leased the five-story building at 252 West 68th street.

H. Ross Maddocks, Boston, Mass., has taken a new sales room at 1118 Boylston street, which will also be used for general offices. He will also retain his present service station at 175 Pleasant street. Stewart trucks are carried.

S. A. Miner, Hartford, Conn., has opened a fully equipped service station at 105 Albany avenue. Pierce-Arrow cars are handled.

The Waller Automobile Company, Wichita, Kan., has leased quarters in the Cubon-Moore building at 18th street and Lawrence avenue.

Latham, Davis & Co., San Francisco, Cal., is now located in new quarters on upper Van Ness avenue. Fiat and Stutz cars are handled.

The States Auto Supply Company, Oskaloosa, Ia., has moved to the corner of A avenue and Second street and will job accessories and tires.

The Baker Rim Auto Company, New York City, has leased a store at 250 West 54th street.

The Lee Tire and Rubber Company, Philadelphia, Penn., has moved to 660 North Broad street. The company was formerly located at 334 North Broad street.

The Carlton-Faulkner-Bowles Company, Los Angeles, Cal., has taken over the building on 11th and Flower streets, formerly occupied by the Thomas Motor Car Company. Jeffery trucks will be sold at the new address and a service depot will be maintained for the Fiat car. The old location at 10th and Hope streets will also be conducted for the McFarlan and Jeffery pleasure cars.

The Polack Tyre and Rubber Company, New York City, has leased the store at 10 West 62nd street, in the Motor Mart. The new location affords 7500 square feet of space and the rear portion of the second floor will be used for executive offices.

The Nicolas & Els Agency, Indianapolis, Ind., distributor of Lesgas, a compound to be used with gasoline in automobiles, will shortly be opened at 525 Hume-Mansur building.

C. H. Larson, New York City, will locate at 1800 Broadway. Oldsmobile cars are handled.

The L. J. Mutty Company, Boston, Mass., has moved to 175 Congress street.

The Calendar-Cadillac Company, Wichita, Kan., is now located at Lawrence avenue and English street.

The Benplat Motor Supply Company, Lawrence, Kan., has moved to 708 Massachusetts street from 824 Vermont street. The company handles the Buick car. A new machine shop is being installed.

The Hutchinson Motor Car Company, Hutchinson, Kan., has leased the new garage at 107 Sherman street for a period of five years. The company handles the Dodge and Hudson cars.

The Baker Motor Vehicle Company, New York City, has moved to Central Park, West.

B. D. Herndon, Blackwell, Okla., has moved to South Main street.

The City Garage, Brockton, Mass., has moved into new quarters at Warren avenue and Belmont street. The building is 105 by 67 feet, which affords better facilities for the company.

The Carlsten Williams Company, Chicago, Ill., has leased the five stores at 2111-17 South Michigan avenue, to be used as an office and sales room for tires and accessories.

The Central Auto Company, Mobile, Ala., formerly located on St. Michael street, has leased the garage at the corner of St. Michael and St. Joseph streets. The building is being remodelled.

The London Rubber Company, New York City, has leased the corner store in the Metropolitan Opera House building.

J. P. McDonnell, Clinton, Ia., has leased the store at 717 Main street and is having it remodelled into an automobile sales room. A repair department will also be maintained.

The Lion Tractor Company, Indianapolis, Ind., has located in larger quarters in the Security Bank building.

The Pioneer Tire Repair Company, Indianapolis, Ind., has leased the store at Hennepin and 14th streets. The company specializes on automobile rims and rim parts.

The Grasser Motor Company, Toledo, O., has taken larger quarters in the building formerly occupied by the Blevins Auto Sales Company, Madison street. The company is agent for the Hupmobile, and will also handle the Dodge car.

The Abbott Auto Repair Shop, Derry, N. H., has been leased to the Whitcomb auto repair works.

C. L. Heath, Binghamton, N. Y., is now located in its new store at 38 Henry street. C. R. Heath is also interested. The company handles the Goodyear and Diamond tires, and also carries a complete line of accessories and supplies.

The O'Harrow Auto Company, Charles City, Ia., is now located in its new quarters. It is expected, as business increases, to add another story to the new building.

The Live Oak Tire Company, Live Oak, Fla., is now located in the Barron building on Connor street.

The Apperson Jack Rabbit Automobile Company, Omaha, Neb., has taken larger quarters at 2417 Farnam street. A first-class service department has been installed. J. M. De Long is the manager.

The Overland Company, Philadelphia, Penn., has taken the large building at 327 North Broad street, which also has a frontage on Wood street. A used car department, parts and service station, are all under the same roof.

The Colonial Motor Company, Philadelphia, Penn., distributor of the R-C-H and Partin-Palmer cars, has moved from 330 North Broad street to 664 North Broad street.

J. J. Gorman, San Antonio, Tex., has leased the building at 213 St. Mary's street and will establish an automobile exchange.

The Mid-West Motor Company, Wichita, Kan., has moved to 208 South Lawrence avenue. The company represents the Haynes car.

S. W. Schott & Co., Columbus, O., is now occupying its new sales rooms at 244 North Fourth street. The company is distributor for the Empire car.

The Dubuque Tire and Vulcanizing Works, Dubuque, Ia., has removed to its new plant at 1447 Clay street. L. Floyd Huntington is the general manager.

The Peerless Tire and Rubber Company, Toledo, O., has moved to larger quarters at 713 Jefferson avenue.

The Lowell Welding Company, Lowell, Mass., has moved from 64 Leverett street to the large and up-to-date building at 62 Leverett street.

The Indiana Commercial Truck Company, New York City, has leased the building at 245 West 55th street.

Gregory Brothers, Norfolk, Va., has removed to a new and more commodious building on City Hall avenue. The company does a general automobile repair business.

The Parker Motor Car Company, Seattle, Wash., is now located in its new building at 1507 Broadway. The company handles the Pullman car.

Carleton & Cooley, Oakland, Cal., has leased sales rooms at 406 20th street, where attractive quarters for Imperial and Pullman cars have been secured.

The W. A. Sewall Company, Clinton, Ia., has completed its new garage.

The Frank Sanders Automobile Works, New York City, will soon locate in its new quarters in the Motor Mart building, at 65th street and Broadway.

The King-Dahl Company, Fargo, N. D., agent for the Studebaker car, has removed to new quarters.

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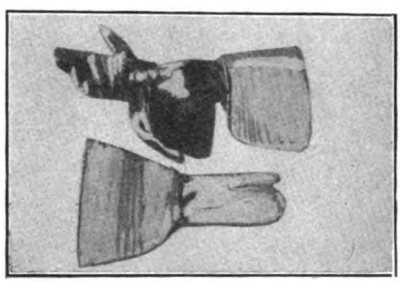
ACCESSORIES, SUPPLIES AND FITTINGS.

THE "GRIP-TITE" GLOVE.

Has Extra Palm, Affording a Secure Grip on Steering Wheel.

The Morrison-Ricker Manufacturing Company, Grinnell, Ia., is producing what is termed the "Grip-Tite"



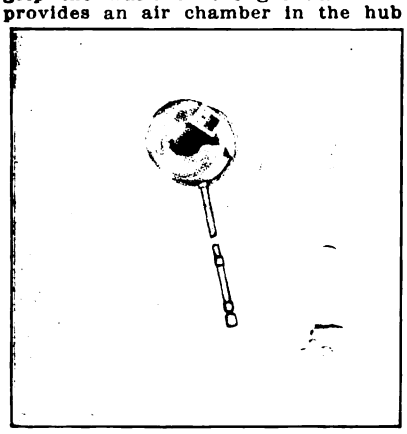
glove. It is provided with an extra palm so sewed that the leather puckers between the stitches to form corrugations. It is stated that these corrugations afford a firmer grip on the rim of the steering wheel than with regular gloves, and that the design is more enduring. The "Rist-Fit" closing device is designed to prevent the cuff from sagging down over the hand. The one-fingered mitten shown is lined with eider-down wool and is supplied with either a gauntlet or with a web wrist.

AUTOMATIC TIRE INFLATOR

Novel Device for Maintaining Pressure in Tires.

The D. L. Davis Manufacturing Company, Marquette building, Chicago, Ill., is marketing the automatic tire inflator, which is a novel mechanical construction that maintains the tires of the motor vehicle in a fully inflated condition; that is, air is pumped to the shoes when the car is being operated. The air is supplied by a pump of the diaphragm type, and there is a distributor on the dash board of the machine.

The air is pumped through rubber tubes to a rotary joint placed in each wheel. This joint consists of two circular discs, which revolve upon one another, one disc being fixed in the hub of the wheel, revolving with it, while the other is attached to the axle, and is stationary. These discs are connected by a deep groove in the revolving disc, into which fits a projecting ring or flange on the other disc, which carries a U shaped gasket of such form that, when air is pumped into the groove the pressure expands the gasket, so that the edges grip the walls of the groove. This provides an air chamber in the hub of the wheel, and the air is carried from this compartment direct to the tire. An air tube leads from this chamber to the valve stem, as shown in the accompanying illustration. An adjustable sliding sheath connection is provided, making it possible to attach a conventional hose line.

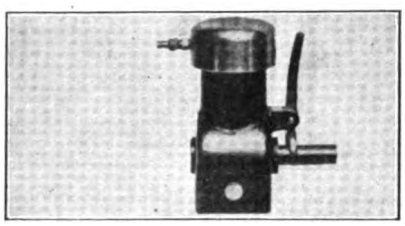


LIPMAN POWER TIRE PUMP.

New Model Is Known as the 21 and Is for 1915 Cars.

The Lipman Air Appliance Company, 700 Pleasant street, Beloit, Wis., has brought out a new model of power driven tire pump listed as the model 21. It has a large bore and short stroke, and is supplied with gears, hose and bracket for attachment to the majority of the 1915 models not equipped with a power tire pump.

The pump is an all-metal construction, has a drop forged ground crankshaft, and the cylinders and pistons are of a special gray iron.

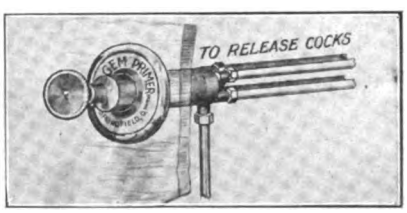


Both the inlet and exhaust valves are located in a special head plate, and a hood prevents the entrance of foreign elements. The pump has a gearshift lever with a positive lock. It retails for $15.

THE GEM PRIMER.

Takes Fuel from Main Line and Forces It to the Cylinders.

The Gem Primer Company, Springfield, O., is manufacturing the Gem primer, which the maker states will make easy the starting of the motor without spinning, either mechanically or manually. The device provides for utilizing gasoline from the supply line and forcing it under pressure into each cylinder.



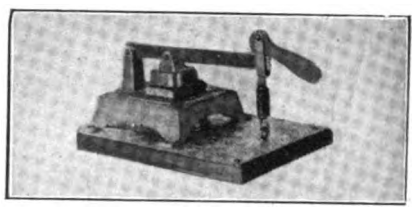
The appliance fitted to the dash of a car is shown in the accompanying illustration and, as may be noted, the vertical pipe is connected with the fuel supply line. Leading from the unit are the tubes which connect with the priming cocks or spark plugs.

A slight turn of the piston member opens the supply line, and a single reciprocation of the piston out and in forces the fuel through the tubes to the cylinders. Special spraying nozzles are provided, these connecting the tubing with each cylinder, and a ball check valve prevents any leak on the compression stroke of the piston. The check valves screw into the cylinders in place of the petcocks, and a special connection is made for the Ford motor. The Gem primer sells for $7.50.

HORSEY PONY VULCANIZER.

Special Design for Use with Horsey No-Cement Patches.

The Horsey Manufacturing Company, 6104 Euclid avenue, Cleveland, O., is producing the Horsey pony vul-



canizer for repairing inner tubes. It was specially constructed to demonstrate that the Horsey no-cement patches can be vulcanized after application without the use of cement.

The new vulcanizer is constructed on the principle of the large types, and the maker states that it is the only design having a spring tension on the tube when in service. It can also be handled without danger of burning the hands. Denatured alcohol is employed for a fuel, and a steady, uniform heat is obtained. The vulcanizer is five by six inches, is mounted on an eight by 10 board protected by galvanized iron. All parts are nickel plated. The Horsey comes with 12 assorted patches, sandpaper and complete instructions. It sells for $8.

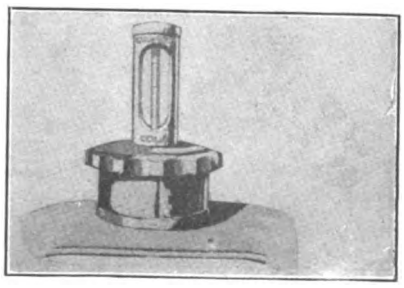
THE "MOTOR EYE".

Indicates Changes in Temperature of the Cooling Fluid.

W. Lewis Mack, general distributor, 20 West Jackson boulevard, Chicago, Ill., is marketing a practical and useful device termed the "Motor Eye". As may be noted by the accompanying illustration it is mounted on the radiator cap by drilling a 7/16-inch hole in the cap and passing the standard through the opening. The standard has a threaded stem for taking a lock nut, which is screwed up to secure the "Motor Eye" in position.

The device serves a number of useful purposes. It warns the driver when the temperature of the cooling fluid rises above normal, as well as indicates low temperatures. Any failure of those components of the motor which would cause the overheating of the power plant is denoted by the "Motor Eye".

The registration of the temperature is obtained by a mercury charged, metallic, thermo conductor rod in direct contact with the water as it leaves the motor and passes into the radiator. The device is calibrated, and readings are taken as easily in the night as in the day, as the height of the fluid is easily noted against the light background afforded by the rays of the headlights. The "Motor Eye sells for $2.50.



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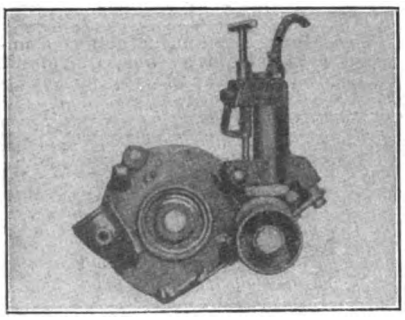
UNIQN AIR PUMP.

Motor Driven Tire Pump Permanently Attached to Ford Motor.

The Pittsburg Auto Equipment Company, Pittsburg, Penn., is manufacturing the Union motor driven air



pump for the model T Ford automobile, which should appeal to owners of these cars desiring a power tire pump. The device is permanently attached by removing two bolts and the lower fan pulley, and substituting the bolts and pulley supplied with the Union equipment. The maker states that there is no drilling or machining to be performed and that the parts are accurately made.

The pump is brought into operation only when the guide rod is depressed, and it is stated that it will pump up any Ford tire to a pressure of 60 pounds in 75 seconds. To throw the pump out of operation the guide rod is lifted and secured in position by a keeper. With each Union pump are supplied 11 feet of the best high pressure air hose, nipple and valve connections. The material and workmanship are first-class in every respect. It sells for $8.

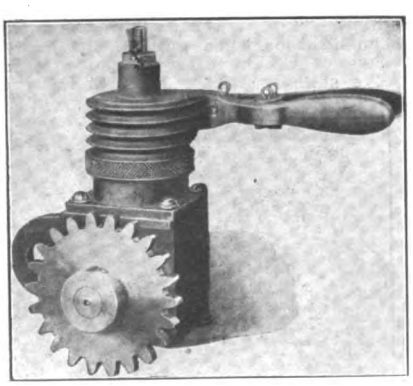
MANZEL POWER TIRE PUMP.

Designed Particularly for the Ford Car and Is Very Compact.

The Manzel Bros. Company, 335 Babcock street, Buffalo, N. Y., has brought out an engine driven tire pump for the model T Ford automobile. This concern specializes in power driven pumps, and the new design is constructed of the same high-grade material and workmanship for which the products of this concern are noted. The Ford pump is moderately priced.

The pump is installed on the left hand side of the motor, and the support for attaching it is included in the equipment. The maker states that anyone can install it in 45 minutes, and there are no holes to be drilled or machine work to be performed. The pump is an all-metal construction, and all its parts are accurately ground.

The old fan pulley is discarded and one carrying a gear is utilized. This gear is the driving member, meshing with a gear on the shaft of the pump. A convenient handle is provided for throwing the gears into mesh, and the equipment includes hose, etc. The pump supplies pure air, free from any lubricant, and the maker states it will inflate a tire in 90 seconds. It retails for $7.50.

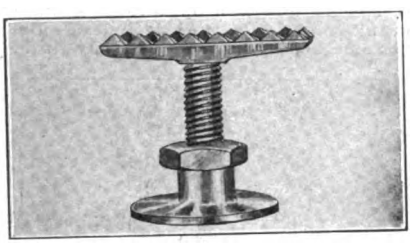


THE FUQUA REST.

A Practical Support for the Foot of the Driver of the Car.

The Fuqua foot rest is the invention of T. C. Fuqua and is manufactured by Fuqua Bros., Richmond, Va. As the name implies, it is a rest or support for the foot of the driver, and one of its advantages is that it can be adjusted to meet requirements. As may be noted by the accompanying illustration, the rest proper is attached to a threaded column, which screws into a standard. The rest is prevented from moving by a lock nut. The maker states it will fit any car with pin or lever throttle.

The Fuqua foot rest not only saves wear on the shoe and toe board of



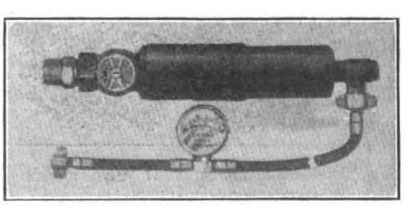
the machine, but prevents accidental or sudden acceleration when traversing rough roads. It is made in three finishes, and sells for $1.

MAYO FORD PUMP.

Screws into Valve Cap and Is Held to Be Very Efficient.

The Mayo Manufacturing Company, 53 East 18th street, Chicago, Ill., has brought out a power tire pump for the model T Ford automobile. The pump is designed to be screwed into the valve cap after the spark plug has been displaced.

The pump is compact, and pumps pure air to the tire, and the maker states that it is impossible for any foreign matter to reach the inner tube. The equipment comprises suitable length of high-grade flexible hose, and a pressure gauge is incor-



porated in the line. It is stated that the pump is very efficient, and that it will inflate a tire in a very short time. The company also manufactures a quick detachable type of spark plug, which can be removed by a slight motion of the hand. The device is so constructed that the pump locks into the opening obtained.

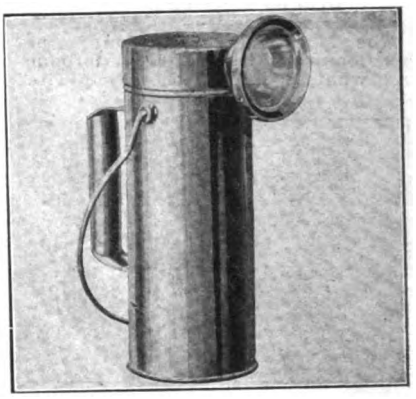
POWER TIRE PUMPS.

One of the more recent developments in the accessory field is the perfection of the power tire pump. Several manufacturers are specializing on an equipment for the used motor vehicle, and in practically every case the pump comes complete with fittings and can be easily installed.

DELTA ELECTRIC HAND LAMP.

Includes Battery and Dry Cell, and Has Two Handles.

The Delta Electric Company, Marion, O., maker of electrical specialties, is manufacturing the Delta



electric hand lamp, which will appeal to motorists whose cars are not equipped with an electric lighting system, as the lamp affords means for illumination when making adjustments about the car and when it is not advisable to use a light having a naked flame.

The lamp is equipped with a double-convex ground and polished lens, which, with a special reflector, diffuses the light, making it adaptable for service where the rays are not to be thrown a long distance. The battery is contained in a nickel plated cylindrical body, has a bail handle, also a grip on the back.

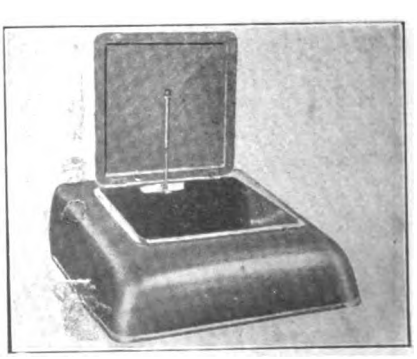
One of the desirable features of the construction is that a single dry cell is employed, and the maker states that the bulb is very economical of current. The Delta lamp is very compact and may be stored easily in the tool box. When the service of a trouble or inspection lamp is desired, the Delta will save time, as there are no connections to be made.

STEWART PERFECT LOCK.

A Device with Fastening for Holding up Cover of Deck on Ford Car.

A practical device, one that should appeal to owners of the model T Ford roadster, is the Perfect lock, manufactured by the Stewart Specialty Company, 79 East Chestnut street, Columbus, O. As may be noted by the accompanying illustration, it holds up or opens the lid of the rear deck of the car, which is a decided convenience when parcels are to be removed or articles placed in the compartment.

The device can be installed without drilling, only a wrench being necessary. Although made for the Ford, it will fit other makes, and one of its advantages is the provision afforded for a lock. The Perfect lock sells for $1.50, the holder for 50 cents.



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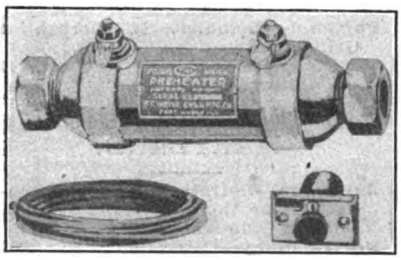
PAUL CARBURETOR HEATER.

Warms Air by Electrical Current, Making Starting Easy.

The Fort Wayne Engineering & Manufacturing Company, Fort Wayne, Ind., is marketing the Paul



carburetor air preheater, a device for making easy the starting of a cold motor in low temperatures. Use is made of the heat of electricity.

The preheater is incorporated in the tubing or coil conveying the heated air from the exhaust manifold to the air intake of the carburetor. By pressing a button the current heats the device, and when the motor is cranked warm air is drawn into the carburetor, assisting in the vaporization of the cold fuel. The complete equipment includes the heater, 15 feet of wire, a cowl switch and instructions. The preheater will operate on any six-volt current. It lists at $8.

ECONOMY GASOLINE DEVICE.

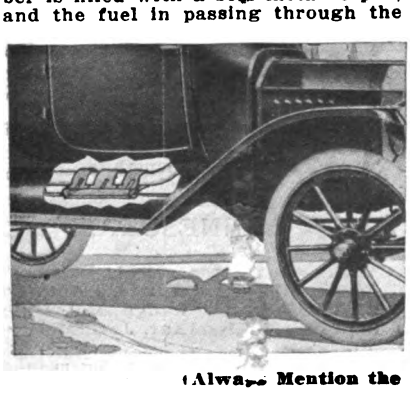
Utilizes Heat of Exhaust to Warm Fuel and Is Practical.

The Inst Lighter Company, Columbus, O., which has been specializing in motor vehicle specialties for a number of years, has brought out the Economy gasoline improver for the Ford and other cars. The device presents a number of interesting, as well as practical features and, as the name implies, increases the mileage obtained with a gallon of fuel.

The principle involved is that of utilizing heat to warm the fuel, thereby assisting in vaporization. Another advantage of the use of heat, one that is being recognized by many motor vehicle manufacturers, is that a more perfect mixture is obtained, one that is completely and quickly burned in the cylinder.

A desirable quality of the Economy gasoline improver is that it can be installed on the Ford car, for example, without disturbing the fuel line or carburetor. The maker claims that it can be attached in less than 10 minutes by the novice, the work involving but the placing of the device on the exhaust pipe and tightening two bolts retaining the sections in place.

The heat of the exterior walls of the exhaust pipe is utilized, it being conducted to the walls and interior of a cylindrical chamber, through which the fuel pipe runs. This chamber is filled with a soft metallic pad, and the fuel in passing through the section of the enclosed pipe is heated. The Economy is eight inches long and three wide and, as previously stated, can be attached without displacing or cutting the exhaust line. It sells for $2.35.



WARNER SLEEPING BLANKET.

Practical Equipment for Touring, and Affords a Lap Robe.

The Perkins-Campbell Company, Cincinnati, manufacturer of motor vehicle specialties, including seat covers, etc., is marketing the Warner hooded water proof sleeping blanket and lap robe. It consists of a heavy blanket of wool on the inside for warmth, and of water proof duck on the outside.

It may be utilized as a lap robe or as a sleeping blanket when camping. One corner of the construction is so arranged that by drawing a cord a hood is formed for protecting

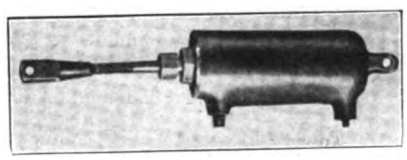
the head, as shown in the accompanying illustration. When used as a sleeping blanket it is possible to so fold it that one is completely protected from the weather. Means are provided in the hood for obtaining ventilation without exposing the user to the rain. It retails for $16.

SCHOOLER CLUTCH CHECK.

Operates on Hydraulic Principle and Prevents Harsh Engagement.

The O. E. Schooler Company, Webb City, Mo., is manufacturing a device termed the Schooler hydraulic clutch check. It is designed to eliminate any harsh action of the clutch, and is adaptable to both pleasure and commercial vehicles. The maker states that it works equally well with a cone or disc clutch and that, with it, it is impossible for a clutch to engage harshly.

It operates on the hydraulic principle and two adjustments make it adaptable to any type of clutch. The maker states that the Schooler device will not retard the action of the clutch, except at the actual point of engagement, and that it operates efficiently. The device weighs but 4½



pounds and is attached to the clutch pedal under the floor boards. Any experienced mechanic can install and adjust it in two hours and, after fitting, the maker states it will not require any further attention. It sells for $10.

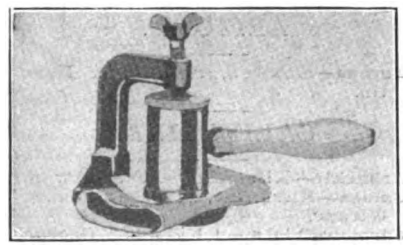
RUFF-FORD ATTACHMENT.

The Tire Trading Company, 50 William street, Newark, N. J., is manufacturing the Ruff-Ford power transmitting attachment, which enables the owner of the machine to employ the energy of the motor in a number of useful ways. The maker states that it can be attached easily and without any alterations to the motor, and that it will not interfere with the operation of the car.

QUICK ACTION VULCANIZER.

Electric Device Utilizing Current from Lighting Circuit, Etc.

The production of vulcanizing equipments, especially of the portable type, has been responsible for a large



number of motorists undertaking repairs to tires and inner tubes. The types designed for the owner are easily and successfully operated and, as a rule, do not require a knowledge of the principles of vulcanizing to accomplish good work.

Henry T. Adams & Co., Chicago, Ill., has brought out a new type of vulcanizer which presents interesting features. It is of the electric form, and it is stated that it will operate efficiently from any 110-volt lighting circuit, or from the lamp socket of a motor vehicle equipped with electric lighting. It is also stated that the current generated by the Ford flywheel magneto may be successfully employed to operate the vulcanizer.

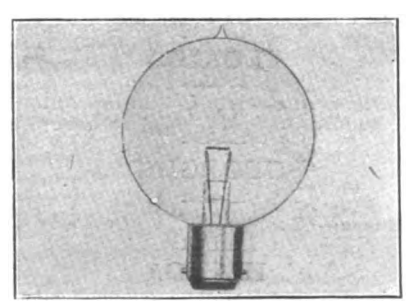
The Quick Action vulcanizer, as it is termed, permits of making repairs on the road, as well as in the garage, and is held to be very efficient for vulcanizing casings. It is stated that a repair can be made in 20 minutes. The vulcanizer is fitted with an automatic heat regulator, preventing burning, and it is claimed that a repair can be made to an extra casing or tube when the car is in motion, as the device draws but little current.

JAEGER NITROS LAMP.

Filament Is Surrounded by Nitrogen and Other Inert Gases.

The H. J. Jaeger Company, Hoboken, N. J., is introducing a new type of bulb for electric headlights. The "Jaeger Nitros", as it is termed, has a filament of drawn tungsten wire. It is coiled into a helix, and is mounted in a very small space, thus concentrating the light and affording a much closer focal adjustment than is obtained with conventional designs.

The new lamp differs from ordinary types in that the filament, operating in a vacuum, is surrounded by nitrogen and other inert gases introduced under pressure. It is stated that the presence of these gases permits of heating the filament to a much higher temperature without affecting it, and that a more efficient light is obtained without extra cost. The H. J. Jaeger Company will supply complete details and prices upon request.



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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡cyclecar.—Add to and Correct Your Mailing List.

ARIZONA.

Tucson—Maxwell, Hankins & Martin.

CALIFORNIA.

Arbuckle—KisselKar, A. J. Atran.
Calusa—KisselKar, Calusa County Garage.
Carmel—Oldsmobile, George Schweninger.
Corona—Dodge, Sam Uhler Graham.
East Auburn—KisselKar, Otto E. Thomas, Box 52.
Fresno—Oakland, John E. Finney.
Hemet—Dodge, Gibbel & Aylesworth.
Los Angeles—King, English Motor Car Co.
Lexington, Lynn C. Buxton.
Pullman, Aston Motor Car Co.
*Koehler, W. E. Sparks.
*Republic, Mack Motor Truck Co.
Marysville—KisselKar, Marysville Garage.
Pasadena—Mitchell, A. L. Ryder.
Oldsmobile, W. J. McCulley, 103 W. Colo. St.
Stearns-Knight, A. L. Ryder.
Riverside—Dodge, Stutt Bros.
KisselKar, Fairmount Garage and Machine Works.
San Francisco—Pullman, Stewart Auto Sales Co.
San Jose—Chandler, W. J. Benson.

COLORADO.

Denver—Briscoe, George A. Estabrook.
Dodge, T. Botterill.
Krit, Wm. Thorney Auto Co.
Monroe, Harry E. Maines.
Pullman, E. F. Ervin.
†Walker, E. M. Jackson.
Langmont—Saxon, W. Shinkle and F. R. Shaw.

CONNECTICUT.

Ansonia—*Koehler, Ansonia Garage.
Greenwich—Detroiter, Enders & Abrams.
Hartford—*GMC, Kenney Garage.
*Krebs, Edward S. Clark.
New London—Oldsmobile, J. B. Gotchell.
Stamford—Lexington, Motor Sales, Inc.

DELAWARE.

Wilmington—King, Postles Auto Brokerage Co.

DISTRICT OF COLUMBIA.

Washington—Hupmobile, Burger Motor Co.
Jeffery, Combs-Howard Co.
Pullman, W. P. Bernhart & Co.

FLORIDA.

Jacksonville—Dodge, Sinkler Automobile Co.

GEORGIA.

Macon—*Koehler, W. E. Cookerly.

IDAHO.

Blackfoot—King, E. & G. Bills Auto Co.
St. John—Reo, R. B. Gaines.
Twin Falls—Detroiter, F. A. Nelson.

ILLINOIS.

Bloomington—*Koehler, C. U. Williams Son & Co.
Chicago—Lexington, T. C. Vawter, 2241 Michigan Ave.
Jacksonville—Lewis, John Wolke.
Morrison—Franklin, O. Woods.
Peoria—Dodge, Lyall & Maroney.
Springfield—Lexington, R. Haas Electric & Mfg. Co.

INDIANA.

Auburn—Grant, George Quince and Charles Kinsey.
Crawfordsville—Saxon, Arnold, Hill & Turpin.
Fort Wayne—Buick, Shyrock Auto Co.
Huntington—Mitchell, H. Zent & Co.
Indianapolis—Chevrolet, William Small.
Monroe, William Small.
Lafayette—Saxon, Columbia Tire & Auto Co.
Wabash—Oldsmobile, John W. Bloomer.

IOWA.

Bennett—Oldsmobile, Harding & Trotter.
Burlington—Lexington, Farmers Motor & Supply Co.
Cedar Rapids—Pullman, Mohrbacher & Co.
*Nevada, Blake Auto Co.
Conroy—Lexington, Gerger & Martinson.
Davenport—Mitchell, McGivern Motor Co.
Fort Dodge—Chandler, Hanson & Tyler.
Velie, Black & Kirkpatrick.
Toledo—Franklin, Jones Bros. Auto Co.
Webster City—*GMC, Hanson & Tyler Auto Co.

KANSAS.

Great Bend—Moon, Great Bend Hardware and Implement Co.
Independence—Oldsmobile, R. A. Stone.
Liberal—Moon, W. O. Woods.
Russell—Chandler, H. A. Fink.
Scranton—Moon, Sappenfield & Co.
Topeka—Allen, Jackson Motor Car Co.
Chandler, Independence Auto Co.
Wichita—Moon, H. W. Schroeder.
Pullman, Regal Motor Co.

KENTUCKY.

Franklin—*Denby, Yager Motor Car Co.
*Koehler, Franklin Hardware Co.
Louisville—Allen, Kenton Motors Co.
Lewis, Kenton Motors Co.
*Republic, P. M. Androit & Sons.
*United States, Louisville Auto Exchange.

MAINE.

Camden—KisselKar, W. C. Howe.
Casco—Maxwell, G. T. Crook and Myron J. Hall.
Easton—Detroiter, Kneeland Bros.
Fairfield—Chandler, Bishop & Doran.
Portland—Chandler, L. Derrah & Griffin.
Oldsmobile, D. E. McCann, 41 Union St.
Saco—Chandler, H. A. Harris.

MARYLAND.

Baltimore—Detroiter, Beller & Ogden Motor Co.
King, Randall Mfg. Co.
Federalsburg—Detroiter, R. W. Messenger.

MASSACHUSETTS.

Boston—Oakland, R. W. Vining.
Pathfinder, William Hilliard.
Pullman, Leo W. Schegelmilch.
Campello—Detroiter, Franklin Motor Co.
Concord—Ford, Torrey & Vaille.
Lowell—Crow, A. P. Sackley.
Lynn—Dodge, Green & Sibley.
Reo, John J. Hunt.
Monson—*Koehler, Monson Garage.
North Adams—Saxon, Anson S. Williams.
North Cambridge—*Signal, Henderson Bros.
Southbridge—*Koehler, Weld & Beck.
Three Rivers—Dodge, Homer A. Chalifoux.
Waltham—Chandler, McGregor Garage.
Woburn—Overland, J. H. Bates & Son.
Worcester—Paige, J. V. Ekberg.

MICHIGAN.

Adrian—Ford, C. M. Johnson and Leonard Mitchell.
Allegan—Dodge, W. W. Vosburg.
Battle Creek—Overland, L. S. Knowles.
Bay City—Pullman, Oswald Auto Co.
Bellevue—Ford, Frank Clark.
Charlevoix—Saxon, Benjamin Brown.
Charlotte—Ford, Barber Bros.
Clare—Saxon, Kelley & Ballard.
Davison—Ford, E. M. Jones.
Detroit—Briscoe, Foster Motor Sales Co.
Imperial, Foster Motor Sales Co.
†Argo, Foster Motor Sales Co.
Dowagiac—Overland, L. C. Wells.
Escanaba—Overland, Earl J. French.
Grand Rapids—Saxon, Grand Rapids Saxon Co.
Ionia—Monroe, R. H. Van Vlech.
Iron Mountain—Ford, E. W. Jones.
Jackson—Saxon, W. T. Murray.
Kalamazoo—King, W. O. Harlow.
Lainsburg—Oldsmobile, E. E. Leland.
Lansing—Cadillac, Union Garage.
Oldsmobile, Union Garage.
Ludington—Saxon, Cartier Auto and Garage Co.
Marquette—Dodge, A. Cullen.
Muir—Paige, Sykes & Dilley.
Mt. Pleasant—Buick, Bank Automobile Co.
Dodge, Bank Automobile Co.
Perry—Dodge, Dunning & Hart.
Port Huron—King, Frank S. Church.
Webberville—Oldsmobile, Leslie Ling.

MINNESOTA.

Anoka—Lexington, J. H. Ward.
Barnesville—Ford, Citizens Auto Co.
Biwabik—Saxon, Range Motor Co.
Lanesboro—KisselKar, J. G. McMaster.
Litchfield—Dodge, H. O. Everson & Co.

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Minneota—Dodge, Jacobson Bros. & Jonathan.
Minneapolis—Pullman, A. N. Choate Auto Co.
Ulan—Ford, Citizens Auto Co.

MISSOURI.

Kansas City—King, Karshner Motor Car Co.
Pullman, J. D. McCrew.
Stearns-Knight, White Motors Co.
Maysville—Lexington, H. O. Williams.
St. Joseph—Chandler, Leslie Motor Car Co.
St. Louis—Apperson, A. H. Meyer Motor Car Co.
Lexington, Lindell Motor Car Repair Co.
Pullman, Ideal Motor Sales Co.

MONTANA.

Fallon—Pullman, Shultz & Toppins.
Judith Gap—Ford, Beers & Haynes.

NEBRASKA.

Omaha—Paige, Murphy-O'Brien Co.
Pullman, T. G. Northwall Co.
*Commerce, E. E. Moser Co.
*Denby, E. E. Moser Co.
*Federal, E. E. Moser Co.
*Signal, Huffman Auto Co.
*Standard, E. E. Moser Co.
†Milburn, Huffman Auto Co.
Toledo—†Argo, Harry Francke.

NEW HAMPSHIRE.

Derry—Maxwell, Thomas S. Emery.
Dover—Pullman, Granite State Garage.
Lebanon—Saxon, Bagley & Plamondon.
Manchester—Pullman, H. L. Lamprey.
Wilton—Oldsmobile, F. W. Clark.

NEW JERSEY.

Burlington—Detroiter, M. J. Gray.
Camden—Detroiter, O. O. Phillips.
East Orange—Case, North Grove Garage.
Gibbsboro—Detroiter, Howard Parker & Sons.
Landisville—Detroiter, C. F. Riedel.
Millville—Detroiter, Troth & Keen.
Morristown—Haynes, Cain-Henry Motor Car Co.
Oldsmobile, Cain-Henry Motor Car Co.
Mullica Hill—Detroiter, Joseph P. Stratton.
Newark—KisselKar, C. F. Briggs Co., 235 Halsey St.
Ocean City—Detroiter, B. Frank Smith.
Summit—Oldsmobile, Frank A. Wahl.
Trenton—Detroiter, Toman Bros., 130 No. Warren St.
Toms River—Detroiter, A. W. Brown.
Woodstown—Detroiter, E. G. Peterson.

NEW MEXICO.

Deming—Chandler, Case & McKinley.

NEW YORK.

Amenia—Saxon, Amenia Garage.
Binghamton—Saxon, June Auto Co.
Brooklyn—Chandler, I. M. Allen Co.
Buffalo—Moon, Hurd-Landscheft Motor Car Co.
Pullman, Poppenberg Motor Car Co.
Ceres—Detroiter, Raymond & Lamphere.
Clifton Springs—Franklin, C. L. Bailey.
Cobbleskill—Pullman, W. Harold Fox.
Ellicotville—Detroiter, J. E. Doolittle.
Elmira—Detroiter, J. Bruce Bishop.
Franklin, Fred M. Jones, 109 W. Church St.
Farnham—Detroiter, C. J. Peters.
Ithaca—Oldsmobile, E. J. Trapp, 114 Fulton St.
Kenoza Lake—Saxon, Thiess & DeLap.
Kingston—Moon, Stryker & Youmans.
Lestershire—Pullman, B. W. Livingston & Sons.
Livonia—Detroiter, Scott W. Crane.
Middleport—Detroiter, F. A. Whittaker.
Monsey—Saxon, Clayton A. Johnson.
New Rochelle—Reo, Thomas J. Northway.
Saxon, Tracy Rochfeld.
New York—Lexington, Lexington Sales Co.
Pullman, Pullman Sales Co.
‡Scripps-Booth, Isotta-Fraschini Co.
Oneonta—Pullman, L. H. Townsend.
Potsdam—Oldsmobile, Dr. G. P. Lyman.
Poughkeepsie—Detroiter, C. C. Andrews, 75 Thompson St.
Rhinebeck—Saxon, Turton & Snyder.
Rochester—Lexington, Pritchard & Lyons Motor Corp.
Moon, W. M. Kipp.
Schenectady—Oldsmobile, Chris C. Kehoe.
Seneca Falls—KisselKar, O. E. & E. J. Riegel.
Silver Creek—Detroiter, F. B. Porter.
Syracuse—Saxon, Shaw & Sissona.
Tarrytown—Reo, Koenig Bros.
Theresa—Ford, Alfred Stratton.
Utica—Detroiter, Henry & Morris.
Waterloo—Detroiter, Iroquois Garage.
Waverly—Moon, State Line Motor Co.
Worcester—Detroiter, Louis Bellinger.

NORTH CAROLINA.

Charlotte—King, A. Burwell.
Greensboro—*Koehler, Greensboro Motor Car Co.

NORTH DAKOTA.

Bowbells—Oldsmobile, Heath & Drinkwater.
Dickinson—Franklin, Dickinson Motor Car Co.

OHIO.

Bucyrus—Ford, A. L. Holloway.
Chillicothe—*Koehler, Bartley Mallow.
Cincinnati—Lexington, Cincinnati Motor Truck Co.
Pullman, Pullman Motor Car Co.
*Denby, Bauer Motor Co.
Cleveland—Allen, Stark Motor Car Co.
Briscoe, Empire-Briscoe Co.
Chandler, Cuyahoga Sales Co.
Detroiter, M. D. Coates.
Empire, Empire-Briscoe Co.
Hupmobile, Cleveland Motor Sales Co.
Jeffery, J. H. Greenwald, 2106 Euclid ave.
King, Dunham Motor Car Co.
KisselKar, Brandt Motor Car Co.
Krit, Forest City Garage Co.
Maxwell, Velie Motor Car Co.
Mitchell, Lucas & Christianson.
Moon, Dunham Motor Car Co.
Oakland, Oakland Motor Co.
Oldsmobile, Windemere-Euclid Garage.
Paige, Lucas & Christianson.
Pullman, M. D. Coates.
Studebaker, A. R. Davis Motor Car Co.
Velie, Velie Motor Car Co.
†Ohio, Homer D. Haupt, Euclid Ave.
‡Princess, Albaugh Motor Sales Co.
Columbus—KisselKar, Kissel Service Co.
Lexington, F. Mayer & Son, 246 N. 4th st.
Monarch, F. Mayer & Son, 246 N. 4th St.
*Koehler, Miller-Main Garage.
†Argo, Auto Inn & Exchange.
†Milburn, Standard Motor Car Co.
Coshocton—Oldsmobile, E. F. Conrad.
Dayton—King, W. C. Wampler.
Galion—Pullman, Green & Snyder.
Greenville—Overland, E. R. Swinder.
Hillsboro—Maxwell, Hillsboro Motor Car Co.
New Bremen—Pullman, F. N. Allen & Son.
New Lexington—Buick, C. C. Dillow & Son.
Piqua—Ford, Dayton & Troy Auto Co.
Springfield—King, P. T. Rathbun.
Tiffin—Saxon, J. Ralph Summers.
Toledo—King, Louis Lichtie Auto Co.
Saxon, Guy R. Ford.
Troy—Ford, Dayton & Troy Automobile Co.
Wapakoneta—Maxwell, F. M. Bowers.
Xenia—Buick, Martin H. Schmidt.

OKLAHOMA.

Allentown—Detroiter, I. N. Miller, R. F. D. 2.
Bartlesville—Moon, R. G. Uhl.
Leechburg—Ford, Young & McKutchen.
Oklahoma City—King, Stapleton Motor Sales Co.
Saxon, Fremont Motor Co.
‡Sphinx, August Stef.
Tulsa—Haynes, Okla-Haynes Auto Co.

OREGON.

Bandon—Dodge, M. D. Sherrard.
Hood River—Dodge, Columbia Auto & Mch. Co.
Portland—Chandler, Dulmage Manley Auto Co.
King, E. Gerlinger Motor Car Co.
Roseburg—Dodge, Duffy Auto Co.

PENNSYLVANIA.

Allentown—Dodge, Lindon Auto Co.
Butler—Saxon, H. M. Hays.
Chambersburg—Chandler, Jacob Caufman.
Pullman, W. L. Forney.
Clermont—Detroiter, J. M. Dunsmore.
Cressona—Detroiter, H. E. Zerbe.
Galeton—Detroiter, Otto C. Mosch.
Gordon—Detroiter, Gordon Garage.
Greencastle—*Koehler, Lininger's Garage.
Harrisburg—Detroiter, E. C. Ensminger.
Mitchell, Ream & Son.
Pullman, Bentz-Landis Auto Co.
Hawley—Detroiter, Graham Watts & Son.
Hazleton—Detroiter, W. Oelwine & Son.
Hughsville—Pullman, Shipman & Bartlow.
Huntington—Oldsmobile, Port's Garage.
Kingston—Detroiter, Keystone Motor Car Co.
Lancaster—Pullman, Butzer Bros.
Lebanon—Detroiter, Lebanon Auto & Garage Co.
Lewisburg—Detroiter, F. H. Smith.
Lewiston—Detroiter, J. M. Bratton.
Littlestown—Pullman, L. M. Alleman.
Lock Haven—Detroiter, J. S. Waite & Co.
Middleburg—Pullman, R. P. Haines.
Montoursville—Detroiter, A. Z. Young.

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Mt. Union—Detroiter, C. S. Price.
New Philadelphia—King, Moffitt & Kneuss.
Pen Argyl—Detroiter, Joel F. Batt.
Philadelphia—Pullman, Standard Motor Car Co.
Pittsburg—King, King Motor Sales Co.
Reading—Detroiter, Star Motor Car Co.
Pullman, Motor Supplies Co.
Ridley Park—Detroiter, William N. Erskine.
Scranton—Saxon, Lackawanna Automobile Co.
Spangler—Saxon, Saxon Sales Co.
Towanda—KisselKar, W. E. Dayton.
Wilkinsburg—Lexington, Central Garage Co.

RHODE ISLAND.

Providence—Briscoe, Spencer-Wilkie Motor Car Co.
Pullman, Pearson Bros.
Saxon, Saxon Motor Vehicle Co.

SOUTH CAROLINA.

Lexington—Saxon, Alfred J. Fox.

SOUTH DAKOTA.

Deadwood—Oldsmobile, George Kilker Garage and Supply House.
Volga—Ford, Sinai Garage.
Regal, Sinai Garage.

TENNESSEE.

Knoxville—Franklin, Kuhlman Motor Sales Co.

TEXAS.

Dallas—Pilot, J. F. Reeves.
El Paso—Chandler, Lone Star Motor Co.
King, J. Edward Sullivan.
Galveston—Metz, Haardt & Co.
Saxon, Charles Newding.
Houston—Pullman, Magnolia Motor Sales Corp.
Saxon, J. M. McDade Auto Co.
Vernon—Saxon, A. B. Swartwood.

UTAH.

St. George—Oldsmobile, E. H. Snow.

VERMONT.

Burke—Detroiter, F. M. Davis.

VIRGINIA.

Richmond—*Koehler, Alsop Motor Co.

WASHINGTON.

Colfax—Reo, S. E. Hunt.
Cottonwood—Overland, O. D. Simmons.
Hoquaim—Dodge, Hoquaim Automobile Co.
*Kelly, Hoquaim Automobile Co.
Latah—Reo, Farmers Grain and Supply Co.
Ritzville—Chalmers, Ritzville Garage.
Rosalia—Overland, Snyder & Fullerweider.
Seattle—Oakland, Mack & Farnsworth.
Pullman, Parker Motor Car Co.
Spokane—Chalmers, Western Motors Co.
King, Moylan & Rielly Auto Co.
Sprague—Reo, W. A. Buckley.
Walla Walla—Buick, T. S. Steele.
King, Moors Auto and Supply Co.
Wilbur—Paige, F. F. Miller.

WEST VIRGINIA.

Clarksburg—Lexington, J. M. Shields, Box 646.

WISCONSIN.

Belgium—Ford, Hubing & Husting.
Maxwell, Hubing & Husting.
Black River Falls—Ford, O. C. Flugstad.
Overland, T. Tollack.
Chippewa Falls—Dodge, Matthew Cameron.
Columbus—Ford, Schunk & Proctor.
Crandon—Ford, Sidney Raymond.
De Pere—Dodge, Toonen-Barlament-Wright Co.
Eau Claire—Haynes, Johnson Mch. Works.
Ellsworth—Dodge, Ellsworth Auto and Repair Co.
Gillette—Buick, C. F. Kitzinger.
Hancock—Overland, Jones & Pierce.
Hillsboro—Oldsmobile, Picha Bros.
Iola—Case, Swenson & Rosholt.
Ford, Swenson & Rosholt.
Overland, Swenson & Rosholt.
La Crosse—Pullman, O. H. Hosmer.
Madison—Cole, Park Motor Co.
Dodge, Madison Motor Co.
Overland, Park Motor Co.
Markesan—KisselKar, W. H. Wilson.
Milwaukee—Abbott, Intersection Garage.
Allen, Creek Motor Car Co.
Chevrolet, Wells Garage Co.
Detroiter, Milwaukee Motor Sales Co.
Dodge, Edwards Motor Car Co.
Marmon, Hughes Motor Car Co.
Moline, Wait Automobile Co.
Stanley, Milwaukee Motor Sales Co.
Velie, Wait Automobile Co.
Pella—Haynes, Fred A. Gorsskoph.
Prairie du Sac—Dodge, Lloyd Tarnutzer.
Rhinelander—Ford, Oneida Garage.
Sheboygan—Cole, H. Struebing Garage.
Ford, Gillette Motor Co.
‡Sphinx, H. Struebing Garage.
Sparta—KisselKar, George Mannel.
Oldsmobile, E. D. Brown.
Sun Prairie—Dodge, E. E. Beers & Co.
Tomah—Oldsmobile, L. G. Guenther.
Two Rivers—Dodge, O. Winkelmiller.
Wautoma—Overland, Albert Cutts.
Westby—Oldsmobile, Hanson & Nusted.
Whitehall—Oldsmobile, Auto Sales Co.

WYOMING.

Rock River—Oldsmobile, J. C. Schork.
Rock Springs—Oldsmobile, West Central Auto Co.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

No. 14,826. Petroleum, Gas Oil and Gasoline—A consul in Europe reports that a firm in his district is in the market for a large quantity of petroleum; price per barrel and information as to density and illuminating power requested; also gas oil for Diesel motors and gasoline. References furnished. Correspondence should be in English. Cash against documents if prices are suitable.

No. 14,937. Automobiles, Motor Trucks, Etc.—A consul in Europe states that a business man in his district wishes to establish commercial relations with American manufacturers of motor trucks, automobiles and accessories. Will buy three or four passenger cars and trucks, a stock of tires and other accessories. Descriptions and prices of moderate-priced cars of good quality are desired. References given.

No. 15,002. Automobile Accessories, Etc.—An American consular officer in Europe has been informed by a firm of wholesale dealers in automobile accessories and supplies that it is anxious to make agency connections with American manufacturers of all articles connected with the automobile trade, sporting goods and sewing machines. The firm states that it is, at present, a buyer of men's heavy shoes, water proof clothing and woolen goods.

No. 15,007. Cement and Automobile Tires—A Portuguese importing firm informs an American consular officer that it is in the market for large quantities of yellow and white cement and automobile tires for its branch house in South America. Prices f. o. b. New York or c. i. f. South American port are desired. Correspondence may be in English. New York City reference is given.

No. 15,023. Motor Cars—An importer in South America informs an American consular officer that he desires to be put in communication with American manufacturers of low-priced motor cars, or cyclecars. Manufacturers are requested to submit catalogues or specifications and lowest export price, f. o. b. New York, or c. i. f. destination.

No. 15,075. Motorcycles—A general importer in Europe advises an American consular officer that he desires to secure information relative to motorcycles. Correspondence and catalogues should be in Spanish, and extra copies should be sent to the American consulate. The importer states that he desires to represent American firms in any line of export or import business.

No. 15,077. Motorcycles, Coal, Coke, California Fruit, Etc.—A business man in southern Europe advises an American consular officer that he wishes to import motorcycles, coal, coke and California fruit products. Catalogues and correspondence should be in Spanish, and duplicate copies of the catalogues sent to the consulate.

No. 15,079. Motorcycles—A dealer in Europe advises an American consul that he wishes to secure full particulars regarding American motorcycles. Correspondence and printed matter should be in Spanish and duplicate copies of the catalogues should be sent to the American consulate.

No. 15,152. Lubricating Oil, Etc.—A dealer in Spain advises an American consular officer that he desires to communicate with American exporters of lubricating oil and other lubricants. Prices, together with samples, should be sent at once. Correspondence may be in English.

No. 15,167. Bicycles and Accessories, Ammunition, Etc.—An American consular officer in the Far East reports that a dealer in his district desires to secure the names and addresses of American manufacturers of sporting goods. He requests catalogues, etc., of bicycles, bicycle tires, bicycle accessories, shot, paper cartridge cases for sporting guns, and steel and leather supplies for hunters.

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GRANT BRINGS OUT A SIX.

Selling for $795, It Is One of Lowest Priced on Market.

SELLING for $795, the Grant six is one of the lowest priced six-cylinder cars on the market. Aside from the big feature of the price, the Grant Motor Company,

Three-Quarter Side View of the New Grant Six, Which Is Equipped with Electric Lighting and Starting.

Findlay, O., has produced a valve in the head design, which is being made in both five-passenger touring and two-passenger roadster models. The new car presents many innovations from a mechanical standpoint.

The Grant six employs a unit power plant with three-point suspension, and the motor, cast en bloc, has a bore of 2⅞ inches and a stroke of 4¼. The overhead valves are operated by drop forged rocker arms. The carburetor is located on the left side of the motor, and the exhaust manifold is on the right side. The under pan of the motor is of cast aluminum, with a stamped oil plate with troughs for the connecting dippers. The oil level indicator, consisting of a ball operated by means of a float in a glass tube, indicates the oil level in the pan. The circulating oiling system is employed, oil being furnished by a plunger driven pump off the camshaft, drawing oil through a strainer from the under pan and forcing it through a self-cleaning oil gauge on the dash. An overflow pipe leads to the old gauge to the gear case compartment. The Allis-Chalmers system of lighting and starting is made use of in the new Grant six. The motor-generator operating on six volts with a small torque, is carried on the right side at the forward end of the engine. The normal rate of cranking is 198 revolutions a minute, drawing about 90 amperes at this speed.

The controller is the Briggs-Stratton double-reed type with automatic cut-out, incorporated with a single fuse for the light and horn circuits. The starting switch is operated by pressing the clutch pedal to the limit of its travel. The cut-out closes at eight miles an hour and, as the speed of the car increases, the first reed on the regulator cuts in and controls the current so as not to exceed 12 amperes. As the speed increases further, the second reed still further controls the current, affording a slightly tapering change as the speed of the generator increases. This control is held to be very efficient, and the charging rates make for increased life of the battery.

This new regulator embraces a number of novel features, among which are rotating contact points. The light switch also controls the ignition and gives the positions, off, dim and bright. Dimming is obtained by the use of double-bulb headlights. The Atwater Kent system of ignition with automatic spark advance is used, being driven by means of spiral gears off the camshaft. The front springs are semi-elliptic and cantilever springs are used in the rear. These, it will be noted in the photograph herewith, are attached to the frame member at two points.

The Grant equipment is complete in every detail, including electric horn, robe rail, foot rail, floor mats, extra demountable rim and rim carrier on the rear, speedometer, tire pump, etc.

PREMIER HAS NEW MODEL.

Known as 6-50, New Car Will Sell for Less Than $2000.

A NEW single six-cylinder chassis, to which may be fitted two body types, a touring, termed the Sextette, and a two-passenger roadster, is the latest offering of the Premier Motor Manufacturing Company, Indianapolis, Ind. Both models are of the latest streamline design, and this is accentuated by the V shaped radiator. The new 6-50 Premier will sell for considerably less than $2000.

The new motor has a bore of four inches and a stroke of 5½, and although the S. A. E. formula gives its speed at 38.6 horsepower, the maker states that it will develop 55 at 1000 revolutions a minute and 100 at 1950 revolutions a minute.

The cylinders are cast in triplets and have ample water jackets, assuring efficient cooling under all conditions of service. The valves are located on the right, have a diameter of 2½ inches, and are interchangeable. The design makes for quiet operation, and provision is made for adjustment. The connecting rods are 12½ inches from centre to centre, and the large end bearing is two inches in diameter.

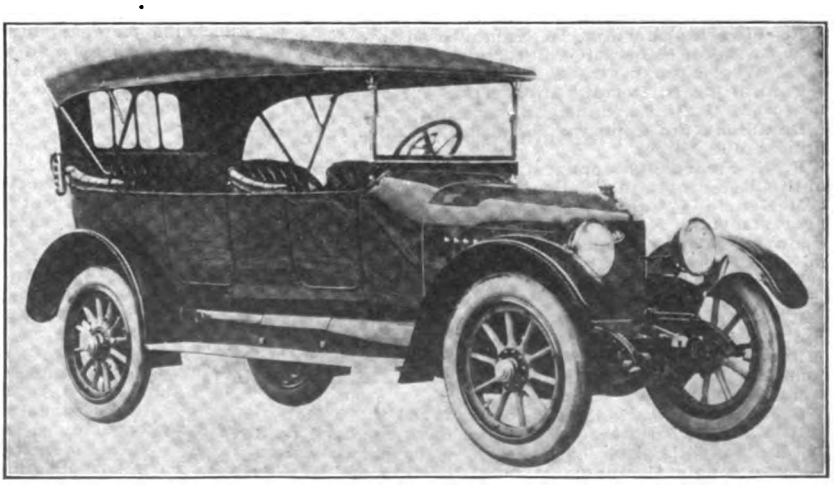
The crankshaft is two inches in diameter, the camshaft 1⅛ inches, and the camshaft bearings are ample in size, the front being 1¾ inches long and the others 1⅛. The exhaust manifold is placed on the right hand side of the motor, with the intake on the opposite side.

Particular attention is directed to the intake manifold, which is in the form of a ram's horn. It is constructed in three sections, flanged and secured by bolts. The lower section has three outlets on either side of the carburetor, or six in all. The carburetor is located between the two lower sections, and the mixture passes upward, then flows to the right and left through the horns. This arrangement brings the manifold in proximity to the top of the cylinders, where the heat assists in obtaining a homogeneous mixture. The carburetor is the latest type Rayfield.

The lubrication is by a combination force feed and splash. Individual troughs under each connecting rod supply the splash feature and, as the level is maintained regardless of grades, etc., smoking is reduced to the minimum.

The cooling is by a V shaped honeycomb radiator having a detachable core. The core is enclosed in an aluminum casing, and the maker states that it is an advantage in that, as the core does not touch the casing, it is not affected by undesirable stresses. The twists and strains to which the frame may be subjected are transmitted to the casing. Another advantage claimed is that the radiator is easy to repair and at a minimum of expense.

The Remy six-volt lighting starting and ignition system is utilized, the generator being located at the left hand forward end of the power plant and the drive is by a shaft through a flexible coupling. Motor and gearset are mounted as a unit on three-point suspension.



The Premier Touring Car, Termed the Sextette—It Has Divided Front Seats and an Aisle Between Them.

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REPORTED CHANGES IN TRADE ADDRESSES.

Sealo Tire Company, Chicago, Ill., from 1409 Michigan avenue to 1120 Lytton building.

Dunham Automobile Company, Louisville, Ky., from Box 565 to 1361 South 15th street.

Pioneer Motor Car Company, Sioux City, Ia., add Chicago House.

Cobb Machine Shop, Cleveland, O., from 2513 Vermont avenue to 2935 Detroit avenue.

Buick Automobile Company, Van Wert, O., from South Market street to 703 West Elm street, Lima, O.

F. C. Flickner, Los Angeles, Cal., from 374 East Colorado street to 536 Golden Gate avenue, San Francisco, Cal.

Cowhert Fletcher, Jr., Kansas City, Mo., from 3296-10 Troort street to 116 Morningside avenue.

R. H. Combs, St. Louis, Mo., from 3685 Olive street to Box 892, Indianapolis, Ind.

Eleventh Street Garage, New York City, from 11 East 11th street to 290 Delaney street.

D. H. Dinaher, New York City, from 204 West 80th street to 615 West 135th street.

E. N. Court, New York City, from 434 Madison avenue to 61 South Washington square.

Dutee W. Flint, Providence, R. I., from 17-19 Snow street to Allens avenue and Sherburne street.

C. H. Penniman, Quincy, Mass., from Washington street to 8 Nubird street.

Liberty Auto Company, Springfield, Mass., from 28 Hampden street to 22 Broadway.

William K. Bush, Detroit, Mich., from 31 Woodward avenue to 119 Pingree avenue.

Congress Garage, Detroit, Mich., from 65-69 Congress street to 348 Frederick street.

Chicago Pneumatic Tool Company, Detroit, Mich., from 547 Woodward avenue to Second and Amsted avenue.

H. E. Chase, Detroit, Mich., from 628 East Fort street to 190 Jos Campan street.

Preston Auto Company, Franklin, Ind., removed to Lebanon, N. H.

Willy Machine Company, Jeffersonville, Ind., removed to 93 Park street, Oshkosh, Wis.

Auto Repair and Storage Company, Pittsburg, Penn., from 5713 Pennsylvania avenue to 5710 Harvard avenue.

John Reynolds, Graysville, Penn., removed to Tyrone, Penn.

Tyson's Garage and Repair Shop, Philadelphia, Penn., from 765 Marks avenue to North Wales, Penn.

Public Motor Car Company, Dayton, O., from Second and Ludlow streets to 8811 Detroit avenue, Cleveland, O.

Nasser Garage, Toledo, O., from 11th street to 2414-16 Collingwood avenue.

Charles J. Clapp, Toledo, O., from 1502-4 Madison avenue to 1002 Madison avenue.

Maxwell-Briscoe Toledo Company, Toledo, O., from 1002 Madison avenue to 1402 Madison avenue.

Gauntlett Auto Sales Company, Toledo, O., from 1016 Madison avenue to 1015 Jefferson street.

W. E. Evans, Columbus, O., from 169 North Fourth street to 208 East Gay street.

W. L. Rudd & Co., Chicago, Ill., add 1110 East 47th street.

Ross-Stone Company, Chicago, Ill., from 1712 Michigan avenue to 2018 Indiana avenue.

Center Motor Car Company, Salina, Kan., removed to Lindsborg, Kan.

Pope-Hartford Company, Chicago, Ill., from 1840 Michigan avenue to 16 Carruth street, Dorchester, Mass.

Agee Automobile Company, Ottumwa, Ia., 326 North Shend street to Des Moines, Ia.

C. E. Miller, Marion, Ind., from 207 South Main street to 43rd and Washington streets.

E. Warneke, Sterling, Ill., removed to Iowa City, Ia.

N. G. Baker, Muscatine, Ia., from 1363 Sherman street to 913 West Fourth street.

Paul J. Kraft, Detroit, Mich., from 527-29 Gratiot avenue to 626 Gratiot avenue.

Rambler Auto Company, Kansas City, Mo., removed to Minneapolis, Minn.

F. B. Stearns Company, Los Angeles, Cal., from 742 South Olive street to 127 South Gramercy street.

McKenzie Garage, Detroit, Mich., from 518 Grand River street to 214 Westminster street.

Murphy Power Company, Detroit, Mich., from Wayne and Congress streets to Penobscot building.

Pfeiffer's Garage, Detroit, Mich., from 220 Elizabeth street to 52 Clark court.

R. C. Stevenson, Muncie, Ind., removed to 518 North Capitol avenue, Indianapolis, Ind.

Baumer Machine & Automobile Company, Muncie, Ind., from 210 East Seymour street to rear 212 East Main street.

Green & North, Madison, Ind., removed to Patriot, Ind.

R. M. & T. M. Bowen, Owensboro, Ky., removed to Box 814, Indianapolis, Ind.

Auto Supply Company, Memphis, Tenn., add 42 South Second street.

Blomberg Automobile Company, Memphis, Tenn., from 313 Monroe street to 823 South Bellevue avenue.

E. M. F. Memphis Company, Memphis, Tenn., from 249 Monroe street to 4360 Duncan avenue, St. Louis, Mo.

Globe Garage and Manufacturing Company, Kalamazoo, Mich., from 218-20 North Rose street to 301 West Ransom street.

Motorcycle Sales Company, Cincinnati, O., from 3166 Reading road to 3152 Reading road.

C. J. Edwards, Appleton, Wis., from 734 Washington street to 1304 State street, Milwaukee, Wis.

C. C. Brooks, Los Angeles, Cal., from 951 South Flower street to 2205 Fifth avenue.

Louis F. Benton & Co., Los Angeles, Cal., from 1245 South Flower street to 161 West Colorado street, Pasadena, Cal.

J. E. Newton, Providence, R. I., from 40 Andem street to 47 Yale avenue.

Jackson Auto and Supply Company, Lynn, Mass., from 42 Whiting street to 54 Converse avenue, Malden, Mass.

Buick Garage, Kalamazoo, Mich., from 135 Farmers avenue to 406 Edwin avenue.

Motor Shop and Garage, Shippensburg, Penn., from 105 East Earl street to Emmetsburg, Md.

White Agency, Binghamton, N. Y., from 119 Conklin avenue to 184 State street.

M. Ableth, Columbus, O., from 165 North Fourth street to 208 East Gay street.

Eddy Auto Company, Cincinnati, O., from 2808 May street to 314 Government building.

Detroiter Sales Company, Cleveland, O., from 6016 Euclid avenue to 2290 East 93rd street.

Barger Auto Company, Cleveland, O., from 1628 Euclid avenue to Box 183.

Clinton Auto and Garage Company, Jersey City, N. J., from 2399 Boulevard, to 4635 Boulevard, Hoboken, N. J.

H. J. Bruner Metal and Machine Supply Company, Kansas City, Mo., from 531 Delaware avenue to 1306 Grand avenue.

Arnold Motor Car Repair Company, Kansas City, Mo., from 160 Baltimore avenue to 2109 Washington street.

Auto Salvage Company, Kansas City, Mo., from 1429 Walnut street to 1416 Main street.

F. H. Bradshar, Seattle, Wash., from 1159 Broadway to 12th and Pine street.

Arthur Wurm, Clifton, N. J., from Madison avenue to Ulsterville, N. Y.

Meyer Manufacturing Company, Newburg, N. Y., from 307 Liberty street to 232 Du Bois street.

Cust Motor Car Company, Utica, N. Y., from 29 John street to Cooperstown, N. Y.

J. H. Symond Automobile Company, Niagara Falls, N. Y., removed to 2964 Main street, Buffalo, N. Y.

Fenner & Skeece, Niagara Falls, N. Y., from 619 Erie avenue to 30 Niagara street.

C. L. Whiting, Rochester, N. Y., from 591 East Main street to 342 East avenue.

Apperson Motor Car Company, Seattle, Wash., from 907 East Pike street to Kokomo, Ind.

Cycle Car Company, Buffalo, N. Y., from 1192 Niagara street to 311 Sixth avenue, Asbury Park, N. J.

Herse Auto Company, Brooklyn, N. Y., from 701 Quincy street to 41 Eldert street.

A. H. Regenhard, Brooklyn, N. Y., from 214 Flatbush avenue to 44 Court street.

G. M. Williamson, Brooklyn, N. Y., from 117 Madison street to 421 Greene avenue.

United States Tire Company, Phoenix, Ariz., add Box 756.

New York Garage Company, New Orleans, La., from 8131 Apple street to 2041 Laurel street.

Kinch Automobile Company, New Orleans, La., from 135 Rampart street to 852 St. Charles street.

Charles and Earl Curris & Co., Louisville, Ky., from 206 Coleman building to 116 North Second street.

Inter-State Sales Company, Louisville, Ky., from 437 South Second street to 809 East Spring street, New Albany, Ind.

Carter & Logan, Jacksonville, Fla., from 662 East Bay street to Box 118.

Kettel Brothers, Jacksonville, Fla., from 11 West Forsythe street to 107 West Fifth street.

Calumet Garage, Milwaukee, Wis., from 1825 Fond du Lac avenue to 322 Lee street.

Theodore Bouroe, St. Louis, Mo., from 309 South 12th street to 1431 Franklin avenue.

Broadway Garage and Sales Company, Kansas City, Mo., from 311 West 34th street to 3401 Broadway.

Goodyear Tire and Rubber Company, Houston, Tex., from 1118 Main street to Box 1383.

Orlo Manufacturing Company, Louisville, Ky., add 437 South Second street.

Crary Gasoline Lock Company, Detroit, Mich., from 741 Woodward avenue to 650 Woodward avenue.

Harght Auto Lighter Company, Lansing, Mich., removed to Orlando, Fla.

Hurlburt Motor Truck Company, New York City, from 569 Fifth avenue to 197th street and Amsterdam avenue.

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IECO MANIFOLD PLUG.

Vaporizes Gasoline by Electricity, Providing a Hot Vapor, One Making for Easy Starting.

The Interstate Electric Company, 362 Baronne street, New Orleans, La., manufacturer of electrical specialties, is producing the Ieco manifold plug, which is an inexpensive electrical device for so raising the temperature of the gasoline that starting is made easy. As may be noted by the accompanying illustration, which shows the general arrangement of the Ieco device, the plug is inserted in the intake manifold. The fuel is supplied to the plug by means of a priming cup on the dash. Connected with the plug is a battery, and control of the current is by means of a switch conveniently located on the dash. To start the motor the plug is primed and the switch operated to cut in the current which heats the fuel. The temperature obtained is such that a hot vapor is secured, one that is easily ignited when the motor is cranked. In addition to being of service for starting, the priming cup on the dash may be utilized for admitting extra air to the mixture. It can also be employed for introducing kerosene into the cylinders. Details and prices of the Ieco will be supplied upon request.

MUELLER SOCKET WRENCH.

A Telescopic Design for Replacing Ordinary Types and Capable of Handling Variety of Work.

L. Mueller, 1719 Central avenue, Cincinnati, O., is manufacturing the Mueller telescopic socket wrench shown herewith, and which is designed to take the place of the ordinary type employing a number of loose sockets, and it will handle all sizes of both hexagon and square nuts for ⅛ to ⅝-inch bolts. The tool is not only compact, but it eliminates loose parts.

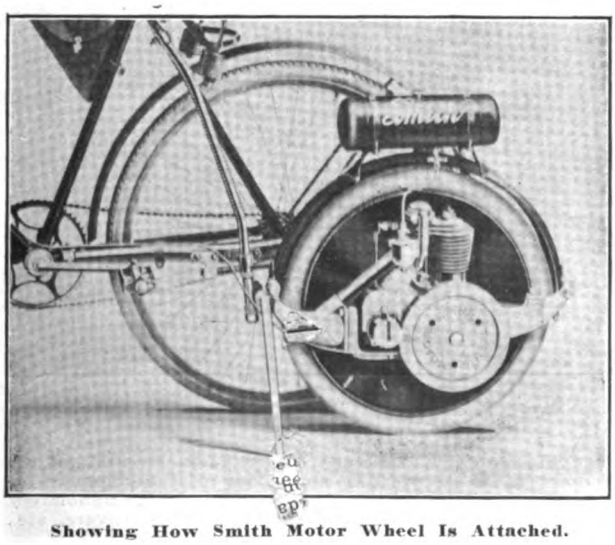
One of the telescoping sockets is shown at A in the accompanying illustration. The movement of the sockets is controlled by the knobs B, which are fastened to the washers C. The knobs work against the tensions of the springs D and are a sliding fit on the pins E, which are placed crosswise in the sockets. To bring out any required socket, the knob B is pressed down until the flat portion just below the shoulder comes in line with the narrow slot F in the wrench. The knob can then be advanced to the next circular opening, so that the socket is brought out ready for service. On relieving the pressure on the knob B, the spring D forces the knob out into the circular opening, thus holding the socket in place. The method of swivelling the wrench to bring either end into action is shown by the illustration.

SMITH MOTOR WHEEL.

A Complete Power Plant Readily Fitted to an Ordinary Bicycle and Obtaining a Motor Vehicle.

The A. O. Smith Company, Milwaukee, Wis., has brought out a novel motor wheel that should appeal to those dealers carrying bicycles in that the equipment is a complete power plant that may be readily fitted to the rear wheel of any bicycle.

As may be noted by the accompanying illustration, which shows the motor wheel in position, the Smith includes a one-cylinder, four-cycle motor, carburetor, fuel tank and a true high-tension magneto. The bore and stroke is 2¼ inches and the maker states that the engine will develop a full horsepower and is capable of obtaining 100 miles to a gallon of fuel on ordinary roads.



Showing How Smith Motor Wheel Is Attached.

One of the features of the Smith motor wheel is that it can be readily attached. Details and prices of the device will be supplied upon request.

J & B TRANSFORMER COIL.

Adaptable for Service with All Makes of Low-Tension Magnetos, and Is Liberally Guaranteed.

The J & B transformer coil is the product of the J & B Manufacturing Company, Pittsfield, Mass., and is designed for service with any make of low-tension magneto where the primary current has to be intensified. The maker states that the transformer draws but little current, and that this is an important factor where batteries are utilized for starting the motor. The windings are thoroughly insulated, and a safety gap is incorporated to prevent damage to the secondary windings. A starting button is one of the features of the coil, which has a kick type of lever. The platinum points are large and maximum service is guaranteed. One of the features of the coil is that no wires enter the switch, all connections being made by the screws which retain the switch in place. The box is of heavy mahogany and the entire construction is built to last. The guarantee is very broad. Details and prices will be supplied upon request.

J & B Transformer Coil.

AUTOMATICALLY STOPS LEAKS.

"X" Liquid Will Mend All Radiators, Mixes Readily with Anti-Freezing Solution and Prevents Scale.

A liquid preparation for mending leaks in the radiator has been perfected by the "X" Laboratories, 630 Washington street, Boston, Mass. One of the desirable qualities of the "X" liquid is that it will mix with the anti-freezing solution. Another advantage is that it is left in the radiator and should a new leak develop, the liquid will instantly seal it. Scale and rust are prevented by "X" liquid, which is sold under a money back guarantee. The preparation will be exhibited at the Boston show. Details and prices will be supplied by the maker upon request.

MOSSBERG PRODUCTS.

New Catalogue, Describing Socket Wrenches, Etc., Now Ready for Distribution to the Trade.

Announcement is made by the Frank Mossberg Company, Attleboro, Mass., the well known maker of wrenches, etc., to the effect that the new catalogue No. 141 A is ready for distribution. The company is offering a number of new tools at attractive prices, and these, as well as the standard, are described and illustrated in the new book which will be sent free to any address upon request.

The Bowling Green Sales Company, 42 Broadway, New York City, is marketing the Ball carbon remover which has proven a good seller. It is a chemical compound put up in a convenient tablet form, and with it it is possible to displace carbon deposits from the motor without removing the cylinders.

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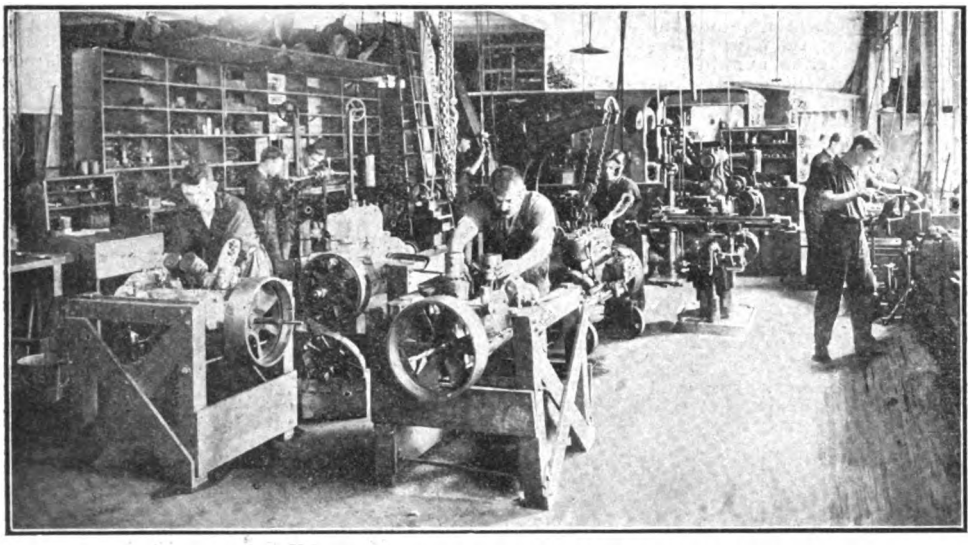
DEPRECIATION ELIMINATED BY UPKEEP.

WITH an enormous business practically dependent upon its delivery service, and meeting competition that is extreme, Gimbel Brothers, a New York City department store firm, has developed its transportation department with extreme care. The equipment used represents a very large investment, and the operating cost is necessarily a material item, so that economy is the prime essential, although the vehicles must be maintained at a high standard, both in appearance and efficiency.



Partial View of Gimbel Brothers' Garage, Showing Different Stages in the Work of Rebuilding Trucks.

The statement that the delivery service is not excelled, and is rarely equalled, is not too broad a statement. The vehicle equipment consists of 138 vehicles, of which 85 are electric and 53 are gasoline, of different capacities, which are used for delivery, transfer and haulage. The garage, or service station, at 513 West 24th street, was originally built to house electric machines exclusively, and when constructed, three and a half years ago, it was regarded as the best development of a station of this kind in America.

This station affords the facilities for maintaining the vehicles, although it is congested by the large increase of machines since it was built. The transportation department is an admirable organization, and for the convenience of description it has been taken as two divisions, one of which may be regarded as the shipping, and the other as the garage, both of which are under separate supervision, each executive being responsible for the efficiency of his department.

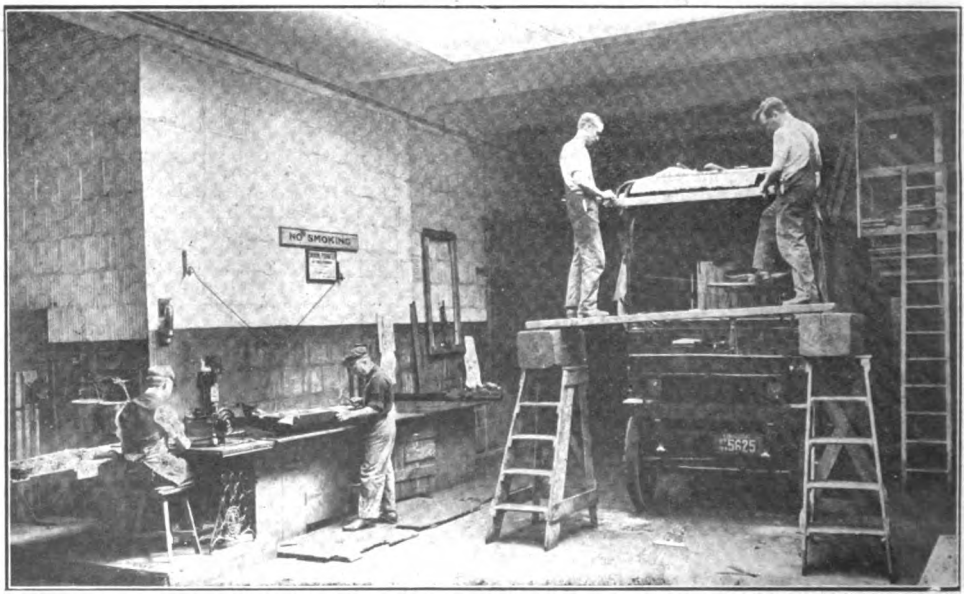
The operation of the garage has been splendidly systematized by Manager Duerr, and very high efficiency is obtained at what may be said to be minimum expense through the method of maintenance that practically eliminates depreciation. One must understand that appearance is highly valued. The equipment must be kept to a high standard, so as to have the units serviceable at all times, and economy must always be considered.

With practically all motor vehicle services the policy is to charge depreciation in the operating cost, and to assume that at the expiration of a period any machine will no longer be serviceable—that it must be replaced from the sinking fund created from the depreciation charges, or by funds taken from capital. But Manager Duerr has established that this theory is all wrong—that a vehicle that is originally well constructed, with a standard body design, can be maintained at its highest efficiency practically and literally equal to all service requirements at an expense that is materially less than is represented by the depreciation charged. In other words, a machine will last an indefinite period, and with systematic upkeep the life is whatever the owner wishes to make it.

This may appear a radical opinion, but it has been proven by experience, and the company has never disposed of a machine. What is bought is meant for service, and service is obtained, but there is no intention of loss through lack of care. To illustrate: The garage is complete. Any work can be done there, for the stock, the material, the machine and hand tools and the workers are instantly available. Trucks and wagons can be built there as well as maintained, if necessary.

Once each year the machines are rebuilt. Instead of what is known as an "overhaul", such as is ordinarily given, the trucks and wagons are disassembled and each part, large or small, cleaned, examined and inspected. The chassis frame is stripped and reriveted if need be. Nothing is taken for granted. The vehicle must be as good as new when rebuilding is completed. This process takes about a week. The rebuilt truck is carefully tested and when it is again used it is believed to be in readiness for a year's service. While the chassis is in the shop the body is refinished. Several weeks are necessary to do this work, and as the bodies of any one type are interchangeable, one of the several spare bodies is installed and service of the chassis is continued.

The shop is on the second floor of the garage building. The machine tool room is thoroughly equipped for any work. The stock of parts for each size machine is sufficient to meet any demand and an emergency work can be done quickly and well, but this is not the subject of this article. In the shop from three to four motors are usually in the hands of the machinists. Chain hoists, trolley hoists and cranes make handling easy, and the machine tools are especially adapted for the work of the shop. The wood working shop does all the repairing of the bodies and the metal equipment. The upholstery shop repairs or replaces all cushions, seats, covers, etc.,



The Rebuilding Includes Renewals of Every Part, Even to Roof Covering and Upholstery, and There Are Facilities to Do Any Work.

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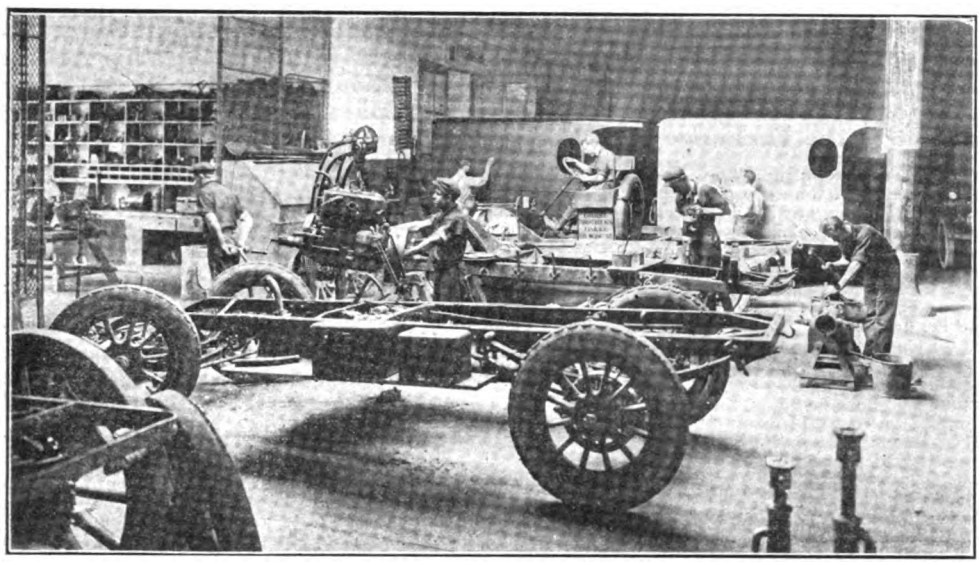
and it even has a sewing machine driven by an electric motor for stitching leather and heavy fabric. The painting department has a varnish room, where the bodies are finished after painting.



Where the Gasoline Motors Are Rebuilt—The Engines Shown Include One Just Removed from a Chassis and Still on the Crane, One Ready for Installation, One Disassembled and One Partly Assembled.

The machines are not worn to any material extent. They are completely restored before any deterioration is manifested. In a recent inspection of the garage and the machines, 29 White wagons and trucks were seen, which included a 1500-pound vehicle three and a half years old that had just been rebuilt. It could not be distinguished from those that were just placed in service, either in appearance or operation, and aside from its number one would not believe from examination that it had been used to an extent when most owners would doubt its value. Yet, from the Gimbel viewpoint, it is the equal to the new—at least it is just as serviceable and as good as any of the same size for Gimbel purposes.

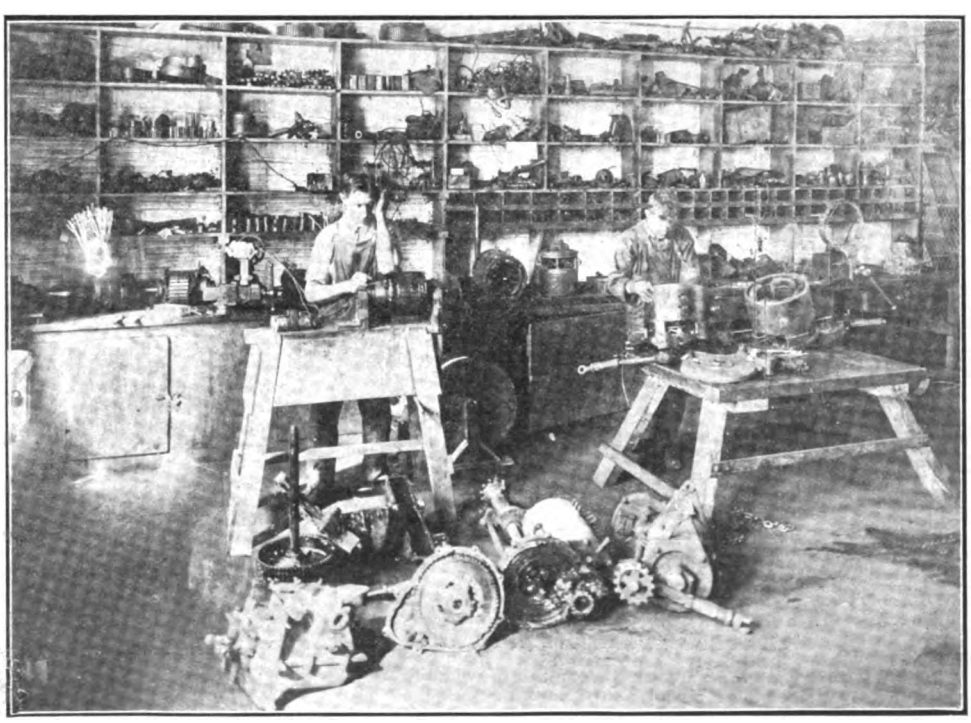
The machines, when delivery is taken, are first given a careful mechanical test over a measured course. One route, for instance, is north on Tenth avenue to Broadway, up Broadway to the 129th street ferry, to Edgewater, N. J., up Fort Lee hill, south on the boulevard to the 42nd street ferry, and south on Tenth avenue to the garage. The inspection report must be signed for the company building the machines, and for the Gimbel Brothers by the companies' inspectors, by the shop superintendent and the garage manager, this covering every assembly and important detail of construction and operation, even to the painting and the tool equipment, the ferry charges, and also shows the consumption of gasoline or current.

This record must show the vehicle meets all the requirements, not only as to construction, to appearances and to equipment, but its power must have been proven on the Fort Lee hill and it must show a consumption of fuel that is within the volume regarded as a standard before the machine is accepted. When a wagon or truck is rebuilt it is just as carefully tested.

The machines are used continuously but they are never overloaded and they are adjusted and repaired whenever there is indication of either work being needed. Exceedingly careful record is kept and from this extremely valuable information is instantly available for the garage manager. He has placed before him each day a report that shows how many vehicles are in actual service at each garage, how many are in reserve and how many are in the shop. At a glance he can account for the entire equipment. Detail of all machines not on the road can be obtained at any minute. Every fact that has to do with work performed, with operating or maintenance cost, is recorded. In fact, record is the basis of the efficiency and economy of the service.

One of the White 1500-pound wagons is in readiness with such supplies and tools as may be needed for any work on the road. In the event of a machine being damaged by accident or failure, it is not hauled in with a plank supporting an axle, for instance. Instead, so far as possible a temporary repair is made and it is driven or towed in. Should a wheel or an axle break a spare axle or a spare wheel, for spares are always ready for such emergencies, is placed in the little White wagon, and it is sent out with men who can do the work quickly and well. When back at the garage a permanent repair or restoration is made. The drivers do no work on the machines.

In the repair shop spare wheels with tires of each size for each type of wagon are in lockers ready for use when needed. There are, to illustrate, three spare motors, two spare rear and two spare front axles and two gearsets for the 1500-pound wagons, spare rear and front axles for the 3000-pound wagons, radiators, shafts, springs, fenders, and practically every necessary part that would be required for any restoration. The stock rooms contain parts sufficient to assemble several machines. There is no need of delay for any reason. There are facilities for doing all work economically. The garage is piped for air and gas, and gas torches can be used for any purposes, from straightening a chassis frame to burning paint. There are even rivet heaters, so that the best of work can be done at any time. The shop has a blacksmithing department with men competent to do hand forging and fitting, etc.



Electric Vehicle Department of the Repair Shop, Showing Armature Test, with Several Motors Ready for Examination and Restoration.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3087—Maryland Dealer wants information relative to gasoline pleasure cars ranging in price from $300 to $400.

3088 Michigan House wants to represent a line of pleasure cars selling from $500 to $1500.

3091—Oklahoma Company is in the market to represent a line of automobiles ranging in price from $900 to $2000.

3094—Indiana Concern is anxious to represent a line of pleasure cars selling from $250 to $1000.

3097—Ohio Firm wants information pertaining to pleasure cars selling from $500 to $1000.

3099—Illinois House is in the market to represent a line of cars selling from $800 to $1200.

3103—Michigan Dealer is anxious to secure the agency for pleasure cars selling from $300 to $800.

3106—Kentucky Company wants to represent a moderately priced pleasure car.

3110—Ohio Concern wants information pertaining to a line of pleasure cars ranging in price from $500 to $700.

3113—New York Dealer is anxious to secure the agency for pleasure cars selling from $350 to $600.

3116—Indiana Dealer wants to secure the agency for a cheap gasoline pleasure car.

COMMERCIAL CAR AGENCIES.

6173—Indiana House would consider the agency of gasoline motor trucks selling from $395 to $2000.

6176—Michigan Dealer is anxious to secure the agency for gasoline trucks selling from $500 to $800.

6177—Kentucky Concern wants information relative to a line of gasoline motor trucks ranging in price from $700 to $1500.

6180—Michigan Company is anxious to represent a line of gasoline commercial vehicles selling from $400 to $1000.

6182—Oklahoma Dealer wants to hear from a line of gasoline commercial vehicles ranging in price from $1225 to $4200.

6185—Michigan Firm would like to obtain the agency for a line of trucks from $700 to $2000.

REPRESENTATIVES WANTED.

50—Massachusetts Firm wants representatives in Alabama and Tennesee. The company is manufacturer of decarbonizing and welding equipment.

52—Michigan Company, manufacturer of automobile polishes and cleansers, wants representatives throughout the United States and Canada.

57—Indiana House wants representatives in the rural districts of Ohio, Indiana, Illinois and Michigan. The company is a wholesale and retail mail order house, handling automobile supplies.

ELECTRIC PLEASURE CAR AGENCIES.

530—Oklahoma Firm is in the market to represent a line of electric pleasure cars selling from $2000 to $2900.

533—Kentucky Dealer wants information relative to a moderately priced electric pleasure car.

MOTORCYCLE AGENCIES.

137—New York Company wishes to secure the agency for motorcycles selling at $250.

141—Kentucky Dealer wants to represent motorcycles moderately priced.

146—Michigan Concern would consider the agency for motorcycles selling from $100 to $200.

147—Illinois Firm wishes to secure the agency for motorcycles selling from $250 to $350.

CYCLECAR AGENCIES.

1803—Maryland Company wishes to secure the agency for cyclecars selling from $300 to $400.

1805—New York Firm wants information relative to cyclecars selling from $250 to $400.

ACCESSORIES, EQUIPMENT, SUPPLIES.

658—Ohio Company wishes to hear concerning a line of axles, batteries, bearings, bodies, bolts, brakes, bulbs, cable, camshafts, carburetors, castings, clutches, cylinders, dashes, engines, fans, fasteners, fenders, forgings, frames, gaskets, gears, generators, headlights, horns, ignition, jacks, jigs, joints, knuckles, leather, levers, magnetos, mechanical starters, metal parts, motors, mufflers, nuts, paints, pedals, pins, pistons, plugs, printed matter, pumps, punches, radiators, reamers, screws, seats, shapers, shims, stampings, starters, steering wheels, transmissions, valves, varnishes, wheels, windshields, wire and wrenches. The goods are to be used in the manufacture of cyclecars.

662—Iowa Company is interested in fire extinguishers.

663—New Hampshire House wants shock absorbers.

666—Michigan Firm wants information pertaining to anti-rattlers, asbestos, autogenous welding equipment, bearings, bolts, brakes, bulbs, bumpers, burners, cabinets, cable, carbide, castings, cements, chains, charging apparatus, clutches, cones, controllers, cutters, cushions, dimmers, discs, drills, engines, fenders, fire extinguishers, forgings, frames, gaskets, gasoline, gears, glass, headlights, heaters, horns, hydrometers, jacks, locks, magnetos, maps, nuts, odometers, paints, pistons, platinum, pullers, punches, radiators, ratchet drills, reamers, carbon removers, rheostats, rims, screws, shims, shock absorbers, soaps, solder, speedometers, spokes, springs, steering wheels, tape, terminals, tire accessories, transmissions, tubing, vises, voltmeters and vulcanizers. The products are to be used for stock and resale.

669—New York Dealer wants carburetors, fire extinguishers, vulcanizers and wrenches.

672—Iowa Company wants cabinets for stock room, also racks, turntables and washers; the goods to be used in a garage.

676—Detroit Company wants anti-rattlers, autogenous welding equipment, batteries, belts, brakes, bulbs, bumpers, cable, carburetors, clips, clutches, couplings, curtains, cutters, dimmers, fans, fenders, forgings, frames, gaskets, gauges, generators, goggles, headlights, horns, hose, hubs, ignition, jacks, joints, knuckles, lamps, leather, levers, lubricators, magnetos, mufflers, nuts, odometers, packing, paints, pedals, pistons, plugs, radiators, regulators, rests, rims, shock absorbers, springs, stampings, starters, steering wheels, switches, tanks, terminals, timers, tops and parts, upholstery, valves, voltmeters and windshields. The goods to be used in an engineering department.

692—Maryland Dealer wants exclusive selling agency of some live automobile novelties for city of Baltimore.

693—Kentucky House is in the market for anvils, batteries, bodies, bolts, burners, cable, cans, chains, charging apparatus, cranes, fire extinguishers, hoists, maps, nuts, packing, rectifiers, rheostats, shock absorbers, speedometers, starters, tools, vulcanizers, waste, wrenches, oils, greases, recording time clocks and bodies for pleasure and commercial cars.

696—Maryland House wants air pumps, batteries, bulbs, carbide, cements, chemical tanks, dimmers, fire extinguishers, air gauges, goggles, headlights, horns, lamps, locks, plugs, pumps, rubber, searchlights, sockets, speedometers, storage systems, tape, testers, tire accessories, tires, oils and greases.

699—Oklahoma Firm wants bumpers and turntables to be used in a garage.

703—Ohio Firm wants batteries, bolts, bulbs, bumpers, burners, cabinets, cable, cases, chains, charging apparatus, commutators, cranes, doors, elevators, gauges, goggles, guns, hoists, jacks, nuts, plugs, primers, pullers, pumps, racks, rectifiers, reflectors, shafting, strainers, switchboards, switches, tanks, tape, terminals, testers, timers, tire accessories, tires, tools, turntables, voltmeters, vulcanizers, washers, washstands, waste, wrenches and recording time clocks.

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MERCER ANNOUNCES NEW SERIES 22-70.

WAITING for the New York automobile show to open before announcing its 1915 models, the Mercer Automobile Company, Trenton, N. J., created quite a sensation with the new series 27-70 models. Built on one chassis, which differs only in the length of the wheelbase, four different body styles are offered: A six-passenger touring car, $3000; a four-passenger sporting model, $3000; a runabout, $2900; and a raceabout, $2750.

The two former are of perfect streamline design, and follow the Mercer practise in that they are very low, the height from the ground to the top of body varnish rail being only 45 inches. Indeed, with the top raised, a man standing on the curb can look over the car without effort. The lines from the round topped radiator slope slightly upward and, merging in the cowl, are then carried in reversed curves to the rounded back, the effect being further carried out in the full crowned fenders and rounded frame sheathing. The whole equipment is of the highest grade and in complete harmony with the general design. A one-man Burbank cloth top is used, the sloping windshield is of a special design and the wheels are wood, with Howard demountable rims for the touring car and runabout, and Rudge-Whitworth wire on the other two models.

The motor is the four-cylinder, L head type, cast en bloc, and combines light weight, high power, accessibility and economy. The bore and stroke are 3¾ by 6¾ inches respectively, the S. A. E. rating being 22 horsepower, but more than 70 having been shown on the test block. The valves are enclosed by an aluminum cover held by two thumb screws, and the carburetor is attached directly to the cylinder casting, the intake passages being cored in the block, so that the exterior is exceedingly smooth. This is further carried out by setting the magneto and water pump at the front of the motor. The camshaft is driven by a single two-inch Coventry chain, and itself carries a worm gear which actuates a cross shaft by which the pump and magneto are driven. The pistons carry two ring grooves, in each of which are fitted three 1/16-inch rings. The connecting rods are 15 inches long, but very light, and the crankshaft is exceptionally heavy, being 2⅛ inches in diameter. Plain bearings of bronze, lined with a special babbitt, are used. The valves are of high-speed tungsten steel, of good size, the clear opening being 2¼ inches. They are threaded at end for valve spring retainer, this construction permitting spring tension to be changed by turning the valve, a screw driver slot being located in the head for that purpose. The push rods, which like the adjusting screws are hollow for the sake of lightness, carry large rollers, which ride directly on the cam. The camshaft is also hollow and is carried on five plain bearings.

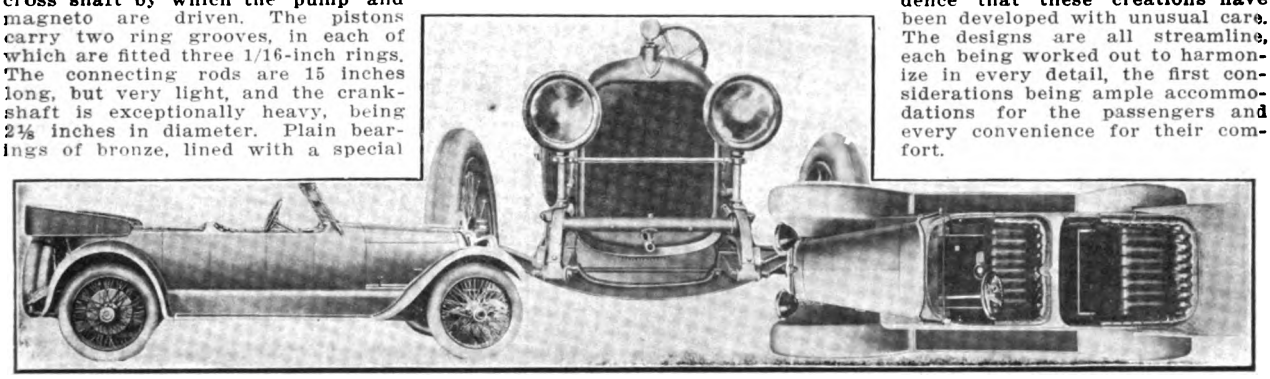
The lubrication is force feed, maintained by a gear driven pump located at the rear end of the camshaft, sending oil to all bearings at from 10 to 60 pounds pressure, according to the motor speed. There are, however no external oil pipes. The transmission is selective, giving four forward speeds and reverse, and is equipped with a locking device to eliminate danger of stripping the gears by improper shifting.

The 12-volt U. S. L. starting and lighting system is worked out especially for Mercer conditions, and consists of a special motor-generator, installed in place of the flywheel, and a 100 ampere-hour battery. This equipment is applied to all models except the runabout.

The raceabout is built with a full cowl and enclosed sides, and the speed is guaranteed at 80 miles an hour.

All of these new models are important additions to the Mercer line, and will doubtless find immediate favor. They are in accord with the established policy of the manufacturer to build high-grade, four-cylinder cars of medium weight, and are thoroughly up-to-date examples of this design, embodying style and class in their appearance, and the highest degree of reliability in their construction. Long service and economy of operation are also to be anticipated, and the requirements of the most exacting owner seem to be met at all points.

The accompanying illustrations of one of the new body types with which the Mercer chassis are equipped evidence that these creations have been developed with unusual care. The designs are all streamline, each being worked out to harmonize in every detail, the first considerations being ample accommodations for the passengers and every convenience for their comfort.



The Sporting Model of the New 22-70 Mercer Shows Perfect Streamlines, Roomy Seating Space and Gracefully Curved Radiator and Hood.

DOMESTIC CRUDE OIL PRICES.

CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of February were as follows:

Pennsylvania dark	$1.50	Somerset 32°	$ .90
Second Sand	1.50	Ragland	.70
Tiona	1.50	Illinois above 30°	.89
Mercer black	1.07	Kan. & Okla.	.45
Cabell	1.10	Corsicana light	.55
New Castle	1.07	Corsicana heavy	.50
Corning	.95	Electra	.55
Wooster	1.15	Henrietta	.55
North Lima	.93	Caddo, La., 38°	.80
South Lima	.88	Caddo, La., heavy	.45
Indiana	.88	Spindletop	.40
Princeton	.89	Canadian oil	1.32

California.

21 to 23.9 grav.	40	29 to 30.9 grav.	55
24 to 26.9 grav.	42½	31 to 32.9 grav.	60
27 to 28.9 grav.	45		

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-62°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76	33	32½	23½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
73 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.

Crude, barrels, a gallon	..	a	13½
Refined, barrels	12	a	13
Tank wagon delivery	..	a	9
Fuel, 31°	8	a	..
Fuel, 34°	9	a	..

Naphtha.

Auto in wood	..	a	16
Auto in garages, steel bbls.	..	a	12
V. M. & P. deod., in steel	..	a	9
V. M. & P. deod., in wood	..	a	11

Gasoline.

86°	..	a	26
74-76°	22	a	24
67-70°	..	a	22

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

P. L. Towne, 6449 University avenue, Chicago, Ill.; one-story garage, 50x125, $10,000.

A. A. Skudstad, 554 North Leclaire avenue, Chicago, Ill.; one-story garage, 25x25.

Weimeschkirch & Son, 7066 North Clark street, Chicago, Ill.; one-story garage, 25x25.

J. M. Saylor, 362 Clinton avenue, Albany, N. Y.; eight sheds, one-story garage, 12x18, $2000.

Tremont Realty Corporation, Boston, Mass.; four-story garage, 90x115, $85,000.

Louis Kaufman, 26 Lena park, Boston, Mass.; one-story garage, 25x28.

E. C. Bartlett, 28 Grenada terrace, Springfield, Mass.; three-story garage, 60x83.

Helen P. Weaver, Mansfield, O.; one-story garage, 26x85, $7000.

Alonzo O. Bliss, 35 B street, N. W., Washington, D. C.; three-story garage, 41x40, $20,000.

Aaron Keil, Wilmington, Del.; one-story automobile show room, 35x80, $5000.

Silberman Brothers, Providence, R. I.; two one-story garages, 29x49, $7,000, and 45x50, $13,000, respectively.

George E. Wheeler, Spirit Lake, Ia.; one-story garage, 40x60, $5000.

Mrs. D. A. Hill, Webster Grove, Mo.; two-story garage, $6000.

J. H. Sternberg, 512 Gladstone boulevard, Kansas City, Mo.; one-story garage, 22x24, $2000.

C. E. Faeth, 4520 Holmes street, Kansas City, Mo.; one-story garage, 45x130, $8000.

A. L. Stocke, 2707 Ann avenue, St. Louis, Mo.; two-story garage, $6000.

Paul R. Gray, 336 Seminole avenue, Detroit, Mich.; one-story garage, 171x25 and wing, 41x75.

United Fruit Growers' Company, Sturgeon Bay, Wis.; one-story garage, 20x20.

Johnson & Miller, 610 Ohio street, Terre Haute, Ind.; one-story garage, 26x30.

Main Motor Car Company, 71 East Main street, Logan, O.; two-story garage, 40x150, $10,000.

Gill Lumber Company, 805 Hippodrome building, Cleveland, O.; one-story garage, 34x46, to be erected at East Cleveland.

R. P. Hains, Middleburg, Penn.; two-story garage, 40x38; one-story garage, 40x60, $3500.

V. A. Sumare, Scranton, Penn.; one-story garage, 60x150, $20,000.

J. B. Pierce, Schenectady, N. Y.; one-story garage, 24x50, $3000.

Mrs. F. H. Fay, 63 South street, Auburn, N. Y.; one-story garage, 51x27.

Anton Pirner, 2069 Westchester avenue, New York City; one-story garage, 50x80, $12,000.

Taylor Ice Cream Company, Buffalo, N. Y.; two-story garage, 52x70, $10,000.

Robert Gentes, 221 Fayette street, Peoria, Ill.; one-story garage, 50x100.

H. A. Hansen, 6459 South Paulina street, Chicago, Ill.; two-story garage, 23x52, $6000.

Joseph Fakan, 1826 South May street, Chicago, Ill.; two-story garage, 50x125, $8000.

L. Novy & Son, 3223 West 22nd street, Chicago, Ill.; one-story garage, 50x125, $8000.

H. S. Goumans, Winona, Minn.; two-story garage, $4000.

John N. Dyer, 107 South Third street, Vincennes, Ind.; two-story garage, 100x100.

S. E. Conley, Sharon, Wis.; one-story garage, 60x66.

Mrs. George R. Balch, Cincinnati, O.; four-story garage and sales room, 60x90, $30,000.

Peter J. Tolomnas, Salem, Mass.; one-story garage, 88x85.

George Pennhorn, 124 Boylston street, Boston, Mass.; one-story garage, 25x37; to be erected at Jamaica Plain.

Louis Horowitz, 740 Howard street, Brooklyn, N. Y.; one-story garage, 30x30.

H. A. Miller, 409 Pittsburg building, St. Paul, Minn.; two-story garage, 60x144, $20,000.

H. Gnelch, New London, Wis.; one-story garage, 30x120, $5000.

F. Trobbic, Erie, Mich.; one-story garage, 40x50, $2500.

K. D. Norris, Calumet building, East Chicago, Ill.; one-story garage, 50x40.

White Motor Sales Company, Akron, O.; one-story garage, 66x229.

Frank Griswold, Geneva, O.; one-story garage, 50x90.

E. J. Andrews, Cleveland, O.; two-story garage, 39x38; one-story garage, 20x22.

Paul Kleefeld, Dry Cleaning Company, 3067 West 25th street, Cleveland, O.; one-story garage, 16x32.

William E. Doran, Bristol, N. J.; two-story garage, 33x83, $10,000.

Dennis Norton, 339 Douglas street, Brooklyn, N. Y.; one-story garage, 40x75, $7000.

A. E. Debnnn, 41 Liberty street, New York City; one-story garage, 99x150, $12,000, to be erected at Brooklyn, N. Y.

CONTRACTS AWARDED.

C. E. Loyd, Philadelphia, Penn.; one-story stone and frame garage, 20x22, for G. V. B. Leitch, Oak Lane, Penn.

Charles Rosser, 1319 Wood street, Philadelphia, Penn.; one-story brick and stone garage, 16x60, $1200; for Mrs. P. McNichol, 1318 Parrish street.

Lewis W. Zell, Philadelphia, Penn.; one-story addition to garage, 48x88, $3000, for W. H. Windolph.

Spanheimer Brothers, 1116 27th street, Milwaukee, Wis.; one-story garage, 20x20, for John Stuesser, 843 40th street.

Oscar Warth, Jr., 649 95th street, Milwaukee, Wis.; one-story garage, 20x22.

E. J. Cross, 82 Foster street, Worcester, Mass.; one-story garage, 24x20, for Waldo Lincoln, 49 Elm street.

H. Koenig, 883 97th street, Milwaukee, Wis.; one-story addition to garage, 17x20, for Ney & Schanke, 2513 Vliet street.

L. Klass, 6213 Racine avenue, Chicago, Ill.; one-story garage, $6000.

F. W. Dunn, 111 East North street, Akron, O.; one-story garage, 45x120, $8000, for W. R. Talbot, 24 Oakdale street.

C. A. Ross, Little Falls, N. Y.; two-story garage, 56x100, $100,000.

GARAGES AND REPAIR SHOPS.

C. C. Wauglop, Centerville, Ia., is erecting an up-to-date garage.

Peter Holt, Boscobel, Wis., is building a two-story garage, 50 by 90 feet. The second floor will be devoted to repair work and dead storage.

B. A. Rice, Cambridge, Mass., is erecting a modern garage at 74 Fairweather street.

The Northern Boulevard Company, Albany, N. Y., has erected a modern fireproof building. The company is agent for the Marmon car.

Frederick C. Bowditch, Boston, Mass., is erecting a modern garage at 205 Pleasant street.

McCandless & Boyd, Louisville, Ky., will erect a one-story garage on Oak street, to cost $4000.

Thomas F. Murphy, Southbridge, Mass., will erect a modern two-story garage, 100 by 50 feet, at a cost of $10,000.

Belford Crossaboom, Millville, N. J., is having a modern garage erected.

Walter Tyrell, Springfield, O., is erecting a modern garage on North Fountain avenue.

Frank B. Knoblauch, Minneapolis, Minn., is erecting a first-class electric garage at a cost of $16,000. It is located at 1717 James avenue.

W. E. Anderson, Arlington, Ia., will erect a modern garage near the St. Cloud hotel.

Deicher & Arndt, Plymouth, Wis., is building a first-class garage on Mill street.

The Allen T. Spang Auto Company, Livingston, Wis., will erect a two-story fireproof garage.

Theodore Decot, Sauk City, Wis., is erecting an up-to-date garage at the corner of Jackson and Washington streets.

The Skellet Company, Minneapolis, Minn., has erected a modern garage at 714 Fourth street.

Thomas Barbuzza, Fort Worth, Tex., is erecting a modern two-story garage on First street, at a cost of approximately $10,000.

Henry Kaiser, Adams, Mass., has purchased property on Crandall street and will erect a modern garage.

Edward Granlund, Quincy, Mass., will erect a first-class garage on Glandale road.

Briggs & Son, Memphis, Mo., is planning to rebuild its garage and implement house.

E. H. Christian, Reading, Penn., is building a first-class garage on Grant street.

A. H. Batchelder, Dunedina, Fla., will erect a garage.

Wesley Kalb, Bucyrus, O., is building a two-story garage on South Sandusky street.

The Bagg Street Auto Garage Company, Detroit, Mich., is erecting an up-to-date garage on Bagg street, west of Woodward avenue. The building will be 25 by 167 feet.

William T. Wallace, Philadelphia, Penn., will erect a one-story garage, 100 by 125 feet. It will be of brick construction. Mr. Wallace is located at 1327 South 57th street.

The Gripp Company, Afton, Ia., is preparing to erect an automobile sales room and garage.

Thomas Crockett, Unionville, Conn., is building a first-class garage.

W. Domroe, Brooklyn, N. Y., is to build a brick garage on Dumont avenue at a cost of $4000. It will be one story and modern throughout.

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WITH THE MANUFACTURERS.

The Lansing Foundry Company, Lansing, Mich., for the past 12 months has increased its production 600 per cent., which has made it necessary to add to the working force. The company now employs about 100 men, and its officers are: President, J. H. Moore; vice president, Ray Potter; secretary, C. D. McCormick; treasurer and factory manager, M. C. Knight.

The Homer Motors Company, Los Angeles, Cal., with offices at 1119 Van Nuys building, is manufacturing the Homer high-grade motor tractor, weighing four tons, which sells fully equipped at $3000. The company also manufactures the Homer light delivery automobile, which has a capacity of 1000 pounds and sells for $600. J. F. Meyer is president, Dr. J. E. Cowles vice president, G. W. Bishop secretary and F. Thompson treasurer.

The Haynes Automobile Company, Kokomo, Ind., is working full time with full forces of men.

The American-La France Fire Engine Company, Inc., New York City, reports for the year ending Dec. 31, 1914, net profits of $350,645, and a surplus, after seven per cent. dividends on the preferred stock, of $210,645. A dividend of one per cent. on the common stock has been declared by the directors, payable Feb. 15 to stock of record Feb. 1.

A. R. Mosler & Co., New York City, has purchased the large plant occupied formerly by the Hodgman Rubber Works of that city. This addition measures 273 feet long and is four stories high. The screw machine department will be set in the basement, while the next floor will be the stock room, tool room, shipping and receiving department. The next floor will be the offices and assembly departments.

Views of the Allen Motor Company Which Recently Absorbed the Somers Motor Company of Bucyrus, O.

The Motorkart Company, Scranton, Penn., is contemplating the erection of an addition to its factory, 60 by 300 feet, the estimated cost being $50,000.

The Chandler Motor Car Company, Cleveland, O., will soon begin the construction of an addition to its present plant, which will be of brick, steel and concrete.

The Allis-Chalmers Manufacturing Company, Milwaukee, Wis., is erecting a large addition at its main works in West Allis, to accommodate the transformer department, which was recently moved from the Bullock Works in Norwood, Cincinnati, O.

The Grant Motor Company, Findlay, O., has leased the buildings formerly occupied by the Findlay Table Company. The addition will give the company about 40,000 square feet and it will be used for finishing automobiles. It will also be the shipping point of the product of the factory. It is expected that the company will turn out 50 of its new sixes a day.

R. C. Neighbors, Detroit, Mich., formerly sales manager of the Hupp Motor Car Company, will manufacture electrical specialties used in the automobile industry. His address is 100 Beaubien street.

The Allen Motor Company, Fostoria, O., has recently absorbed the Somers Motor Company of Bucyrus, O., the latter company being formed to manufacture a motor which was invented by L. A. Somers.

The Maxwell Motor Company, Inc., Detroit, Mich., is able to supply any part for the Maxwell-Briscoe, Stoddard-Dayton, Brush, Everitt, Columbia and Courier pleasure cars and the Alden Sampson commercial vehicle. The service is such that all orders are filled and shipped to their destination within 24 hours after their receipt. The company maintains a three-story factory at Newcastle, Ind., and a service branch is maintained at San Francisco, for western patrons. Approximately 34,950 different parts are carried in stock, which represents $2,000,000. In addition, $250,000 worth of stock is carried at the western branch.

The Cooper Manufacturing Company, Worcester, Mass., has just been formed and will put on the market a new device called the Lightning trouble finder and jump spark tester, invented by J. C. Cooper.

The Wagner Resilient Wheel and Tire Company, Chelsea, Mich., which was organized in Chicago some time ago under the laws of the State of Michigan, with a capital stock of $500,000, has purchased the plant formerly occupied by the National Peat Fuel Company at Chelsea, and will start manufacturing within a short time. The officers of the company are: President, William F. Wagner; vice president, T. E. Russell; secretary-treasurer, A. C. Baird.

The Homer Laughlin Engineers Corporation, Los Angeles, Cal., with factory and offices at 2652 Long Beach avenue, have purchased the Pacific Mechanical Company, formerly located at 5410 South Normandie avenue.

The Goodyear Tire and Rubber Company, Akron, O., has taken over the sale of Motz cushion tires, and there has been some speculation as to the future activities of salesmen widely known in the trade under the former Motz organization. J. V. Harding has his headquarters at Detroit, H. E. Harding, E. F. Thompson and F. B. Hesse are located in Akron, and W. F. Meyer, H. O. Brinker and V. E. Wagstaff are in Chicago.

The Simmons Manufacturing Company, Kenosha, Wis., has broken ground for three additions to its factory at a cost of $100,000. The new buildings will be ready for occupancy some time during August. The company manufactures spring sets for automobile cushions and upholstery.

The Universal Manufacturing Company, Racine, Wis., maker of compressed air cranking devices for automobiles, has been obliged to increase its working force to take care of increased orders for the appliance. A special device is made for Ford cars and the demand of these goods has necessitated this step.

The Kelly-Springfield Motor Truck Company, Springfield, O., has received an order for 150 trucks from the Canadian government. J. L. Geddes, president of the company, states that the trucks are of the 3½-ton type. He also says that the order calls for 30 trucks a month until the war is ended.

The Fisk Rubber Company, Chicopee Falls, Mass., in its annual report for the year ending Oct. 31, 1914, shows net profits of $942,204, an increase of $336,204.

The B. F. Goodrich Company, Akron, O., in its annual report for the year 1914, shows net profits of approximately $5,440,000. The company's financial position has again been materially strengthened during the past year as to the amount of quick assets over the current liabilities, showing a gain over last year of approximately $2,950,000.

The Mitchell-Lewis Motor Company, Racine, Wis., uses the United States chain tread tire as the standard

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and exclusive equipment on the rear wheels of the well known Mitchell car manufactured by that company.

The Briscoe Motor Company, Detroit, Mich., has leased for one year the old Cutting plant in Jackson, Mich., with the privilege of purchasing it. This plant will be used by the Briscoe Company as a painting and trimming shop, which will give employment to about 300 men.

The Sternberg Motor Truck Company, Milwaukee, Wis., is making final deliveries on an order for 150 Sternberg commercial trucks for the allied armies of Europe. Each truck has been thoroughly tested and has been given a 300-mile test with a rated capacity load.

The Grant Motor Company, Findlay, O., held its annual meeting recently and elected the following officers: President, David A. Shaw; vice presidents, George D. Grant and George S. Salzman; secretary and sales manager, George S. Waite. The board of directors consist of these officers and E. A. Dorsey, J. M. Howe, Roger R. Hall and Charles A. Grant.

The Badger Brass Manufacturing Company, Kenosha, Wis., at its annual meeting, elected Gordon Yule as a director to fill the vacancy caused by the death of his father, William Y. Yule. Other officers were re-elected as follows: President, George A. Yule; vice president, William H. Yule; secretary, L. J. Keck; treasurer, Richard H. Welles.

The Ingram-Hatch Motor Corporation, 2 Stone street, New York City, is planning to build a plant at Calgary, Alta., for the manufacture of automobiles and motor trucks.

The Chester County Motor Company, Coatesville, Penn., is planning to construct a factory for the manufacture of commercial cars. J. Edwin Brinton is president.

The Ohio Carriage Manufacturing Company, Columbus, O., which purchased the old plant of the Barndt-Johnson Body and Top Company on South High street, has installed complete machinery for the manufacture of automobile bodies. The company will make bodies for all makes of cars, but will specialize on bodies for Ford cars.

The Briggs-Detroiter Company, Detroit, announces that it will market a low-priced eight-cylinder car on a large scale. The new car will sell for $1295. Following closely the distinctive lines of the 1915 Detroiter four, the new eight is more elaborate and embodies many advanced ideas. It is finished in a beautiful Kimball green with gold stripes and has Turkish type upholstering in leather.

The Dort Motor Car Company, Flint, Mich., completed its organization recently. The company is capitalized for $500,000, for the purpose of manufacturing automobiles. The stock is $100,000 preferred and $400,000 common, with $217,000 paid in. The working capital will be increased to approximately $250,000. The directors are all members of the present Durant-Dort Carriage Company's organization.

The Mutual Motors Company, Indianapolis, Ind., organized recently with $1,000,000 capital, will manufacture automobiles in Jackson, Mich., for Marion Motor Company of the former city, and also for the Imperial Automobile Company of Jackson.

Dusenberg Bros., St. Paul, Minn., has opened its new motor manufacturing plant.

The Stewart & Clark Manufacturing Company, Chicago, Ill., will erect a six-story addition to its already large plant, at a cost of approximately $75,000. The company manufactures a line of automobile supplies and is located at 1828 Diversey boulevard.

The Fair-Anderson Company, Chicago, Ill., contemplates the establishment of a branch factory for the manufacture of automobile tires at an estimated cost of $125,000.

The National Carbon Company, Cleveland, O., has declared its regular quarterly dividend of 1¾ per cent. on the preferred stock, which will be payable to stockholders of record Feb. 15.

The Montana Improved Spring Wheel Company, Livingston, Mont., is preparing plans for the construction of a plant to manufacture spring wheels for automobiles.

The Kelly Motor Truck Company, Springfield, O., will erect an addition of reinforced concrete, which will be 50 by 260 feet.

The Mecca Tire Company, Trenton, N. J., has purchased the building formerly occupied by the American Lamp and Brass Company. It is being remodelled and improved for the purpose of tire manufacturing. The property covers about three acres and contains six brick buildings, 30 by 90 feet each, five of them 2½ stories high and the other 3½ stories. These buildings will be equipped with the necessary modern machinery to turn out from 250 to 300 tires a day.

The Olds Motor Works, Lansing, Mich., is again issuing its house organ, known as the Official Bulletin of the Olds Motor Works, as a monthly periodical.

The Blood Bros.' Machine Company, Allegan, Mich., has moved from Kalamazoo and will continue to manufacture universal joints and the Cornelian light car at the former city.

The Motor Ignition and Devices Company, Detroit, recently organized, has opened offices in the Boyer building and will manufacture ignition apparatus for automobiles. John L. Milton is the general manager.

The Jones Motor Car Company, Wichita, Kan., has completed its plant at 210 West Douglas avenue. The company manufactures the Jones Six car.

The Pendelton Manufacturing Company, Culver City, Cal., has installed new machinery at its plant, where it manufactures a small light car.

The Fisk Tire and Rubber Company, Duluth, Minn., is planning to establish a factory branch and will locate in the Dodge block.

The Castle Rubber Company, New Castle, Penn., capitalized at $500,000, has been organized to manufacture a non-skid tire and tubing and later will add other articles to its product.

The Continental Motor Manufacturing Company, Muskegon, Mich., will erect a plant in that city. The new building will connect the annex with the main factory and will be used as a machine shop. The plant in Detroit is running at full capacity.

The Hudson Motor Car Company, Detroit, Mich., according to statements given out at the New York show, made a sales record of $7,500,000 in the five months between July 1 and Dec. 1, 1914. This aggregate of sales compares with $3,000,000 in the same period of a year ago and is an increase of 150 per cent.

The Champion Spark Plug Company, Toledo, O., held its annual salesmen's convention in Detroit, Mich., recently. The entire sales force visited the King factory and the Jeffery-DeWitt plant and later were guests of the Ford Motor Company.

The Hupp Motor Car Company, Detroit, Mich., is building additions to its factory to cost upwards of $150,000. A two-story office building, a top and body building, a testing laboratory and an engineering building are the new additions.

The Triple Action Spring Company, Chicago, Ill., manufacturer of the Johnson shock absorber, has been awarded the order for the entire equipment of the Walker Vehicle Company, maker of the Chicago electric car.

The Willys-Overland Company, Toledo, O., is distributing a catalogue de luxe showing its new Overland six model 82.

The Gearless Differential Company, Detroit, Mich., has elected the following officers for the coming year: President, George D. Bailey; vice president, C. F. Ferguson; secretary and treasurer, E. O. Knight. The directors are: George Stroh, A. MacLaren, H. H. Bailey and John Schrag.

The Federal Motor Truck Company, Detroit, Mich., has awarded its employees a bonus of 10 per cent. of their wages for the past year as a share in the profits of the company.

The Thermoid Rubber Company, Trenton, N. J., has issued a folder devoted to the Thermoid hydraulic compressed brake lining. A scale of prices is given for the various widths and thicknesses.

The Bergdoll Automobile Company, Philadelphia, Penn., will erect a large manufacturing plant at Trenton Junction, N. J.

The Magee Sheet Metal Machinery Company, Detroit, Mich., will manufacture sheet metal wiring machines especially used in wiring fenders. Several sample machines have been tried out by one of the largest automobile manufacturers, and it is said its use has resulted in the saving of more than $40 a day.

The Revivo Storage Battery Company, Louisville, Ky., was organized recently to manufacture a dry storage battery, designed to displace the acid battery of all classes, which it is said can be recharged indefinitely. R. M. Kelly, Jr., has been elected president of the company.

The Zenith Carburetor Company, Detroit, Mich., has been elected to membership in the Motor and Accessory Manufacturers.

The Duplex Power Car Company, Charlotte, Mich., which makes the Duplex four-wheel drive trucks, has received an order for 12 two-ton trucks from the United States government.

The Lyons-Atlas Company, Indianapolis, Ind., has increased its capital stock from $1,000,000 to $1,500,000. The company is preparing to market a new medium-priced car, experiments on which have been under way for several months.

The McGraw Tire and Rubber Company, East Palestine, O., is making extensive improvements to its plant on Taggart street. The increased business necessitates this step.

The Remy Electric Company, Anderson, Ind., has purchased a tract of land on East Grand boulevard, Detroit, Mich., which has a frontage of 500 feet. A new building will be erected which will have 20,000 feet of floor space and will be three stories high.

The Saxon Motor Car Company, Detroit, Mich., has secured a five-year lease on the Abbott Motor Car Company's factory on Beaufait avenue, and will occupy it as soon as alterations are made.

The Moon Motor Car Company, St. Louis, reports a gain of 28.24 per cent. during the month of January just passed with the corresponding month last year. The shipments of 1915 models during the first month of this year were valued at $347,912.07.

The Rolls-Royce Company, Ltd., of Great Britain, decreased in business for the year 1914 compared with the previous year. A dividend of 10 per cent. was recommended instead of the 20 per cent. in 1913.

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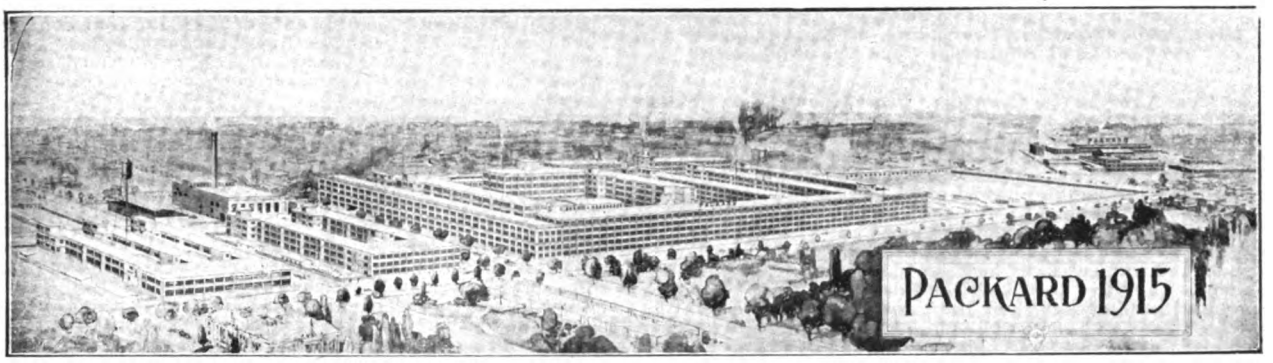

Bird's-Eye View of the Packard Motor Car Company Plant, Detroit, Mich., as It Looks Today.

Company, General Motors Truck Company, General Motors Export Company, General Motors (Europe), Ltd., and General Motors Company of Michigan. The total preferred stock of the above companies is $646,000, of which the General Motors acquired $596,000, and of the $15,926,003 common stock, the holding company owns $15,398,003. As a dividend payer the General Motors has an excellent record, maintaining a steady rate of seven per cent. on its own $18,038,400 outstanding preferred stock. A stock dividend of 150 per cent. was paid on the common stock November, 1909.

Overland to Turn Out 75,000 Cars.

For 1915 the Willys-Overland Company, Toledo, O., will have an output of 75,000 automobiles, making the greatest showing in the history of the firm. With a capitalization of $30,000,000, a total of 8600 men employed, 92 acres of ground for factories, and an actual floor space of 79 acres, the Willys-Overland occupies an enviable position in the automobile world. The company's growth is well illustrated in the following tabulation, which gives its production output from the first year to date:

Year	Output	Year	Output
1908	400	1912	22,500
1909	4,000	1913	40,000
1910	12,500	1914	50,000
1911	16,000	1915	75,000

The Willys-Overland is a striking example of the manner in which the modern automobile company is being financed. The fundamental principles behind this concern's financing are of an exceptionally strong character. The $5,000,000 outstanding seven per cent. cumulative preferred stock is preferred as to both assets and profits, and is redeemable as a whole or in part at the option of the company at 110 and accrued dividends on 60 days' notice. A cumulative sinking fund for the purchase or redemption of the preferred stock at not exceeding 110 and accrued dividends has been created, and on July 31, 1914, $250,000 was set aside for this purpose. On the same date this year another $250,000 will be retired, and beginning July 31, 1916, the annual sinking fund will be an amount equal to 10 per cent., of the net earnings for the preceding fiscal year, which must not be less than $250,000. Through the ownership of the entire $1,500,000 stock, the Willys-Overland Company controlled the Garford Company, but late reports state that this concern's holdings have been disposed of.

An excellent indication of the coming period of prosperity due to bumper crops is well illustrated by the action of the Studebaker Corporation, Detroit, Mich., in rushing a train load of Studebakers to its Kansas City branch for distribution throughout Kansas and Oklahoma. This is the first time in the history of the Studebaker corporation that a train load of cars has been shipped to the Middle West during the production season, but demands of farmers throughout that section made such action necessary. During the past year this concern manufactured 17,600 fours and 7000 sixes, and $160,000 expended during the year for plant additions will enable the corporation to turn out 35,000 cars for the present year.

The earning statement of the past year will not be made public until the Studebaker corporation holds its annual meeting, April 6, but it is known that the company year was the most successful since its inception. The current year will be a banner period and the record of 1914 will be far surpassed. Studebaker is paying full dividends on its outstanding $12,180,000 seven per cent. preferred, and a special surplus account of not less than three per cent. of the preferred outstanding is set aside each year for redemption of the preferred, and that fund must amount to $1,000,000 before any dividends are paid on the common, and not more than six per cent. to be paid on common until this fund totals $2,500,000.

SHOW FOR SPRINGFIELD.

Massachusetts City to Hold Display in Auditorium in March—To End When Boston Show Starts.

Ending on the night that the Boston automobile show starts, Springfield, Mass., will hold an automobile show this year in the Auditorium, March 4-6, inclusive. J. Henry Graham, who has managed similar shows in Manchester, N. H., Bangor, Me., and Lewiston, Me., promises to have something worth while.

AUTOMOBILE MEN ORGANIZE.

Portsmouth, N. H., Dealers and Proprietors of Garages Form a Business Men's Association.

A business men's association, composed of automobile dealers and proprietors of garages, was organized recently at the Sinclair Inn, Portsmouth, N. H. The organization will comprise members from Portsmouth, Dover, Rochester, Exeter, Somersworth and Newmarket. The officers elected were: J. W. Edwards, president; Clifford Loud, secretary and treasurer. A committee of three, Charles E. Woods, Albert Wetherell and George C. Welsh, was appointed to establish by-laws for the association. A banquet followed the meeting and plates were set for 25.

At the Top Is a General View of the Ford Plant as It Stands Today and Below May Be Seen a Part of the Ford Army of Employees.

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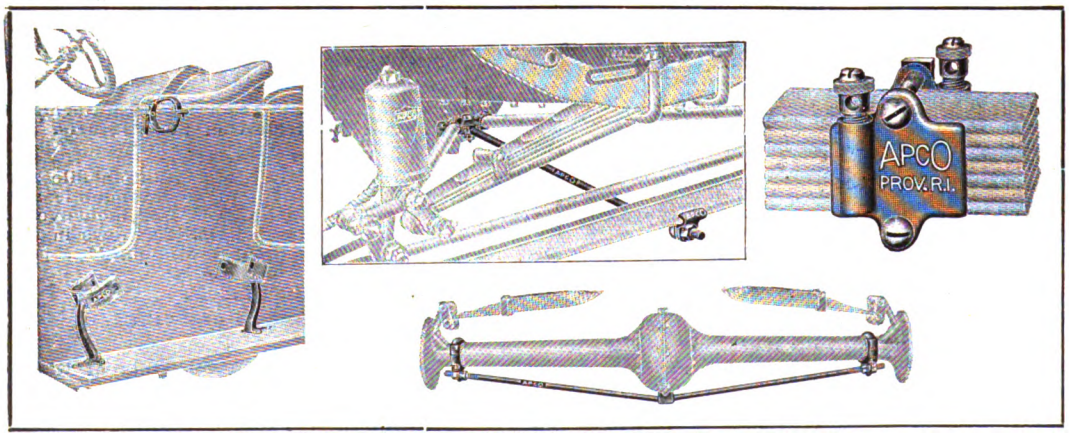
FOUR NEW APCO SPECIALTIES.

Auto Parts Company, Providence, R. I., Announces the Production of Additional Ford Car Equipment.

The Auto Parts Company, Providence, R. I., manufacturer of Apco specialties for Ford cars, is producing several new Apco devices which will recommend themselves to owners and the trade because of their practical qualities and reasonable price. Four of these are shown in the accompanying illustration. The tire holders are designed to be placed on the running board, a location that has advantages for carrying extra tires over the rear of the body, where the shoes may be splashed with mud and subjected to heat of exhaust gases, which destroys the life of rubber. A desirable quality of the Apco tire holders is their light weight, the maker stating that they weigh seven pounds less than the lightest rear holder in the market. The Apco design is very strong and compact. No straps are necessary. The holders were designed to accurately fit the Ford size of tires. They retail for $2 the set.

The Apco spring leaf lubricator consists of a pair of plates having an oil reservoir and felt inserts. These inserts rest against the side of the springs and feed the oil between the leaves by capillary action. They keep the frictional surfaces constantly lubricated and improve the riding qualities of the car. These lubricators are sold four to a set for $2, and can be attached by the owner in a few minutes.

Another Apco specialty is the rear axle truss that is designed for Ford cars made previously to 1915. A feature of the truss is that it does not impose any strain on the axle tubes, as the clamps securing the truss are attached to the reinforced ends of the axle housings. The truss has a cradle which fits under the differential case, and the cradle has square sockets to take the square heads that are made integral with the rods. In the clamps is a square recess, so that the bolts are flush with the surface. This truss is adjustable and can be attached in 10 minutes. The cost is $1.50.



From Left to Right Are Shown the Apco Side Tire Holders, Apco Front Axle Brace and Apco Spring Leaf Lubricators; the Lower Illustration Is of the Apco Rear Axle Truss.

The front axle brace, the last of the four specialties shown in the illustrations, is the latest Apco production. The front radius rod has more or less give, and claim is made that the spring of the tubing causes the front axle to tip backward, affecting the steering of the machine. The Auto Parts Company's front axle brace consists of two ingenious clamps and a steel rod. One of these clamps is attached to the V-end of the radius rod by three bolts which have square heads fitting into a recess, which prevents their turning. The end of the rod has a square head. The other clamp is secured to the front axle, as shown in the accompanying illustration, and is held firmly in place by two nuts on the rod, which extends through the clamp. This rod can be attached with a wrench in five minutes. It weighs but three pounds and sells for $1.50.

NATIONAL UNITED SERVICE COMPANY.

Organization Formed to Establish "Nusco" Service Stations Along the Lincoln Highway.

That the motorists who traverse the United States via the Lincoln highway will not want for all the comforts of home, is plainly shown by the recent move to establish service stations along the entire length of this highway and its main arteries which ultimately lead to and include every mile of travelable roadway in the United States. This will be done by the National United Service Company, Ford building, Detroit, Mich., and the stations will be known as Nusco service stations, the initials of the company being used to coin the word.

This concern anounces that it has been under way for the past two years, and that all details were settled before making a public announcement of its plans. It has taken on the entire output of 46 different concerns who manufacture various lines of automobiles, accessories and motor car parts, and is now ready to announce a complete Nusco assortment ranging from spark plugs to motor trucks.

COURSES OFFERED BY EXTENSION DIVISION.

Classes Being Formed in All the Chief Cities of the State —Instructions Given in Series of 10 Lectures.

The Extension division of the University of Wisconsin has prepared and is offering to Wisconsin motorists a very interesting and effective course of lectures on the gasoline automobile. This course is the result of a widespread demand from owners and drivers for a better knowledge of the mechanical principles of their machines. The value of this opportunity for mechanical education can be appreciated when one considers the complexity of the present-day motor car and the fact that over nine-tenths of the automobiles in use are operated by men with little or no experience in the handling of machinery. The university hopes with this course of lectures to reach every important city in the state. Six experienced mechanical engineers of the staff of the Extension division are available to conduct the course in different parts of Wisconsin.

This work was planned by Professor Earle B. Norris, who is in charge of the mechanical engineering work of the Extension division. Professor Norris has had several years' experience in the automobile industry and was at one time experimental engineer with the Reo Motor Car Company. In developing the plans for this course, he was assisted by two other members of the engineering staff of the Extension division, George W. Hobbs, formerly with the Buick Motor Company and the Weston-Mott Axle Company, and B. G. Elliott, formerly with the McKeen Motor Company.

The instruction is given in a series of 10 lectures, with lantern slides, models and other demonstrations necessary to make clear the principles of motor car construction and operation. To supplement the lectures, printed pamphlets will be given out so that the students will have this material in convenient form for reference. Besides the university men already mentioned, these pamphlets represent the work of some of the best known writers in the automobile field. The writings of Victor W. Page, Clifford P. Shattuck and William W. Scott have been selected especially because of the ability of these men to explain technical matters in a way that will be clear and interesting to the non-technical reader. The well known Motor Trouble Chart, prepared by Mr. Page, is also supplied to each student and its application to the diagnosing and curing of motor difficulties is explained.

Classes are already under way in several cities and one is now being organized in Milwaukee.

KRIT MOTOR CAR COMPANY.

Company Has Been Reorganized and Will Give Service to Krit Dealers and Owners as Heretofore.

Announcement is made that the Krit Motor Car Company, Detroit, will be continued, the old company having been sold and a complete reorganization effected. The business will be carried on the same as formerly and will remain in the same factory. The name, however, has not been changed.

The service department will be carried on and all Krit dealers and Krit owners of pleasure cars will be taken care of in every respect, the same as before the period of reorganization.

The terms of cash in advance, which has governed all shipments for some time past, is no longer in vogue. In future all shipments will be made on a C. O. D. basis and it is not necessary to send remittance with order.

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Guaranteed forever against center breakage

Tuthill Titanic Unbreakable Spring

Guaranteed forever against center breakage

Why not sell a guaranteed breakless spring

When a car owner breaks a spring—he does not want the same make—he insists on a better spring—sell him the Tuthill Titanic.

The Titanic is guaranteed forever against center breakage—and can be mounted on the axle without any extra machinery or fitting.

No center bolt means that the Titanic is strongest where the ordinary springs are weakest—in the center where 75 out of every 100 of the other kind break.

No matter what make or model—there is a Tuthill Titanic for every car.

Write us today for list of our "50 Best Sellers"—and we will tell you how to make more money on a smaller investment.

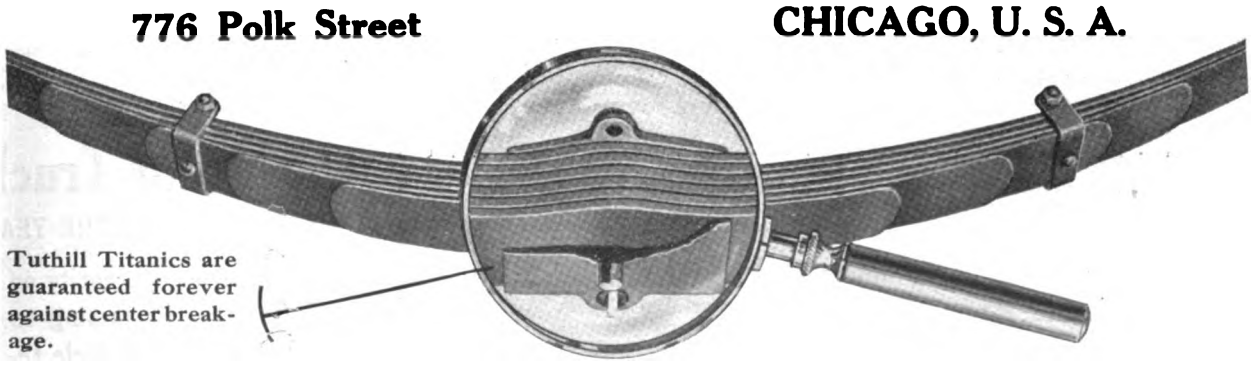
Also ask us about our Quick Service Supply Department Plan.

Hundreds of other dealers are making money on the Tuthill Titanic—why not you?

No other spring is so easy riding

TUTHILL SPRING COMPANY

776 Polk Street **CHICAGO, U. S. A.**



Tuthill Titanics are guaranteed forever against center breakage.

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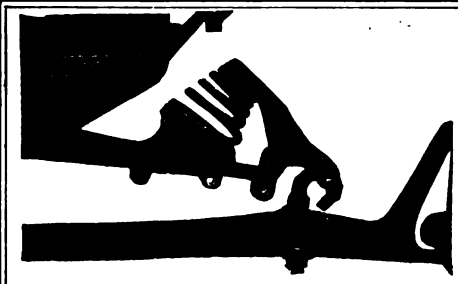

HASSLER
FORD
SHOCK
ABSORBER
1915 MODEL

No tossing—no rebound—easy steering—safe driving. Will not strike lamp bracket or body. Sold by comparison—quality and merit.

$20.00 Per Set of Four

Attractive Proposition to Dealers

Robert H. Hassler Inc., West 10th and Canal Sts. INDIANAPOLIS, IND.

HOUK

DETACHABLE

Wire Wheels

Made by the largest wire wheel manufacturer in America

HOUK MFG. COMPANY

1709 Elmwood Ave. BUFFALO, N. Y.

We Sell Everything

pertaining to the automobile at half regular prices. Send for our great "PRICE WRECKER" No. 5, containing 3000 auto bargains at cut prices. TIMES SQUARE AUTOMOBILE CO. World's largest dealers. S. W. Cor. 56th St. and Broadway, N. Y. 1210 Michigan avenue, Chicago.

Headlight Dimmers
For Ford Automobiles

Beautifully finished in black. $10 hundred pairs, cash with order. Other sizes, $15. Simplest license holders made, $10 hundred. Either retail for 75c. Samples (Both) 50c prepaid.

AMERICAN MANTLE CO.
Anderson, Indiana

All Trade Show Number

The Accessory and Garage Journal

Will reach all dealers who will attend the Boston Show. You can reach such interests before the exhibition opens, in the February Number.

Proof of this service at request

ACCESSORY and GARAGE JOURNAL
Times Building Pawtucket, R. I.

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1915
Auto Mailing Lists of All Lines For Sale

30,370 Auto Dealers, U. S.—$40.00 or $2.50 per M.
6,200 Auto Ford Dealers, U. S.—$15.00 or $3.00 per M.
19,543 Garages, U. S.—$30.00 or $2.50 per M.
20,924 Auto Supply Dealers, U. S.—$30.00 or $2.50 per M.
21,983 Auto Repair Shops, U. S.—$30.00 or $2.50 per M.
1,680,000 Auto Owners.....$2.00 per M.
353,000 Auto Ford Owners....$3.00 per M.
Have Every Other Auto Trade List,
All Typewritten, Showing Financial Rating.
Ask for Particular Territory Wanted.
A. F. WILLIAMS, Mgr.
166 West Adams St., Chicago.
Franklin 1182.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Frictions. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

Kansas City Warehouse—FOR RENT

Switch property, 4-story brick, 32,000 feet floor space. Excellent location. Having purchased larger building have unexpired lease to sub-let. Will lease all or part. Logical distributing point for agricultural district. The business is there this year. **MARIETTA CHAIR Co.,** Marietta, O.

DIRECT TO YOU

New Auto Bodies, all sizes; Motors, Parts, Tires and Equipment. Also complete chassis for small car. **DOWNING AUTO PARTS CO.,** Detroit, Mich.

The Motor Truck

12 ISSUES $2 THE YEAR

A Recognized Authority on All Subjects Pertaining to the Commercial Vehicle Industry . . . . .

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These are properly designed *cutting* tools, instantly adjustable to any size valve or valve cage---they cut valves and valve seats perfectly true, solve the problem of valve grinding, and produce perfect work.

EVERY GARAGE and REPAIR SHOP

Should have these tools—they are the greatest time and labor saving devices ever invented for the purpose.

30--45--60--90 and special degree cutters furnished--the tools are guaranteed.

SINGLE TOOLS $6.00 APIECE.

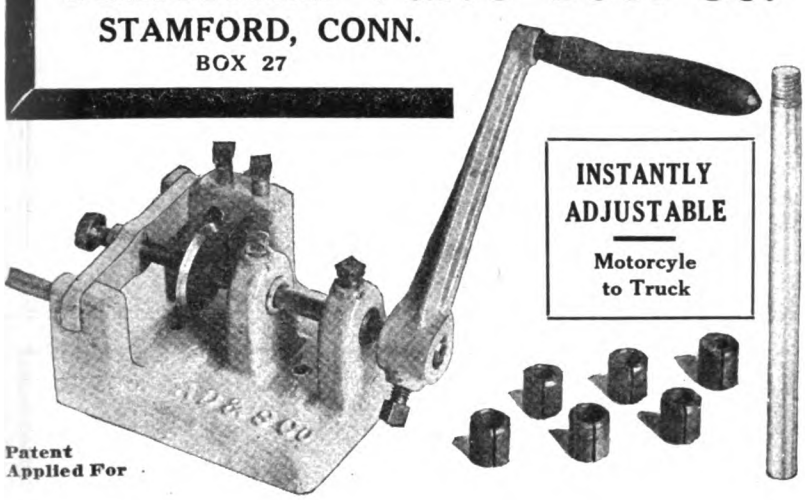
Full Set of Three Tools with all Lead Stems and Bushings $15.00

American Valve Tool Co.

STAMFORD, CONN.
BOX 27

PRICE $15.00
Complete Outfit
Express C. O. D.
Privilege of Examination

Patented



INSTANTLY ADJUSTABLE
Motorcyle to Truck

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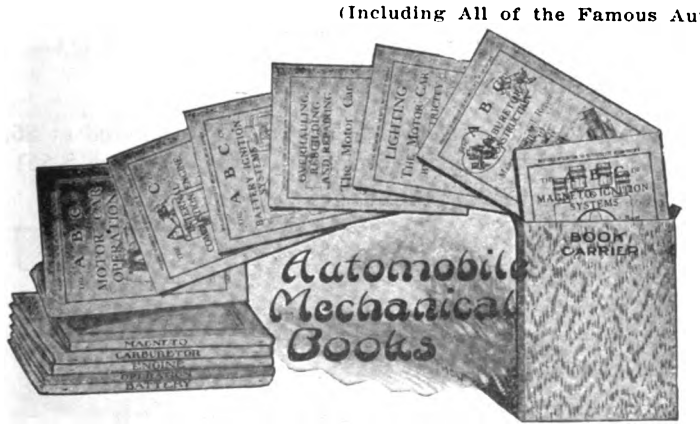
(Including All of the Famous Automobile A. B. C. Books.)



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11 Books All Distinct All Complete

Dealing in a Practical Manner With the

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A business investment for anyone having to do with the care, repair and operation of pleasure or commercial vehicles, their parts, equipment, accessories, etc.

Make Remittances Payable to the

Times Bldg. AUTOMOBILE JOURNAL PUB. CO. Pawtucket, R. I.

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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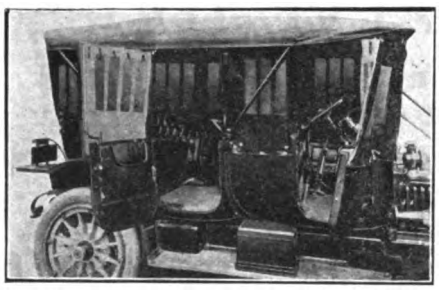
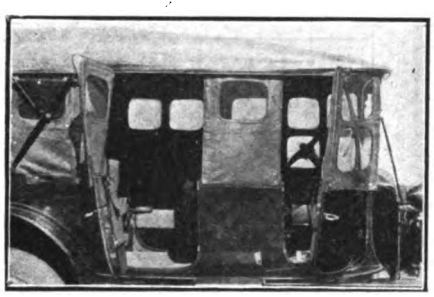
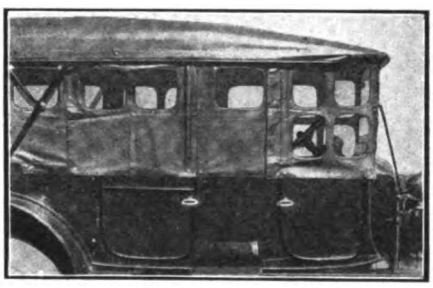


Overcomes Nuisance Remaining in Quick Acting Curtains.



As Used on 1915 Packard Models.



Closes as Tight as Old Way.

THE GREATEST CURTAIN CONVENIENCE

IS THAT THEY

OPEN INSTANTLY WITH THE DOOR AND CLOSE TIGHT WITHOUT BUTTONS

The newest and final improvement in top curtains, obtainable only by the use of the

BLACKMORE CURTAIN OPENER

(Patented June 5, 1907.)

A simple bracket that supports the curtain at the door edge and swings door part of curtain open or tightly closed as door is used, doing away with the annoyance of unbuttoning curtains.

AN IMPORTANT PERSONAL SAFETY FEATURE.

as you will not be locked in your car by the curtain fasteners.
This method of curtain design gives the weather protection and convenience of a **limousine** or **convertible body** to the owner of an open car without the expense, weight or rattle of the special body.

Any top maker can convert your present curtains so they will fit tight around the edges and **open in this convenient way.**

The bracket is easily detachable (without tools) from an inconspicuous plate fastened to the door. You take it off when you take off the curtains.
A moment's thought will convince you that this new feature offers a greater convenience during the many months of bad weather than is offered by the quick acting curtains which you might have occasion to put in place quickly but a few times during the year, when caught by a sudden storm.

This final improvement in curtains has been adopted because of its many unusual features hitherto unobtainable, at an increase in cost, on the 1915 models of the Packard, White, Cadillac, Chalmers and Hupmobile, and is being rapidly tested by other progressive manufacturers.

Insist that your new models be equipped in this manner. You will be surprised how it will help you sell cars during the bad weather months, as your demonstrating cars can be used to secure business comfortably and conveniently during the winter months.

Order some for your used cars and see that they are made attractive to a buyer during bad weather.

They fit any car and every kind of curtains.

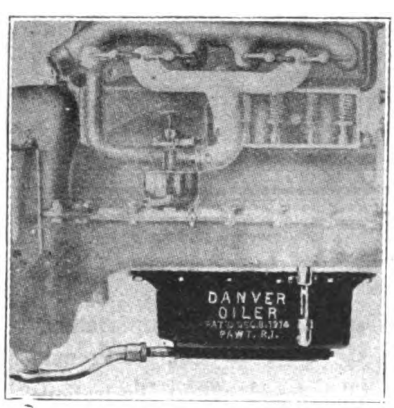
ONLY $1.50 PER DOOR

Liberal discount to dealers or top makers brings price so low it does not pay you to try to infringe our patents, which have been proven to be basic ones in the exhaustive search made by the patent counsel of the companies which have adopted this device and who are paying us royalties for same.

If your car is equipped with Collins or Jiffy curtains it can be greatly improved for every day use with these Curtain Openers.

THE DAYTON TOP IMPROVEMENT COMPANY

DAYTON J. N. Collins, Detroit, Mich. **Special Factory Respresentative** **OHIO**



The Fastest Selling Ford Specialties in The Market

Every Daco attachment is a big seller and the Daco line is a live wire dealer's proposition. The Daco specialties are produced in enormous quantities, sold with a guarantee as to quality, workmanship, material and finish and have all features to be found only in high-grade lines.

Jobbers and Dealers note 1915 list prices

Discount sheets at request

The Danver Automatic Oiler for the Model T Ford is now listed at $6.

Daco Combination Anti-Rattler and Grease Cup is now listed (for steering rod, $.45) (for radius rods $.55).

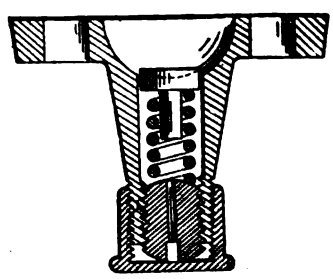
Daco Flexible Brake Rod Support is now listed (malleable iron $.30) (bronze $.60.)

Daco Spring Leaf Separator now listed at $.50.

Daco Adjustable Wheel Puller now listed at $.50.

Daco Rear Axle Housing Truss now listed at $.90.

Daco Brake Rod Shoe of manganese bronze, now listed at $2 (set of four pieces), of high-grade cast iron, the set of two full circles, $.60.



Anti-Rattler and Grease Cup.
Patented Nov. 10, 1914

There are no just as good Ford specialties as the DACO. There are none so easy to sell and no better jobbers' and dealers' proposition was ever offered to the trade.

The DANVER automatic oiler is the WONDER seller of all Ford attachments

Catalogue and full information at request. Immediate shipment of orders.

DANVERS AUTO ACCESSORY CO., Office and Works, 18 Broadway PAWTUCKET, RHODE ISLAND

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DEALERS! THERE ARE BARRELS OF MONEY FOR YOU IN SELLING THE NEW

"SUPERIOR"

Stream-Line FORD HOOD

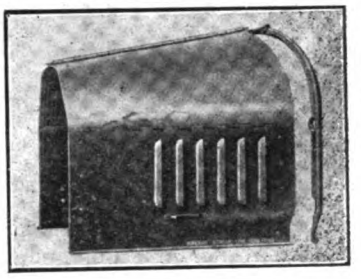
"Makes the Ford a car of beauty"

PRICE TYPE "A" $11.40 EACH

WITH HOOD REST—Black enamel finished ready to attach.

PRICE TYPE "B" $7.50 EACH

Patents Applied For.

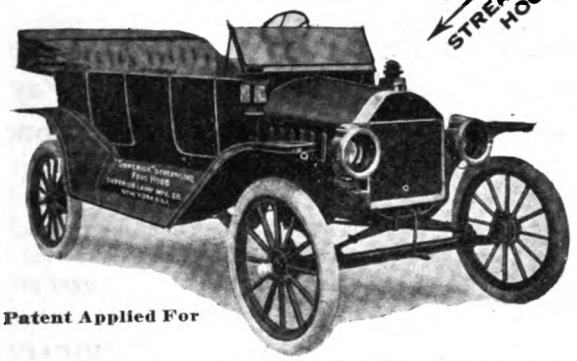


This is a Ford Specialty which any dealer can sell in great quantities for it so transforms the Ford that it looks like a $2000 car. Any Ford owner will be glad to change his homely hood for this Stream-Line bonnet whose tapered up-to-date lines add so much distinction to the appearance of his car, at such Little Cost.

The "Superior" Stream-Line Hood is made of heavy 16 gauge pressed steel, has 6 ventilator gills on each side, is built solidly and substantially and will not rattle or creak. There are no exposed hinges on top, preventing rain or water from getting on the motor or wiring—is finished in hard baked black enamel and comes ready to attach and is easy to apply A special hood rest is included. **Don't waste any time, but get busy now and commence to coin the profits this specialty will make for you,**

"TRADE NOTICE"
Patent Rights Pending
Beware of Imitations

SEE THE STREAM-LINE HOOD



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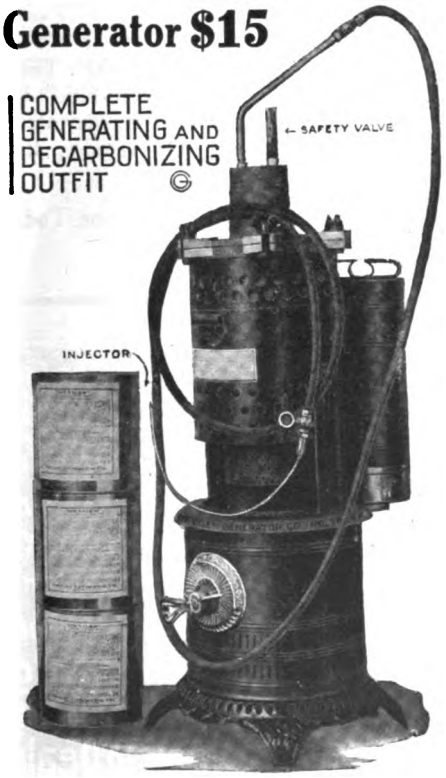
Write today for Dealer's proposition. **SUPERIOR LAMP M'F'G. CO.,** **136 W. 52nd St. New York, U. S. A.**

An Oxygen Carbon Remover and Generator $15



A generator not too large for a small garage or shop, but with capacity great enough for the largest.

Sold with complete equipment, extremely economical to operate and guaranteed in every particular.

No tanks to bother with, no delay in securing material. A practical equipment that can be operated by any one.

Carbon can be removed from any cylinder in three minutes.

Oxygen can be generated in three minutes.

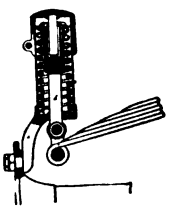
It is a time, money and labor saver.

$9 A SET OF 4 FORD "O-G" SHOCK ABSORBERS $9

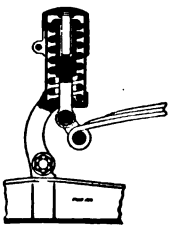
For Ford Delivery, Touring Cars and Runabouts

Adjustable when placed on the car, and automatically adjusted in service. Can be attached in fifteen minutes.

Sold with a guarantee that covers workmanship, material, finish and satisfactory service during the use of car.



The above illustration shows method of attaching to rear of Ford car Bearings of fine material, lubricated grease cups, there can be no rattle or squeaks.



This illustration makes clear the method of attaching the front "O-G" and shows the large amount of spring action possible. By twisting the cap, the spring in the absorber is tightened or loosened, giving the necessary increase in spring tension.

Immediate refund if the "O-G" Shock Absorbers do not prove to be entirely satisfactory.

Our Jobbers and Dealers discount sheets and special circulars at request. Write today.

OXYGEN GENERATOR CO., **301 RIVER STREET, TROY, N. Y.**

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HIGHLAND COMMERCIAL BODIES · FOR FORD CARS ·

Model FX Parcel Post Body
Load Space 43 x 45 x 50

GOVERNMENT SERVICE

Specially designed for the use of Rural Delivery Carriers, for the collection and delivery of mail and parcel post, quickly interchangeable with any Ford Roadster turtle back or rumble seat equipment, the Model FX Highland Body is intended to afford the owner all the service of the pleasure car and the business wagon with a single chassis.

This body gives full load capacity for bulky packages, complete protection against storm or theft, and insures rapid handling.

This body can be installed by slightly banding the fender brackets. No change is necessary in the fenders.

The FX Highland Body is equally adapted for any delivery service. It can be used on a series of chassis. The cost of a Ford Roadster and this body is no more than that of a good horse, buggy, delivery wagon and harness.

Equipment furnished with the body consists of a rear lamp bracket, irons for making it quickly interchangeable with the turtle back, and top curtains so that the regular storm curtains of the roadster body may be used.

HIGHLAND BODIES

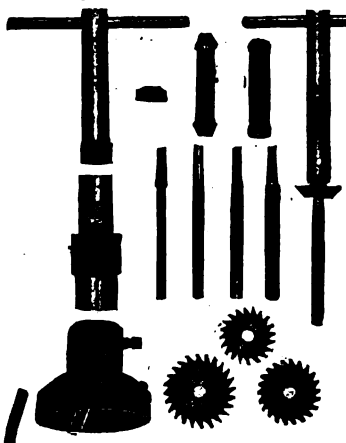
Are designed and built for every service for which a Ford machine can be used, for converting either touring car or roadster. All types can be delivered immediately from stock. Material, workmanship and finish absolutely guaranteed.

DEALERS

Without investment of capital you can do a lucrative business selling Highland Bodies.

Write for selling policy details and catalogue 15A.

Highland Body Mfg. Co.
CINCINNATI, OHIO



Bigger Profits For Repairmen

You can regrind and reseat valves in one-quarter the time necessary by the old fashioned hand method if you use a Fosnacht Reseater. Perform four jobs where you now finish one—and do each one better. The

Fosnacht Valve Reseater

should be in the hands of every live garage man. Rapid—accurate—handy. Pays for itself in a week. Brings trade and holds it.

H. G. Paro

Our free book describes the Fosnacht valve Reseater in detail. Write for it **now** and open the way to bigger profits. Address

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A Magazine Devoted to the Commercial Vehicle Field.

IT IS READ BY A MAJORITY OF THE DEALERS IN BUSINESS WAGONS IN AMERICA, and Supplies the Kind of Information That Can Be Used in the Selling, Operation, Car and Repair of Power Wagons.

A Business Investment for You **Subscribe Today**

12 Issues. $2.00 the Year.

In 1915, 12,000 Dealers All Over The Globe Will Make Bigger Profit Selling

"X" Stops Leaks In Radiators and Waterjackets In 10 Minutes. "X" Works In Non Freezing Mixtur.

Trade "X" Mark
The Wonderful LIQUID RADIATOR MEDICINE

"X" Eliminates Scale, Prevents Corrosion. "X" Is Sold Under A "Money Back" Guarantee

Why Not You? Our Attractive Folder Gives Details
Write To-Day For Proposition To Dealers
"X" Laboratories, Boston, Mass.

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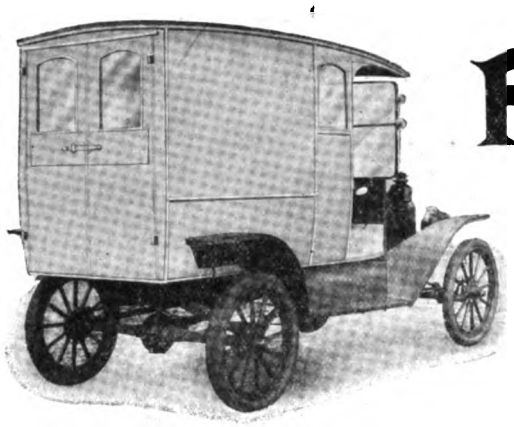
LONDON COMMERCIAL BODIES for FORD CHASSIS



STANDARD TYPES OR TO SPECIFICATIONS

London Ford Bodies are designed and built by specialists; constructed of high grade hardwood frames with joints glued and braced; panels are 22 gauge cold rolled steel, fully pickled and guaranteed not to rust under paint; all panels are felt-packed to prevent rattle; the windows are polished plate glass.

From the large stock of standard body types dealers' orders for practically any purpose can be filled the day received. Every sale by London Body agents is made with a guarantee of material, workmanship, finish and fit, and is shipped with the irons, bolts and attachments. All bodies are interchangeable and can be installed by any owner.

London commercial body dealers transact their business from a catalogue, their customers make selection of what exactly meets their requirements, they need carry no stock nor make any investment. Our entire manufacturing facilities and resources insure their business.

DEALERS, in your locality there are great opportunities for business. Write for catalogues and selling proposition.

LONDON AUTO SUPPLY COMPANY

2540 Wabash Avenue, Dept. B **CHICAGO, ILL.**

"The Best Accessory Ever Put Out For a Ford Car"

writes the superintendent of the American Auto Sales Company of New Castle, Pa., referring to the L-A Steady Steerer. Not a "gimcrack"; not an attempt to "doll up" the Ford and make it look like a freak car; but something no Ford driver would be without after it is once installed, because it becomes an absolute necessity to his comfort, safety and peace of mind.

Make Your Ford Walk a Chalk Line

L-A Steady Steerer
FOR FORD CARS

eliminates body sidesway and prevents the consequent turning of the front road wheels, unpremeditated by the driver, when rounding corners, turning out to pass vehicles and when driving over rough roads. It makes a Ford steer and hold the road like a Packard.

Type R fits any standard Ford car, $2.00

Type S for use with Ford cars equipped with shock absorbers, $2.50

Attached—50 cents extra

Sent prepaid from factory on receipt of price, with directions for installing, if your dealer is not supplied.

Dealers: Write quick for prices and terms. Every Ford owner is a sure buyer.

LOCKWOOD-ASH MOTOR CO.
511 Horton Street
Jackson, Mich.

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BRUNNER AIR COMPRESSORS

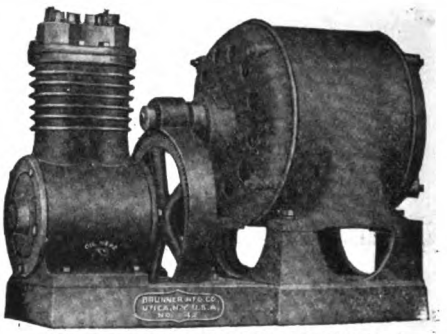
ARE AS NECESSARY AS A LATHE OR A DRILL IN THE REPAIR SHOP

BRUNNER COMPRESSORS are the most economical equipment that can be bought. The initial investment is comparatively small, the earning capacity is such that it will pay for itself in a short time in direct economies, and it will endure longer than any other machine in the shop.

The ACTUAL REPAIR EXPENSE, shown by figures from every Brunner Compressor in operation, for more than six and a half years averages

Less Than Two Cents a Year for Each Machine in All Services.

BRUNNER COMPRESSORS are practical and are built for every purpose. Either portable or stationary, vertical or horizontal, of varying capacities, for any form of power and hand or automatic regulating.



No. 4½, Double-Cylinder, Vertical.

Every machine is standard, is constructed of high class materials, and is BRUNNER QUALITY throughout. Efficiency, Durability and Economy are the characteristics of BRUNNER Compressors of any type. No compressor is as well built, and none will equal BRUNNER machines. Measuring BRUNNER quality by price they are the cheapest the market affords.

WRITE US FOR THE NAME OF THE JOBBER NEAREST TO YOU WHO HANDLES BRUNNER EQUIPMENT

BRUNNER MANUFACTURING COMPANY, - - - - Utica, N. Y.

Famous Midgley Wire-Tread Tires Now Ready!

SEE THE EXHIBIT AT THE BOSTON SHOW.

Why Put Chains On Rubber Tread Tires?

Chains ruthlessly destroy the tread, but under slippery conditions are essential to safety so long as you use a rubber faced tire.

Try the Midgley Composite Tread of Steel and Rubber. Convince yourself that chains are absolutely unnecessary.

Fit Midgely Tread Tires to your car and you are

SAFE

Distributors and Dealers: See our Exhibit at the Boston Show—SPACE 558.

If not going to the Show, write for proposition.

The Midgley Tire and Rubber Co.,

LANCASTER, OHIO.

HARRY DAVIS, President.

THOMAS MIDGLEY, 1st Vice President and General Manager

HENRY PLOW, 2nd Vice President and Sales Manager

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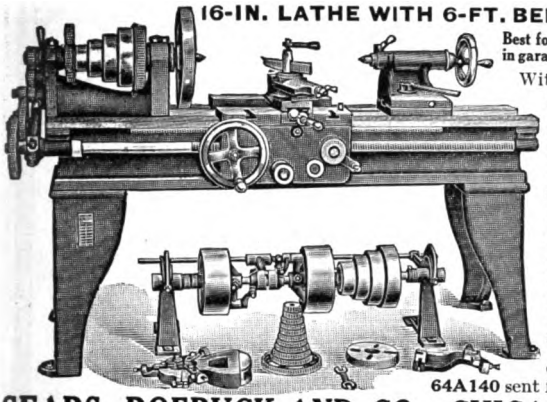
OUR BIGGEST LATHE VALUE

16-IN. LATHE WITH 6-FT. BED, $252.00.



Best for all around work in garage and repair shop.

With one of these lathes you can handle repair jobs that carry bigger profits—make more money. Other sizes at proportionately low prices. Every Sears-Roebuck lathe is a guaranteed lathe. Buy *your* lathe from us and save $50.00 or more.

Machinery Catalog No. 64A140 sent free on request.

SEARS, ROEBUCK AND CO., CHICAGO, ILL.

Bunting Bearing Bronze IN Cored Bars

Bunting Bearing Metal is standard today with both Manufacturer and Repairman.

Is for sale by most any Jobber or can be purchased direct from us.

STOCK SIZES

PIECE NO.	Outside Diameter	Inside Diameter	Length	Approximate weight
A	1	½	12	2
B	1¼	½	12	3½
C	1½	¾	12	5
D	1¾	¾	12	7
E	2	1	12	8½
F	2¼	1¼	12	10
G	2½	1½	12	11½
H	2¾	1¾	12	12¾
I	3	2	12	13¾
J	3¼	2¼	12	15½
K	3½	2½	12	17
L	4	3	12	20
M	4¼	3¼	12	21

The Bunting Brass & Bronze Co.
727 Spencer Street Toledo, Ohio

You Can Secure Prompt Delivery of the Famous

Engine Driven KELLOGG TIRE PUMP

Garage Pumps and Other Specialties from the Following Distributors:

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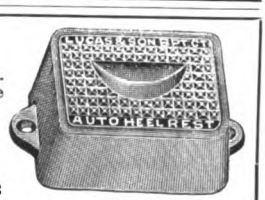
Motor Car Equipment Co., New York City.
Powell Supply Co., Omaha, Neb.
A. H. Coates, San Francisco, Cal.
J. H. McCullough & Son, Philadelphia, Pa.
Dyke Motor Supply Co., Pittsburgh, Pa.
Phoenix Auto Supply Co., St. Louis, Mo.
Am. Supply Co., Tampa, Fla.
Chas. Rubel & Co., Washington, D. C.
Kellogg Mfg. Co., Chicago, Ill.

KELLOGG MFG. CO., 272 Circle St., Rochester, N. Y.

The Auto Heel Rest

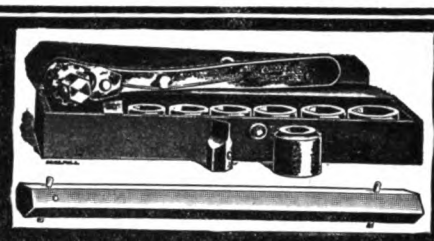


Used on all cars for the brake, clutch and foot accelerator pedals. It brings the foot to just the right height. Takes that strain off the ankle.

Four Sizes, ½"—1"—1½"—2"
Polished Aluminum
PRICE 75 CENTS EACH

Agents Wanted Patented April 9, 1912 Made only by

J. L. LUCAS & SON, 40 Fox Street Bridgeport, Conn.



DON'T USE A COLD CHISEL

USE THE LANE UNIQUE RATCHET WRENCH

FOR CLOSE AND DIFFICULT WORK

IT TURNS NUTS VERY CLOSE TO THE WALL.

is easily and quickly reversed, sockets will not break or split and fits three standards and automobile nuts.

MADE FOR HEAVY SERVICE

Wrench is machine made. Sockets are turned from steel bars, cold broached and case hardened. Fully warranted. Every repairman should have a UNIQUE RATCHET WRENCH SET.

SPECIAL SET FOR FORD CARS

Dealers, Jobbers and Garagemen, Write for Trade Discounts

STANDARD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
7 Sockets to fit semi-finished hex. nuts as follows:
U. S. Standards from 1-4 in. to 1-2 in.
A. L. A. M. Standards from 5-16 in. to 11-16 in.
Cap screw heads from 5-16 in. to 5-8 in.
Price in leather case, $2.50.

THE FORD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
1 Extension bar 7 inches in length.
SIX SOCKETS to fit all nuts and bolt heads on Ford car, including the cylinder head.
Price in leather case, $3.00.
Sold by dealers everywhere.

WILL B. LANE, Manufacturer, 180 N. Dearborn Street, Chicago, Ill.

AUCTION
Another Great Failure
KEETON MOTOR CAR CO. SOLD AT AUCTION
WE BOUGHT THE PARTS

900	set Cyclecar Axles, shaft drive, including front and rear axle, 30x3 wire wheels.....Per set	$30.00
	4-cylinder Motors	65.00
	Steering Gears	5.00
	Splitdorf new magnetos, model A	10.00
	Stewart Speedometers, suitable for Ford cars	6.00
100	slightly used Tires, 36x4½.....Each	7.00
150	34x4½.....Each	7.00
	Wire Wheels, 34x4½.....Each	5.00
	30x3 Wire Wheels.....Per set of 4	12.00
40	4-speed selective Sliding Gear Transmissions..	60.00

SEND FOR OUR DEALERS' BARGAIN SHEET.

AUTO PARTS COMPANY
Dept. T.
737-739 W. Jackson Blvd. Chicago, Ill.

DePalma's Tribute to Monogram

In ten years of racing Ralph DePalma has won nine road races, thus establishing him as America's premier driver. To the consistency of his performances DePalma largely attributes absolute freedom from lubricating troubles, due to the fact that he has always used Monogram Oil. More than 90% of the world's greatest race drivers have used Monogram exclusively—indisputable proof that it is

"Best For Your Engine"

NEW YORK LUBRICATING OIL CO.
Consolidated with Columbia Lubricants Co. of N. Y.
116 Broad Street NEW YORK CITY

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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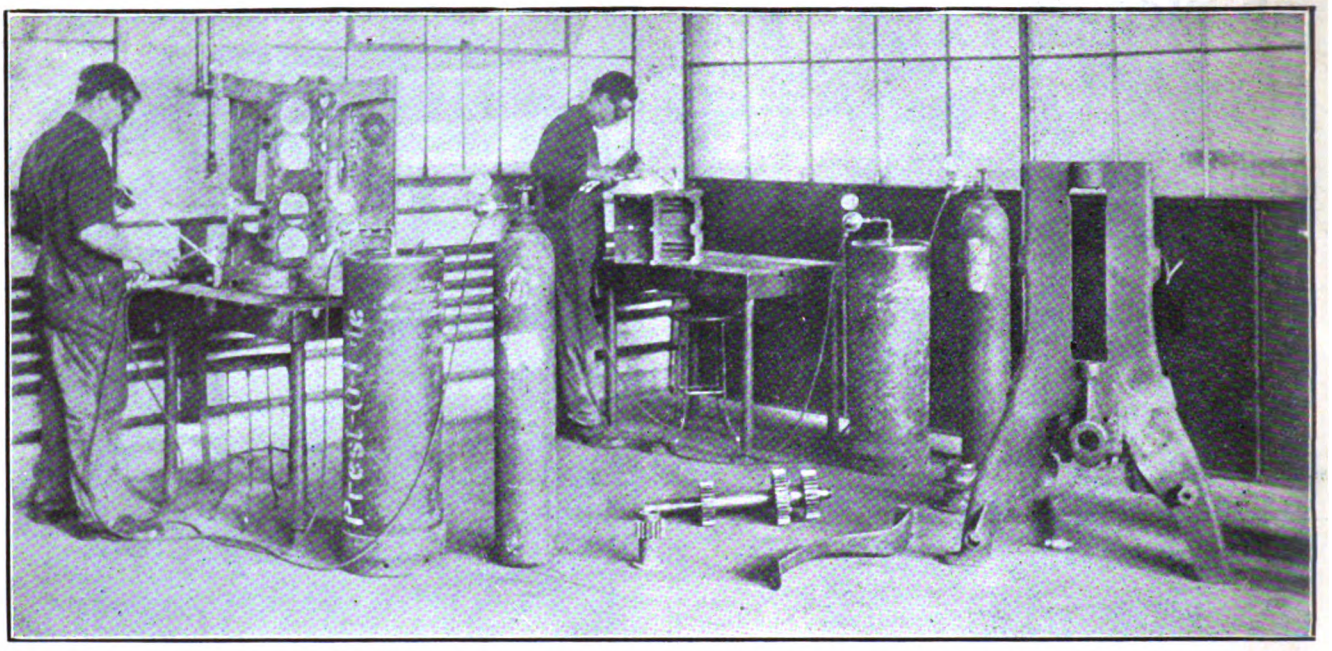


2 Sets of Dyer Welding Apparatus in Operation Illustrating Its Unlimited Range

35.00 OXY-ACETYLENE WELDING and CARBON REMOVING OUTFIT

COMPLETE WITH SUPPLIES. EVERYTHING NECESSARY EXCEPT TANKS

Write us for particulars of Style D Outfit. 1500 SETS IN USE. If you now have a carbon remover we can quote you a lower price on the necessary additional apparatus to convert it into a welding outfit also.

The DYER APPARATUS CO., 155 BROOKLINE STREET CAMBRIDGE, MASS.

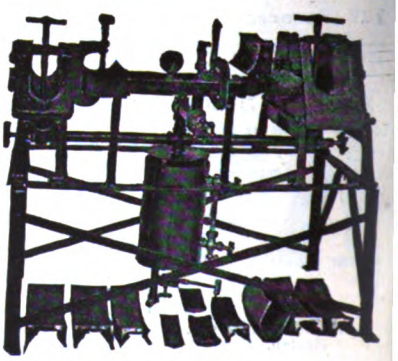
THERE IS MONEY IN IT

IF YOU USE A VANDERPOOL SHOP VULCANIZING OUTFIT

The only practical equipment for a public service station or repair shop. With the two cavity outfit any work on tubes or casings can be done with minimum labor and time. No expense after the initial investment. The cost is reasonable and every sale is made with an absolute guarantee of material and workmanship. Make the profit on the work you now send to others. It is UP TO YOU.

Catalogues and Full Information Sent You at Request.

VANDERPOOL COMPANY - - - - - Springfield, Ohio.



Earl Grey, Saskatchewan, Canada, August 24, 1914.

Vanderpool Co.
Vulcanizer is working fine.
R. R. Clarke.

Winkleman, Ariz., September 9, 1914.

Vanderpool Co.
Gents:—The Vulcanizer does very nice work. Am very well pleased with it. Yours very truly,
J. F. Merino.

CLEAN CYLINDERS

Ball Carbon Remover

A chemical compound tablet that burns instantly, destroying the deposits of carbon in the explosion chamber, cleaning the combustion chamber and piston and coating the walls with a film of lubricant.

No need to take down an engine to restore perfect operation and obtain high fuel economy.

Territorial rights are open. Address Dept. A

BOWLING GREEN SALES COMPANY
42 BROADWAY, NEW YORK
Sole Distributors for the United States and Canada.

Century
Automobile Cigar Lighter. Complete $1.00 Each, F. O. B. Indianapolis.

Mabey's Trouble Lamp Complete with Lamp $1.25 F. O. B. Indianapolis.

Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

Mabey's Electric & Mfg. Company
940 N. Pennsylvania Street, Indianapolis, Ind.

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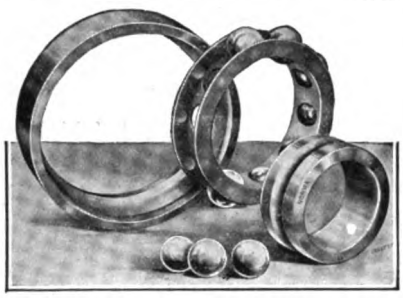
"NORMA"

Ball Bearings



Get this—more than 75 per cent of the high-speed, ball bearing electrical automobile accessories made in America today carry "NORMA" Bearings as standard construction.

These builders proved the merit of "NORMA" Bearings, before adopting them. Your safest course is to be guided by the judgment of these experienced builders—substitutions are dangerous.

THE NORMA COMPANY OF AMERICA

1790 Broadway NEW YORK

"NORMA" Ball, Roller, Thrust and Combination Bearings

Stop the Blinding Headlight Glare!

The law says it must be done—blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street—the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on any car. The average car owner can place it on his car.

Dealers: At $3.50 the Chaney Dimmer is the best value in the accessory field and a fast seller. Our liberal trade terms make your margin of profit generous. You can clean up in your territory, for the dimmer is a legal necessity, and the Chaney is the best of all dimmers, and the only one sold under a ten year guarantee.

Write now for full details and Dealer's Proposition

THE L. F. CHANEY CO., SPRINGFIELD, OHIO

ELECTRIC STARTERS $55

FOR

FORD and all other cars

We have purchased all the assets, including stock and repair parts, of the Detroit Electrical Appliance Company, makers of the Deaco Electric Lighting and Starting Systems, and have 400 complete systems for immediate delivery and offer same for $55.00 f. o. b. Detroit. This is less than cost of manufacture. They can be installed on Ford cars as well as almost all other makes. A quick sale is positively assured, so immediate action is necessary if you are interested.

ALL PARTS—ALL CARS

We carry in stock over 1,300,000 different parts and accessories for motor cars and trucks. We buy in car lots the surplus stocks of manufacturers and sell direct at one-third cost of manufacture. If there is anything you need to bring your car up-to-date, write us. We have practically all parts for all cars.

A FEW BARGAINS

Guaranteed Spark Plugs	$ .19	Spark Plug Tire Pumps	7.50
Gasoline Strainers	.50	Clear Vision Wind Shields	7.90
Bulb Horns	.98	Steering Gears	8.19
Hand Tire Pumps	1.25	Speedometers	8.90
Electric Horns	2.49	Magnetos	9.90
Gasoline Tanks	2.75	Front axles	9.90
Wheels, any size	3.00	New Tops, Ford Touring Cars, with side curtains and boot	18.50
Springs, any size	3.00	Ford Radiators, V Shaped	24.50
Demountable Rims	3.28	Other Radiators	25.00
Carburetors	3.95	Rear Axles, Semi-floating	25.00
Hubs and Drums, extra	5.00		
Head Lamps	5.00		
Magneto Coils	5.90		

GOT AN ORPHAN CAR?

Do you own a motor car or truck that was manufactured by a company now defunct or out of business? If so, we can furnish repair parts for same. We have service parts for Warren, Everett, Marquette, Ranier, De Luxe, Michigan, F. A. L., Reliable, Dayton, Welch, Wayne, Northern, Marion, Carter H, Henderson, Auhut, Elmore, Barnes, Cutting, Grabowsky, Abbott-Detroit, Demot, etc.

Free bulletin upon request

PURITAN MACHINE CO.

41 10th St. Detroit, Mich.

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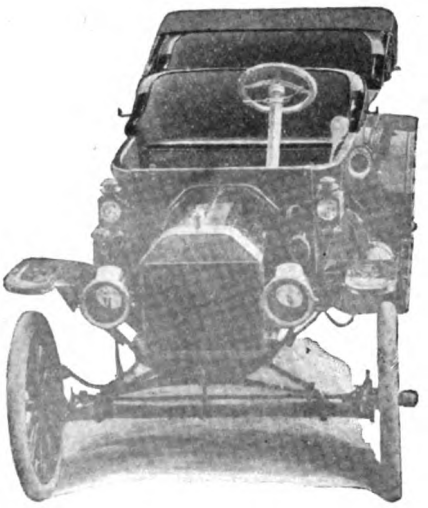
CRAVENETTE
ENG. MOHAIR
ENG. SERGE
BLACK AND WHITE
BROWN AND WHITE
WATERPROOF



BADGER SEAT COVERS

FORD
OVERLAND
BUICK
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MAXWELL
DODGE
KRIT

DEALERS—If You Want the Best That Money Can Buy—Get the **BADGER** Kind.

Don't Think Because They Are So Far Superior to Other Makes They Cost More—They Don't. **THEY COST LESS.**

OUR CATALOG WILL SHOW YOU

WISCONSIN AUTO TOP CO.

RACINE DEPT. 7. WISCONSIN

Dixon's Graphite Transmission and Differential Grease No. 677

Every motor car user whom you induce to use this splendid automobile lubricant will become a steady customer—won to you by the Dixon service rendered. Send for the book "Automobile Literature", No. 49-G and prices on Dixon's Automobile Lubricants.

Made in Jersey City, N. J., by

JOSEPH DIXON CRUCIBLE CO.

Established 1827

DO TIRE REPAIRING

Tire Repair Shops are needed everywhere. The millions of tires in use make it a whaling big business—and there's big profit in it.

Let us equip your shop with an A-W, Tire Repair patented localized heat vulcanizer. All 30 leading tire makers use it. $150 to $500 for complete outfit. Write us now.

The Williams Foundry & Machine Co.
Ash St., Akron, Ohio

The Waterhouse & Lester Co.
San Francisco,
Exclusive California Distributors.

BOSTON STARTER FOR FORD CARS

The One Practical Mechanical Starter for Ford Machines.

WE WANT DEALERS AND HAVE THE MOST ATTRACTIVE SELLING PLAN EVER MADE TO THE TRADE.

Learn the Number of Ford Machines in Your Territory. Then Write

AUTOMATIC APPLIANCE CO.
172 Columbus Avenue Boston, Mass.

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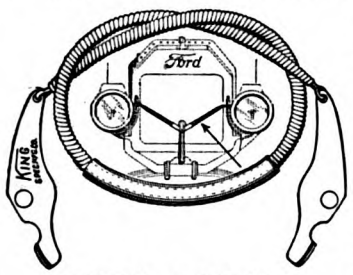
KING CRANK HOLDER



A Quick Seller to A Big Market

Dealers: Write for particulars

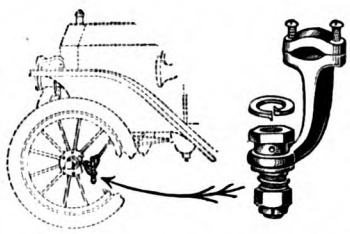
KING SPECIALTY MFG. CO.
Brookline Mass.

A nerve saver for every auto owner.

Fastens the starting crank upright with a vice-like grip. Eliminates that constant rattle. Attaches to headlights, preventing vibration or breaking bulbs. Keeps crank out of the mud. Saves wear and tear on all crank parts.

Adds to the appearance of car

King Spindle-Joint Anti-Rattler



A Finishing Touch to Auto Perfection

Dealers: Write for particulars

KING SPECIALTY MFG. CO.
Brookline Mass.

Permanently chokes that rattle emitting from the spindle joints. Can be attached quickly with little effort.

When once in place it requires no further attention.

A "Stitch in Time" device which checks that perpetual slap felt at the steering wheel.

HYATT QUIET SERVICE

HY-FLEX-ROL

Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated.

HYATT SERVICE STATIONS

Atlanta, Ga. Detroit, Mich.
Boston, Mass. Los Angeles, Cal.
Chicago, Ill. New York, (Harrison, N. J.)

SERVICE AGENTS

High Wycombe, Broom & Wade England

HYATT ROLLER BEARING CO.
DETROIT, NEWARK, N. J. CHICAGO

Get this Catalog

It contains descriptions of all the famous Campbell Motor Car Accessories; Seat Covers, Percama, Johnson Model "D" Carburetor, Straps, Boots, etc., etc.

Territory open for reliable established dealers.

THE PERKINS-CAMPBELL CO.
603 Broadway - - - - - - Cincinnati, Ohio.

New Carleton No. 68 Generator

48 watt Direct Current. Steady Light either with or without Storage Batteries.

COMPLETE ELECTRIC LIGHTING EQUIPMENT FOR USED OR NEW CARS

MOST EFFICIENT LOWEST PRICED

Simple and positive drive, easy to install, and its output is guaranteed to meet all requirements.

SPECIAL EQUIPMENT FOR FORD CARS is shown in illustration

No machining or alterations are necessary. It can be installed with a screw driver and a wrench.

OUR NEW PORCUPINE DRIVE Operates All Generators. No Slipping of Belt, No Unnecessary Wear on Bearings.

The Carleton No. 68 Generator Lists at $15.

Automatic Cut Outs, Ammeters, Storage Batteries, etc.

DEALERS' DISCOUNTS WILL INTEREST THE TRADE

Patent Applied For

The Carleton Company *172 Summer St., Boston, Mass.*

American Made for American Trade

New Departure
Ball Bearings

THE NEW DEPARTURE MFG. COMPANY,
BRISTOL, CONN.

MAKES OLD TOPS NEW

$3 to $5 will waterproof the outside and re-dye the lining, making any auto top good as new. Send for information.

RUB-ON MANUFACTURING COMPANY
93 Brayton Street Buffalo, N. Y.

Time Savers

For Charging Storage Batteries

Universal Test Clips

MADE of copper—indestructible—may be used over and over again—will carry 15 amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Write for a free sample, using your company's letter head. No attention paid to postals.

Single Lots - - Each 15c.
Lots of 10 - - Each 12 1-2c.
Lots of 100 - - Each 10c.

R. S. MUELLER & CO., 431 High Ave., S. E., CLEVELAND, OHIO

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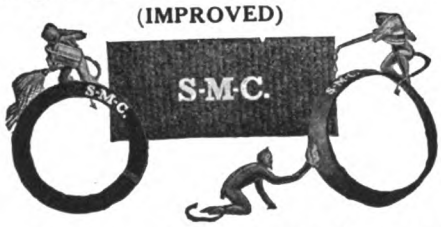
"Don't Gamble With Safety!"

The Real Test of Brake Lining Is SERVICE

Every dealer and public garage owner can make a service test of S-M-C brake lining that must prove its qualities and merits as the best lining that can be produced.

The dealer is the judge,—if the lining is not satisfactory, we refund the purchase price and, in addition, 10% interest.

(IMPROVED)



S-M-C brake lining is sold with the manufacturer's guarantee that it will give satisfaction to every purchaser—that it will give results equal to those obtained by the dealers and garage owners from their own service tests.

The customer decides the measure of satisfaction. If not in every way satisfied the purchase price is refunded.

S-M-C BRAKE LINING

Is composed of asbestos fabric woven with brass wire, treated with a compound and consolidated by steel rolls. It is heat, oil and water resisting and will endure in all conditions of service. It is absolutely uniform in quality. It is produced in all standard widths and thicknesses.

A SPECIAL LINING FOR FORD CARS

The S-M-C dealers' proposition is the soundest and broadest ever offered to the trade.

The S-M-C trade service specializes quick delivery.

"SOMETHING MOR'N COTTON."

STAYBESTOS MFG. CO.

Germantown, Philadelphia, Pa.

Makers of
Asbestos and Rubber Packings, Gaskets, and Radiator Hose

Stevens Valves

Stevens Auto Tire Check Valve

Patents issued
1,043,224---1,050,942---1,078,347
and others Pending.

Actual Size
Complete Valve

Actual Size
Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve System.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Fire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

The Quickest Selling Accessory in the Market.

Agencies Wanted in All Unassigned Territory.
Write for Terms and Discounts.

STEVENS MANUFACTURING & SUPPLY CO.
Fisher Building **Chicago, Ill.**

A man's mail will reach him where no mortal can.

Mailing Lists 99% Guaranteed

covering all classes of business, professions, trades or individuals. Send for our complete catalogue showing national count on 7,000 classifications.

Ross-Gould 531 N. 9th St., **St. Louis**

SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

Our selling policy and proposition is the most liberal ever offered to the trade.

One Model, 3,000 Lbs. Capacity
Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
Rochester, New York

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Make Small Sales Pull Big Customers

Thousands of Dealers Employ This Winning Method

Don't wait for business to "drop in." Go after it now—with all your energy. Don't rely on big tire sales alone for profit. Make the small end of your business the big end. Stimulate your accessory sales. Cultivate new customers. Please them. Show them how to reduce their tire troubles. There is no quicker or surer way to win their patronage.

A two-minute explanation of the use of a Goodyear "tire saver" will give you a sale. But better yet—you have won a customer.

Show him how easily and how quickly he can patch a tire with Goodyear Quick Repair Gum. Tell him about the Goodyear friction repair tape—first aid for injured tires. Make him feel that it is not tire sales you are after—but tire service.

GOOD YEAR
AKRON, OHIO
Accessories

Help him out on his little tire troubles and he will buy your tires when he has "big" tire troubles.

The Way to Greater Sales

Thousands of dealers now make big profits from their accessory sales. The fullest confidence goes with Goodyear Accessories. All Goodyear products are up to the master-standard set by Goodyear Automobile Tires, rulers of Tiredom.

There is a big percentage of profits in accessories. You can readily double your money selling the Goodyear Accessories.

THE GOODYEAR TIRE & RUBBER CO.
AKRON, OHIO
(2141) Makers of Goodyear Automobile Tires

We help you out. We boost your sales. We provide special show cases to hold and sell our accessories. Good-looking cases, well made, are a credit to any store.

Beautiful Show Case FREE

These expensive fine-looking fixtures are found in the best stores everywhere, in big cities and small.

They cost money, but we give them *free*. We have these cases made, pay for them ourselves, and give them away because they sell goods for our dealers. The cost is part of our advertising, the dealer pays none of it. We give you a small case or a large one, depending on the size of your stock. The above illustration is the medium size, 20 inches high, made of mahogany finished metal; glass top and front, shelf and stock room in rear. A case like this would cost you $15, yet we give it to you free to boost your accessory business.

Send Coupon NOW

It costs you nothing—not a cent—on this plan of ours. We give it to each dealer who will carry the Goodyear Tire Accessories. Put this silent salesman on your staff. Reap this big profit too. Get our complete proposition at once. Learn all about this money maker.

Mail This for Facts Today!

The Goodyear Tire & Rubber Co.
Desk124 Akron, Ohio

Please send me, without obligation on my part, your Free Show Case Offer, and list of tire accessories.

*Name*_____

*Address*_____

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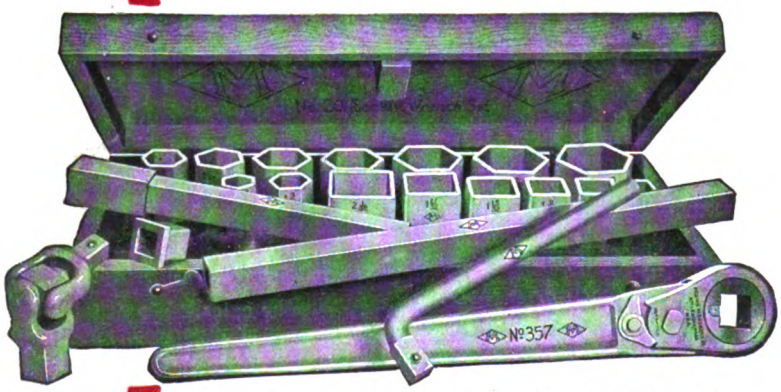
New Large Series Socket Wrenches

So Great a Call Has Come For Large-Sized Powerful

SOCKET WRENCHES

ABSOLUTELY GUARANTEED

that Mossberg Co. has carefully designed and made up the No. 20 Socket Wrench Set for you "boys" who wish Guaranteed Sockets and the quick, durable Mossberg Ratchet Handle.



No. 20 Socket Set Price $18.00

(Carriage charges prepaid, anywhere in North America upon receipt of price.)

If this Socket Set does not save its own cost within 60 days send it back for credit.

Notice the Parts prices—If you want portions of this set, remit and we will deliver.

These new Large Series Sockets require Connection Bushing, No. 338 to use with small series.

A simple statement of the contents and price is the best advertising for these sets.

No. 20 Socket Set

Contains :

	Part Price
Mossberg (18 in.) Reversible Ratchet Socket Handle, No. 357	$5.00
Offset Handle, No. 324 (10 in. long)	.70
Short Extension Bar, No. 347 (2½ in. long)	.40
Extension Bar No. 348 (10 in. long)	.80
Long Extension Bar No. 349 (18 in. long)	1.20
Large Universal Joint, No. 337 (to round a corner)	1.00
Connection Bushing, No. 338 (use with small sockets)	.50

15 Heavy Duty, Fully Guaranteed Pressed Steel Sockets

Hex. 29/32" 1 3/32" 1 9/32" 1 15/32" 1 21/32" 1 29/32" 2 1/32" 2 7/32" 2 13/32"

Square 29/32" 1 3/32" 1 9/32" 1 15/32" 1 21/32" 2 1/32"

Any Size 50c

Asst. Dozen $5.00

Ask for your catalog, No. 171 A.

FRANK MOSSBERG CO. Attleboro, Mass.

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APRIL ISSUE TRADE BUYERS' NUMBER.
22,500 Copies Guaranteed
An Unequalled Service—The Greatest Known Trade Distribution.

20 CENTS the COPY

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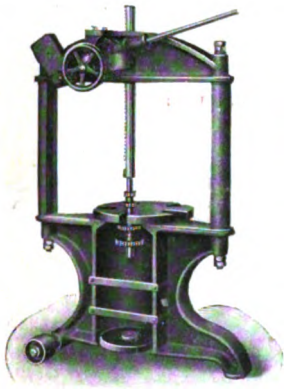
THE ACCESSORY AND GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., MARCH, 1915. NO.

Two Hundred Automobile Repair Shops Use The
NO. 15 GREENERD ARBOR PRESS



Pressing gears off a transmission countershaft.

Corp Brothers' Garage, Providence, R. I.

Edwin E. Bartlett, Boston,

Dear Sir: The No. 15 Greenerd Arbor Press is proving more useful every day. We would not be without one for three times the cost. We are discovering new uses for the press that we did not think of when we bought it.

You are at liberty to refer anyone to us.

Yours truly,
CORP BROTHERS.

Saybrook Garage, Saybrook, Conn.

Edwin E. Bartlett, Boston,

Dear Sir: The No. 15 Greenerd Arbor Press which we purchased through a dealer is very satisfactory. We have had this in use for six months now, and we find it the most useful and used machine in our shop. We find that our customers appreciate the press.

Yours truly,
G. A. DEWELL.

A large working surface.

They have made a *good* investment, one that pays 100 per cent. yearly. This is a *direct profit.*

The Greenerd Arbor Press helps build up their business and their reputation. This is *indirect profit.*

One successful Repair Man says: "The first thing an automobile repair shop needs is a bench and a vise. The second is a GREENERD ARBOR PRESS."

MANUFACTURED BY

EDWIN E. BARTLETT, 322 A St., BOSTON

THE ACCESSORY AND GARAGE JOURNAL

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.
For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

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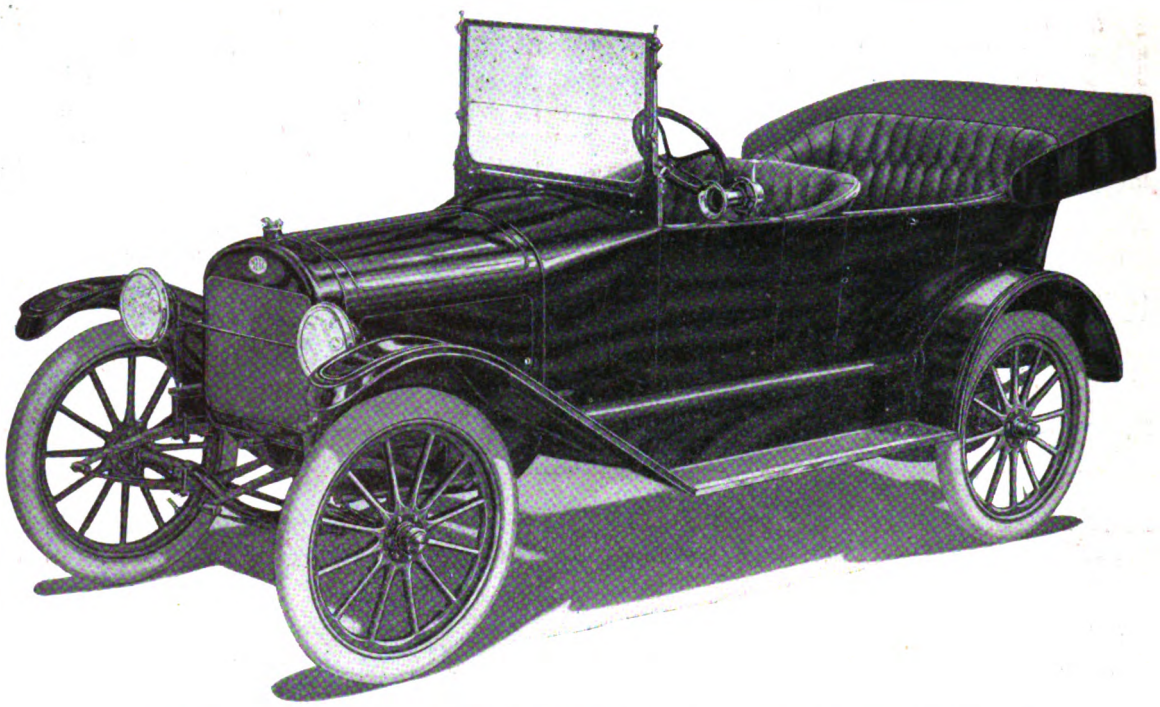

METZ "25"

The Quality Car

$600 Equipped Complete, Including Electric Starter and Electric Lights

Gray & Davis electric starter and lighting system.
Plate glass rain-vision, built-in wind shield.
Stream line body, instant one-man top.
32-inch wheels.
3½-inch Goodrich clincher tires.
Tufted upholstery, deep cushions.

108-inch wheel base, standard tread.
Left-hand drive, center control, fibre grip gearless transmission, 25 h. p. water-cooled motor, **Bosch** magneto, Hyatt roller bearings, speedometer, built-in gasoline gauge, full elliptic springs, signal horn, jack, tools, etc.

Convincing Answers

"NO more high-priced cars for me," is the determined assertion of experienced owners that is being heard everywhere with increasing frequency. These owners are looking for ***quality*** in a low-priced car—as everybody else is doing—and you can satisfy them right down to the ground ***if you handle the Metz.***

They will ask you lots of questions, some of them supposed to be posers; but with the METZ to back you up, you will have a ***ready*** and a ***convincing*** answer for every one of them. The more a prospective purchaser knows about cars, the easier it is to sell him a Metz.

We want representation in your territory.
Write for particulars and new catalog "F."

METZ COMPANY - - - WALTHAM, MASS.

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The Force of a Selling Point is found in its truth and in its appeal to common sense.

Raybestos the product of brake specialists

When we tell you that *no other concern in this country making brake lining ever has designed, developed or manufactured automobile brakes or brake mechanisms*—it is true.

Fifteen years as designers and manufacturers of automobile brakes and brake mechanisms is the practical training which has enabled us to put the best in

TRADE MARK **Raybestos** REG. U.S. PAT. OFF.

so that your customers will get the best out of it.

Distributed by wholesale jobbers in every large city—sold by leading dealers everywhere.

The Royal Equipment Company
1380 Bostwick Avenue, Bridgeport, Conn,

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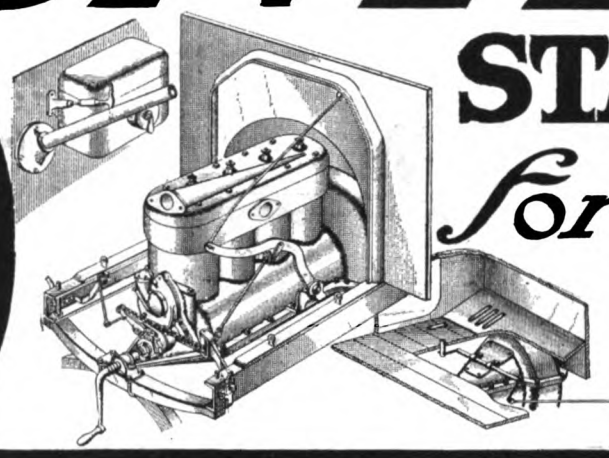
HUNTER



$10 F.O.B. CHICAGO

STARTER for FORD CARS

Makes Every Ford An Ideal Car For Every Purpose

A Positive Mechanical Starter That Can Be Operated From the Seat By a Woman or Child.

An equipment that will make a Ford the equal of any car for convenience and motoring satisfaction, and sold at a price within the reach of every Ford owner.

Simple in construction, every part of great strength and always fully accessible, it requires no adjusting or attention after installation and connection. Starting the motor is by simply drawing a handle from the dash toward the seat, then releasing it to be withdrawn by spring pressure. Compound leverage insures a start with a slight effort.

With an attachment to close the air intake of the carburetor by foot pedal when ready, the engine can be started in lowest temperature. This efficiency is guaranteed.

OWNER CAN INSTALL IT

The Hunter starter can be installed by an owner in an hour's time. Replacing four bolts with other bolts supplied with the starter and placing the nickel plated bracket and handle on the dash. One hole to be bored in the dash and the bracket attached by screws. The starting crank is retained and the entire system is under the hood.

Dealers: **At $10. a guaranteed Starter should go on a big percentage of cars in your territory. Write us.**

HUNTER AUTO SUPPLY CO.
333 W Madison St. CHICAGO, ILL.

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A Brand New Assortment

HIGH SPEED
NON-GRAN
BEARING BRONZE

Cored-Bars for Bushings

Takes care of every bushing need to fit any shaft diameter up to 1 1-4 inches.

Means less stock and more money for repairmen. The six different size Non-Gran Bars in this Assortment make 54 standard and all intermediate bushing sizes. This little, inexpensive Assortment of genuine standard Non-Gran Bars provides for every one of the bushing sizes which any automobile repairman has most constant call for. There is not a single bar in the Assortment which will prove a "dead one." Every repair-shop, machine-shop or lathe-equipped garage in the country will recognize in this new Assortment the best possible investment.

Special price on this new 6-54 Assortment is $9.69 net (47 1-4c. per pound) to the trade.

Your jobber has this new Assortment or can get it for you.

NEW LOW PRICES ON STANDARD AND NEAR-STANDARD SIZE NON-GRAN CORED BARS.

By effecting the most rigid manufacturing economies Non-Gran Cored Bars are now offered to the trade at a price down so near the cost of inferior metals as to insure the use of Non-Gran in future in all cases where a bearing bronze is required—in fact, no man will now consider buying anything else but Non-Gran.

52½c. PER POUND NET TO THE TRADE.

List, 75c. per pound with a discount on all standard and near-standard sizes of 30%, making a net price of 52 1-2c. per pound.

LASTS TWICE AS LONG AS ANY OTHER.

Unlike phosphor and other granular bronzes, the structure of Non-Gran is fibrous. The fibres are firmly interlocked and resist the pull of friction. This means slower wear—it means that Non-Gran lasts twice as long as the best of other bearing bronzes. It means none of your time or material is wasted. It means satisfied customers and a big increase in your repair business and profits.

The finest work is but wasted effort if the materials used cannot "stand the pace," while the right sort of materials will add to the value of any sort of work.

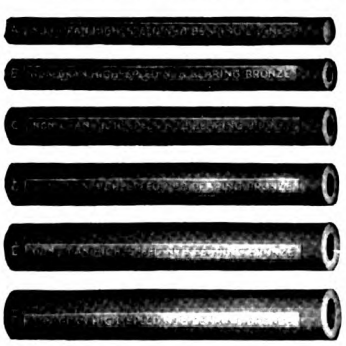
ORDER NOW FROM YOUR JOBBER.

If he can't supply you, write us his name, send us your initial order, and we'll try to arrange with him for your future supplies. Do it today! Please address "Dept. M."

American Bronze Company

Berwyn, Pennsylvania

These are the 6-54 Assortment Bars



"A" ⅞ inch Solid
"B" 1x½ inch
"C" 1¼x⅝ inches
"D" 1⅜x¾ inches
"E" 1½x⅞ inches
"F" 1⅝x1 inches

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FEDERAL

In every detail of construction Federal Tires have Extra Strength assuring Extra Service

Federal Tires are the only tires made with Double-Cable-Base. The strong double steel cables, imbedded in the base close down to the rim, permit the use of a soft and flexible bead-filler which *cannot* cut and grind into the side-walls of the tire. For this reason there are

No Blowouts Just Above the Rim, No Rim-Cutting

These strong steel cables *anchor* the tire firmly to the rim, so that it cannot rock. For this reason there is

No Tube-Pinching and No Danger of Thrown Tires

Equip your car with Federals this year and get the Extra Service that comes from all this Extra Strength.

RUGGED TREAD

Real Scientific Protection Against Skidding

In the Federal "Rugged" Tread you get a value far beyond the selling price. It is a *scientific* non-skid tire. On any kind of roadway, no matter in what direction the wheel tends to slip, the same required number of rugged studs are on the job to *stop it*—gripping the road tenaciously.

Federal Double-Cable-Base Tires are made in all styles and sizes. "Rugged" and Plain Treads

Federal Rubber Manufacturing Co., Milwaukee, U.S.A.

Branches, Distributors and Service Stations in All Principal Cities. Dealers Everywhere

STRENGTH

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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BETHLEHEM FIVE POINT SPARK PLUGS

For SERVICE and PROFITS

You can sell cheap plugs, but what is the use? You get nothing out of it. Your customers do not get value.

Why not push and sell the Plugs that have real quality behind them and that pay you a liberal profit for handling them—

BETHLEHEM FIVE POINT SPARK PLUGS

Guaranteed for the Life of the Car

ILLUSTRATED IS "TYPE A" BETHLEHEM FOR FORD CARS

Ford Spark Plug trouble is notorious. It is due to the cheap equipment Plugs which are supplied. Why replace these with other similar Plugs when—

Here is a Plug that is specially designed to give SERVICE in the Ford engine—that it does give service is assured by the strongest guarantee ever put on an accessory.

At the same time it pays you a liberal profit.

All types of Bethlehem's—$1.25 each—and worth it.

Illustrated Booklet Free—

Type A

Designed for the FORD car

THE SILVEX COMPANY

171 Madison Avenue, NEW YORK

FACTORY: South Bethlehem, Pa.

PACIFIC COAST BRANCH: Oakland, California
W N DAVIDSON Manager

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(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

1907 WATERHOUSE 1915
TRIAL COSTS NOTHING

The Trial Offer

Use the Outfit two weeks in your shop. If not in every way satisfactory, return it. Your money will be refunded in full; no questions asked and no conditions.

All Waterhouse Outfits are Complete. You Can Begin Business When It Is Received.

No other apparatus sold has a torch that is Non-Flashing.

It burns equal volumes of acetylene and oxygen, making the hottest flame at the lowest possible cost.

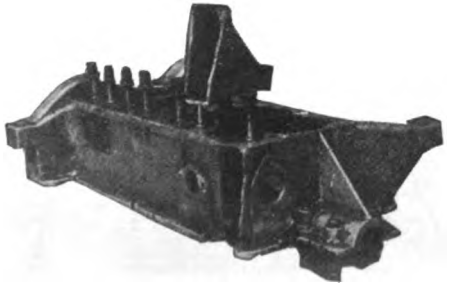
It is guaranteed superior to all others, and this guarantee is proven by service before you are asked to pay for it. You can learn its qualities and its actual worth without cost.

You can undertake any welding job that is possible and in saving money for the owner make big profits for yourself.

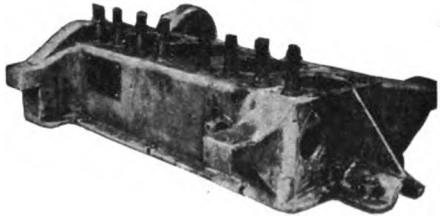
This is an example of the work you can do and the reasons why such work will be profitable to you and to your customers.

The Terms

Discount of 5% with cash remittance. Or a payment of $20 cash with order, a second payment of $12 in 30 days, and a third payment of $10 in 60 days, AFTER RECEIVING THE OUTFIT.



Before Repairing:



After Repairing:

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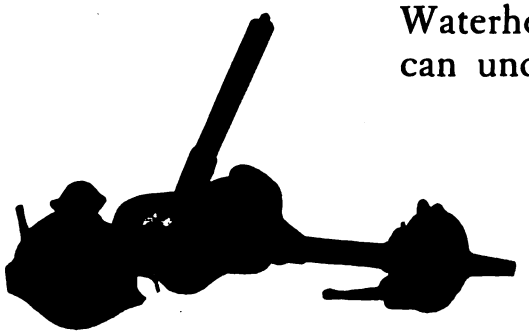
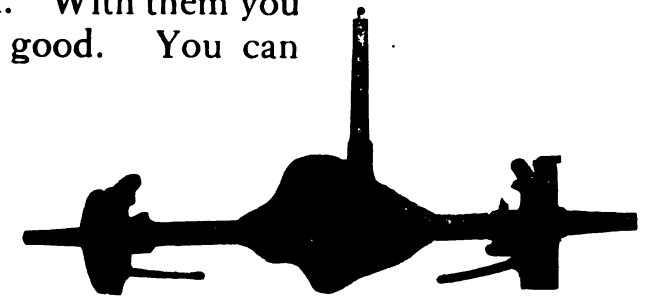
A Waterhouse Outfit Will Establish You In A Profitable Business



Waterhouse instructions qualify you to do work. With them you can undertake jobs with certainty of making good. You can work practically all metals well. You can repair malleable iron equal to these examples.

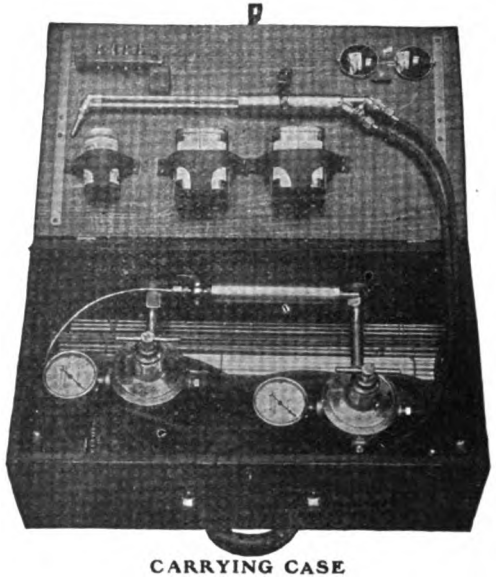
There is substantial profit in cleaning carbon cylinders, a work that is necessary with every type and make of car.



The Waterhouse Outfit

	Value
1 B Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50-lb. line pressure gauge	10.25
1 Acetylene Reducing Valve with 50-lb. line pressure gauge	11.00
1 Set of Special Welding Hose (20 ft.)	3.00
1 Pair Welding Glasses	.75
1 Carbon Burning Torch	Free
1 Set Instructions	Free
Net Cost Complete	**$42.00**

If you have a regulator for carbon burning, the oxygen regulator with the outfit is unnecessary, and you can deduct the price ($10.25), from the above total price.



CARRYING CASE

Rods and Fluxes $4.50

WHAT YOU GET

1 Bottle Aluminum Flux
1 Can Cast Iron Flux
1 Can Copper and Brass Flux
2 Pounds Brass Welding Rods
5 Pounds Cast Iron Welding Rods
2 Pounds Aluminum Welding Rods
2 Pounds of Steel Welding Rods

WATERHOUSE WELDING COMPANY

3 Pelham Street "Makers of the Torch That Never Flashes" AMERICA'S PIONEER WELDER **BOSTON, MASS.**

SEE WATERHOUSE ADVERTISEMENTS IN PREVIOUS ISSUES OF THIS PAPER

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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Every Gasoline Station
Every Garage Owner
Every Car Dealer

Should carry Weed Chains in stock because the motoring public demands them.

For safe and successful car operation, there are three absolute necessities:

Gasoline, Oil, and Weed Chains

If you are not selling this ***third necessity*** you are missing some real profits, some comparatively easy money that your customers are willing to surrender —because they are coming to realize more and more that ***Weed Chains are the only positive safeguard against skidding.***

If you are not selling Weed Chains, write us at once. We will put you in touch with a decidedly pleasing profit plan that you should take advantage of ***immediately.***

Weed Chain Tire Grip Co.

Bridgeport, Conn.

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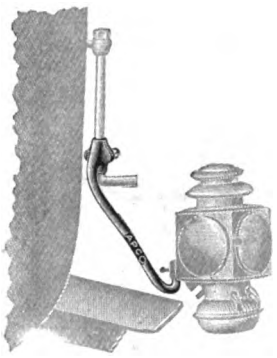
Eight New and Original Ford Specialties

TRADE APCO MARK

Further Proof of Our Slogan: "WE LEAD, OTHERS FOLLOW."

FOR SALE BY ALL LIVE JOBBERS



TAIL LIGHT BRACKET.

On cars where tires are carried at the rear it is impossible to attach the tail light to the original bracket that came on the car. The [redacted] bracket eliminates this trouble and it is fastened to the iron that the top rests on when set back. It is designed to take the regular tail light and number plate bracket, but if desired the number plate can be carried on the axle or fastened to th body, leaving the [redacted] bracket to carry the lamp.

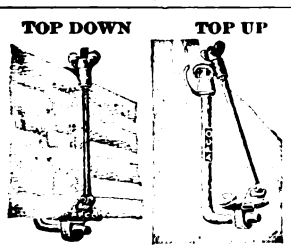
PRICE 75c.

SPRING LEAF LUBRICATORS.

One concern selling an oiling or lubricating device for the leaves of automobile springs, spent $20,000 advertising their product during last year. Another spring maker makes great claims for his springs because they are self-lubricating. There is no question about the advantages of having the springs well oiled. It's only a question of the means. The [redacted] Lubricator, as shown in the cut, consists of a pair of plates with oil reservoirs and felt inserts. These inserts soaked with oil rest against the sides of the spring leaves and give them constant lubrication, which increases the riding qualities 100%. They are made from semi-steel, black enamelled, and are guaranteed to do the work as well as the highest priced article on the market. Set includes four pairs, two pairs for each spring. The only ones on the market that oil both sides of spring.

PRICE Complete $2.00.

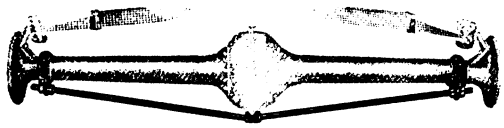
TOP DOWN TOP UP



BOW CLAMP.

This is a great improvement over the old clamp, as it is a permanent fixture on the car and it will hold the bows securely. Finished in black enamel for either Touring Car or Runabout.

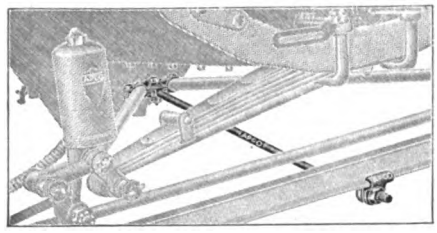
PRICE $1.00 SET.



REAR AXLE TRUSS.

The Rear Axle on the 1915 Ford Car has been strengthened about 50% over any previous type, and this is not the first year that improvements have been made on this unit. To strengthen the old cars we offer the [redacted] Truss, which is made from steel rods and semi-steel castings finished in black enamel. The rods are ½-inch in diameter and strong enough to give the axle the stiffness lacking in its original construction. The clamps go around the castings at the extreme end of axle housing, and do not put any strain on the pressed steel parts. The cradle that fits under the center of the housing is fitted with square sockets to accommodate the square heads that are made integral with rods. Bolts for clamps are square headed, sunk flush in square sockets to prevent turning and to improve appearance. The whole outfit comes packed in a corrugated box 24" long and weighs 5½ pounds. If your axle housing leaks grease or your rear gears are noisy, you need an [redacted] Truss to remedy the trouble. If not you need the Truss to prevent it. Installation is a matter of 10 minutes with no tools but a wrench.

PRICE Complete $1.50.

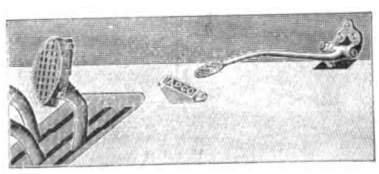


FRONT AXLE BRACE.

The front radius rod on the Ford is made of tubing in which there is more or less spring or give. This give causes the bottom of the front axle to tip or bend back in going over rough roads, causing an unsteadiness in steering. The [redacted] brace consists of two ingenious clamps and a half-inch steel rod with a square head made integral. One of the clamps is attached to the extreme end of the front axle truss rod with three bolts, all having square heads to prevent turning, and the square head on the rod is held in this clamp. The other clamp is attached to the front axle and is held there by two nuts on the rod which go thru clamp. This device is one of the best accessories we have ever offered and is one that you need. Finished in black enamel. Can be put on the car with a wrench in five minutes. Packed in a corrugated box 23" long, weighs three pounds. There is no need of adding 20 pounds to the weight and $5 to the cost of your car when ours will do the work. A new radius rod costs $3, you will never need a new one if your car is equipped with an [redacted] brace.

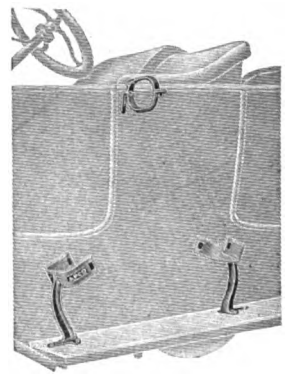
PRICE Complete $1.50.

FOOT ACCELERATOR.



There is no question about the practicability of this device, as 90% of the cars on the market are so equipped, and you will find that nearly all of the drivers use the accelerator constantly, and should you ever install one on your car you would not be without it for many times its cost. It is especially handy in driving through crowded streets, and when touring you can set your hand throttle to run, say 15 miles an hour, and when you come to a hill simply bear down on the foot accelerator till you reach the top, then take your foot off and you are still going 15 miles an hour. Attached in an hour. No machine work. Held in place by three wood screws. Fastens to dash and does not mutilate floor boards. Furnished complete, including foot rest and direction sheet.

PRICE $1.50.



SIDE TIRE HOLDERS.

There are so many new rear tire holders on the market that the public is inclined to overlook the good points in favor of a side tire carrier. Absolutely the only advantage of having the tires on the back of the car is that of balance, and as a pair of shoes weighs but 20 pounds, this is purely an imaginary one. There are hundreds of reasons, however, why you should use [redacted] Side Tire Holders, and the following are a few, any one of which is sufficient for you to decide in their favor. 1. They keep the tires clean. 2. They keep the tires away from the hot exhaust. 3. The tires can be removed in five seconds and replaced in same time. 4. They cannot be lost off the car. 5. They are much neater in appearance. 6. They can be installed in 10 minutes. 7. With them it is possible to carry a trunk at the rear. 8. They make unnecessary the changing of tail light location. 9. They weigh seven pounds less than the lightest rear holder on the market. 10. There are no straps to lose or break. 11. Price is the lowest of any tire holder on the market, irrespective of advantages. 12. Special catch on top bracket locks automatically when closed and lock need not be used unless wanted. 13. Screws that hold bracket to body cannot be removed with tires in place. 14. Lock is solid brass mail type, which opens automatically when key is turned. 15. Lock clasp is rubber covered to prevent rattle. Furnished in black enamel only. Packed in corrugated carton 6" x 11" x 7½", and weighs seven pounds. Complete with bolts, screws and lock. Will fit two 3½" tires or one 3" and one 3½".

PRICE $2.00.

VALVE STEM PACKINGS.

When the valve guides on an engine wear it is impossible to get a perfect mixture, as air is drawn thru the space between the valve stems and the wall of the guides. This results in a skip that is impossible to find, especially at low engine speeds, and full power cannot be obtained from the engine, as part of the suction stroke is wasted by drawing air by the valve stems. The [redacted] packing consists of a special steel stamping and felt washer, which is held in position by valve spring as shown in cut. When in positon the felt both prevents air from entering the cylinders and also lubricates the valve stem, preventing further wear. They are necessary on the new cars as well as old, and the installation in either case is a matter of a very few minutes without tools of any kind.

PRICE per set of Eight 50c.

AUTO PARTS COMPANY - - - Providence, R. I.

THE LARGEST MANUFACTURERS OF FORD SPECIALTIES IN THE WORLD.

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SELL TIRE ECONOMY

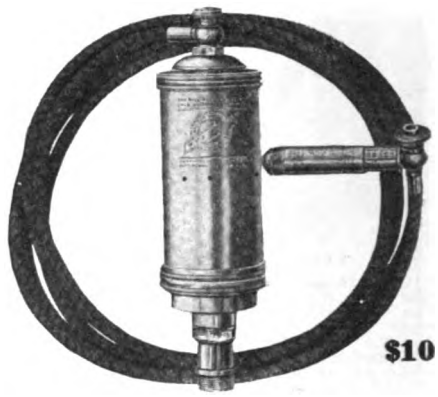
A SURE SAVING FOR OWNERS
BIG PROFITS FOR DEALERS

$2

Utility Whistling Pneu-Meter.

Utility Power Tire Pumps

A tire inflator, attachable at a spark plug opening in a motor valve cap, that is positive in its operation, will afford any pressure, and can be used on any car. No uncertainty, no labor, no expense. The motor does the work when and where you will. Built of finest material, it will give uniform service for years. Compact, easily carried, quickly attached, and always ready when wanted. The Utility Junior Pump is designed for Ford and light cars having tires to 3½ inches diameter.



$10

Utility Pump, Complete with Whistling Pneu-Meter.

Whistling Pneu-Meter

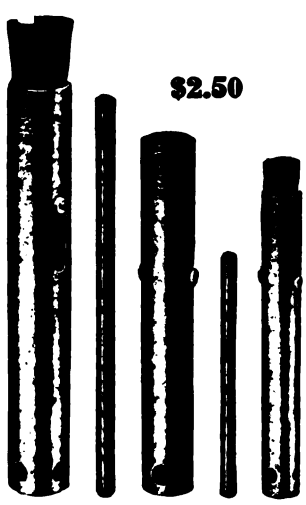
The best protection that science has created against excessive tire inflation, used with the Utility Tire Pumps. This device can be set at any desired pressure of inflation, in five-pound units, from 50 to 120 pounds for the Utility Pump and from 40 to 75 pounds for the Utility Junior Pump. ABSOLUTELY AUTOMATIC in action, when the pressure to which it is set is reached the air by-passes and causes a whistle that can be heard a block. No possibility of excessive pressure or under-deflation; exactly what the tire is designed for and better mileage, less fuel consumption, certain protection of the mechanism of the car and lowest tire cost. It can be used with hand and power pumps, making them automatic.

This is the kind of tire and car ecomony you can sell, Mr. DEALER. It is not a luxury, a convenience, an equipment fad, but a necessity for any car.

Unequalled in construction, in action and in appearance, the Utility Pumps and the Whistling Pneu-Meter are superior to any pumps or protective devices ever produced.

$6

Utility Junior Pump, Complete with Whistling Pneu-Meter.



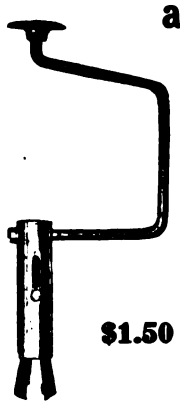
$2.50

Utility Socket Wrench Set, Complete.

Utility Socket Wrench Set

Will take all nuts that can be taken by a 14-socket set, can be adjusted instantly, can be used with all shapes and sizes, does not require fitting; will take all nuts used on automobiles, either hexagon, square, cock or wing nuts; cannot slip or wear nuts, will hold the nut after removal, and nuts placed in the jaws can be set when bolt is inaccessible to the hands. A wrench suited to any purpose, that will take all sizes of nuts from 3/16 to ½ inch inclusive. Packed in canvas bag.

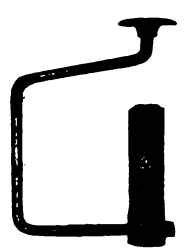
Utility Demountable Rim Wrench



$1.50

Utility Demountable Rim Wrench.

An instantly adjustable jaw socket wrench designed for use with all makes of demountable rims. No screw fittings to adjust as pressure will hold the wrench on the nut, and the lever handle can be operated with both hands. It is a whole tool kit in a single tool. When not in use the wrench can be folded and carried in the tool box.



Utility Demountable Rim Wrench Folded.

DEALERS: We are making agency contracts with high class business men for exclusive territory. This proposition is open to you. If you are interested in real profits write for detailed information today.

THE HILL PUMP VALVE CO.

18-20 E. Kinzie Street **CHICAGO, ILL.**

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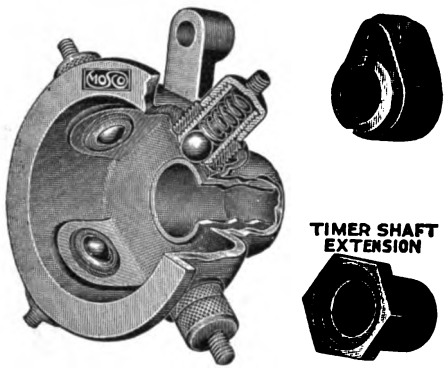
AUTO FITTINGS

Patented
Sept. 24, 1907.
Dec. 17, 1907.
Feb. 16, 1915.

BEMUS BALL CONTACT TIMER

OTHER PATENTS PENDING

FORD CAR TYPE



Here is the solution of the most common trouble on the Ford car—skipping due to defective timing. This Timer with its rapid, snappy action on the ball contact principle is just what the Ford engine needs. Thousands of users are telling us this. The Bemus has made a hit with repair men and Ford owners all over the country. Send for full descriptive matter or order a Timer for trial. We are still making prompt deliveries, so now is the time to act.

Price $2.25

Patented March 24, 1914.
Dec. 15, 1914.

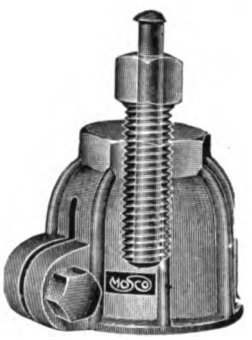
MOSCO (Loose Plunger)
WHEEL PULLERS
Nos. 3, 4, 5 and 6

No. 3 fits all Overland models 30 and 35 H. P. of 1913, 1914 and 1915. Price, $1.25.

No. 4 fits all Buick models 10, 32, 33, 34, 35, 36, 26, 27, 24, 25, B24, B25, C24, C25. Price, $1.25.

No. 5 fits all Buick models 16, 17, 19, 21, 28, 29, 30, 31, 41, B36, B37, B38, C36, C37. Price, $1.50.

No. 6 fits all Maxwell model 25 of 1914 and 1915.

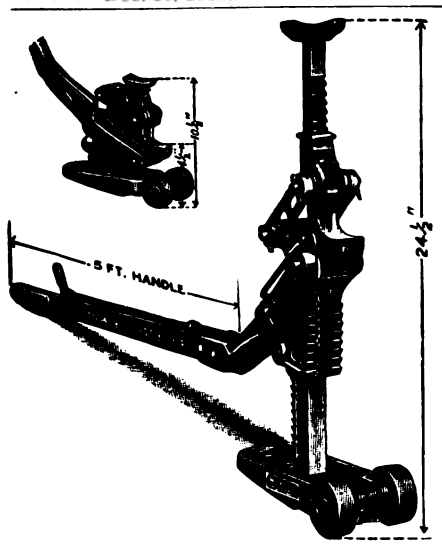


No. 2 WHEEL PULLER
For the Ford Car

This model has our new loose plunger feature as used in our other models. It also has an adjusting screw to provide for the variation in hub threads often found in the Ford car. No stripping of threads is possible with this puller. Made of semi-steel casting with carbon steel fittings.

Price $1.00

Patented March 24, 1914.
Dec. 15, 1914.



"EXCEL" GARAGE JACK

A Heavy, Powerful Tool for Rapid and Easy Handling of Large or Small Cars

The only jack in the world suitable for the work of Garages, Service Stations, Repair Shops, Tire Agencies, etc. This Jack weighs 50 pounds, has five-foot handle with enormous leverage, and will raise either end of the heaviest touring car 4½ inches with a single stroke of the handle. Range five inches to 26 inches from the floor.

Liberal Discount to Garages and Dealers.

Price, East Mississippi River, $16.00
Price, West Mississippi River, $18.00

"FOGG" Exhaust Horn
FOR FORD CARS

Still going! Still blowing its clear, mellow signal on thousands of cars throughout the land. Some of the sceptics tell us that the electric horn has supplanted exhaust whistles, but we notice that the old reliable FOGG continues to sell. The reason? Because it is the horn located between the engine and the muffler, where it gets the full blast of the gas. Also because it has a cut-out in the body, so that in buying the FOGG you get two devices in one—a signal and a cut-out.

Price with cut-out $5.00 Without cut-out $4.50

MOTOR SPECIALTIES COMPANY

WALTHAM MANUFACTURERS **MASSACHUSETTS**

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MULTIBESTOS REG.U.S.PAT.OFF. PAT.APP'D.FOR

Follow the White Foot Prints

The distinct superiority of Multibestos has been proved time and again, both by engineering tests and in the every-day service of thousands of car owners.

That it may be distinct in appearance as well as in quality, we mark it with "White Foot Prints."

Not only do the "White Foot Prints" protect the users of Multibestos, but they also afford a great convenience to the dealers who are handling it—for the marks are spaced exactly and can be used for measurement when cutting from stock to fill orders.

So we say to car owner and dealer alike:

Follow the white foot prints,

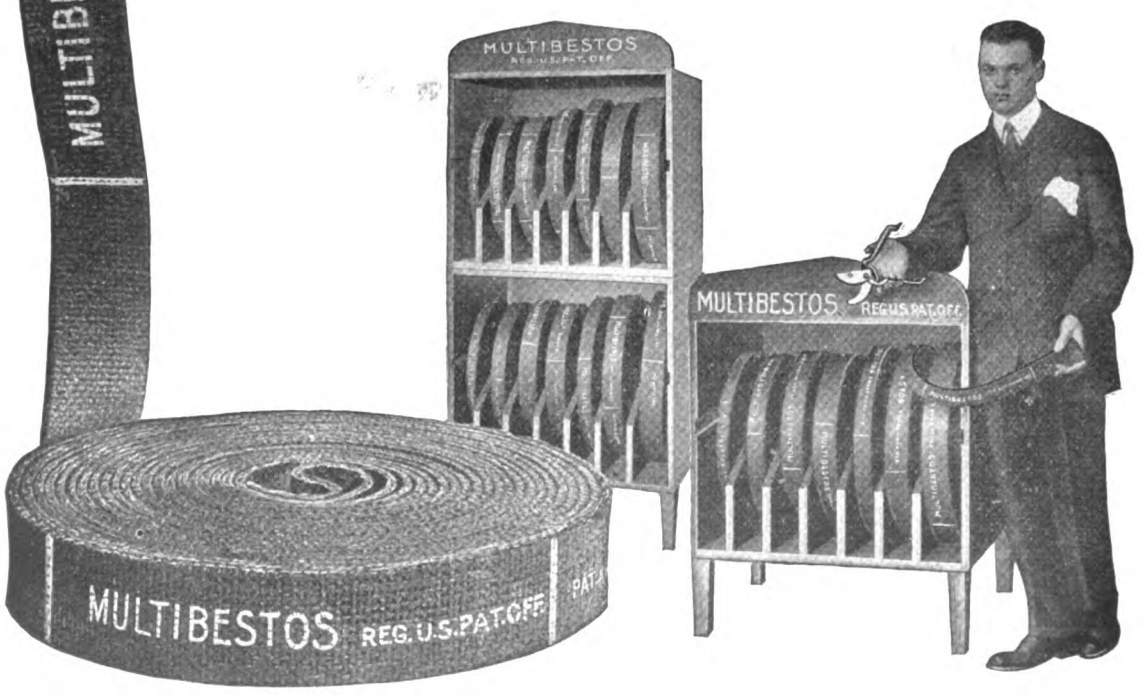
They lead to satisfaction in brake lining.

Standard Woven Fabric Company

FACTORY, FRAMINGHAM, MASSACHUSETTS

SALES BRANCHES

Boston—F. Shirley Boyd, 903 Boylston Street
Chicago—F. E. Sparks, 1430 Michigan Boulevard
Philadelphia—N. A. Petry Co., Inc., 1427 Vine Street
San Francisco—Fred Ward & Son, Inc., Corner First and Howard Streets



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THE ACCESSORY AND GARAGE JOURNAL

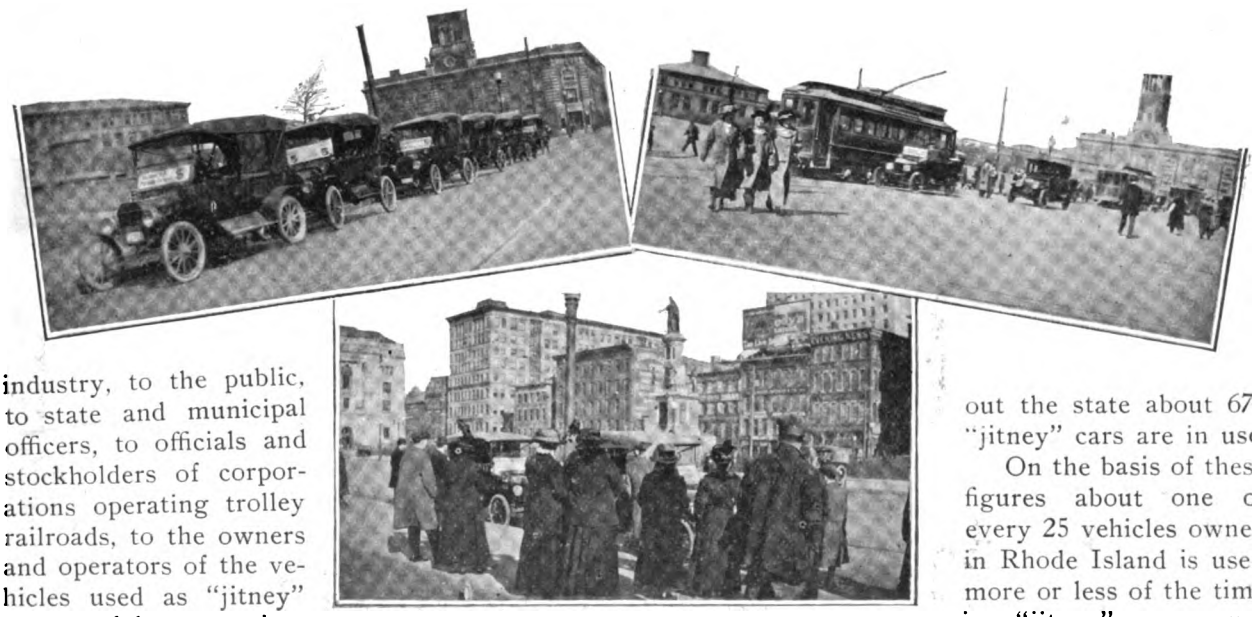
Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., MARCH, 1915. No. 11

JITNEY SERVICE DEVELOPS MANY PROBLEMS.

Conditions Existing in Rhode Island After Brief Period of Competition with the Trolley Lines are Unparalleled Elsewhere in Country.

MUSHROOM-LIKE in its development in practically every section of the United States, appealing to the people because of the novelty of an automobile ride for a nickel as well as the convenience that is practically possible as compared with the certain routes and the time schedules of the trolley cars, the "jitney" service has within a comparatively brief period become a problem of great importance to the motor vehicle industry, to the public, to state and municipal officers, to officials and stockholders of corporations operating trolley railroads, to the owners and operators of the vehicles used as "jitney" cars, to labor organizations and differing civic bodies. The "jitney" service originated in the West, but in no section of the country has it attained such proportions or precipitated so peculiar conditions in a very brief time as in Rhode Island.



Three General Views, Showing How the "Jitneys" Are Operated in Competition with the Traction Lines at Providence, R. I.

Providence is surrounded by the cities of Pawtucket, Central Falls and Cranston and the towns of East Providence, Cumberland, Lincoln, North Providence, Johnston and Warwick. In these municipalities is a population served by "jitney" cars of either Providence or Pawtucket that approximates 400,000, and at the time this is written there are 507 "jitney" cars licensed in Providence and 119 licensed in Pawtucket, a total of 626. The population of Rhode Island is about 575,000 and the number of machines owned in the state is approximately 16,000. Throughout the state about 675 "jitney" cars are in use.

On the basis of these figures about one of every 25 vehicles owned in Rhode Island is used more or less of the time in "jitney" passenger work, and when the trucks and wagons are deducted from the total the ratio is perhaps one car to 22 or 23. And the number of "jitney" licenses is rapidly increasing. The first license was issued in Providence, Feb. 8, and in Pawtucket, Feb. 19, so one will understand that in a period of less than seven weeks the extremely large number of "jitney" car owners has been

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impelled to engage in the work. Some men devote all their time to driving, others drive their cars incidental to other occupations, some drivers

One of the Few Larger "Jitneys" in Providence, a 1912 Garford.

serve definite routes, generally those on which trolley lines are operated, and there are those who work during the hours when the travel is greatest, depending upon casual rather than regular patronage.

Most of the machines in use are light, seating four or five passengers, and many are Ford touring cars, although some drivers have larger and heavier vehicles that will seat six or seven. All are open bodies and the cars are used with the tops up. As there are as yet no restrictions the public is carried in any way, the running boards being quite as acceptable as the seats. The faster speed made by the "jitney" cars, the convenience of deviating from a definite route, the accommodation of the drivers, all compensate for the regular operation on certain highways of the trolley cars. The routes always converge in the centres of the cities, and with "jitney" cars passing every minute or less during some periods of the day, they are well patronized.

The machines in use are everything that can be driven, from the antique of 1906 or 1907 to the Ford purchased on installments and just put in service. They are generally individually owned, though some men own and operate a number. As a rule the cars are second hand, and would hardly be enjoyed by the individual who regards appearance, but whatever is operative is seemingly satisfactory to the public.

The owners have formed associations that purpose protection of interests of the members, better service for the people, observance of the desires of the state and city officials, mutual insurance and other objects, and they have offered assistance to charitable organizations that are active in work among the deserving poor. These associations have already sought affiliation with organized labor, and have the support of these bodies. The earnings of the operators who own their machines vary according to the work done, but because of the limited time since the "jitney" service was inaugurated no really definite figures can be given. Some men believe they are making money fast, while others realize they are not more than paying expenses. In this respect the experience of any one or a number is not as yet sufficient to base intelligent estimate.

The revenue of the Rhode Island Company, which operates the system of trolley lines in northern Rhode Island, has already been so much decreased that the company has asked the city council to protect it against the competition of the "jitney" operators, maintaining that as a large taxpayer and contributor to the state and municipal funds through special franchise taxes, that its interests ought to be considered. Legislation is now pending in the General Assembly which is intended to "regulate" the "jitney" service, and pending this city regulation will not be undertaken.

The Rhode Island Company has appealed to the Providence city council and the legislature to protect it against the loss of revenue, which will compel these bodies to act and make decision.

"Jitney Square" in Providence, R. I., Where the Trolleys Are Ignored for the Latest Form of Transportation.

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GENERAL NEWS OF THE INDUSTRY.

High Efficiency Methods in Scripps-Booth Factory—Greenleaf Company Merged with the Walter C. Lewis Company.

WITH the advent of the new Scripps-Booth car, manufactured by the Scripps-Booth Company, Detroit, Mich., a new personality has been introduced into the automobile manufacturers' world—R. H. Spear, general manager of the company. Mr. Spear's long experience in factory organization is said to dominate the plant and to be responsible in a large measure for the financial as well as the mechanical development. Fifteen years ago Mr. Spear began as a stenographer in a probate court, became a chief accountant, and later general manager of the Hygeia ice plants. At that point in his career he became a system and organization expert, writing volumes that have become standard authorities upon factory costs and organization, etc., and investigated hundreds of factories throughout the country. He introduced high efficiency methods in the Scripps-Booth organization, and has, it is said, so organized that plant that it can turn out its car with a higher proportion of costly material in its make-up than is usual among the lower-priced makes. William B. Stout designed the Scripps-Booth car, which is now being delivered.

R. H. Spear, Scripps-Booth Manager.

CREDITORS GET 22½ PER CENT.

Receiver Issues Final Report of Trusteeship of the Bankrupt Warren Motor Company.

Creditors and stockholders of the bankrupt Warren Motor Car Company, Detroit, Mich., have received the final report from the Detroit Trust Company, receiver, of the liquidation of the motor company's affairs. The court allowed a 2⅛ per cent. dividend. The total dividend paid to creditors is 22⅛ per cent.

WILL PAY 10 PER CENT. OF CLAIMS.

Proposal Made for Settlement of Speedwell Motor Affairs by Liquidation Out of Court.

General merchandise creditors of the Speedwell Motor Car Company, Detroit, Mich., may receive 10 cents on the dollar on their claims if the proposition for settlement of the company's affairs by liquidation outside of the court is accepted by all the interests concerned. The merchandise claims against the company are stated to total nearly $63,000. The court has authorized the receiver to borrow $10,000 with which to repair certain parts of the plant, and to guard it until operations may be resumed.

HOUK WHEEL EXPANSION.

George W. Houk Buys Plant of the American Spoke and Nipple Company, and Will Move Machinery to Buffalo.

The plant of the American Spoke and Nipple Company, Detroit, Mich., has been purchased by George W. Houk of the Houk Manufacturing Company, and the machinery will be removed to Buffalo, N. Y., where the Houk company has a plant which at the present time is using 30,000 spokes and nipples daily. The American Spoke and Nipple Company had a capacity of 25,000 per day.

HANDLEY GOES TO JACKSON.

Farewell Banquet Given J. I. Handley on Eve of Departure from Indianapolis with Marion Company.

J. I. Handley, president of the Mutual Motors Company and the Marion Motor Company, Jackson, Mich., was the guest of honor at a testimonial banquet at the Columbia Club, Indianapolis, Ind. The occasion was Mr. Handley's leaving the city for Jackson, Mich., following the removal of the Marion company and its officers. About 75 of Indianapolis' most prominent men were present to speed the parting guest, among them being Lieutenant-Governor O'Neil and Charles L. Bookwalter, ex-mayor of Indianapolis.

ANTICIPATING ITS OBLIGATIONS.

General Motors Company Is Said to Be Ready to Redeem $7,852,000 Worth of Its Notes.

Having a liberal amount of surplus cash in its treasury, the General Motors Company, New York City, is said to be ready to redeem its outstanding six per cent. first lien five-year sinking fund gold notes to the approximate amount of $7,852,000, due Oct. 1, the price to yield three per cent. for the unexpired time. These notes are the unredeemed part of a $15,000,000 issue, and after their payment it is stated that there will still remain in the treasury of the company between $6,000,000 and $7,000,000. Presentation should be made to Lee, Higginson & Co., and J. W. Seligman & Co. The prices April 1 will be 101.455 and accrued interest; April 15, 101.342, and May 1, 101.213.

NEW MAKER FOR HERCULES CARS.

Machines Are to Be Built by the Kentucky Wagon Company, Maker of Urban and Old Hickory Trucks.

An agreement with the Hercules Sales Company, a new organization which took over the patterns, blue prints, name of the car and output of the Hercules Motor Car Company, New Albany, Ind., gives the right of manufacture of the cars to the Kentucky Wagon Manufacturing Company, Louisville, Ky.

The Hercules Sales Company was organized recently with a capital stock of $100,000, and has the following as officers: A. H. Ross, president; Charles Kelso, vice president; C. L. Caron, secretary and treasurer. There is no stock for sale. The company, which controls the selling rights of the Hercules cars, will supply the 400 agents. At the beginning the Kentucky wagon company will have a daily capacity of about 25 cars, which, President Ross states, will later be increased to 100 cars a day.

BID $800,000 FOR PROPERTY.

Formal Offer Made by the Stockholders' Committee to Court for Walpole Tire and Rubber Company.

The receiver of the Walpole Tire and Rubber Company, Walpole, Mass., filed in the United States district court, Boston, an offer in writing made by the joint stockholders' committee for the property of the company. The offer stated that the committee in event of a resale of the property being ordered by the court will bid not less than $800,000, in accordance with agreements on file with the State Trust, the Federal Trust and the American Trust companies. The hearing on the confirmation of the sale to the receivers' and creditors' committee was postponed until April 5, because the parties to the sale had not been able to agree on the terms of the decree of the sale.

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GREENLEAF HEADS NEW CONCERN.

With It Is Merged the Walter C. Lewis Company—Some of the Largest New England Accounts Are Carried.

The Greenleaf Company, of which A. E. Greenleaf is president and G. R. Dunham treasurer, has been organized to conduct a general advertising agency, with offices at 185 Devonshire street, Boston, and with this has been merged the Walter C. Lewis Company, for many years one of the best known agencies in New England. Mr. Lewis is a member of the Greenleaf Company, but he will devote more of his time to the Genesee Light and Power Company, of which he is president, and give the same personal attention as formerly to his advertising clients.

Mr. Greenleaf is a practical printer of wide experience. He entered the advertising field about 12 years ago, and for the past seven years was connected with Wood, Putnam & Wood, a widely known firm, and has handled many of the largest accounts of New England. He has been remarkably successful. Mr. Dunham has been identified with advertising agencies for 17 years, being first connected with the Pettengill agency in the bookkeeping department, and for 10 years he was in charge of the accounting department of Wood, Putnam & Wood.

A. E. Greenleaf, President Greenleaf Company, Boston, Mass.

The Greenleaf Company has a very large clientele, including more than a score of the largest general advertisers in New England, and among Mr. Greenleaf's personal clients are a number of the best known and most representative concerns in the motor vehicle industry, whose interests he has handled with decided success. The company's organization has been developed to afford an exceptional service, and its purpose is to serve clients in all sections of the country.

BUSINESS EXCEEDED ALL RECORDS.

J. I. Case T. M. Company's Annual Report for 1914 Shows Largest Gross Sales in Corporation's History.

The annual report for 1914 of the J. I. Case Threshing Machine Company, Racine, Wis., shows the largest gross sales in the history of the company, which are stated to be $14.395,384. Of that amount, $12,178,286 were for domestic sales and $2,217,097 for foreign sales. Sales for the last half of the year exceeded those for the first half, which indicates increased business for this year.

After redeeming and cancelling $1.500,000 under the trust deed dated Feb. 1, 1914, on Dec. 1, there was left outstanding $10,500,000 as of Dec. 31. The indebtedness on bonds and notes was reduced to the lowest point of year on Dec. 24, being stated as $12,250,000, while highest point was reached on July 5, with a total liability of $16,785,000.

OVERLAND ORDERS EXCEED RECORD.

The Willys-Overland Company's Business the First 25 Days of March the Greatest in Its History.

Sales during the first 25 days of March exceeded by 1300 cars the sales made in the entire preceding month of February by the Willys-Overland Company, Toledo, O. They were double those of the corresponding month of 1914 and orders were received at the rate of 2500 a week. The increased business has compelled the company to work its 8600 men at full capacity, and some departments are now operating on a 24-hour schedule. The company first passed the 300-cars-a-day mark on Feb. 15. March 22 there were shipped 330 cars, which establishes a record for the Willys-Overland Company.

STOCKS SHOW GOOD EARNINGS.

The American-LaFrance Fire Engine Company Declares Dividends on Preferred and Common Stocks.

An initial dividend of one per cent. on its common stock, payable May 15 to stock of record May 10, was declared by the American-LaFrance Fire Engine Company, Elmira, N. Y. The regular quarterly dividend of 1¾ per cent. on preferred stock, payable April 1 to stock of record March 25, was also declared.

YOUNG CONCERN DOING BIG BUSINESS.

Hoover Ball Bearing Company, Less Than Two Years Old, Is Forced to Expand Plant.

The Hoover Steel Ball Bearing Company, Ann Arbor, Mich., is erecting a new factory building, 250 by 60 feet, to take care of the rapid increase of its business since it started manufacturing little more than two years ago. With the addition the company will employ 230 men, as against 90 in 1913.

GIBSON JOINS MADISON MOTOR.

President of Gibson and Empire Automobile Companies Resigns to Head New Corporation.

Disposing of his interests in the Gibson Automobile Company and the Empire Automobile Company, both of Indianapolis, Ind., Cecil Gibson goes to the Madison Motor Company, whose plants are at Anderson, Ind., and Berlin, Can. Mr. Gibson takes charge as president and general manager, and his associates are Henry Nyberg, W. E. Moore, C. F. Wood of Washington, D. C., and Thomas Forbes. It is said that the company will build a four-cylinder car to sell for about $750, while beginning July 1 an eight-cylinder machine will be manufactured.

SAXON'S DOUBLE CHECK INSPECTION.

Manufacturer of Saxon Car Provides Unusual Inspection Checks on Parts Made by Others.

The Saxon Motor Company, Detroit, Mich., has instituted a double checking system in the plants where parts and material for Saxon cars are manufactured, which is intended to insure the quality and high grade of workmanship. While the plan involves considerable expense to the company, it is said to more than pay, by eliminating waste or loss through defects.

"If a mechanical part or a piece of material is inspected at its early stages", said C. C. Cross, the Saxon factory manager, in explanation of the plan, "and then again before it finds a place in the finished product, a quality motor car is the assured result. The inspection of our cars will not be confined to an inspection before the cars are shipped, but under the direction of the chief inspector, who is one of the most expert experimental engineers in the country, a number of deputies will be placed in the various plants where the company buys parts. All parts will be inspected before shipment to the Saxon factory. This method is a guarantee to our customers that our product is right".

NEW LIGHT DELIVERY VEHICLE.

Ohioans Plan to Manufacture a 500-Pound Load Capacity Machine Which Will Be Sold for About $550.

Statement is made that a new 500-pound light delivery vehicle, listing at $550, weighing 1350 pounds, and provided with a 20-horsepower, four-cylinder valve-in-the-head motor, is to be manufactured in Lima, O., by C. E. Miller and F. M. McGraw. Mr. McGraw was formerly connected with the McIntyre Manufacturing Company, Auburn, Ind., as a buyer.

HOUSE ORGAN FOR APCO.

Maker of Well-Known Apco Ford Specialties Publishes a Monthly Folder to Stimulate Trade.

The Auto Parts Company, Providence, R. I., maker of the Apco line of Ford specialties, is publishing a house organ termed the "Ford Dealer", which contains numerous items of interest to the Ford dealer and garage man. It is issued on the 20th of each month, and will be mailed free to the trade upon request.

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PERSONAL NEWS OF THE INDUSTRY.

J. J. Cole, Indianapolis, president of the Cole Motor Car Company, believes that this year thousands of automobile owners will tour the United States, especially to the San Francisco and San Diego expositions. He is receiving the cooperation of the officials of both the expositions and the various highway and good roads associations in his promotion of touring.

J. J. Cole, President of the Cole Motor Car Company.

Charles A. Slocum, Pawtucket, R. I., proprietor of the William H. Slocum Company, blacksmith and autogenous welder, died recently at his home. The business of the company will be carried on by the surviving members of his family. Robert F. MacSwan will continue to manage the affairs of the company.

Sidney D. Waldon, Detroit, has joined the Cadillac Motor Car Company in an advisory capacity in the engineering department, as well as in assisting the management in a general way. He was formerly vice president in charge of forework and current engineering of the Packard Motor Car Company.

K. W. Zimmerscheid, Detroit, chief metallurgist of the General Motors Company, has been elected chairman of the standards committee of the Society of Automobile Engineers, succeeding Henry Souther. It is the aim of the organization to bring together members of the standards committee at least four times a year.

E. A. Kelley, Detroit, until recently manager of the Chicago branch of the Splitdorf Electrical Company, has been appointed manager of the Apple Electric Company at 972 Woodward avenue.

L. F. Goodspeed, St. Louis, for years chief engineer of the Moon Motor Car Company, has severed his connection with the company. He is succeeded by George F. Heising, who was formerly purchasing commissioner of the company.

W. B. Dean, Detroit, has joined the staff of Smalley Daniels at 870 Woodward avenue. He was formerly purchasing agent of the Hearsey-Willis Company of Indianapolis. He will have direct charge of the jobber's department.

F. H. Ehnts, St. Louis, has severed his connection with the Dorris Motor Car Company. He was with that company for a period of eight years.

F. F. Beall, Detroit, has become vice president in charge of manufacturing of the Packard Motor Car Company. He was formerly factory manager for that concern.

Frank J. Girard, Columbus, O., has become financially interested in the Capital Motor Car Company, agent for the Reo car. He was formerly manager of the Peerless Motor Car Company in that city.

George B. Grant, Pittsburg, Penn., has become associated with the Pittsburg Apperson Company and will have supervision and appoint agents in western Pennsylvania, eastern Ohio, western Virginia and western Maryland. He was formerly associated with the agencies of the Oakland Motor Company.

George E. Seidel, Richmond, Ind., has become treasurer and general manager of the Pilot Motor Car Company. He is also president of the Seidel Buggy Company. However, he will devote his entire time to the management of the Pilot Company.

J. R. Goetcheus, Muncie, Ind., has accepted a position as general manager of the Muncie Oil Engine Company. He was formerly general manager of the Muncie Gear Works for a number of years.

G. C. Core, Jackson, Mich., has been appointed advertising manager of the Sparks-Withington Company. He is a newspaper man and for the past three years has been connected with the automobile department of the Chicago Daily Journal.

Kenton Harmon, New York City, has been appointed district manager of the Dort Motor Car Company, with headquarters at 1790 Broadway.

J. T. Travis, Brooklyn, N. Y., has been appointed sales manager of the Carpenter Motor Vehicle Company. The company is agent for the King car.

R. H. Henderson, Los Angeles, Cal., is now sales manager of the Pacific Metal Products Company, distributor of the Moore and Commerce motor trucks.

J. F. Bowman, Detroit, assistant to the secretary and treasurer of the Federal Motor Truck Company, has been appointed director of sales.

J. H. Liston, Detroit, has been appointed manager of the offices of the Thermoid Rubber Company, which was recently opened in the Dime Savings Bank building.

W. M. Perrett, Detroit, has been appointed branch manager of the Republic Rubber Company of Youngstown, O., with his headquarters at 1001 Woodward avenue.

L. C. Bailey, Toledo, O., has become manager of the Toledo-Mercer Company, with headquarters at the 21st Street Garage.

W. G. Schmunk, Cleveland, has been appointed manager of the local branch of the Peerless Motor Car Company. He has been associated with the company for the past five years.

W. J. Trudell, travelling representative of the Goodyear Tire and Rubber Company, Akron, O., has his headquarters in Jackson, Mich.

W. A. Pearnes, Seattle, Wash., has become identified with George W. Miller at 714 East Pike street. He has charge of the used parts and supply departments.

H. R. Roberts, Portland, Ore., has become sales manager of the Frank C. Riggs Company, distributor of the Packard car. He is president of the Portland Automobile Dealers' Association.

J. F. Buhr, Detroit, has been elected president of the American Pattern Works. William Blanck is vice president and Edward Stephens, secretary.

J. O. Stokes, Trenton, N. J., president of the Thermoid Rubber Company, is touring the South.

Walter M. Towne, Detroit, formerly with the Ajax-Grieb Rubber Company, is now associated with the F. E. Castle Company as general sales representative.

Lester F. Rogers, Boston, Mass., is now associated with the Winton branch in that city. He was formerly with the Henley-Kimball Company, distributor of the Hudson car.

H. L. Sinclair, Providence, R. I., has associated himself with the A. W. Flinn. The company will handle the new worm driven Chase line.

C. C. Hanch, South Bend, Ind., has accepted a position in the executive organization of the Studebaker corporation. He was formerly connected with the Nordyke & Marmon Company.

W. E. Anderson, Dayton, O., is now district manager of the Dayton Rubber Manufacturing Company. His headquarters will be at 2011 Michigan avenue, Chicago.

William Mitchell Lewis, Racine, Wis., was elected president at the annual meeting of stockholders, held recently.

L. W. Dingwall, Chicago, has become associated with the Thordarson Electric Manufacturing Company. He was formerly sales manager of the Chicago Drop Forge Company.

R. H. Johnson, President of the Automobile Dealers' Association, New York City.

R. H. Johnson, Cleveland, has been unanimously re-elected president of the Automobile Dealers' Association, New York City. He is a member of the White Company in the former city. Charles H. Larson of the Oldsmobile Company was re-elected vice president and Charles M. Brown of the Winton Company was elected secretary and treasurer.

J. A. Mathews, Detroit, is manager of the reorganized Hupp-Yeats Electric Company. The company will continue to manufacture electric pleasure cars.

Charles P. Kennedy, Jackson, Mich., has been appointed secretary and treasurer of the Alloy Steel Spring Com-

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pany. He was formerly with the local branch of the American Fork and Hoe Company.

J. W. Cully, Springfield, Ill., has been appointed superintendent of the Wilson Tire and Rubber Company, both at Detroit and Springfield.

C. W. Findeisen, General Sales Manager of the Findeisen & Kropf Company.

C. W. Findeisen, Chicago, has been appointed general sales manager of the Findeisen & Kropf Company, manufacturer of the Rayfield carburetor.

S. H. Veal, Newark, N. J., formerly secretary and general manager of the Cleveland Motor Car Company and later secretary of the Colt - Stratton Company, has joined the Saxon Motor Car Company and will locate at 278 Halsey street.

William E. Leggett, Boston, has become associated with the Paige - Detroit Company.

E. G. Shiek, Cincinnati, has been appointed manager of the Goodyear Tire & Rubber Company's local branch.

D. G. Caywood, Utica, formerly New York manager of the Brunner Manufacturing Company, has been appointed sales manager with headquarters at the factory.

Joseph F. Burns, Boston, has joined the C. A. Robinson Company, distributor of the Regal car. He was formerly associated with the Jackson Motor Car Company of that city.

R. P. Bishop, Detroit, has been appointed assistant sales manager of the King Motor Car Company. He was formerly connected with the Cutting Motor Car Company.

William A. McLain, Jr., New Bedford, Mass., is now sales manager of the Velie agency for the Chamberlain Garages Company, agents for New Bedford and Fall River. He was until recently with the Sanford Street Garage, Springfield, Mass.

W. A. Haslett, Detroit, has been appointed manager of the local branch of the Goodyear Tire and Rubber Company. He managed the Goodyear branch in Pittsburg, Penn., until recently.

Merrill B. Moores, Portland, Ore., who has been identified with the automobile industry for the past seven years, has become associated with the Northwest Auto Company, distributor of the Cole and Reo cars.

Irving B. Meers, Indianapolis, has been appointed commercial manager of the Empire Automobile Company. He is at present on an extended trip through the West.

Hugh T. Porter, New York City, has become sales manager of the Detroit-Cadillac Motor Car Company. He was formerly associated with the Locomobile branch in that city. He succeeds J. H. Johnson, resigned.

Charles R. Talbot, Detroit, has been elected president of the Holihan Manufacturing Company. He is vice president of the National Bank of Commerce in that city.

J. B. Orman, Indianapolis, has been placed in charge of the special equipment department of the Premier Motor Manufacturing Company, by the trustee, Frank E. Smith. Mr. Orman was advertising director of the company before it went into the hands of a receiver.

Henry Lonsdale, Detroit, has become identified with the Denby Motor Truck Company, having been elected vice president. He was formerly associated with the Krit Motor Car Company and the Cadillac Motor Car Company.

W. E. Biggers, Detroit, has joined the Hyatt Roller Bearing Company in the capacity of advertising manager. His headquarters will be at the local office, though he will spend much of his time travelling. He has been with the Packard and Ford companies.

S. Vance Lowenstien, Philadelphia, has become general manager of the Schwarz Wheel Company.

Frank DeWitt, Detroit, has charge of the office of the Electric Welding Products Company, Cleveland, and is located at 1515 Ford building in the former city.

Percy Owen, Detroit, sales manager of the Chalmers Motor Company, returned from Europe lately.

S. K. Pittman, Detroit, has resigned as director and treasurer of the Detroit Steel Products Company. He is in California for a sojourn of several weeks.

Robert Garden, New York City, who is at the head of the Harrolds Motor Car Company, is recovering from pneumonia.

Herbert N. Leonard, Detroit, has been appointed general sales manager of the Ferro Machine and Foundry Company. He will now take over the sales direction of Ferro automobile castings, marine and stationary engines, rowboat motors and other products.

C. L. Diers, Indianapolis, manager of the local branch of the Goodyear Tire and Rubber Company, has been given full supervision over the branches at Louisville, Columbus and Dayton. He will have headquarters at Indianapolis.

Ray McNamara, Detroit, has joined the engineering staff of the Maxwell Motor Car Company. He is well known to the industry.

Joe Warren, Minneapolis, has become a member of the sales staff of the Twin Cities Automobile Company. He was formerly affiliated with the Chalmers Motor Car Company, Detroit, and was travelling representative for the Krit interests.

Hugh McFarlane, Chicago, president of the H. McFarlane & Co., manufacturer of motor trucks, died at his home recently. The company was established in 1854 and did a considerable local business.

E. E. Waite, Framingham, Mass., chief engineer of the Standard Woven Fabric Company, and T. J. Daley, sales manager for that company, have been calling on automobile engineers in Detroit gathering data for use in establishing standards for the company's research departments, as Multibestos, the product of that company, is used extensively in motor car equipment.

Lee Anderson, Detroit, president of the Adcraft Club of that city, has been appointed commissioner of the "Made in U. S. A. Industrial Exposition", to be held in Grand Central Palace, New York City, March 6 to 13.

A. N. Stanley, St. Louis, is now district manager for the Fisk Rubber Company of Chicopee Falls, Mass. He also manages the company's local branch.

Charles H. Spencer, Philadelphia, has resigned as advertising manager of the Autocar Company and will establish an advertising service business in the automobile field. He will make his headquarters in the Land Title building.

Winfield S. Williams, Dallas, Tex., has been appointed manager of the Studebaker branch in that city, succeeding C. W. Hartman, resigned.

John R. Lee, Detroit, in charge of the sociological department of the Ford Motor Company, addressed the Detroit Chapter of Sons of the American Revolution recently on "The Immigrant as a Worker and a Citizen".

Hugh Chalmers, Detroit, has been chosen for the third successive time as president of the Athletic Club of Detroit. Henry B. Joy is the vice president.

J. L. Replogle, Pittsburg, Penn., formerly vice president and sales manager of the Cambria Steel Company, is now vice president and general manager of sales of the American Vanadium Company.

Thomas F. Skelly, New York City, has been appointed manager of wholesale sales of the Dimond-Apperson Motor Company. He was for five years connected with the sale of Apperson cars in the Des Moines, Ia., territory.

John N. Willys, Toledo, president of the Willys-Overland Company, estimates, that 500,000 automobiles will be produced in the United States this year, valued at approximately $500,000,000. In a short period of two weeks his company did more than $3,000,000 worth of business.

John N. Willys, President of Willys-Overland Company, Toledo, O.

E. H. Parkhurst, Cleveland, vice president of the Yuster Axle Company, has assumed active management of the company. He was formerly vice president of the Peerless Motor Car Company.

C. R. Green, Dayton, has accepted a position as chief engineer of the Mead Engine Company. He was associated with the Speedwell Motor Car Company in a similar capacity.

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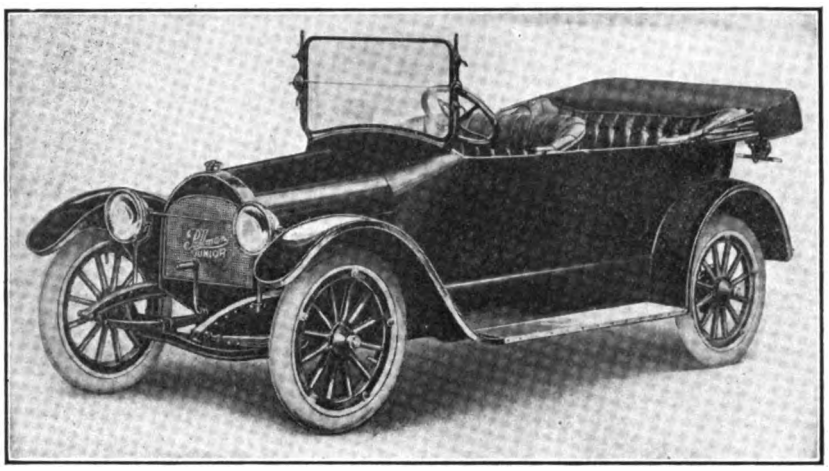
NEW PULLMAN, JR., CAR.

A New Light Five-Passenger Car Listed for $740.

AMONG the new light and low-priced cars for 1915 is the Pullman Junior, manufactured by the Pullman Motor Company, York, Penn., which is listed at $740. This



Three-Quarter Front View of the New Pullman Junior, Showing Low-Hung, Streamline Appearance.

machine has a wheelbase of 110 inches, 30 by 3½-inch tires, cantilever springs and a streamline body.

The Pullman Junior has a unit power plant with four-cylinders cast en bloc, with separate cylinder head, inlet and exhaust pipes, and a barrel type aluminum crank case, which includes the flywheel housing. The motor, an L head type, has a bore of 3¾ inches and a stroke of 4¼, giving it an S. A. E. rating of 22.50 horsepower. All the valves are on the left side, completely enclosed, and have cast iron heads and steel stems. The clear diameter is 1⅝ inches and the lift 7/32-inch. The valves are operated by a chain driven camshaft, and the mechanism is adjustable.

Thermo-syphon cooling is employed in connection with a honeycomb radiator of special Pullman type. The three crankshaft bearings are lubricated by positive feed from a plunger pump operated from the rear exhaust cam, the oil passing through a sight feed on the dash and overflowing to supply the splash basins in the bottom of the crank case. An Apelco 12-volt motor-generator is employed, and this is located on the right side of the motor, the energy being applied to the crankshaft of the engine by means of a silent chain operated in oil. The Splitdorf ignition distributor is mounted on the generator, in the conventional manner.

The carburetor is a Stromberg and this is fed by gravity from an eight-gallon fuel tank located in the cowl. The oiling is by force feed and splash system with a sight feed on the dash. The transmission is a selective sliding type, ball bearing and has three speeds forward and reverse and clutch is a multiple-disc, running in oil, woven wire asbestos against steel. The emergency brake lever and pedals are all carried on the same housing, and the power plant is supported at three points, the two at the rear being on a cross member, which includes a ring attached by the same bolts which hold the engine and transmission together. Back of the transmission is a single universal joint, and directly over it is a round cross member from which is suspended by two links the yoke at the forward end of the propeller shaft housing. This yoke takes the rear axle torque, but the thrust is taken by the springs. The rear axle is of the three-quarter floating type and is fitted throughout with ball bearings. The brakes are 1¾ inches wide, acting on 10-inch drums.

Full cantilever rear springs are employed, and semi-elliptic springs are used in front. A left drive and centre control are used, and the emergency brake lever is located in the centre.

The body is a low-hung type, having a streamline effect. The radiator and hood are rounded, and the windshield is curved to fit the cowl snugly. This windshield is a rain vision clear vision, ventilating design, providing a support for the forward end of the one-man top.

CASE REDUCES PRICES.

Prices of Models 35 and 40 Reduced. Model 25 Increased.

FOR the 1915 season the J. I. Case Threshing Machine Company, Racine, Wis., has reduced the prices of two of its cars, models 35 and 40, and increased the price of model 25. Model 35 has been reduced from $1850 to $1600, while the 40 has been reduced from $2300 to $1800. Model 25 has been considerably altered from the 1914 car, and its price has been increased from $1250 to $1350.

One of the principal changes in the 25 model is the lengthening of the wheelbase from 110 inches to 115½, by the use of cantilever rear springs instead of platform suspension. The tire sizes have been increased from 32 by four inches to 34 by four, and magneto ignition has been replaced by battery, using the accumulator of the Westinghouse cranking and lighting system. The greater number of the parts of 1915 Case cars will be made in the shops at Racine, including the motor and axles.

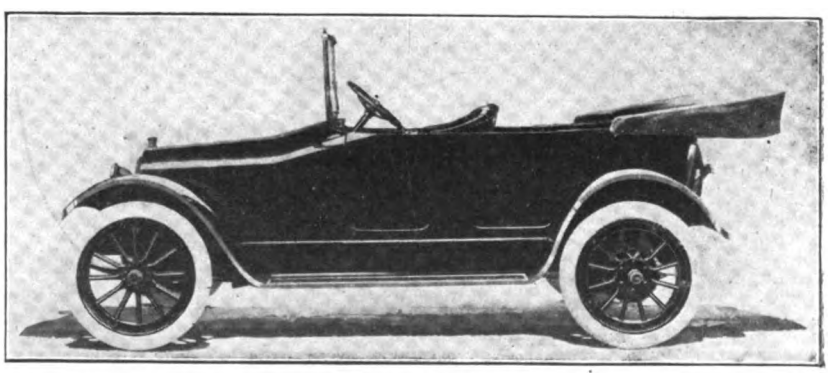
The model 25 motor inlet manifold is heated by a by-pass from the exhaust, and another change is the shifting of the spark plugs from the sides of the T head cylinders to the centre, where the priming cocks were located in the 1914 models. The four-cylinder, water cooled motor is a T head type, with cylinders cast in pairs, and the bore of 3¾ inches and stroke of 4¾ gives it a horsepower rating of 22.50, S. A. E. formula. But the company states that 35 horsepower is easily developed on brake horsepower tests.

A Stromberg carburetor is employed. Shifting the gasoline tank from under the front seat to the cowl has permitted the carburetor to be mounted in a higher position and still be fed by gravity. The lubrication is by constant level splash with a plunger pump forcing additional oil to the crank case, a sight feed being carried in the line between the pump and the case. The ignition is by a Westinghouse high-tension system, employing a separate unit, with automatic spark control. The transmission system includes a disc clutch and a three-speed gearset fitted with Timken bearings, and the rear axle is a Weston-Mott three-quarter floating type, with a pressed steel housing.

A Westinghouse six-volt system affords energy for starting and lighting, and the head, tail, dash, work light and double-bulb arrangement for dimming purposes in the headlights, are on a single-wire system.

The Case 35 is a larger car and this has a four-cylinder motor, water cooled, T head, with cylinders cast in pairs, having a bore of 4¼ inches and a stroke of 5½. The motor has the general lines of that of the model 25; a Bosch dual system of ignition and a Rayfield carburetor are used. In a unit with the motor is a disc clutch and three-speed gearset, and the final drive is by shaft to a full floating axle. As in the 25, the starting and lighting system is a Westinghouse, and the wheelbase of the 35 is 120 inches.

The Case model 40 has a 124-inch wheelbase, and the motor is similar in design to those of the cars described, having a bore of 4½ inches and stroke of 5¼, giving it an S. A. E. rating of 32.40 horsepower. It is fitted with the Bosch two-point ignition system, and the carburetor is a Rayfield. The model 40 is the only one of the three having right hand drive and control.



The 1915 Case 25 Model, Which is Featured by a Longer Wheelbase, Case Made Motor and Axles and a Pure Streamline Body Effect.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

John McShain, Philadelphia, Penn.; two-story brick garage, 22x40, $865; to be erected at southwest corner 16th and North streets.

Wesley L. Blithe, Fern Rock, Penn.; one-story stone garage; 21x28.

Dr. A. E. Prince, Springfield, Ill.; two-story garage, 50x115; to be erected at Bloomington, Ill.

Henry A. Laughlin, Pittsburg, Penn.; two-story automobile show building; 100x133; to be erected at Penn avenue and Whitfield street.

W. G. Uffendell, 332 South Michigan avenue, Chicago, Ill.; one-story garage, 100x180.

E. E. Sargent, Naperville, Ill.; one-story garage, 60x80.

Joseph Marx, 3609 Broadway, New York City; one-story garage, 50x143; $12,000.

Jacob Weihl, 1400 Brook avenue, New York City; one-story garage, 19x14.

B. H. Kallfelz, 535 Court street, Syracuse, N. Y.; one-story garage, 60x98; $2000.

Walter S. Hodges, Brookline, Mass.; one-story garage, 24x21.

Patrick Creeden, Salem, Mass.; two-story garage, 53x175.

George S. Pullen, 55 Spencer avenue, Waterbury, Conn.; one-story garage, 14x20, $500.

Robert C. Keimm, 9 Clinton street, Newark, N. J.; one-story garage, 20x20.

W. Michaelson, Palisade, N. J.; one-story garage, $4000; to be erected at Grantwood, N. J.

H. P. Wolhsen, 554 West James streets, Lancaster, Penn.; two-story garage, $1000.

W. G. Scarlett, Pratt and President streets, Baltimore, Md.; one-story garage, $10,000.

Marietta Motor Car Company, 113 Front street, Marietta, O.; two-story garage, $10,000.

T. J. Petrie, Marion, Ind.; one-story garage, 40x50.

J. M. Lutz, Scranton, Kan.; two-story garage, 36x36.

A. W. Harwood, 2644 Aldrich avenue, Minneapolis, Minn.; four-story garage, 66x176.

R. D. Weakley, Central National Bank building, St. Louis, Mo.; one-story garage, 20x25.

Willis Davis, 212 East Elin street, Elchita, Kan.; one-story garage, 12x18.

J. H. Davis, Clarksburg, W. Va.; one-story garage, 40x75, $6500.

Frank Hoger, South Bethlehem, Penn.; one-story garage, 20x35.

A. M. Moreland, Bessemer building, Pittsburg, Penn.; two-story garage, 30x40, $7000.

William Rulich, 26 Clark street, Hartford, Conn.; two-story garage, 100x37.

P. McGovern, 125 Washington street, Hartford, Conn.; two-story garage, 52x52.

Harry Denny, 518 Sherman street, Watertown, N. Y.; one-story garage, 22x30.

Frank C. Soule, Syracuse, N. Y.; two-story garage, 24x30, $10,000.

William C. Doran, Bristol, Penn.; two-story brick garage, 33x83.

John Morrison, 193 West Duncannon street, Philadelphia, Penn.; one-story brick and stone garage, 16x14, $175.

Sylvester James, 1439 Bainbridge street, Philadelphia, Penn.; one-story frame garage, 12x12, to be erected at 1849 Miller street, Camden, N. J.

W. S. Eastlack, 420 Benson street, Camden, N. J.; one-story brick garage, 12x16, to be erected at 1338 Kenwood avenue.

W. H. Owens, Lebanon, Mo.; one-story garage, 75x100, $5000.

M. Simmons, Springfield, Mo.; one-story garage, 65x230, $10,000.

Martin Stamm, 4012 Juniata street, St. Louis, Mo.; one-story garage, 20x20.

H. J. Wrape, 5605 Von Verson avenue, St. Louis, Mo.; one-story garage, 22x20.

L. E. McQuay, 3208 Castleman avenue, St. Louis, Mo.; one-story garage, 18x28.

John Coultas, 950 Beach avenue, St. Louis, Mo.; one-story garage, 50x150.

A. M. Todd, 211 Kalamazoo avenue, Kalamazoo, Mich.; one-story garage, 30x61, $2500.

William Shapespeare, Kalamazoo, Mich.; one-story garage, 60x75, $4000.

Charles Stolzenback, Lima, O.; one-story garage, 20x30.

C. G. Dailey, 1502 Cardinal street, Cleveland, O.; one-story garage, 27x12, $3000.

National Electric Lamp Association, Cleveland, O.; two-story garage, 37x50.

Franz C. Warren, 767 Hippodrome building, Cleveland, O.; one and two-story garage, chauffeur's apartment and service building, 50x150.

Yellow Taxicab Company, 701 American building, Baltimore, Md.; two-story garage, $50,000.

P. C. Ruth, Manhattan building, Philadelphia, Penn.; one-story garage, 16x22, to be erected at Elkins Park, Penn.

Robert H. Henderson, 5522 Walnut street, Philadelphia, Penn.; two-story garage, 20x31, $1500; to be erected at Pittsburg, Penn.

John A. Sears, 44 West Boylston street, Boston, Mass.; one-story garage, 80x50, to be erected at Worcester, Mass.

George Van Alstyne, B. & B. building, Rochester, N. Y.; two-story garage, 22x24.

A. J. Seibert, 587 Michigan avenue, Buffalo, N. Y.; one-story garage, 33x84, $6000.

Anton Charvat, 1801 South Ashland avenue, Chicago, Ill.; one-story garage, 22x20, $1500.

Standard Oil Company, Sioux City, Ia.; one-story garage, 32x148, $8500.

J. C. O'Brien, 22 Spring street, Springfield, O.; two-story garage, 50x150, $20,000.

Gem Garage, 402 North Salem street, Dayton, O.; one and two-story garage, 130x110, $30,000.

H. McCaffrey, Norwood, Penn.; two-story garage, 74x106; to be erected at Chester, Penn.

John Dalzell, Pittsburg, Penn.; five-story garage and repair shop, 50x72, $35,000.

L. Boyden, Quincy, Mass.; one-story garage, 22x32.

Herman Mutzgar, 230 Market street, Newark, N. J.; one-story garage, $8000.

J. P. Douglas, Westfield, N. Y.; two-story garage, 30x100.

Peter Germann, 2348 Fillmore avenue, Buffalo, N. Y.; one-story garage, 20x20.

Connelly Bros., 258-260 State street, Elmira, N. Y.; one-story automobile sales and storage rooms, 40x150, $10,000.

J. G. Buskett Cattaraugus, N. Y.; two-story garage, 31x85.

William P. Whitney, 122 South Michigan avenue, Chicago, Ill.; one-story garage, 50x150, $7500.

P. Bamberger, 514 East 62nd street, Chicago, Ill.; one-story garage, 21x23, $4000.

A. J. Fisher, 1950 Irving Park boulevard, Chicago, Ill.; two-story garage, 24x28.

Percy G. Williams, Islip, N. Y.; one-story garage, 25x49, $4000; to be erected at Brooklyn, N. Y.

CONTRACTS AWARDED.

John W. De Frehm, 4226 Sydenham street, Philadelphia, Penn.; one-story brick garage, 10x18, $350; for Dr. Nevenger, to be erected at southeast corner 21st and York streets.

Joseph Thurman & Co., 92 Collom street, Philadelphia, Penn.; one-story brick and stone garage, 14x18, $400; for John Senyard, to be erected on south side of Penn street.

Fred T. Buckins, Jr., 4510 Frankfort avenue, Philadelphia, Penn.; one-story brick garage, 21x48, $1400; to be erected at southwest corner of Kensington and Germantown avenues.

Anna H. Thomas, Philadelphia, Penn.; one-story brick garage, 110x71, $4250; to be erected on east side of 51st street.

C. E. Millard, Hoisington, Kan.; one-story garage, 50x100, for Pugh & Kelley.

Henry Beetz, 2668 Nebraska avenue, St. Louis, Mo.; one-story garage, 17x29, for J. Furrer.

Hattie Harray, Chicago, Ill.; one-story garage, $6500.

J. M. Hawxhurst, 1212 Judson avenue, Evanston, Ill.; one-story garage, 24x26, $1000.

Charles Nace, Merion, Penn.; one-story brick and stone garage, 18x20, $500; for John V. Ramsden, Philadelphia.

Charles H. Ball, 5514 North Third street, Philadelphia, Penn.; one-story stone and brick garage, 20x18, $400; for M. Lacock, to be erected at 5628-30 North Third street.

Walter Koch, Beaver Dam, Wis.; two-story garage, 20x100, $5000; for Martin Mohn.

T. Esbrornsen, 1700 North 60th street, Philadelphia, Penn.; one-story brick garage, 100x125; for William Wallace, to be erected at Girard avenue and Felton street.

J. M. Fuller, Cowley County Bank building, Winfield, Kan.; two-story garage, 80x140, $10,000; for M. F. Jarvis, 921 East Ninth street.

Henry Momberger, 24 West Chase street, Baltimore, Md.; one-story garage, 40x63, $20,000; for W. D. McLaughlin.

Wisconsin Construction Company, Chippewa Falls, Wis.; one-story garage, 60x120, $6000; for Barker Auto Company.

Schmidt Brothers Construction Company, 82 West Washington street, Chicago, Ill.; one-story garage, $1000; for J. B Verler, 1306 Newport avenue.

William Pritchard, Ithaca, N. Y.; one-story garage, 33x80; for James White, 111 East Green street.

M. W. Young, Philadelphia, Penn.; one-story brick garage, 19x23, $1800; for Frank Freeman, to be erected at 6419 Overbrook avenue.

GARAGES AND REPAIR SHOPS.

The Atlantic Tire and Rubber Company, Norfolk, Va., has erected a new and modern garage.

Christian A. Kinney, Colfax, Wis., is preparing to erect a large fireproof garage and repair shop. He has sold his present garage.

The Wigger Buggy and Harness Company, Marion, Ind., will erect a service station which will be well equipped. The company is agent for the Studebaker and Overland cars.

Charles F. Hanlon, San Francisco, Cal., is planning to ereot a three-story building at the corner of Bush street at an approximate cost of $25,000.

Hoyes & Moyer, Marion, O., has purchased a lot on East Center street and the company will erect a garage and salesrooms measuring 132 by 81 feet.

J. L. Shortell, Chicago, is erecting a commercial garage at 104 South Michigan avenue.

L. F. Berteau, Big Rapids, Mich., is erecting a garage on North Michigan avenue. It measures 50 by 100 feet.

O. W. Elliot, Mobile, Ala., is erecting a garage at the corner of Houston street.

Harry Compton, Grafton, W. Va., is erecting a garage on East Main street.

Otto Garlinghouse, Tecumseh, Mich., is erecting a garage on Evans street.

F. Monteith, Elk Rapids, Mich., is building a garage.

E. Kornblaum, Brooklyn, N. Y., is erecting a one-story garage at a cost of $5000 at 1325 46th street.

The Grinell Motor Company, Grinell, Ill., is erecting a garage at an approximate cost of $7000, 74 by 100 feet, in Main street.

The D. M. Connell Company, Fall River, Mass., is completing its garage on Durfee street. The company handles the Studebaker car and Sphinx cyclecars.

The Terminal Garage Company, San Francisco, Cal., is to erect a two-story brick garage at an approximate cost of $14,000.

Henry Hoffberger, Baltimore, Md., is erecting a two-story brick garage at 430 North High street.

The Metz Garage Company, Grand Rapids, Mich., will erect a new salesroom and garage, 43 by 148 feet, in Island street. It will be a two-story and basement structure. The company handles the Chevrolet car.

The Adams-Oakland Company, Cleveland, has leased the property at 3122 Euclid avenue and will erect a two-story sales room and garage. The company handles the Oakland car.

W. H. Barnes & Son, Seattle, Wash., is erecting a two-story concrete garage on Eighth avenue at a cost of $40,000. There will be no elevators, the basement and second floors being reached by sloping runways. Each floor will contain 14,400 square feet, there being a total of 43,200 square feet in the building.

W. H. Carter, Lancaster, Cal., is building a machine shop and garage.

Frederick H. Gleason, New York City, will erect a five-story garage at an estimated cost of $100,000 on East 56th street.

Howard Williamson, Luckey, O., is erecting a garage.

The Home Service Company, Philadelphia, will erect a one-story brick garage in North Broad street, 55 by 56 feet.

Frank Johnson, New London, Conn., is erecting a garage in School street.

The Columbia Garage, Southbridge, Mass., is erecting a steel and brick building.

Lesury Brothers, Fitchburg, Mass., has erected a garage.

Dennis F. Shannon, Pittsburg, Penn., has purchased land on Magee street and will erect a garage at a cost of $20,000. He is a member of the Shannan Transfer and Storage Company.

The Willow Club Garage, North Weymouth, Mass., has purchased property on Bridge street and will erect a garage.

F. C. Borel, Jr., Philadelphia, will erect a new one-story garage at a cost of $4000 at 5425 Summer street.

The Moerlein Brewing Company, Cincinnati, is erecting a one-story brick garage on Henry street at a cost of $17,000.

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The Seaview Golf Club, Atlantic City, N. J., will erect a garage for the benefit of its members.

Harry Blackford, Findlay, O., is erecting a garage on South Main street.

P. Carney, Ilion, N. Y., of the Carney Garage Company, is erecting a garage in Main street.

The Automobile Company, Moundsville, Va., is building a garage at the corner of Seventh street. The company is agent for the Chevrolet car.

Barry Brothers, Danbury, Ia., will erect a modern brick garage, 44 by 95 feet.

Healy & Gavin, Olean, N. Y., has leased a store on North Union street and will convert it into a garage.

William D. McLaughlin, Baltimore, Md., is building a public garage in Charles street and Mt. Royal avenue. It will be one-story, 40 by 63 feet.

Anthony Lonk, Rochester, N. Y., is erecting a brick garage on Manhattan street at a cost of $15,000.

Frederick Fatzler, Newark, N. J., is erecting a garage and repair shop at 184 Badger avenue. It will be of fireproof construction and two stories. It will cost $20,000.

E. E. Caswell, Brockton, Mass., will erect a garage on Keith avenue.

ADDITIONS AND IMPROVEMENTS.

The Auto Inn and Exchange, Columbus, O., is being remodelled. The front of the building is being converted into a large sales room and a repair shop will occupy the rear. The company is located at High street and Sixth avenue.

The Morris Place Garage, Yonkers, N. Y., is having extensive improvements made to its garage on South Broadway. It is to be fireproof.

The Central Garage, Wheeling, W. Va., has remodelled its repair shop and will in future do all kinds of rebuilding and overhaul work. The company is at 1608 Wood street.

The Chattanooga Automobile Company, Chattanooga, Tenn., is enlarging its sales rooms.

The Toledo Tire and Supply Company, Toledo, O., is planning to enlarge its building, which is used for an automobile accessory and supply house. The company is at 241 Erie street.

The Louisville Transfer Company, Louisville, Ky., is planning to enlarge its business by erecting new buildings. The company is at Ninth and Green streets.

The Blackwood Tire Company, Nashville, Tenn., is enlarging its quarters at 916 Broadway. The storage room at 912 Broadway is being remodelled for the company's immediate use.

Jeup & Lindberg, Seattle, Wash., has enlarged its automobile repair shop.

The Perry Motor Supply Company, Hartford, Conn., has enlarged its store. The company carries a complete line of accessories and supplies.

R. D. Willard, Philadelphia, local manager of the Harry S. Houpt, Inc., has enlarged his quarters at 250 North Broad street. He handles the Mitchell line for that territory.

The Haskell Garage, Providence, R. I., at 21 Sackett street, is planning an addition to its garage, 40 by 67 feet and 20 by 30 feet, in the form of an ell.

The Messner Garage, Benton Harbor, Mich., is making improvements to its garage by adding a second story.

The Electrical Construction and Motor Company, Findlay, O., which recently established branches at Fostoria and Norwalk, is building a large addition to its garage at Findlay.

The Dundee Garage, Dundee, N. Y., is making extensive improvements. The company has razed the rear of the building and will replace it with a concrete fireproof construction, 42 by 90 feet. A repair shop 25 by 40 feet will also be built. John J. Murphy is the proprietor.

The Marshfield Hardware and Automobile Company, Marshfield, Wis., has added two stories to its garage.

L. L. Wetherell, Philadelphia, is making improvements to his garage at 4914 North Broad street.

J. H. McCullough & Son, Philadelphia, automobile supply jobber, has enlarged its warehouse on account of increasing business. The company is at 219 North Broad street.

The Wappinger Falls Garage, Wappinger Falls, N. Y., is making extensive improvements.

The Ollinger Motor Car Garage Company, Salina, Kan., is remodelling and enlarging its garage.

The Fuller-Ashley Company, Syracuse, N. Y., has completed an addition to its garage at 119 West Taylor street, to be used for a paint and repair shop. The company now has a floor space of 10,000 square feet.

The Webster City Automobile Company, Webster City, Ia., is having extensive improvements made to its building in East Second street.

The Albany Garage Company, Schenectady, N. Y., is enlarging its sales rooms at 740 State street. Raymond F. Rifees is general manager.

Duncan Welsh, New Middleton, O., has leased the Maccadee hall and will remodel it for a garage.

The Electric and Auto Company, Lorain, O., which conducts a garage and sales agency, has bought a lot in the rear of its garage on which a storage building will be erected.

O. L. Linn and R. S. Scott, Marshall, Mich., have leased the Brewer building and will convert it into a show room. Briscoe and Argo cars are sold. The company is in North Eagle street.

Toonen-Barlament-Wright Company, DePere, Wis., is now occupying an addition to its garage.

The Grand Motor Car Company, St. Louis, Mo., is having its sales rooms at 1617-19 Jefferson avenue remodelled. The company has the agency for Auburn cars.

The Koehler Garage, Marshfield, Wis., has completed its alterations and improvements.

The Haney-Gasper-White Company, Algoma, Wis., has erected a large addition to its garage, which will be a repair shop

The Electrical Construction and Motor Company, Findlay, O., will erect a large addition to its garage. The company has branches at Fostoria and Norwalk.

The City Garage, Onaway, Mich., is being remodelled.

The Enterprise Garage, New Brunswick, N. J., is making extensive improvements to its show room. Ford and Studebaker cars are handled.

The South Side Motor Station, Cedar Rapids, Ia., is enlarging its garage. The latest type of machinery will be installed.

Bryant Brothers, Centerville, Ia., is to erect an addition to its garage in 14th street.

R. L. Collopy, Philadelphia, is making extensive improvements to his garage at 427 Queens lane.

The Trist Auto Company, Pocatello, Ida., is enlarging its garage on West Center street.

John Lawrenson, Westbrook, Me., is enlarging his garage.

The Winton Motor Car Company, St. Paul, Minn., has enlarged its quarters at 208 West Fifth street by taking over the entire building.

D. E. Snider, Middletown, O., has purchased property in Wall street and will erect a garage. He represents the Ford cars.

J. Ariman, New York City, will erect a garage at 425 East 80th street at a cost of approximately $20,000.

The Matthews Garage Company, Mobile, Ala., is erecting a garage in 24th avenue.

W. P. Hagy & Son, East Graham, W. Va., is building a garage and carriage shop in Wister street.

R. B. Jean, Shelbyville, Tenn., has purchased property in Depot street and will erect a garage and automobile repair shop

Kissner & Husted, Nellie, O., is to build a three-story brick garage in Main street. Ford and Overland cars are represented.

G. W. Rodehaver, Berkeley, Cal., is building a garage in Berkley way, near Shattuck avenue, at a cost of $10,000.

Harvey Perkins, Moundsville, W. Va., is erecting a garage

John Coultas, St. Louis, Mo., is to erect a one-story modern garage at 6131 Delmar boulevard. It will cost $10,000.

Alfred Yates, Ayer, Mass., contemplates the erection of a garage in Maple stret. He will carry a full line of automobile supplies.

MISCELLANEOUS.

The Toledo Central Garage, Toledo, has leased for 10 years a four-story and basement building at 232 Huron street. It will be remodelled and equipped with modern machinery and improvements for a day and night garage, which will have accommodations for 300 cars.

The Boone-Buick Auto Company, Boone, Ia., is erecting a building in Sixth street.

The Clift Motor Company, Bellingham, Wash., is erecting a building on Central avenue.

The Auto Supply Company, Chattanooga, Tenn., is erecting a building in which the latest vulcanizing equipment will be installed. The company will handle the Smith and Red Tred Fisk tires.

The Fogle Brothers Company, Winston-Salem, N. C., is erecting a building for the Motor Company.

The Duval Motor Supply Company, Hutchinson, Kan., is erecting a brick building in East Sherman street.

The Lombard Works and Supply Company, Augusta, Ga will erect a large assembly plant for automobiles in Kollock street.

The Kelly-Springfield Tire and Rubber Company, Wichita, Kan., is erecting a fireproof building in South Lawrence avenue. It will cost approximately $6000.

The Winton Motor Car Company, Detroit, Mich., is erecting a sales room in Woodward avenue. The building will be two stories, 71 by 212 feet.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

Automobiles, Motors and Accessories. No. 15,214—The commercial agent of the bureau of foreign and domestic commerce in New York City reports that he has been advised that a representative of a large firm in Norway has sailed for the United States for the purpose of establishing commercial relations with American manufacturers and exporters of automobiles, motors and accessories. The name and address of the representative may be had on application to the bureau of foreign and domestic commerce, or its branch offices.

Electrical Appliances, Rubber Goods for Automobiles, Etc. No. 15,243—A firm in South America has informed an American consul that it desires to import electrical appliances in general, telephone and telegraph supplies, rubber goods for automobiles, pharmacies and industrial purposes. Correspondence should be in Spanish.

Automobiles and Trucks. No. 15,385—An American consular officer in Central America reports a possible market for automobiles or motor trucks. He transmits the names and addresses of two business firms in his district which may be in the market for motor trucks.

Automobile Accessories. No. 15,442—The bureau of foreign and domestic commerce has received a letter from a firm in the United States stating that one of its customers in South America desires to receive propositions from manufacturers of all accessories for automobiles and, in general, tools and water proof canvass. Prices and terms of sale, together with samples, should be sent at once.

Automobiles, Auto Trucks and Lighting Fixtures. No. 15,580—A business man in southern Europe has informed an American consul that he wishes to import automobiles, auto trucks and lighting fixtures. Catalogues and correspondence should be in Spanish.

Aviation Motors. No. 15,599—An American consular officer in one of the neutral European countries has requested catalogues, names and addresses of manufacturers of aviation motors and accessories.

Motor Cars and Motorcycle Accessories. No. 15,674—The bureau of foreign and domestic commerce is in receipt of a letter from a business man in Italy stating that he desires to secure agencies for the exclusive sale in Italy of motor car and motorcycle accessories.

Rubber Tires. No. 15,696—A business man in Denmark informs an American consul that he is in the market for large quantities of rubber tires suitable for automobiles and bicycles. Correspondence may be in English.

Machinery. No. 15,727—An American consular officer in Italy reports that a business man in his district desires to be put in communication with firms manufacturing machinery for making automobiles and machines for making springs.

Motorcycles. No. 15,735—An American consular officer in Portugal states that a firm in his district wishes to represent an American-made motorcycle which is not now represented in the markets of that country. Correspondence should be in French or Portuguese.

Gasoline, Grease, Paints and Varnishes. No. 15,761—A firm of commission merchants in New York informs the bureau of foreign and domestic commerce that its agent in Europe wishes to communicate with American manufacturers and exporters of gasoline, grease, paints and varnishes.

Cheap Motor Cars and Motorcycles. No. 15,805—An American consular officer in Spain reports that a merchant in his district wishes to import cheap motor cars and motorcycles. It is desired to secure cars valued at less than $1000 each. Correspondence, literature, etc., should be in Spanish.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡light car.—Add to and Correct Your Mailing List.

ALABAMA.

Dothan—*Koehler, W. L. Brown.

ARIZONA.

Phoenix—Partin-Palmer, A. F. Kenyon.

ARKANSAS.

Fort Smith—Franklin, John Witherspoon.

CALIFORNIA.

Calexico—Case, A. C. Baskin.
Coalinga—Oldsmobile, Martin's Garage.
Los Angeles—Ohio, Washington Street Electric Garage.
Simplex, Simplex and Mercer Pacific Co., Coast Agency.
Needles—Oldsmobile, H. E. Benedict.
Oakland—Ohio, Huey-Hood Motor Car Co.
*Signal, Osen & Hunter Auto Co.
Petaluma—Oldsmobile, A. J. Wilen.
Sacramento—Oldsmobile, F. C. Peters.
San Francisco—Oldsmobile, Oehn Garage, 621 Valencia St.
Simplex, Simplex and Mercer Pacific Coast Agency.
Santa Ana—Dodge, D. E. Reid.
Ventura—Moon, C. H. Judd.

COLORADO.

Denver—Allen, George E. Hannan.
Chandler, A. T. Wilson Auto Co.
Haynes, E. J. Johnson.
Hupmobile, J. S. Morrison Auto Co.

CONNECTICUT.

Bridgeport—Crow-Elkhart, Thomas Moore.
*Koehler, Elm Auto Co.
Hartford—Case, George H. Weeks & Son.
Chevrolet, Harry Starkie.
Davis, Asylum Hill Garage.
Stutz, F. L. Caulkins & Co.
Middletown—Stutz, F. L. Caulkins & Co.
New Britain—Dodge, W. J. Morrin.
New Haven—Moon, Reichert Auto Co.
New London—Case, J. F. Day.
Stamford—Moon, H. Hendrie.
Waterbury—Moon, A. G. O'Leary.
Wethersfield—Allen, J. M. McDonald Co.
Velie, J. M. McDonald Co.

DISTRICT OF COLUMBIA.

Washington—Allen, Motor Tire and Sales Co.

FLORIDA.

Jacksonville—†Trumbull, Portage Tire Co.
Miami—Lewis, A. H. Bouldin.
Tampa—Westcott, Westcott Auto Sales Co.

GEORGIA.

Atlanta—Maxwell, W. J. Danbury Co.
Paige, W. J. Danbury Co.
Remington, Arlington Motor Co.

IDAHO.

Twin Falls—King, F. A. Nelson.

ILLINOIS.

Altamont—Case, Frank Schoitterbeck.
Anna—Oldsmobile, R. Tuthill.
Bloomington—Davis, Davis Motor Car Co.
Champaign—Westcott, J. L. Weise.
Chicago—Buick, J. W. Voight, 3551½ Main St.
Enger, Harry Newman.
Lewis, Simmons Motor Co.
Premier, Western States Auto Co.
Simplex, Tennant Motor, Ltd.
Creston—Case, Louis Vesta.
Decatur—Davis, F. W. Webbs.
*Koehler, Rehling Bros.
Dixon—KisselKar, Robert Nelson.
Oldsmobile, Wilson Auto Co.
Effingham—Metz, George F. Walters.
Elksville—Pullman, C. T. Bass.
Farmer City—Oldsmobile, Hender Bros.
Huntley—Regal, F. A. Weltzien.
Lacon—Haynes, J. R. Baisley & Son.
Madison—Metz, A. V. Wallace.
Mazon—Regal, T. E. Kelly.
Minonk—Davis, Minonk Central Garage.
Mt. Carroll—Case, Walter E. Brown.
New Baden—Pullman, J. J. Koch.
Noble—Metz, Ernest Warren.
Oak Park—Davis, W. A. Pillinger.
Pana—*Koehler, F. P. Renz.
Pekin—Davis, Pekin Palace Livery Co.
Peoria—Westcott, Westcott Garage.
Peru—Regal, Brunner Fdy. & Mch. Co.
Pontiac—Case, William Algoe.
Davis, C. C. Johnson.
Stanford—Davis, Stanford Auto Co.
St. Jacobs—Pullman, St. Jacobs Hdw. Co.
Sycamore—Case, Loptein Bros.

INDIANA.

Batesville—*Koehler, Meyer Hdw. Co.
Connersville—Lexington, Lexington-Howard Co.
Dyer—Case, Fitch Bros.
Farmland—Oldsmobile, Earl Burworth.
Fort Wayne—Westcott, D. H. Harris.
Huntington—Westcott, People's Garage.
Indianapolis—Cole, Cole Sales Co. of Indiana.
Oldsmobile, Wildhack Co.
Scripps-Booth, E. H. Wilson.
Sphinx, H. Hill and D. B. Grant.
Stutz, Conduit Automobile Co.
Madison—Metz, A. V. Wallace.
Marion—Saxon, H. V. Smith.
Moreland—Davis, M. A. Clark.
Muncie—Oldsmobile, Bourman & Shaffer Sales Co.
Pendleton—Davis, J. Banefield.
Shelbyville—*Koehler, Carson & Morrison.
Tipton—Davis, J. E. Lower.
Walton—Lewis, D. F. Hendrixon.

IOWA.

Belmont—Moon, Jones & Harbets.
Bloomfield—Moon, Bruce & Bonar.
Buffalo Center—‡Glide, Clark Bros.
Burlington—Westcott, Cable Motor Car Co.
Cedar Rapids—KisselKar, KisselKar Co.
Conrad—Case, Case Motor Car Co.
Council Bluffs—*Koehler, Marion Auto Co.
Eagle Grove—Regal, William Fletcher.
Fairfield—Oldsmobile, Edwin S. Thomas.
Fort Dodge—Studebaker, Mitchell Imp Co.
Westcott, Knight Motors Co.
Fort Madison—‡Glide, Winke Bros.
Grinnell—‡Glide, J. E. Alexander.
Ida Grove—KisselKar, J. M. Rees.
Keystone—Imperial, Miller & Shreeves.
Lansing—Case, Hufschmidt & Wendel.
Le Mars—‡Glide, Ernsterhoff Auto Co.
Luana—Moon, Lindroth Auto Co.
Mason City—Imperial, Snyder & McCall.
Moon, Harris Auto Co.
New Hampton—Davis, J. L. Curtis.
Ottumwa—Lewis, Snow Auto Co.
Sioux Falls—KisselKar, Levitt & Reiley.
Westgate—Imperial, Tegtmeier Bros.
Yale—Regal, N. M. Caple.

KANSAS.

Arfona—Case, Achelpohl & Bringer.
Caldwell—Case, J. Dvorah.
Great Bend—Imperial, E. E. Cook.
Moon, Great Bend Hdw. & Imp. Co.
Hutchinson—Case, E. H. Steinford & Rexrood Eng. Co.
Kansas City—White, Kansas City White Co.
Kingman—Studebaker, Frant & Oakes.
Liberal—Moon, W. O. Woods.
Topeka—Marmon, Independent Auto Co.
Regal, Independent Auto Co.
*GMC, Rehkopf Bros.

KENTUCKY.

Harrodsburg—*Koehler, Ingrams Garage
Louisville—*Signal, Louisville Motor Co.
Winchester—Case, People's Motor Car Co.

LOUISIANA.

New Orleans—Chandler, Fairchild Auto Co.
*Denby, Fairchild Auto Co.
Oldsmobile, M. Zilberman.
Westcott, M. Zilberman.

MAINE.

Anson—Dodge, George Hovey.
Athens—Dodge, George Hovey.
Bangor—King, Utterback-Gleason Co.
Brighton—Dodge, George Hovey.
Camden—KisselKar, W. C. Howe.
Cornville—Dodge, George Hovey.
Madison—Dodge, George Hovey.

MARYLAND.

Baltimore—King, Randall Mfg. Co.
McFarlan, Rittenhouse-McFarlan Co.
Simplex, Rice Garage.
Preston—Oldsmobile, H. M. Hollis & Co.

MASSACHUSETTS.

Boston—Allen, E. A. Gilmore Co.
Apperson, Brown-Apperson Co.
Coey, E. P. Blake.
Crow, A. P. Sackley
Empire, Leo Spigelmilch.
Grant, H. S. Waite Co.
Lewis, E. A. Gilmore Co.
Maxwell, J. W. Bowman Co.
Ohio, D. C. Tiffany Co.
Paterson, R. W. Vining.
Premier, Eads-Loud Co.
Regal, Charles A. Robinson.
Simplex, G. W. Canterbury, Inc
*Stewart, H. Ross Maddocks.
*Denby, Denby Motor Car Co.
*Garford, R. E. Taylor Co.
*GMC, Fill-Wright Co.
*Mais, Myer Abrams Co.
*Peerless, Beacon Motor Car Co.
†Millburn, E. Y. Stimson.
Campello—Detroiter, Franklin Motor Co.
Cheshire—*Koehler, S. W. Curtis.
Fall River—Maxwell, Thomas Paquin.
Oldsmobile, Pocassett Gar. and Mch. Co.
*GMC, Pocassett Gar. and Mch. Co.
*Mais, George E. Bennett, Jr.
Great Barrington—KisselKar, Conolly & Minard.
Lynn—Haynes, W. S. Russell Co.
Malden—Haynes, Malden Centre Garage
Milford—Ford, Souhegan Auto Co.
Monson—*Koehler, Monson Garage.
New Bedford—‡Trumbull, G. P. Williams
North Adams—Ford, Van Sleet Motor Co.
Saxon, A. S. Williams.
Rockland—Trumbull, C. H. Hubbard & Sons.
Salem—KisselKar, C. R. Williams.
Somerville—Ford, Hill-Michle Co.
Springfield—Hudson, Harrington-Gifford Co.
Woburn—Overland, J. H. Bates & Son.
Worcester—Detroiter, Louis Bellinger.
White, White Motor Co.
*Vim, Franklin Square Garage.

MICHIGAN.

Allegan—‡Cornelian, V. M. Ferris.
Battle Creek—Imperial, Independent Garage.
Haynes, L. S. Knowles.
Oldsmobile, Battle Creek Auto Sales Co.
Saxon, Frank Palmer.
*Signal, B. N. Beedon.
Brighton—Reo, W. D. Pitkin & Son.
Caro—Dodge, Smith & Sutton.
Ford, Smith & Sutton.
Oldsmobile, Smith & Sutton.
Cheboygan—Monroe, Cheboygan Auto Sales Co.
Studebaker, Cheboygan Auto Sales Co.
Davison—Dodge, Art Cullen.
Detroit—Empire, Addison Garage.
KisselKar, Addison Garage.
Monarch, Addison Garage.
Ohio, Ohio Electric Sales Co.
*Signal, Moritz-Mullin Co.
*O. K., Arthur Power.
†Millburn, Edward L. Rumsey.
Gladstone—Lewis, Holmgren Auto Co.
Grand Rapids—Remington, Remington Sales Co.
Glide, F. P. Oswald.
Holland—*Jeffery, Fred W. Jackson.
Iron River—Case, Iron River Motor Car Co.
Kalamazoo—‡Cornelian, Kalamazoo Auto Sales Co.
Manistee—Ford, Traverse Auto Co.
Oldsmobile, Charles M. Otis.
Reo, Traverse Auto Co.
Marquette—Ford, E. W. Jones.
Marshall—Briscoe, O. L. Limm and R. S. Scott.
†Argo, O. L. Limm and R. S. Scott.
Montmorency—Ford, George F. Liston.
Ovid—Ford, G. F. Smith.
Saginaw—Dodge, E. L. Black.
†Argo, Electric Vehicle Service Co.
†Borland, Electric Vehicle Service Co.
†Broc, Electric Vehicle Service Co.
Sebewaing—Dodge, Joseph Braun.
St. Joseph—*Signal, Burkhard Bros.
‡Sphinx, S. A. Samoore.
St. John—Maxwell, Moss Garage.
Studebaker, Moss Garage.
Wayne—*Signal, Moritz-Mullen Co.

MINNESOTA.

Annadale—Alter, C. H. Schriver.
Chrisholm—Oldsmobile, Oscar Pohjonen.
Lake Crystal—Case, William R. Roberts.
Minneapolis—Davis, White Garage.
Lewis, A. F. Chase & Sons Co.
Remington, G. L. Moore.
Velie, R. C. Smith Automobile Co.
Westcott, Minneapolis Auto Co.
New Ulm—KisselKar, F. H. Retzlaff.

MISSOURI.

Anglum—Metz, E. R. Goddard.
Birito—Pullman, Charles A. Arnold.
Bolcknow—Moon, G. E. Middleton.
Hannibal—Westcott, E. C. Long Mfg. Co.
Holstein—Metz, E. F. Litchenberg.
Kansas City—Cole, Myers-Ebersole.
Velie, Velie-Thorp Motor Co.
Macon—Pullman, Reichel Motor Co.
St. Louis—Grant, Hudson-Phillips Co.
Davis, Cherokee Automobile Co.
*KisselKar, Colonial Motor Car Co.
*Knox Tractor, West End Auto Rep Co.
Troy—Pullman, J. M. Elliot.

MONTANA.

Billings—Haynes, Todd-Beaver Auto Co.
Butte—*Signal, Northern Motor Sales Co.

NEBRASKA.

Omaha—Davis, Wilson Auto Co.
Hupmobile, W. L. Huffman Auto Co.
Stearns-Knight, McIntyre Auto Co.

NEW HAMPSHIRE.

Milford—Ford, Souhegan Auto Co.
Nashua—Dodge, Mercer Bros.
Ford, Nashua Auto Co.

NEW JERSEY.

Elizabeth—Ohio, Elizabeth Auto Co.
Englewood—Oldsmobile, Gregory Garage.
Glen Ridge—Oldsmobile, Glen Ridge Auto Co.
Jersey City—Lewis, Junction Motor Co.
Newark—Case, North Grove Garage.
Maxwell, Light Car Dist. Co.
Saxon, Hang & McLaren.
Simplex, J. M. Quinby & Co.
‡Scripps Booth, Light Car Dist. Co.
Trenton—Davis, F. P. Holz.

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Washington—*Koehler, M. A. Pierson.
Whitehouse—*Koehler, Burdett Bros.
Woodstown—Detroiter, E. G. Peterson.

NEW MEXICO.

Albuquerque—‡Glide, F. F. Trotter.

NEW YORK.

Albany—Simplex, Albany Garage Co.
Amityville—Case, Amityville Garage.
Auburn—Moon, Moon Garage.
Binghamton—Moon, S. & O. Motor Co.
Brier Hill—Case, A. D. Griffin.
Buffalo—Apperson, Poppenberg Motor Car Co.
Case, C. R. Cool.
Lewis, National Motor Car Co.
Simplex, Simcott Motor Sales Co.
*Signal, A. J. Sanderson.
Chester—Oldsmobile, Murray's Garage.
Colfax—Case, G. B. Carter & Son.
Cortland—Case, C. M. Smith.
East Hampton—Case, L. O. Edwards.
East Port—Case, Louis S Tuttle.
Flushing—Case, Daniel Rapalje.
Grantsville—Case, J. R. Ellason.
Greenport—Case, John Kluge.
Hempstead—Case, National Garage Co.
Hicksville—Case, Charles A. Reinhard.
Hurleyville—Haynes, A. J. Prince & Son.
Islip—Case, Gates Auto Garage.
Madalin—Oldsmobile, Charles M. Otis.
Reo, Traverse Auto Co.
Marlboro—Imperial, J. A. Du Bois.
Millerton—Case, Millerton Garage.
Mineola—Case, Thomas F. Roche.
New York—Enger, Mutual Motor Sales Co.
Inter-State, Garland Auto Co.
Oldsmobile, J. G. Simmons Auto Co., 415 E. 149th St.
Niagara Falls—Briscoe, E. P. Mallory.
Chalmers, Power City Auto Co.
Olean—KisselKar, Lester & Thomas.
Oneonta—Buick, R. W. Hume.
Oyster Bay—Case, Sagamore Garage Co.
‡Trumbull, Sagamore Garage Co.
Quoque—Case, Charles W. Berry.
Richland—Case, W. O. Paddock.
Rochester—Lewis, W. M. Kipp.
Schenectady—Hudson, Stratton-Rose Co.
Southold—Case, Southold Garage.
Syracuse—Detroiter, Central City Auto Sales Co.
Mitchell, Van Dyke Bros.
Troy—Case, Troy Carriage Works.
Hudson, Listman-Stratton Works.
Utica—Chevrolet, John Telfer, 44 Blandina St.
Watertown—Case, George H. Blatz

NORTH CAROLINA.

Winston-Salem—Franklin, Motor Co

NORTH DAKOTA.

Clio—Haynes, F. G. Covington Auto Co.
Fargo—Studebaker, King & Dahl.
Landa—Oldsmobile, O. F. Olson.

OHIO.

Alexander—Empire, S. S. Anderson.
Ansonia—Maxwell, James Lephart.
Ashland—Buick, Topping's Garage.
Ashtabula—Oldsmobile, Windemere-Euclid Garage Co.
Pullman, Kaln & Brockway.
Athens—*Koehler, F. E. Goldsberry.
Bowerstown—Buick, W. R. Penn Co.
Bowling Green—Maxwell, George E. Grant.
Oakland, George E. Grant.
Bucyrus—Ford, A. L. Holloway.
Canal Winchester—Empire, T. G. Glick.
Canfield—Buick, C. S. Dodd.
Christiansburg—Regal, Bright & Neal.
Cincinnati—*Koehler, Cochran & Co.
Circleville—Buick, Spangler Auto Co.
Ford, Noecker & Brehmer.
Maxwell, Clifton Auto Sales Co.
Pilot, Joseph Metzger.
Cleveland—Apperson, Eiseman Auto Co.
Cartercar, Cartercar Sales Co.
Chevrolet, Hamilton Motor Car Co.
Dodge, Neighbors Motor Co.
Franklin, Eckenroth Sales Co., 621 Frankfort Ave.
Haynes, Cleveland Motor Car Co.
Hudson, Hudson Stuyvesant Co.
Imperial, Eisman Auto Co.
KisselKar, Eisman Auto Co.
Lewis, Eisman Auto Co.
Pierce-Arrow, Weaver-Brownlee Co.
Reo, Auto Sales Co., 1121 Chestnut St.
Saxon, Euclid Square Supply Co.
*Krebs, National Garage Co.
*Signal, Curtis Bros.
*Vim, Brasher Motor Car Co.
†Milburn, Homer D. Haupt.
Clyde—KisselKar, W. A. Roush & Son.
College Corners—Maxwell, Charles Kirkpatrick.
Columbus—Chevrolet, Daniel Motor Car Co.
Moon, W. W. Muzzy Garage.
Westcott, Westcott Motor Sales Co.
Coshocton—Chevrolet, Crowthers Auto Sales Co.
Maxwell, Crowthers Auto Sales Co.
Studebaker, Crowthers Auto Sales Co.
Dayton—Saxon, Borchers Carriage & Auto Co.
Delaware—Buick, J. J. Neville.
Empire, H. W. Lennox.
Ford, J. J. Neville.
Studebaker, C A. Walte.
Dexter City—Empire, Patton & Patton.
Edison—Empire, C. O. Wells.
Frazersburg—Buick, A. T. Wood.
Fredericktown—Empire, C. A. Berry.
Greenville—Dodge, Helman & Jefferies Agency.
Hamilton—Reo, West Side Motor Co.
Hebron—Hupmobile, C. A. Pence.
Westcott, C. A. Pence.
Johnstown—Ford, Patton & Bros.
Ladi—Buick, Sanford & Hohn.
Lancaster—Buick, L. E. Huddle.
Dodge, Martin Hdw. Co.
Maxwell, Star Garage.
Studebaker, Martin Hdw. Co.
London—Briscoe, Madison County Auto Co.
Buick, E. P. Chenoweth.
Inter-State, Madison County Auto Co.
King, Madison County Auto Co.
Louisville—Oldsmobile, J. G. Wolfe.
Mansfield—Cadillac, Cadillac Co.
Marietta—Oldsmobile, Jacob Spindler, Jr.
Marion—Maxwell, William Rhoads.
Marshalltown—Moon, Abbott & Son.
Mechanicsburg—Ford, Culbertson Bros.
Middlebranch—Oldsmobile, J. H. Werner.
Mt. Gilead—Buick, Wilson & Bradford.
Mt. Vernon—Buick, Sapp Bros. & Ward.
Empire, A. L. Rawlinson.
Ford, Auto Inn.
Overland, Auto Inn.
Newark—Briscoe, Samuel Forsythe.
Dodge, Hess Automobile Co.
Ford, Hess Automobile Co.
Maxwell, C. W. Stevens.
Studebaker, Samuel Forsythe.
New Concord—Buick, J. H. McKinney.
Norwich—Buick, W. C. Geyer.
Studebaker, W. C. Geyer.
Oberlin—Buick, L. B. Williams.
Orient—Empire, T. D. Poulson.
Ripley—*Koehler, Cochran & Co.
Springfield—Studebaker, King Garage.
Sunbury—Ford, T. B. Rosenbrans.
Tiffin—Oldsmobile, C. L. Fifer & Co.
Toledo—Grant, Grant Motor Sales Co.
Urbana—Ford, Frank Ganson, Jr.
Maxwell, Englehart's Garage.
Warren—Buick, W. H. Marsh.
Warsaw—Buick, E. M. Wright.
Wilmington—Buick, Wilmington Auto Co.
Ford, Wilmington Auto Co.
Youngstown—Allen, F. M. Mayberry.
Moon, Regal Sales Co.
Zanesville—Buick, Wedge Garage.
Cadillac, Wedge Garage.
Dodge, Wedge Garage.
Ford, Harvey's Garage.
Hudson, Charles Fritz.
Maxwell, H. Schubach.
Studebaker, Charles Fritz.
†Detroit, Central Garage.

OKLAHOMA.

Buffalo—Case, C. R. Cool.
Cordell—Krit, C. H. Murdock.
Saxon, C. H. Murdock.
Oklahoma City—Oldsmobile, Acme Motor Car Co.
Tulsa—Dodge, E. Westerman.

PENNSYLVANIA.

Beaver Falls—Herff Brooks, G. S. Hunter.
Clearfield—Haynes, Wallace Garage.
Curtisville—KisselKar, M. M. Snyder.
Douglasville—Detroiter, John C. Egolf.
Erie—Alter, National Garage.
Hazelton—Haynes, Adam Aldan.
Regal, Spruce St. Garage.
Horsham—Westcott, T. M. Tyson.
Houtzdale—*Koehler, Capitol Motor Car Co.
Lancaster—KisselKar, William S. Baker
Latrobe—Oldsmobile, Rose & Steele.
Lebanon—Dort, Michael Dissinger, N. 9th St.
Saxon, A. R. Koch.
Lewistown—Haynes, John C. Prettyleaf, Jr.
Mechanicsburg—Oldsmobile, H. J. Sheeley.
Mt. Union—Herff-Brooks, F. H. Culver.
Perryopils—Oldsmobile, D. & S. Garage.
Philadelphia—Apperson, W. Taylor.
Briscoe, Gibson Auto Works.
Maxwell, Sterling Motor Car Co.
†Milburn, R. S. Pullen.
Pottsville—Haynes, Joseph Davenport.
Reading—Oldsmobile, Pennsylvania Garage.
*Koehler, S. A. Stein.
Rummel—Moon, Rummel Auto Co.
Saltsburg—Oldsmobile, J. W. Woodend.
Scranton—KisselKar, Central Auto Co.
Dodge, Conrad Bros.
Ford, Conrad Bros.
Sheffield—Oldsmobile, John G. Cochran.
Tamaqua—Haynes, Tamaqua Auto Garage and Repair Co.
Waynesboro—King, Owen Shank.
West Newton—*Koehler, McKennery & Britton.
Wilkesbarre—Chandler, Frank F. Matheson.
York—Dodge, J. W. Richley Auto Co.

RHODE ISLAND.

Providence—*Koehler, Capitol Motor Car Co.

SOUTH DAKOTA.

Aberdeen—Haynes, T. E. Payne.
Emery—Haynes, J. P. Relghling.
Hudson—Haynes, S. F. Hoffman.

TENNESSEE.

Clarksville—*Koehler, Clarksville Auto and Repair Co.
Nashville—Cadillac, Cadillac Sales Co. of Nashville.
*Republic, Hatsfield Auto Co.
KisselKar, W. Howard Douglas.

TEXAS.

Canyon—Moon, Grundy & Guthrie.
Corsicana—Saxon, J. H. Lee.
Dallas—Saxon, Saxon Sales Co.
El Paso—Chandler, Lone Star Motor Co.
Houston—Apperson, Young & Dwire.
*Vim, Magnolia Motor Sales Corp.
Lockhart—Moon, E. H. Lipscomb.

UTAH.

Grantsville—Case, J R. Ellason
Logan—Buick, Blair Motor Co.
Dodge, Blair Motor Co.
Ford, Kimball Auto Co.
Ogden—Cadillac, Cadillac Sales and Ser. Co.
Oldsmobile, L. P. Wright.
*Willys-Utility, R. E. Taylor Co.
Richmond—Oldsmobile, Blair Auto Co.
Salt Lake City—Chandler, C. A. Quigley.
Chevrolet, J. P. Fowler Co.
Metz, A. A. Sims.
Monroe, J. P. Fowler Co.
Utah—*GMC, Fell Wright Co.

VERMONT.

Brandon—Herff-Brooks, F. R. Barker.
Poultney—Saxon, Russell Williams.
Rutland—Saxon, Rutland Mch. Auto Co.

VIRGINIA.

Charlottsville—*Koehler, Charlottsville Hardware Co.
Chilhowie—Chevrolet, J. L. Vance & Co.
Ford, J. L. Vance & Co.
Studebaker, J. L. Vance & Co.
Cumberland—Case, Cumberland Garage.
Eastville—Oldsmobile, Eastville Auto Co.
North Emporia—Case, R. T. Taylor.
Staunton—Oldsmobile, J. H. Schultz.

WASHINGTON.

Almira—Reo, J. M. Johnson.
Bellingham—Oldsmobile, Bay City Motor Car Co.
Colfax—Case, G. B. Carter & Son.
Reo, S. E. Hunt.
Colton—Overland, S. Swenson.
Columbia—Cadillac, Wood & Lane.
DePere—R-C-H, George Bergstrom.
Fairfield—Reo, Adams Bros.
Lincoln—Studebaker, Eastman Motor Car Co.
Lynden—Maxwell, A. A. Bausman.
Malden—Maxwell, L. F. Rohleder.
Rosalia—Dodge, Rosalia Auto Co.
Seattle—Hudson, Northwest Motor Co.
Moon, J. C. C. Morris.
Pilot, Barager & Stratton.
Spokane—Franklin, Franklin Auto Sales Co.
Steptoe—Maxwell, T. A. Bennett.
Tacoma—Ford, Sullivan & Volk.
Dodge, Griffith Motor Co.
Maxwell, Tacoma Motor Car Co.
Studebaker, Cadillac Auto Sales Co.
Thornton—Hudson, G. F. Hodgson.
Maxwell, T. A. Bennett.
Uniontown—Overland, S. Swensen.

WEST VIRGINIA.

Huntington—Oldsmobile, Chester T. Robert.
Marlington—Haynes, C. H. Copenhaver.
St. Marys—Oldsmobile, G. K. Riggs.
Wheeling—Briscoe, Union Auto Co.
Dodge, H. S. Sands Elec. & Mfg. Co.

WISCONSIN.

Abbottsford—‡Sphinx, Stroota Hdw. Co.
Algoma—Ford, Rider & Nesemann.
Saxon, Rider & Nesemann.
Studebaker, Rider & Nesemann.
Appleton—Ford, Appleton Ford Co.
Ashuppun—‡Sphinx, William F. Machus.
Battle Creek—‡Sphinx, August Brandt.
Bloomington—Allen, Knapp & Hillary.
Cedarburg—KisselKar, Glen Rex.
‡Sphinx, Theodore A. Groth.
Chilton—‡Sphinx, Steffes & Steffes.
Clymen—‡Sphinx, Morgan & Young.
Cobb—‡Sphinx, Gibbs Bros.
Cuba City—Apperson, Hein Bros.
R-C-H, Hein Bros.
Denmark—‡Sphinx, Kriwanek Bros.
Dodgeville—*Koehler, Metropolitan Auto Co.
Durand—Franklin, Unswer & Hubbard.
Mitchell, Unswer & Hubbard.
Regal, Unswer & Hubbard.
Edmund—‡Glide, Daniel Lee.
Fort Atkinson—Chevrolet, Vance & Roos.
Green Bay—Grant, West Side Garage.
‡Sphinx, Hooker & Kittell.
Hillsboro—Case, Richard Bros
Johnson Creek—‡Sphinx, Johnson Creek Auto Co.
Lancaster—‡Glide, W. A. Jerrett.
Lena—Case, N. C. Netzer.
Marshfield—Grant, Hugo Wegener.
KisselKar, Hugo Wegener.
Milwaukee—Empire, Hughes Motor Car Co.
Grant, Diever-Nelson Co.
‡Scripps-Booth, Hughes Motor Car Co.
Monroe—Buick, Geiger, Fasser & Lynch.
Ford, Geiger, Fasser & Lynch.
Hudson, Geiger, Fasser & Lynch.
Reo, Geiger, Fasser & Lynch.
Neenah—Oldsmobile, Harvey Brown.
Neosho—‡Sphinx, G. A. Franke.
New Glarus—Case, Hoesly & Hoesly.
New London—Apperson, W. F. Block.
R-C-H, W. F. Block.
Park Falls—Case, J. B. Saunders.
Princeton—Sprinx, Erick Mueller.
Pulaski—‡Sphinx, F. & P. Tafel.
Racine—Buick, Laux & Smader.
Cadillac, W. R. Taylor Motor Co.
Case, W. R. Taylor Motor Co.
Dodge, W. R. Taylor Motor Co.
Ford, Laux & Smader.
Lewis, Laux & Smader.
Paige, W. R. Taylor Motor Co.
*Stegeman, W. R. Taylor Motor Co.
‡Sphinx, Laux & Smader.
Randolph—Maxwell, T. A. Cummings.
‡Sphinx, George B. Smith.
Reedfield—‡Sphinx, E. Kiskow & Bros. Co.
Stephenson's Point—Case, Reliable Garage.
Stoughton—Apperson, Trace Christenson.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and ending of that period for purposes of comparison. Antimony continues to rise, showing an advance of three cents for this month, while last month it rose 4½ cents. Southern iron dropped 25 cents on the ton and northern also dropped 50 cents. Bessemer steel showed a decline, having fallen 50 cents on the ton. Electrolytic copper advanced 15 cents a hundred pounds, as did lead at the same rate. Tin soared high, leaving the mark of $36.25 for the previous month to $51.00 for this month, a gain of $14.75 on a hundred pounds. Oils are fairly steady, cottonseed dropping 35 cents on the barrel. Rubber continues at the same figure.

	Feb. 15		Feb. 22		March 1		March 8			
	High	Low	High	Low	High	Low	High	Low	Feb. 15	March 15
Antimony	18½	18	18½	18	19½	18	21	19½	18	21
Iron, fdy., S., ton	9.50	9.50	9.50	9.50	9.25	9.25	9.25	9.25	9.50	9.25
Iron, fdy., N., ton	12.50	12.50	12.50	12.50	12.75	12.75	12.00	12.00	12.50	12.00
Iron, Bessemer, ton	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Steel, Bessemer, ton	18.50	18.50	18.50	18.00	18.00	18.00	18.00	18.00	18.50	18.00
Steel, open hearth, ton	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50
Beams and chan., 100 lbs.	1.26	1.21	1.26	1.26	1.26	1.26	1.26	1.26	1.21	1.26
Copper, elec., 100 lbs.	14.60	14.50	14.65	14.50	14.60	14.50	14.65	14.37½	14.50	14.65
Copper, lake, 100 lbs.	14.75	14.62½	14.75	14.62½	14.75	14.75	14.62½	14.62½	14.62½	14.62½
Lead, 100 lbs.	3.85	3.80	3.90	3.85	3.95	3.90	3.95	3.95	3.80	3.95
Tin, 100 lbs.	39.75	36.00	39.50	37.75	50.00	40.50	51.00	44.00	36.25	51.00
Petroleum, Kan. cr., bbl.	45	40	40	40	40	40	40	40	45	40
Petroleum, Penn. cr., bbl.	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.45	1.50	1.45
Linseed oil, raw	60	60	60	60	60	60	60	60	60	62
Rapeseed oil, refined	75	75	75	75	75	75	75	75	75	75
Lard oil, prime	92	92	92	92	92	92	92	92	92	92
Fish oil, Menhaden, br.	41	41	41	41	41	41	41	41	41	41
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb.	21	21	21	21	21	21	21	21	21	21
Cottonseed oil, bbl.	7.12	7.00	6.90	6.50	6.70	6.59	6.75	6.65	7.05	6.70
Silk, raw, Japan	3.52½	3.52	3.50	3.45	3.50	3.45	3.60	3.55	3.52½	3.60
Silk, raw, Italy	3.90	3.90	3.90	3.90	3.90	3.85	3.90	3.85	3.90	3.90
Rubber, fine up-river Para	58	58	59½	58	59½	58	58	58	58	58
Tire, scrap	5	5	5	5	5	5	5	5	5	5

QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week. For the most part the market has been fairly steady, although some securities showed marked gains and others declined somewhat.

	Feb. 15		Feb 22		March 1		March 8	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb. com	250	..	250	..	250	..	250	..
Ajax-Grieb. pfd	100	..	100	..	100	..	100	..
Aluminum Cast., pfd	95	100	95	100	98	100	98	100
Borne, Scrymser	250	260	250	260	240	260	240	260
Case, J. I., pfd	..	..	..	..	77⅛	85	..	..
Chalmers Motor, com	..	94	..	94	..	90	..	87
Chalmers Motor, pfd	91	94	91	94	91	93½	90	..
Electric Stor. Bat	48	49	..	..	47½	48½	..	..
Firestone Tire, com	370	376	370	375	380	..	395	400
Firestone Tire, pfd	108	110	109	111	108	109½	108	109½
General Motors, com	91¾	95	90	92	92⅞	93½	100½	100¾
General Motors, pfd	95½	96	94	95	95	96	97½	98½
Goodrich, B. F., com	31½	32	31⅜	31½	31½	31¾	34¼	34⅞
Goodrich, B. F., pfd	96¼	97	96⅝	98½	96¼	97¾	99½	100
Goodyear Tire, com	191	194	190	194	188	190	191	193
Goodyear Tire, pfd	101	102	101	102	102	103	96	98½
Gray & Davis, Inc., pfd	..	..	..	..	..	..	..	..
International Motor, com	..	..	..	..	..	..	..	..
International Motor, pfd	..	..	..	..	..	..	..	..
Kelly-Springfield Tire, com	108	110	112½	113	104	105	111	112
Kelly-Springfield Tire, 1st pfd	84	85	84	85	82	83	83	84
Kelly-Springfield Tire, 2nd pfd	122	127	121	124	122	127	120	125
Maxwell Motor, com	22½	23½	22¾	23¼	24	26	27½	29
Maxwell Motor, 1st pfd	59	60	61½	62	62½	63½	67¼	69
Maxwell Motor, 2nd pfd	24	25	25	25¼	25	26	26½	28
Miller Rubber, com	150	156	156	158	155	160	163	170
Miller Rubber, pfd	101	103	101	103	101	103	101	103
New Departure, com	118	123	..	..	122½	127	124	125
New Departure, pfd	105½	106½	..	..	105½	108	105	107
Packard Motor Car, com	..	99	..	100	..	99	..	100
Packard Motor Car, pfd	95	..	93	..	95	..	95	97
Peerless Motor Car, com	13	20	15	21	20	21	20	35
Peerless Motor Car, pfd	..	55	..	55	..	55	..	55
Portage Rub., com	34	36	30	36	34	36	34	36
Portage Rub., pfd	85	95	80	85	85	95	85	95
Reo Motor Car	24⅝	25½	24½	25¼	26	26¾	27	29
Reo Motor Truck	11¾	12½	11½	12	10¾	11¾	11¼	12
Splitdorf Electrical	..	..	..	..	..	..	..	..
Stewart-Warner, com	51½	53½	51	53	48	51	50	52
Stewart-Warner, pfd	101	103	100½	102	101	103	101½	..
Studebaker, com	45	45½	45	45½	47⅜	47½	47½	47¾
Studebaker, pfd	93¾	94	91½	94¾	93	93½	93½	95
Swinehart Tire	71	73½	69	71	73	75	73	75
Texas Co.	129	130	126½	128	133	134	134	135
U. S. Rubber, com	56½	57	54	54¾	56½	56⅞	56½	56¾
U. S. Rubber, 1st pfd	101½	103	102	103	103	103½	103	103½
Vacuum Oil	188	192	..	..	184	186	180	182
White Co., pfd	103	110	108	110	103	108	103	105
Willys-Overland, com	95	97	95½	97½	95	96	98½	100¼
Willys-Overland, pfd	95	96	..	..	95½	96	96½	97

DOMESTIC CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of March were as follows:

Pennsylvania dark	$1.45	Somerset 32°	$ .85
Second sand	1.45	Ragland	.85
Tiona	1.45	Illinois above 30°	.84
Mercer black	1.02	Kan. & Okla.	.40
Cabell	1.05	Corsicana light	.45
New Castle	1.02	Corsicana heavy	.40
Corning	.90	Electra	.45
Wooster	1.10	Henrietta	.45
North Lima	.88	Caddo, La., 38°	.70
South Lima	.83	Caddo, La., heavy	.45
Indiana	.84	Spindletop	.40
Princeton	.84	Canadian oil	1.32

California.

21 to 23.9 grav.	40	29 to 30.9 grav.	55
24 to 26.9 grav.	42½	31 to 32.9 grav.	60
27 to 28.9 grav.	45		

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-60°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	23½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
75 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.			
Crude, barrels, a gallon	..	a	..
Refined, barrels	11	a	..
Tank wagon delivery	..	a	9
Fuel, 31°	8	a	..
Fuel, 34°	9	a	..
Naphtha.			
Auto in wood	..	a	16
Auto in garages, steel bbls.	..	a	12
V. M. & P. deod., in steel	..	a	9
V. M. & P. deod., in wood	..	a	11
Gasoline.			
86°	..	a	26
74-76°	22	a	24
67-70°	..	a	22

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PRACTICAL SHOP AND GARAGE ACCOUNTING.

Two Series of Simple Forms, Easily Kept, Which Will Provide Positive Authorization of Work, Obviate Error or Uncertainty, Insure Against Loss of Time or Materials—Economies That Are Worth While.

REASONABLE profit must be made by any business to justify its continuance. Theoretically, at least, the same ratio of profit ought to be realized from every transaction, although this is hardly practical because of varying conditions. When a garage or station affords service a stated rate is usually established for each classification of vehicle, and supplies are furnished at the prevailing market prices, though in some instances discounts are allowed continuous customers, which are believed desirable to attract the patronage of those who might otherwise be casual purchasers. When accessories and equipment are dealt in these are sold so as to produce a sufficient return to warrant this department, and no man can afford to sell for less than what will insure him a fair margin.

ORDER FORM

Job 260

SEE'S AUTO REPAIR CO.

Date .....

Time .....

Make and Model of Car.....

Car No.....License No.....

Owner's Name.....

Address .....

Repairs Necessary

.....

.....

New Parts Wanted

.....

.....

I hereby consent to the above work

(Signed) .....

Work Finished.....Delivered.....Paid.....

Fig. 1—Order Form, on Which the Owner of a Car Authorizes the Work to Be Done Upon His Car.

Service stations and repair shops, which do adjusting and restoration, whether small or large undertakings, must be equally certain of profit, but as they deal principally in labor and material the time of the workers and the stock must be carefully economized. There can be no certain excess of revenue over operating expense unless there is accurate knowledge of labor required for a given work and the exact material that is necessary. Waste of time and stock is certain. That is, there will be some loss because of circumstances that cannot be controlled, but this can be minimized by a system of records, not necessarily complicated, but sufficiently complete to accurately account for either factor.

No business man should under-estimate the value of accounting. The better the organization the larger will be the saving. Large enterprises are willing to pay well for the inauguration of comprehensive systems and for their maintenance, and nothing better demonstrates the value of record than the fact that in every instance material saving has been accomplished. But the concern doing a limited business usually desires to economize carefully at minimum cost, and the purpose of this article is to describe what will afford a positive record with the least clerical work and prevent leakages that will represent a considerable amount of money in a year.

Simplified Records Are Necessary.

Simplified forms are absolutely necessary, and a series of three can be made to serve for practically all the requirements in the shop or station of small proportions. These do not relate to the regular service of the station where machines are stored and cared for, nor to the sale of accessories, equipment or supplies, save where the last are used in connection with repair work, but are designed principally to cover labor and material. The form illustrated at Fig. 1 serves the dual purpose of a shop order and office record, being made out in duplicate. As will be noted the form will include considerable data when filled.

Assuming an instance of its use: A car is brought to the station for an overhauling, and the customer is dealt with by the manager or foreman, who learns the extent of the work required. The shop order is made out, each order being given a serial job number that is carried through the record. In connection with this, when a car is received the owner or driver should be required to remove from it all the unattached equipment, such as tools, robes, pumps, jacks, etc., make note of it if the property is to be stored by the repairer, and the equipment should be checked in duplicate and a copy given the owner, so that there will be certainty of responsibil-

TIME CARD

Job 260

SEE'S AUTO REPAIR CO.

Date .....

Mechanic .....

Tool Check No.....

Work Done	From	To
Remarks		

Fig. 2—Time Card Used in the Repair Shop, One Being Issued for Each Man Working on a Job.

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STOCK REQUISITION

Job 260

SEE'S AUTO REPAIR CO.

Date .....

Stock Given to..... Tool Check.....

Description of Stock	Quantity

Fig. 3—Requisition, Which Must Be Filled and Sent to the Stock Room for Material for Repairs.

ity in the event of a claim made for loss.

As the order is filled the notations include the date, the time, the make, type or model designation, the manufacturer's number of the car, the registration number and the owner's name and address. Under the heading of "Repairs Necessary" are entered the instructions given by the owner or driver, or the adjustments and restorations that are needed in the opinion of the mechanic or foreman who makes the tests and the inspection. Few shops or stations will undertake a guaranteed overhaul at a stated price, unless it is sufficient to justify—that is, insure to the owner a thorough job, because of the possibility of finding unexpected damage that must be repaired, possibly at a loss. Practically all work is taken on a basis of labor and stock, the workmen being expected to do first-class work and to use specified material, or at least of standard qualities. The original, bearing the signature of the person giving the order, is sent to the office, and the copy is attached to the machine, this being generally the instruction for the workmen. The copy ought to be a stout tag that will endure handling and can be so secured that it cannot be lost. When the work is completed the date and time are entered on the original and when the car is delivered the date and time are again noted, or if a charge, this fact is included.

Details of the Time Card.

The record of the time of the workmen engaged on the job is very important. Each man working on the car is given a time card on which is first entered the number of the job. This form is illustrated at Fig. 2. The entries show the date, the name of the employee, the check number for the tool room, and on the card is also shown the character of the work done and the time so engaged. No card is used for more than one job, or more than one day. New cards are made out each day so long as the mechanics are employed on the job, so that a man's time might be represented on one or a series of cards, each of which will show the detail of what has been done a given date. All time cards are collected each day and sent to the office.

Examination of the cards will account for the entire time of each man, and any delay can be determined and investigated if needs be. The purpose of the shop should be to have the work done in the least time compatible, because of the necessity of minimizing the expense to the owner, and the shop should be paid for all time legitimately put in on the car, that there should be no loss on labor. By comparison of the time of different workmen on similar work the office can learn if the men are working earnestly or are shirking, and the cards can be used too for reference in many ways. These should be filed under the job serial number, which will keep each series together and always available.

The Stock Requisition.

The third form of this system is a stock requisition, for all material and supplies should be kept apart from those who have access to the shop, and when anything is required for use in connection with a repair a requisition should be made out, such as illustrated at Fig. 3. The issuance of the requisition will account for the stock, which is a necessary office information, and identification with a job will insure that it will be charged and paid for. Leakages through neglect of stock room record are frequent, and this is a direct loss to the shop, while any overcharge for material is an imposition on the customer, so that the requisition is a safeguard for both interests. In filling this the workman enters the job number, the date and his name, and the materials and the quantity under the respective headings "Kind of Stock" and "Quantity". In entering these against the stock account or in a card inventory, the stock room can be kept up to the standard that is necessary to meet the requirements of the business. Failure to maintain the stock will entail delays and cause

LEDGER

Name .....

Address .....

Date and Job No.	ITEMS			
	Paid			Total

Fig. 4—Day Book, Showing Method of Keeping Accounts, Which Are Entered in Duplicate, the Copy Being Given the Customer as a Receipt.

CASH BOOK

Date		Debit	Credit	Balance

Fig. 5—Cash Book, on Which Is Noted All Monies Received and Paid Out.

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expense—results that are entirely unnecessary.

In the event of charge accounts statements are made to each customer at the end of the month, and the items are made up from the time cards and stock requisitions. The form of day book is shown at Fig. 4, which is a loose leaf type, the accounts being made in duplicate and the copies being sent to the customers. When an account is paid entry is made on the day book and the copy is receipted. When an account is closed the leaves are removed from the binder and are filed alphabetically.

When payments are made in cash, entries are made in the cash book, which is illustrated at Fig. 5, these including the dates, the customers' names and the amounts received, each in the debit column or under the designation of debits,

IOWA REPAIR SHOP
CUSTOMER'S ORDER

No. 630

Deliver to.....**Date** .....

Promised .....**Car No.**.....**Model**.....

INSTRUCTIONS

Car Owner's Signature.....

Fig. 6—Customer's Order Made Out in Duplicate and Signed by the Person Giving the Instructions—Original Is Filed in the Office and the Copy Is Attached to the Machine.

IOWA REPAIR SHOP.
EMPLOYEE'S DAILY TIME RECORD

No. 630

Charge to.....

Car .....

Mechanic .....

Description of Work	Start	Stop

Fig. 7—Employee's Daily Time Card, One Being Issued Each Day and for Each Job a Mechanic Works On.

and the expenditures are entered in the credit column, or under the designation of credits, and from this book the debits and credits are made to each account. Nominally the difference between the columns of the cash book, added to or deducted from the bank balance, will indicate the cash on hand.

The system described will meet the requirements of a station or shop of considerable proportions, but the needs of the exclusive repair shop are perhaps not as great, and these can be practically met by a series of three record forms, which are principally kept by the foreman. The first of these is the work order, which is shown at Fig. 6, this being made out in duplicate by the foreman. On this is entered the date, the name and address of the owner, a description of the car, when the work is to be ready for delivery, and the details of the order. The instructions as to the work to be done are required of the owner, who signs them as his authorization. The original of the order is kept for the office, and the copy, on a substantial card, is attached to the car. On this order is placed the job number, which is carried on the other two forms used. With a shop of this kind the expectation is that the machines will be worked on in the order received, so that the jobs will be turned out as nearly as is possible at the time promised.

In connection with this a time card is used, which is shown at Fig. 7, on which is entered the job number, but these are made in duplicate, the original being sent to the office and the copy being retained by the foreman, who with them makes out the time of the men for the pay roll. If desired, the time can be kept with one card, the office keeping these and from them making up the charges for the bills as well as the pay roll.

The third form is seen at Fig. 8, which is an office delivery record, which is made out by the foreman of the shop and sent to the office with the work order when the job has been completed, this being notification to the office that the machine is ready for the owner. The date and time the notice is received in the office is noted, and the foreman has no further responsibility for the job. Notice is sent the owner of the readiness of the machine. When the car is delivered to the owner he signs for it, accepting the work as satisfactory. As the record is made in duplicate the foreman has full information relative to the work and the original is retained in the office.

Original

IOWA REPAIR SHOP
DELIVERY RECORD

To the Cashier **Date**.....

Job No. 630 is completed. **(Signed)** .....
Repair Shop Foreman

To the Shipping Clerk **Date**.....

Deliver Job 630 to

Name .....

Address .....

The above was received in good condition **Date**.....

Signed .....

Charges

Fig. 8—Delivery Record, Issued When a Job Is Completed and Sent to the Office—When Signed It Is a Receipt for the Car and an Acceptance of the Work as Satisfactory.

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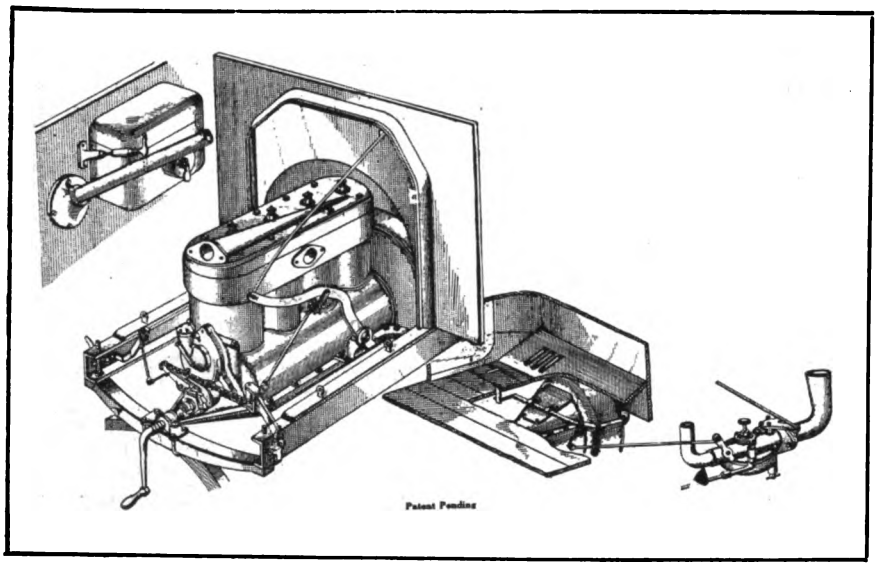
HUNTER FORD CAR STARTER.

Chicago Company Offers Dealers a Much Desired Equipment to Sell at Popular Price.

The Hunter Auto Supply Company, 333 W. Madison street, Chicago, Ill., is selling the Hunter starter for Ford cars for $10. This, the company claims, is an extremely practical mechanical device that can be operated from the seat by a woman or child. The efficiency of the starter and the price are very potent reasons why dealers should profit largely through agencies. The Hunter starter can be installed in any Ford car in an hour's time. The accompanying illustration shows the simplicity of operation. Starting is effected by drawing a handle from the dash toward the seat, then releasing it to be drawn back by spring pressure. The starting crank is retained. The apparatus is located under the hood, with the exception of the starting handle, which is on the dash. Dealers who are interested can obtain from the company at the above address full details of the agency contract it is making with dealers.

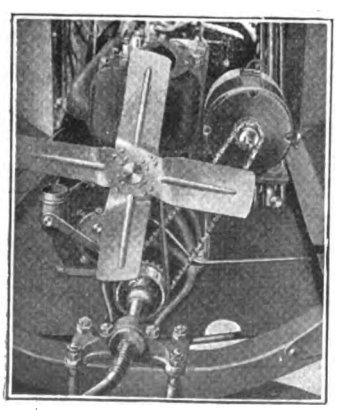


The Hunter Starter, Made Exclusively for Ford Cars.

NEW-LITE LIGHTING SYSTEM.

Newton, Ia., Concern Has Attractive Offer for Dealers in High-Grade Equipment.

The New Lite Manufacturing Company, Newton, Ia., is building a lighting equipment adopted to all types of cars and which is sold for prices that are very atractive to owners. This company's production includes electric lighting, ignition and signaling devices, which can be installed on Ford, Overland, Hudson, Regal and many other cars. The New-Lite dynamo is a slow speed type, with the armature rotating on high-grade ball bearings, and the drive is taken by silent chain from a special sprocket on the crankshaft of the engine. When attached this sprocket does not interfere with manually cranking the motor, and installation can be easily made by the owner. The lighting equipment is complete and includes a cut-out switch, storage battery, lamps and all accessories necessary for installation.



New-Lite Dynamo on Ford Car.

AUTO PARTS CHANGES.

The Auto Parts Company, Chicago, Ill., announces that Walter J. Costello and John T. Hart have been taken into its organization. Mr. Costello is well known on Chicago's automobile row, and Mr. Hart, general manager of the Auto Parts Company, is well known to automobile men throughout the entire Middle West.

LONDON FORD CHASSIS BODIES.

Full Line of Standard Types Produced to Meet Requirements for Light Delivery Service.

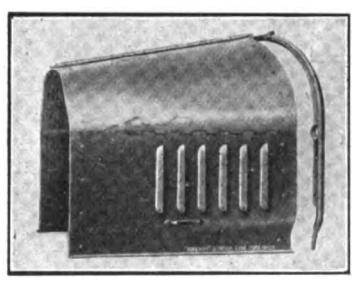
The London Auto Supply Company, 2540 Wabash avenue, Chicago, Ill., is manufacturing a large number of standard types of bodies that are adapted for installation on Ford chassis for delivery purposes. The bodies are carefully designed, are made to be interchangeable with any Ford chassis, and are constructed of the best materials obtainable. The bodies are built to meet the requirements of all business men who require fast, light delivery equipment, and so made as to endure hard service, having hard wood frames, rolled steel panels, which are packed with felt to prevent rattle, all the joints are strongly braced with steel brackets and the windows are polished plate glass. When desired they are finished in any color or with desired decoration, or can be supplied in the lead.

Dealers who sell the London bodies can supply any demand for high-grade Ford chassis equipment without investment, making sales from catalogues and having the deliveries made direct from the factory. The bodies are shipped with all requirements for installation, and are sold with the fullest guarantee. Full information relative to its agency propositon will be sent by the company at request. From the detailed specifications the dealer will receive from the London Auto Supply Company he will see that these bodies can be used for every conceivable purpose. The list is complete in every detail.

STREAMLINE HOOD FOR FORDS.

The Superior Lamp Manufacturing Company Building a New Hood That Improves Appearance of Car.

The Superior Lamp Manufacturing Company, 136 West 52nd street, New York City, is building a new Ford specialty in form of a streamline hood. This equipment adds materially to the appearance of a Ford car and the effect is to much change it from every point of view The Superior streamline hood is made of heavy 16-gauge pressed steel and has six ventilator gills on each side. The construction is solid and substantial, and the manufacturer states it cannot rattle or creak. The top is free of hinges, and the design is such that it effectually prevents rain or water from reaching the motor or the electric wiring. The Superior Company has an exceptionally attractive proposition for dealers to sell this hood and will at request send a detailed statement of its special dealers' proposition.



The Superior Ford Streamline Hood.

Showing How the Superior Hood Gives a Streamline Appearance to a Ford Car.

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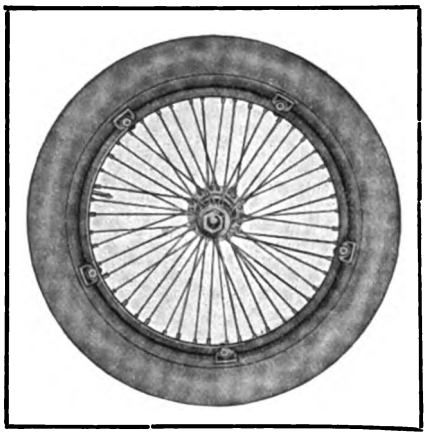
MOTT WIRE WHEELS FOR FORDS.

Utica Company Has Excellent Proposition for Dealers Who Want a Quick Selling Specialty.

The Mott Wheel Works, Utica, N. Y., manufacturer of Mott wire wheels with demountable rims for Ford cars, is making an exceptionally interesting proposition to dealers. This equipment retails for $35 for a set of four wheels and five rims. The Mott wheels may be mounted on a Ford car in a very short time. The change can be made by any owner. Mott wheels are carefully designed, built of high-grade stock and are fully guaranteed against defective material and faulty workmanship. The company will replace free of charge any wheel or part which develops defects within one year from date of purchase. A request to the company at its Utica address will bring full information regarding the company's agency contract.



Mott Wire Wheel for Ford Cars.

FORD SPECIALTIES DIRECTORY.

Publisher of This Book Will Send a Copy to Ford Dealer Gratis—When Request Is Made.

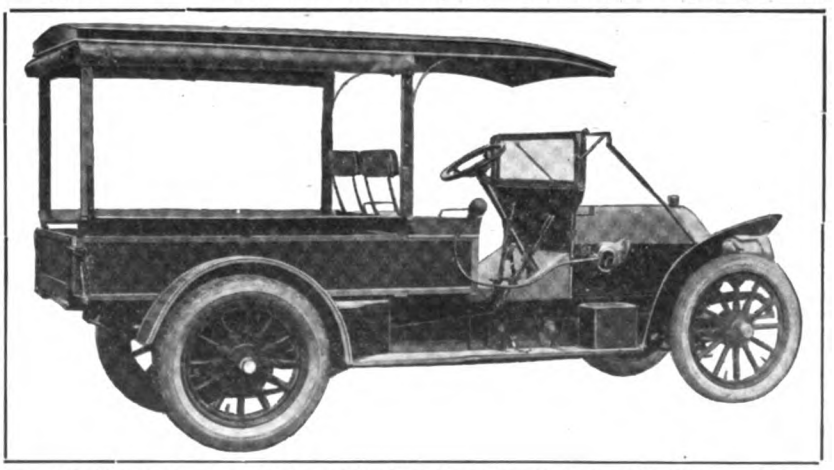
The Automobile Trade Directory, 243-249 W. 39th street, New York City, is to issue a directory of Ford specialties, which will be complete and authentic in every detail. The company states that it will be on a par with the service that has made the Automobile Trade Directory the standard buyers' reference of the American automobile industry. A copy of this directory will be presented to every Ford dealer in the country with the compliments of the publisher. It will be ready April 20, and will be extremely valuable to any Ford dealer. All that is necessary to obtain it is a request written on firm's letter head or business card.

HIGHLAND COMMERCIAL BODIES.

Dealers Are Offered Large Field in Handling Product of the Cincinnati Company.

The sales policy of the Highland Body Manufacturing Company, Station P, Cincinnati, O., afford any Ford or other car dealer an exceptional opportunity to sell commercial bodies for Ford chassis. As an agent for this company the dealer need not make an investment or carry stock. Immediate deliveries are made by the company from its factory stock of standard types, it being one of the largest body building companies in America. The Highland Ford car commercial bodies are interchangeable with any Ford chassis, and can be supplied with special fittings for any service. The company also builds standard type bodies for Overland, Buick and practically all other makes and models of machines.

Highland bodies are built in all types, enclosed and open, to meet the demands of any service. They are designed to have great endurance, are constructed of highest grade materials, and in appearance and finish are equal to the best special work. In connection with such agencies the Highland coupe top for Ford cars can be sold. This top can be attached to a Ford roadster in 50 minutes, and has been sold in large numbers. The all-the-year-round use of Ford cars in nearly every climate has necessitated protection for the driver in cold and stormy weather, which can be provided by the Highland coupe top. The top is handsomely finished. It can be installed by any owner and is interchangeable with any Ford chassis. Automobile dealers and garage managers, who are seeking an agency that promises large profits, wihout investing capital, can obtain details of the agency proposition by addressing the company, and by asking for catalogue 15 A, which gives specifications of the Ford bodies.

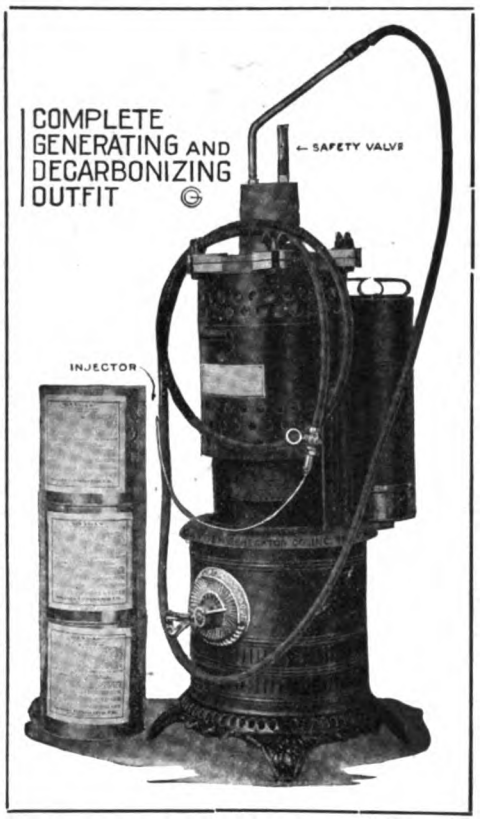


A Highland Express Body with Standing Top Fitted with Side and End Curtains.

TWO QUICK SELLING ACCESSORIES.

The Oxygen Generator Company Producing Generating and Decarbonizing Outfit and O. G. Shock Absorber.

The Oxygen Generator Company, Inc., 301 River street, Troy, N. Y., is manufacturing a complete generating and decarbonizing outfit that is specially desirable for vehicle owners and garage men. This outfit, as may be seen in an accompanying illustration, generates oxygen. By putting one four-pound can of oxygas in the generator and lighting the burner, enough oxygen can be generated in three or four minutes to clean four heavily carbonized cylinders. The apparatus is 2½ feet high and 9½ inches in diameter and is made of heavy cast iron. It will hold oxygen gas for weeks, is made exceptionally heavy and having a safety valve it cannot explode. The O. G. shock absorber has an extreme spring action and absorbs both shock and the rebound. The generating and decarbonizing outfit is sold for $15 complete, this including three four-pound cans of oxygas. The O. G. shock absorbers are offered for $5 for the set of two or $9 for the set of four. The company will state the details of prices and discounts and will supply literature at request. These shock absorbers are sold with a guarantee that covers workmanship, material, finish and satisfactory service during the use of the car. The company will refund immediately if the O-G shock absorbers do not prove satisfactory.



The O. G. Oxygen Generating and Decarbonizing Outfit.

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NEW CONCERNS AND BUSINESS CHANGES.

CHANGE OF NAME.

The Hansen Automobile Company, Wilmington, Del., has changed its name to the Moore Automobile Company.

The Heeb Auto Service Company, Cincinnati, has changed its name to the Packard Auto Service Company.

The Park Livery Company, Toledo, O., has changed its name to the Park Garage Company. The present building of the company is being remodelled and enlarged.

The Palmer Sales Company, Grand Rapids, Mich., has changed its name to the Motor Sales Company. The company is distributor for western Michigan of the Paige and Peerless cars.

The Cyclecar Sales Company, St. Louis, Mo., has changed its name to the Locust Motor Sales Company. Scripps-Booth cars will be handled.

Anderson Brothers Auto Company, Oskaloosa, Ia., has changed its name to the Hoover Auto Company.

RECENT TRANSFERS.

The City Garage, Grand Rapids, Wis., has been bought by H. D. Mintz, who has taken possession. He will install a machine shop and vulcanizing department.

The Almond Garage Company, Almond, Wis., has been purchased by William Millus and Charles Nelson. The new company will install additional machinery and vulcanizing appliances.

McLean & Freeman, Detroit, has sold its accessory business to E. Mack Morris, formerly assistant secretary of the Northern Motor Car Company. The company is located at 1575 Woodward avenue.

C. J. Stewart, Keota, Ia., has sold his garage to Hoover & Niccum, who will operate it.

The Central Garage, Manawa, Wis., has been purchased by Carl Nelson, who will operate it.

L. J. Wahl & Son, St. Joseph, Mo., has purchased the garage of Steinmetz & Well.

Dr. H. G. Grass, Eureka, Cal., has purchased the interest of C. F. Pease in the Humboldt Auto Supply Company, located in the Eagles' building. A full line of Firestone tires and supplies are carried.

The Arrow Motor Company, Indiana, Penn., has been sold to Charles I. Moore and he will make extensive improvements. Charles E. Huey and Frank E. Moorehead were the former owners.

The Universal Auto Painting Company, New York City, has bought the stock and plant of the Moore & Munger Company at 602 West 52nd street and will continue its own business as well as the latter.

The Young Motor Car Company, Hagerstown, Md., has purchased the Maryland Garage and will operate it. The company will conduct a general garage and repair shop and will also handle supplies.

Joseph Kilburg, Lemars, Ia., has purchased the W. T. Kistle & Son garage in Sixth street. Patrick Rickabaugh is also interested. The new company has taken possession.

D. Frisbee & Co., Detroit, has purchased the business of the Moritz-Mullin Company at 344 Jefferson avenue. The former company was incorporated for $25,000.

Albert Swanson, Bessemer, Mich., has purchased M. Cavalette's interest in the Running & Cavalette garage. He will make many improvemnts.

W. N. Pearson, Salem, O., has purchased the garage in East Main street, formerly operated by C. W. Zimmerman. He will conduct a repair shop and handle the Studebaker car.

Charles H. Bains, Mount Ayr, Ia., has purchased the garage and accessories department of Charles Teale, who operates an implement business.

William Hill, Brownton, Minn., has purchased a half interest in the garage formerly owned by Zander & Krueger. The firm name has been changed to Zander & Hill.

J. H. McDonald, Hartford, Conn., has purchased a controlling interest in the Hartford Garage Company at High and Allen streets. The company is agent for the Velie and Allen cars and also handles a complete line of supplies. A motor trucking and livery business is also conducted.

C. B. Elliott, Creston, Ia., has disposed of his interest in a local garage to William Havenhill. The business will now be known as Brown & Havenhill.

George Van Wyck, Ellenvile, N. Y., has purchased a garage business there and will operate it.

Don Kuhn, Marcellus, Mich., has purchased the interest of M. Siegel in the firm of Siegel & Thomas.

The Longwell Auto and Truck Sales Company, El Paso, Tex., has changed its name to the El Paso Overland Company.

The Davison Auto Company, Burlington, Ia., has sold its interests to Letts & Cooper. The name will be changed to the Letts & Cooper Garage Company.

C. E. Baugher, Harrisonburg, W. Va., has taken over the Kavanaugh Garage Company's business in North Main street. He will carry a complete line of tires, tubes and automobile accessories.

E. H. McKenzie, East Chicago, Ind., has succeeded to the automobile business of E. H. Clements.

The Tacoma Avenue Repair Company, Tacoma, Wash., has been taken over by Don Modrall and he will continue the business at 1020 Tacoma avenue.

Butler & Curtis, Ansley, Neb., has purchased F. L. Carr's garage.

Fred Welth, Gretna, Neb., has purchased an interest in the Gretna Garage Company.

The Wylie Avenue Auto Company, Pittsburg, Penn., has bought the automobile repair shop and garage owned by the Tyler Automobile Company. The new company will do mechanical work.

The Strang Garage Company, Colorado Springs, Col., has purchased the accessory stock of the Paul Automobile Company. The company is located at 18-26 North Nevada avenue.

C. M. Mulhaney, Brea, Cal., has purchased the garage business of Mitchel & Long. Many improvements are being made.

Morris Hayutin, Harrisburg, Ark., has bought the J. W. Brooks garage.

The St. Paul Auto Company, St. Paul, Neb., has been sold to Grant Chinn and W. C. Clark.

Frank Ball, Bartley, Neb., has sold his garage business to Fred Blair.

M. C. Fisher, Mondovi, Wis., has purchased the automobile business of the Mondovi Hardware Company.

Uttley & Darr, Lynch, Neb., has sold its garage stock to Harry Fergeson and Benton Binkerd.

F. Stansfield, Santa Ana, Cal., a well known automobile repair man, has taken over the Broadway garage in Second street and will make many improvements. It will be known as the Park Garage and Machine Works.

The Haddock Nixon Taxi Company, Wilmington, Del., has been taken over by the Wilmington Automobile Company.

Herman Platt, Baraboo, Wis., has purchased the Gollmar garage in Third avenue. He handles the Overland car.

Russell Shreeves, Keystone, Ia., of the firm of Miller & Shreeves, has sold his interest in that firm to L. F. Illian. The firm name has been changed to Miller & Illian.

GARAGES AND REPAIR SHOPS.

Gibbs Brothers, Cobb, Wis., has established a garage and will handle several lines of pleasure cars.

Leonard J. Supple, Wrentham, Mass., has entered into partnership with T. L. Martin and will open a garage in Franklin street.

Paul Bohn, Stockton, Cal., has opened the Clark garage at 418 Market street. The company deals in the National and Hupmobile cars.

Campbell & Eckes, Minneapolis, has opened an automobile repair shop and garage at 210 Washington avenue, North.

The Shaw Motor Company, Uniontown, Penn., has opened a branch garage at 312 South Pittsburg street, Connersville, Penn. The company handles the Ford car.

J. E. Johnson, Willmar, Minn., and R. K. Johnson, have formed the West Central Auto and Machine Company. The building known as Harding's garage will be enlarged and occupied by the company.

The Auto Maintenance Company, Norfolk, Va., has opened an automobile repair shop and service station at 431 Monticello avenue. Robert Kaiser is manager.

The Mahoning Garage, Johnstown, N. Y., has been formed and will open a garage in Montgomery avenue.

Lilley & Hines, Freeport, Ill., has opened a garage and repair shop in Stephenson street.

Rowan & Duden, Graceville, Minn., has opened a first-class garage.

The Moss Garage Company, St. Johns, Mich., has opened a garage at Brush and Hingham streets. The company handles the Maxwell and Studebaker cars.

Frank E. Mahan, Harbor Beach Mich., has opened a garage in Huron avenue. Fred Gertenschlager is also interested.

Harry A. Nelson, Erie, Penn., has opened a two-story garage in East 18th street. It is one of the most complete establishments of its kind in northern Pennsylvania.

Milton M. Perrigo, Alma, Mich., has opened a garage and sales room in the Spinney block. He is agent for the Studebaker car.

The Indian Village Garage, Detroit, has been opened at 1524 Jefferson avenue by A. H. Dorsey. The garage will take care of 75 electrics and a small number of gasoline cars. The floor is 75 by 200 feet and is free from posts.

O. R. Carman, Wellsburg, W. Va., has opened a garage at 524 Charles street. D. M. Gamble is also interested. The company handles the King and Overland cars.

R. C. Mead, Allison, Ia., has opened a garage in the Johnson building, which recently was remodelled and made fireproof.

Richard Nicholson, Gowrie, Ia., has opened a repair shop. He was formerly associated with the Lungren & Swanson Auto Company.

John Algren, Silver Creek, Minn., has opened a garage. Repairs are attended to by W. Klemz, an experienced repairman.

W. R. King & Son, Homer, Mich., has opened a garage and represents the Ford car.

S. E. Miles & Son, Glencoe, Minn., has opened its new garage adjacent to the American hotel. The building is 50 by 100 feet and will accommodate 50 cars.

J. C. Atkinson, Des Moines, Ia., has opened a repair and supply store at 1012 Walnut street, specializing in Ford and Studebaker cars. Business will be conducted under the name of the Walnut Street Auto Repair and Supply Company.

The Wall-Walnut Garage, Columbus, O., is the name of a concern established at 24 West Wall street. A first-class repair shop is maintained.

J. S. Ratcliffe, Veedersburg, Ind., has opened a garage in Second street. It has been remodelled for his occupancy.

Sloan Brothers, Utica, N. Y., is the name of a new company that will operate a garage and repair shop at 107 Otisco street.

The Miller Company, Utica, N. Y., has opened an automobile repair shop at 154 Lafayette street.

Palmer & Waterman, Battle Creek, Mich., has leased a building on River street and will remodel it into a garage and sales room. The Oldsmobile will be handled.

Merve Jacks, Crystal Falls, Mich., has opened a repair shop.

Korber's Garage, Albuquerque, N. M., has opened for business under the management of Albert Korber. Automobile repair work will be specialized.

F. L. Rees, Americus, Ga., has opened an automobile repair shop in Cotton avenue. He was formerly connected with the Staple Auto Company.

Gosrud Brothers, Sturgeon Bay, Wis., has established a garage and machine shop in a fireproof building. The company formerly operated on a small scale.

The Prosser Garage Company, Prosser, Wash., has opened a garage and repair shop.

The Wilcox-Crymble Company, New York City, has opened an automobile repair shop at 238-240 West 53rd street. The company will specialize in Delco repair work.

The Rempis Garage, Grand Rapids, Mich., has opened for business in Front avenue. The company operates a taxicab service as well as conducting a garage.

W. E. Clites, Red Oak, Ia., has rented the northwest room at the S. A. Shields feed yard and will conduct a garage and repair shop.

Joseph Chore, Spencer, Neb., has opened a garage and automobile repair shop.

Arthur Park, Tekamah, Neb., will open a garage.

Bert Langford, Hemingford, Neb., has opened an automobile repair shop.

The Elliott Garage, Nashville, Tenn., has opened at 605 McGavock street.

Freming Brothers, Olean, N. Y., has opened a general automobile repair shop in North Union street.

C. N. Smullen and P. Gibernator, St. Louis, Mo., have established an automobile repair shop at 4722 Delmar boulevard.

M. P. Williams, Modesto, Cal., and F. M. Smith have opened a new garage in North Ninth street.

Bolin & Son, Tulsa, Okla., has opened a repair shop at 419 Main street, North.

The Citizens' Garage, Quanah, Tex., has been established and the S. B. Wells building has been leased and the company located there. K. T. Foster and S. Foster are interested.

S. R. Morse, Richford, Vt., has converted a skating rink into a garage. He will carry a complete line of supplies and will do general repair work.

The Graylock Auto Garage, Adams, Mass., was opened re-

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cently in the Edmund building. A repair shop and paint shop is also maintained. Ford and Reo cars are represented. Howard C. Kaiser is proprietor.

The Universal Repair Shop Company, Seattle, Wash., is a new concern at 1716-18 Broadway. The firm will conduct an exclusive Ford service and accessory station. H. F. Scruby is the manager.

AGENCIES AND DEALERS.

George H. Mahan, Boston, Mass., has taken the agency for the S-P Vaporizer, with headquarters at 32 Oliver street. He is well known in the motor oil field in New England.

Roberts & Fleming, San Diego, Cal., has opened an accessory house in First street. The company is agent for the Schebler carburetors.

The Fish Rubber Company, Harrisburg, Penn., has opened a branch store in South Third street.

The Appleton Ford Company, Appleton, Wis., a new concern organized recently by J. F. Tolleson, W. C. Hull, Theodore T. Stark and R. A. Schwartzburg, will handle the Ford car for that territory. The garage and sales rooms will be located in the farm machinery and implement warehouse of the Stark Company as soon as improvements are made.

Terwilliger & McCommons, Milwaukee, Wis., has been formed by Charles McCommons and A. Terwilliger. The company will handle the Dodge car.

James Burrough, Stamford, Conn., has opened a branch store. He is agent for the Excelsior motorcycle. He also conducts a store at 866 State street, Bridgeport, Conn.

The Penn Storage Battery Company, Pittsburg, Penn., has been appointed by the Eisemann Magneto Company of Brooklyn, N. Y., agent for the Pittsburg territory.

A. F. Chase & Co., Minneapolis, has been reorganized and will continue the business under the name of A. F. Chase Sons' Company. The company is located at 516 Third avenue, South. The Argo electric pleasure is represented.

The Indiana Motorcycle Company, Milwaukee, Wis., has opened a store at 312 West Water street.

W. B. Hamilton, Salt Lake City, Utah, has opened an automobile supply and accessory store. He was formerly with the Bertram Motor Supply Company.

N. E. Klockner, Minneapolis, formerly connected with the Northern Machinery Company, has taken over the agency of the Velvet shock absorber and has opened sales rooms and a service station at 1514 Hennepin avenue under the firm name of Klockner Shock Absorber Company.

J. G. Duncan, Jr., Company, Philadelphia, has opened a service station at 1311 Race street.

The Twin City Rubber Company, Minneapolis, has taken the agency for the Keaton tires.

J. Franklin Brown, Boston, Mass., has formed a company known as the Dunlap-Brown Company, which will handle Graphinol in that territory.

The Weinstock-Nichols Company, Los Angeles, Cal., has the agency for the Cox shock absorber.

The Athens-Buick Company, Athens, O., has been formed and the company will erect a sales room and repair plant at once.

The Fuller Storage Battery Company, Hartford, Conn., has been formed by John E. Bolgar and Sherman A. Fuller to handle the LBA and Willard batteries.

The Central Cycle Company, Bound Brook, N. J., has been formed by William H. Haelig and Frank L. Stangle. The company has opened for business in the Blauvelt building.

The Cash Buyers' Auto and Supply Company, Cincinnati, has been established by J. A. Burgamy at Main and Canal streets. He was for several years a tire salesman.

Lowry & Green, Columbus, O., is the name of a new concern which has opened a painting and overhauling shop at 321-323 North Front street. Bruce Lowry is interested. He was formerly in charge of the Peerless Motor Car Company's and the Columbus Buggy Company's paint departments.

The Faust Buick Company, Marion, Ind., has opened a sales room and Buick service station in the rooms formerly occupied by the Nelson hardware store in the Colonial block at 505 South Adams street.

T. A. Cumming, Randolph, Wis., has entered the automobile business.

The Toledo-Mercer Company, Toledo, O., has been formed. The company will sell the Mercer car and has located at the Twenty-first Street Garage.

The Tarbell Hatters Company, Springfield, Mass., is the name of a new concern opened at 275 Bridge street. The company deals in automobile supplies.

S. A. Taylor & Co., Hamilton, O., has opened a motorcycle store on B street. The company will also carry sporting goods and bicycles.

The Bridgeport Auto Sales Company Bridgeport, W. Va., has been formed and will handle the Pullman and King cars.

Martin Evans Company, Brooklyn, N. Y., has taken the agency for the Willard and LBA storage batteries. The company will maintain a service station for the repairing, charging, etc., of the batteries.

The Felix A. Doran Rubber Company, Dallas, Tex., has opened for business.

The Hawkins-Twitchell Auto Company, Spokane, Wash., is a new concern located in a new building at 122 Walnut street. The company handles the Hudson car and the Federal truck.

Edward F. Lyon, Detroit, has opened sales rooms at 1003 Woodward avenue and will represent the Hollier car. He was formerly with the Lewis Spring and Axle Company.

The R. & W. Auto Company, Tacoma, Wash., has opened the first cash automobile shop in that city.

S. C. Bohannon, Indianapolis, has become distributor of the Republic tires manufactured by the Republic Tire and Rubber Company.

The Millikin-Loveland Motor Car Company, Youngstown, O., is a new concern that has opened sales rooms at 833 Market street. Chevrolet cars are handled.

The Superior Auto Parts Company, Indianapolis, is marketing a new type of piston ring, known as the R. and M. Conform, manufactured by the Modern Electric Machine Company.

The West Coast Wagon Company, Tacoma, Wash., has the agency for Goodyear truck tires.

The La Due Auto Top Company, Toledo, O., has the agency for the new Ford limousine top, known as the Daisy, which is made by Paul E. Heinsohn, Ionia, Mich.

The Kansas City White Company, Kansas City, Mo., has been organized with headquarters at 928 East 15th street. The company handles the White pleasure cars and trucks.

The Morton-Gregory Auto Company, Indianapolis, has opened sales rooms at 704-706 Broadway. The company has the agency for the Maxwell car.

The Westcott Motor Sales Company, Columbus, O., has been formed by H. R. Foster and L. W. Fisher. Westcott cars are carried. The company is located at 58-60 East Spring street. A factory service station will be maintained in connection with the agency.

Goldman & Walton, St. Louis, Mo., is a new concern established by Emanuel Goldman and H. H. Walton at 5072 Delmar boulevard, to do automobile repairing.

The Pacific Tire and Rubber Company, Seattle, Wash., has established sales rooms and offices at 604 East Pike street. The company is distributor for the Batavia tire in Washington, Oregon, Idaho, Montana and British Columbia.

Grable-Young & Co., San Diego, Cal., has opened a store at 1186 Sixth street. The company handles the Pennsylvania tire for that territory.

The Sleepy Eye Automobile Company, Sleepy Eye, Minn., has been formed by J. J. Grimes and N. C. Hoffman to conduct an automobile repair business and store cars. The company has leased the Wolldrik garage in Fifth street. Leslie Steinmetz will have charge of repair work.

The Automobile Supply Company, Tacoma, Wash., has secured the agency for Silvertown, Diamond and Goodrich tires.

The Minkler Company, Great Barrington, Mass., has engaged in the automobile business and will erect an up-to-date garage.

Ralph De Witt, Columbus, O., is representing the Midgely tires for that territory. His headquarters are at 414 Columbus Savings and Trust building.

The E. J. Todd Rubber Company, Hartford, Conn., has opened a new store in Trumbull street, just opposite its former location.

Elmer Grady, Washington, D. C., has opened an office at 1620 L street northwest and will distribute the Quaker tire. J. B Harris is also interested.

The Great Eastern Rubber Company, Allentown, Penn., has opened sales rooms at 1027 Hamilton street and will carry a complete line of automobile accessories and supplies.

D. O. Hinckle, Columbus, O., formerly with Jones, Witter & Co., now has an active interest in the Hinckle Tire and Rubber Company, 186 East Gay street. The company is local agent for the Mohawk tire.

The Central Automobile Company, Scranton, Penn., will open a sales room and garage at 526 Spruce street. The company will handle the Kissel pleasure cars and trucks and Jackson car. A complete line of accessories, oil, tires, etc., will be stocked.

The Inter-State Auto Company, Duluth, Minn., has opened attractive sales rooms at 8 West First street. The company handles the KisselKar, Franklin and King cars.

Phil Kennard, Tampa, Fla., has opened a motorcycle shop and has also purchased the interest of H. Olen Fielding in Kennard, Field & Co. Mr. Kennard will continue to represent the Thor and Harley-Davidson motorcycles and will also maintain the sales room and shop at 1506 Franklin street.

The McGraw Tire and Rubber Company, Boston, Mass., has opened a branch at 667 Boylston street, in charge of Wallace G. Page. The company manufactures, at its plant in East Palestine, O., the well known Imperial, Pullman and Congress tires, as well as the McGraw solid tires.

Howard W. Martz, Indianapolis, Ind., formerly distributor of Maxwell cars, with headquarters in North Capitol avenue, will hereafter handle the Briscoe car, instead of the Maxwell, at 646 North Meridian street. The concern is known as the Martz Company.

The Motor Tire Supply Company, Buffalo, N. Y., has opened a store at 827 Main street. This company is a branch of the Tire Sales Company and will handle, both wholesale and retail, factory "seconds" tires, as well as low-priced guaranteed tires.

The Chew Goucher Company, Washington, D. C., has been appointed agent in that district and for the State of Maryland for the Savidge steering device for automobiles.

Schunk & Proctor, Columbus, Wis., is the name of a company formed by J. E. Schunk and F. C. Proctor to handle Ford cars in that territory.

The Reo Motor Sales Company, Canton, O., has opened sales rooms at 130 Fourth street.

Charles A. Robinson, Boston, Mass., has opened sales rooms at 893 Boylston street, where he will handle the Regal car. He was for a long time associated with the Packard agency in that city.

The Harrison-Miller Auto Company, Hampton, Ia., has been organized to conduct a sales agency in the M. C. Hicks building in Fourth street. The company handles the Buick and Ford cars and a full line of accessories.

The Lowe Rubber Company, Phoenix, Ariz., has opened a store at 308 North Central avenue. The company handles the Kelly-Springfield tires for that territory.

Fred W. Dart, Hartford, Conn., has taken over the agency of the Rayfield carburetor and has installed a complete line of carburetors and parts in a store at 348 Trumbull street.

Plath & Reineke, Fargo, N. D., is a concern organized to handle the Imp cyclecar.

The Charter Oak Auto Company, New Britain, Conn., has opened a branch in that city. Fred W. Lycett is manager. Hupmobiles and Dodge cars are handled.

The Nelson Auto Sales Company, Perry, Ia., has been formed by W. O. Nelson and R. B. Mitchell to sell Dodge and Reo cars.

Harrie Starkie, Hartford, Conn., has begun an automobile business at the sales rooms of the Palace Automobile Service Company in Trumbull street, handling Chevrolet cars.

The Kenton Motor Company, Louisville, Ky., has opened a branch at 437 South Second street. The company is agent for the Allen car.

The Monarch Motor Sales Company, Columbus, O., has opened sales rooms for the Monarch car at 246 North Fourth street.

Frank A. Craft, Aberdeen, S. D., has rented offices in the Gilbourne building in South Lincoln street. The Maxwell car is represented.

Kehoe & Cady, Albany, N. Y., distributor of the Maxwell car, has opened show rooms and a service station at 1022 Central avenue.

W. Taylor, Philadelphia, recently appointed wholesale distributor of the Apperson car in eastern Pennsylvania, southern New Jersey, Delaware and Maryland, has established head quarters in the Abbott building, at Broad and Race streets.

Walter W. Woods, Marietta, O., has leased rooms in the Wells block and will handle the Ford and Dodge cars.

The Aiken Lamp Company, Marlboro, Mass., will handle the automobile lamp, the patent of Herrick Aiken, manufactured by a firm in Boston.

The Ellison Motor Supply Company, Haverhill, Mass., has completed a sales room and service station and will handle Ford cars. The building is two-story, of brick, and fireproof construction, 40 by 80 feet.

The Steninger-MacDowell Rubber Company, Colorado Springs, Col., has dissolved partnership.

Fred G. Lee, Chicago, formerly with the Class Journal Company, has entered the tire accessory business at 4703 Sheridan road.

The Stitt Motor Company, Hastings, Neb., has opened an attractive automobile accessory sales room and a garage.

The Naylor-Clark Automobile Company, Provo, Utah, has engaged in a general automobile business. The company is capitalized at $25,000.

The North Side Auto Company, Indianapolis, has been taken over by Alfred Johnson and Anthony, who will conduct a garage and repair shop at 1821 Washington avenue.

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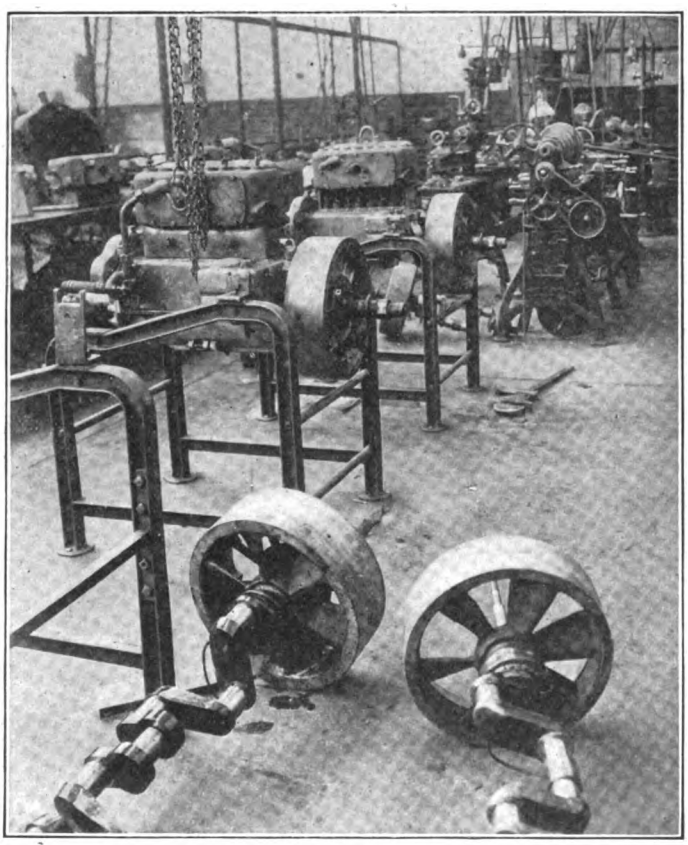
HOW WHITE COMPANY SERVES OWNERS.

It Encourages Garage Men to Maintain Factory Standards in Repairing Its Machines, and Maintains High-Class Service Stations.

THE manufacturer of pleasure and commercial motor vehicles cannot reasonably be expected to maintain or practically insure the continued operation of his cars, beyond his warranty of construction and materials. The vehicle builder will not undertake more than is guaranteed, but many have business policies that insure to the owners consistent supervision and the best of facilities for maintenance and repair at fair prices.

Many large builders have established service stations in commercial centres where overhauling, repairing and replacing of parts can be done expeditiously and at an economical cost, and some are encouraging specialization in upkeep and repairs of the machines they build in garages and repair shops. They demonstrate to garage men the value of having men who are especially trained in work on their vehicles, this insuring patronage and increased business. The stated purpose is to raise the standards of repairs, etc., to equal those obtaining in their factories.



View Showing Equipment of Motor Department, and Parts in Process of Repair.

In their own service stations specialization goes even further. The force of workers is so selected as to include men who are experts in repairing or adjusting the components of the machines, and the work is so systematized that the owner is certain of high-class and satisfactory repairs at the lowest practical cost for labor. In addition the stations are well stocked with parts, that no time need be lost by waiting for a necessary component to arrive from the distant factory.

The service of the White Company, builder of pleasure and commercial motor vehicles, is unusually well organized. In addition to a campaign to have White specialties in garages and repair shops, it has splendidly equipped service stations in many parts of the country. But the company believes that the owners and operators of White cars can best be served by local garages and repair shops. The company co-operates with these shops in every practical way. A corps of experts is ready to answer any question applying to a White machine, while workmen will even be supplied when a complicated job requires their services. Parts are sold to the garage and repair men at wholesale prices. The company is prepared to go to what is some times considered an extreme to bring the standard of work up to the high standard it has set and maintains in its factory.

The manufacturer of pleasure cars and motor trucks views service as a matter of supreme importance, considering it a business policy that must be well defined and consistently followed to derive the best results from it. Service to the car owner means adequate facilities for car repair, with complete stock of parts, etc., under the most competent of expert supervision, insuring maintenance at minimum expense. It is along these lines that the White Company conducts its service stations and agencies, which are situated in numerous commercial centres for the convenience of owners. Its policy also extends beyond its own agencies, by encouraging garage and repair men to specialize in adjusting and repair work upon White machines. The following description of a White service station is typical:

What is regarded by the company as the finest establishment of its kind in New England is the White service station at Brookline, Mass., at Commonwealth avenue and Pleasant street. The building, shaped like a T, made as fireproof as modern science permits, is single-story of the saw tooth type, made of brick, cement, stone, steel and metal, and covers about an acre. The sales rooms and offices face Commonwealth avenue, and the service building ranges along Pleasant street for a block. In the latter building are a pleasure car garage, repair department and two sections devoted to the storage of new cars and trucks.

One construction feature that makes for time and labor saving is that there is only one floor, thus elim-

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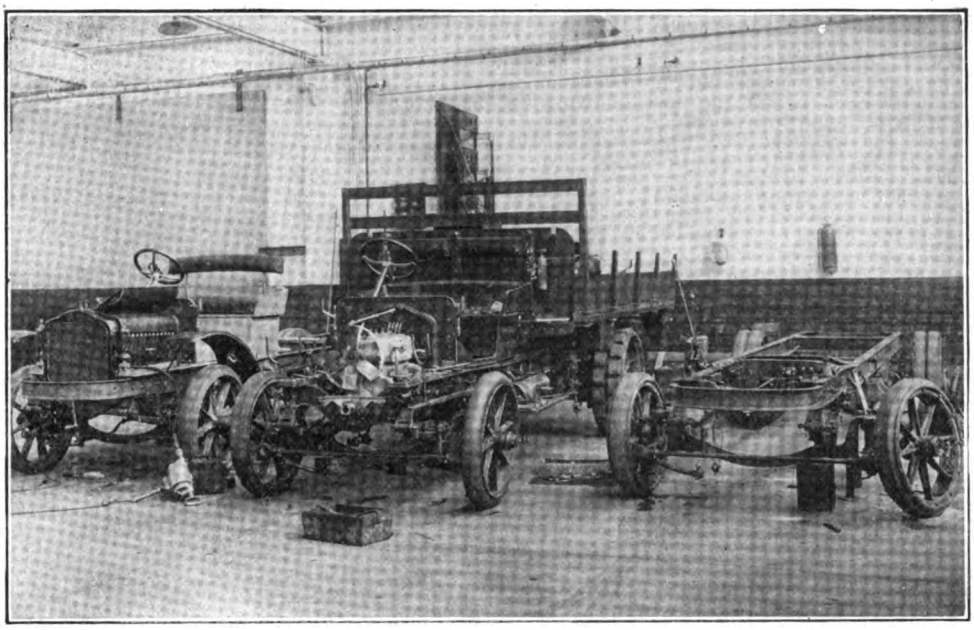


Section of Workshop Showing Trucks in Various Stages of Overhauling and Repair; Electric Drill at the Left.

inating the necessity for elevators, etc. Careful provisions for lighting, heating and ventilation were installed for higher efficiency. The building has been in operation since August, 1913.

Two entrances to the service station are provided for vehicles, one leading to the private garage at one end of the station, while at the opposite end is a storage room for cars. Between the garage and the storage room are the station offices, the stock room and the service department workshop, the last named being in the centre.

The stock room is one of the vital features of the service station, and in it is kept an adequate supply of all kinds of parts for all types of machines built by the White Company, as well as supplies of fenders, radiators, tires, wheels and other equipment components. The exact condition of stock can be ascertained at any time by means of the perpetual inventory system in use. The stock room office, which is reached through a passage leading between the office of the station and the superintendent's office, is provided with a counter at which customers can be served.

The floor plan of the station is excellently arranged, and all operations are visible to the station superintendent from his office. The work shop is adequately equipped with machinery and tools for time and labor saving. A heavy wire grating divides the shop into two sections, one of which contains the machine tools, such as arbor presses, lathes, grinders and drills, and work benches aligning both sides of the section. On the other side of the grating is another line of benches, while through the centre of the entire work shop runs an overhead trolley equipped with chain hoists.

The heavy lifting, etc., is done by portable floor cranes, which can easily pick up a motor, rear axle or other heavy units from the chassis, and place them under the trolley hoists, which in turn can convey them to wherever desired in the work shop.

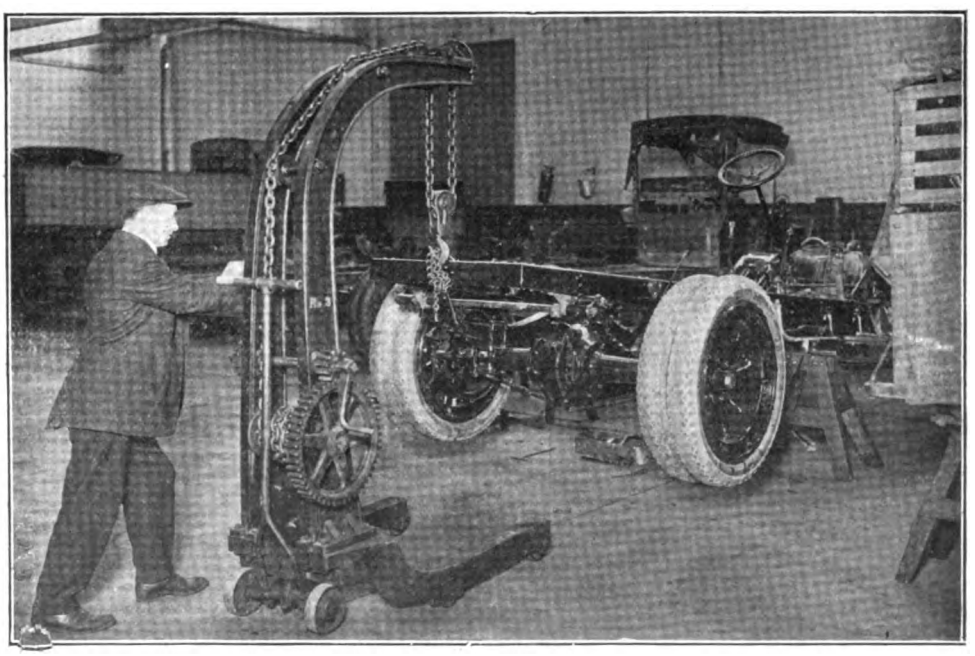
An unusual feature of the machine shop is that the tools are designed to perform work that is not usually done outside of the production factory. They can rebore, ream, lap or polish cylinder blocks or other units, and the standard of work is claimed to be up to the standard established in the factory. Lathes, rigged with jigs made especially for the work, can rebore or ream, while specially designed tools used with the drill press are utilized in lapping. With this equipment the White Company can lessen the cost of repairs, etc., and at the same time maintain its high standard of work.

The human element as a factor in efficiency has not been overlooked in planning the station. For the workmen a recreation and locker room has been provided, it being over the station offices and reached by a flight of stairs outside the building. Here is a bell that is rung two minutes before time to begin a job, to give the men time to stamp their work cards before going to the work shop via another flight of stairs leading to the floor of the shop.

The time card system is another means of giving the customer the lowest and most accurate cost. Every minute of time spent in working upon a particular job is shown by the record clock—stamped upon day or job time cards. This record is kept largely for the benefit of the customer, who thus learns what he is paying for.

The efficiency of the station hinges in large measure upon the abilities of the work men. The White Company's force is composed of specialized experts, each man being thoroughly trained in some one particular of the construction or equipment of White vehicles, either commercial or pleasure, both of which are served at this station. There is the man whose specialty is the adjustment or repair of different types of carburetors, another who is expert in the intricacies of steering gears, and others who are thoroughly trained in restoring electric batteries, engine starters and lighting systems, in rebuilding radiators, etc. Motor troubles are rectified in the motor department by men who are versed in that particular specialty, and consequently in the hands of this force of workers repairs, overhauling and adjustments are not only done expeditiously, but extremely well and economically.

The usual procedure of work is as follows: The machine is received at the garage, where a clerk checks it for equipment, after which the foreman of the repair department of the service station drives it into the shop. Trained workers remove all removable equipment, which is placed in a check room under lock and key. The chief tester appears and, first giving the machine a try out on the floor, takes it out on the road for thorough examination. When the car is returned a repair tag is made out in duplicate, the original to be attached to the ma-



Portable Crane with Which Heavy Units Are Raised Clear of the Chassis and Carried Away by Overhead Trolleys.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

Federal Motor and Manufacturing Company, Wilmington, Del.; to manufacture motor vehicles; R. B. Owen, W. F. A. Buchner, B. Buchner.

American Standard Motor Company, Indianapolis, Ind.; $100,000; to manufacture automobiles; Harry B. Gardner, James P. Gardner, Leo A. Gardner.

Transport Tractor Company, Queensboro, N. Y.; $100,000; to manufacture motor cars, engineering appliances, etc.; Alex Moffatt, Fred B. Stimson, Fred J. Stimson.

W. H. Richardson Company, Paterson, N. J.; $500,000; to manufacture motor cars; W. H. Richardson, B. J. Bourke, C. H. Richardson.

Prentiss-Weaver Manufacturing Company, Grand Rapids, Mich.; $20,000; D. B. Philleo, T. A. Taylor, G. O. Babcock.

Kosmath Company, Detroit, Mich.; $50,000; to manufacture motor trucks and delivery cars; Edward T. Birdsall, Guy L. Sintz, Frank C. Sibley.

S. R. K. Motor Company, Detroit, Mich.; $100,000; to manufacture automobiles; Thomas D. Knight, Frederick H. Ranney, Clarence B. Strouse.

American Standard Motor Company, Indianapolis, Ind.; $100,000; to manufacture automobiles; Leo A. Gardner.

American Motor Parts Company, Philadelphia, Penn.; $50,000; to manufacture automobiles and appliances for same; F. R. Hansell, George H. B. Martin, S. C. Seymour.

Aviauto Manufacturing Company, New York City; $5000; to manufacture automobiles, aeroplanes, radiators, etc.; B. A. Law, M. Baier, F. Miller.

GARAGES AND REPAIR SHOPS.

Toledo Central Garage Company, Toledo, O.; $10,000; Ira O. Dennan, Guy S. Lemman, Gustave Ohlinger, Donald P. Smith, Rossamond Fuller.

Clouse Tire Repair School Company, Cleveland, O.; $2500; to operate a repair school for tire repairing; Charles A. Burke, H. H. Schrod, M. C. Spader, M. F. McFadden, J. A. Burke.

Arrow Garage, New York City; George A Muir, Albert Teets, Joseph K. Savage.

Standard Garage Company, Great Falls, Mont.; $30,000; C. S. Huntoon, Louis Flader, E. M. Flader.

Central Garage, Springfield, Ill.; L. B. Stever, L. Klee, E. S. Schurr.

Bradford Garage, Lawrence, Mass.; $10,000; R. S. Chase.

Cronin Garage Company, Syracuse, N. Y.; Clarence E. Brown, James Crinnin, Edward L. Moore.

Fisk Garage Company, Middletown, Conn.; John L. Fisk, J. A. Fisk, Charles L. Fisk.

Schulter Auto Repair Company, Richmond, Va.; $25,000; Harry T. Moore, Guy B. Gillard.

Rochester Vulcanizing Company, Rochester, N. Y.; $5000; F. E. Denley, J. M. Sill, A. C. Olp.

D. D. Frisbee & Co., Detroit, Mich.; $25,000; to operate a garage; D. D. Frisbee, Louis Fox, Louis Mark, Thomas E. Mitchell.

Suburban Garage Company, La Grange, Mo.; H. D. Howe, C. C. Collister, H. L. McConnell.

Ford Garage Company, Chicago, Ill.; $5000; F. D. Hackett, J. C. Harvey, E. E. Donnelly.

Home Garage, Paducah, Ky.; $2000; F. W. Katterjohn, Herbert Melton, W. R. Katterjohn.

E. O. Proctor Company, Portland, Me.; $10,000; to conduct a garage; A. M. Bird and others.

Lincoln Way Garage Company, Sacramento, Cal.; $10,000; John L. Woods, W. W. Bender, C. M. Duren, John B. Thomas, O. Johnson.

A. R. Jones Garage Company, Saybrook, Conn.; $15,000; James A. Jones, Ansel R. Jones, Frank H. Rogers.

East New York Garage, Brooklyn, N. Y.; $1000; B. T. Foreman, Clara A. Cornelius.

Michole-Schneider Garage, Mt. Vernon, N. Y.; $10,000; George W. Schneider.

Highland Auto Garage Company, Fort Thomas, Ky.; $10,000; C. W. Evans, F. B. Stegeman, R. S. Moore, H. L. Jeffery.

Greeley Square Garage Company, New York City; $2000; E. B. McNally, J. Toplitz, J. T. Ryan.

Vernon Heights Garage, Mt. Vernon, N. Y.; $3000; E. E. Ultecht, A. A. Ultecht, William J. Terwilliger.

Chicago District Garage, Chicago, Ill.; $15,000; F. C. Hamilton, J. H. Delany, H. T. Chance.

Sixty-Third Street Garage, New York City; $5000; George Rauchfuss, Walter Layman, Thomas F. MacMahon.

Irving Stables Livery Company, New York City; $10,000; to conduct a garage and transfer business; R. B. Reed, E. L. Cheney, R. R. Billington.

The City Garage, Elizabethton, Tenn.; $5000; J. H. Grayson, W. M. Vaught, Joseph P. Bowers and others.

AUTOMOBILE DEALERS.

Battle Creek Auto Sales Company, Battle Creek, Mich.; $1500.

Atterbury Boston Company, Cambridge, Mass.; $25,000; L. E. Harmon and others.

Mellen Auto Company, Ashland, Wis.; $5000; James Whelihan, Nicholas Whelihan, Dr. C. W. Lockhart.

Pitkin Motor Company, Brooklyn, N. Y.; Louis Levin, Ida Levin, Thomas Conlew.

United Auto Truck Company, New York City; $5000; David Diamond, Philip Diamond, Louis Weltzman.

Gorden Motor Truck Company, Albany, N. Y.; $3000; J. G. Gorden, C. G. Gorden, G. M. Gorden.

Globe Motor Car Company, Canton, O.; C. S. Lochemer, E. M. Raber, G. A. Marks, J. W. Rover, J. R. Bodine.

Rohs-Bennehoff Wagon and Auto Company, Columbus, O.; $5000; C. T. Rose and others.

Naylor Clark Automobile Company, Provo, Utah; $25,000; C. L. Naylor, J. W. Clark, C. R. Brown.

Wolverine 'Bus Company, Detroit, Mich.; Maurice M. Wolff, Eli Cohen, Florence Wolff.

Clifton Auto and Storage Company, Stapleton, N. Y.; Walter L. Scott, Frederick Scott, J. Winfred Scott.

Reo Motor Sales Company, Canton, O.; $10,000; John Jacob, Jr., Edgar Harris, F. X. Volzer, Press Campbell, William Jacob.

Auburn Sales Company, Cleveland, O.; $15,000; to deal in automobiles and accessories; P. R. Ward, E. C. White, E. E. Deem, E. H. Clay, W. P. Street.

Walnut Motor Car Company, Canton, O.; $20,000; C. F. Drunny, H. C. Wilson, Eli M. Elder, C. Halter, Charles M. Ball.

Nickel Automobile Company, Louisville, Ky.; $10,000; William P. McDonough, Louis C. Heck, Jr., William A. Baker, Stephen Jones.

Appleton Ford Company, Appleton, Wis.; W. C. Hull, R. A. Schwartzberg, J. L. Tollefson.

Auto Maintenance Company, Norfolk, Va.; $15,000; V. de Murguiondo, H. C. Sherritt.

Metz Company, Boston, Mass.; N. F. Ernest and others.

Gillham Motor Company, St. Louis, Mo.; Frank R. Tate, Fred C. Gillham, Henry W. Blodgett, Jr.

Henshaw Motor Company, Boston, Mass.; Charles S. Henshaw, Harry I. A. Hodgdon, Edward Henshaw.

Schneider Electric Company, Detroit, Mich.; George Schneider, Louis Fetes, Jr., Abram L. Coom.

Ideal Service Company, Cincinnati, O.; $25,000; to deal in automobiles and motor trucks; E. M. Henderson, Albert Krippendorf, John E. C. Kohlsatt, Stuart B. Suthpin, E. M. Reinhart.

Guaranty Used Motor Car Company, Providence, R. I.; $10,000; Charles St. George, Wentworth Duffee, Frank A. Hurley.

New Glarus Automobile Company, New Glarus, Wis.; $25,000; Nick K. Zweifel, Henry M. Stuessy, N. H. Stuessy.

Elliott-Markey Company, Defiance, O.; to deal in automobiles and accessories; ... W. Elliott, J. C. Markey, H. L. Elliott, R. E. Markey, B. J. Emery

Able Motor Company, Dover, Del.; $50,000.

Central Auto Company, Bay City, Mich.; $1500; to deal in automobiles and accessories.

Dadco Auto Service Company, Detroit, Mich.; $1500; A. C. Waters, William F. Cornell, W. C. Farrington, Charles E. Kinbel.

Western States Automobile Company, Chicago, Ill.; $5000; J. B. McBridge, N. A. Lillig, Murdoch Mathewson and others.

Scripps Motor Company, Detroit, Mich.; William E. Scripps, Ray V. Warman, Andrew J. Downey, Theodore F. W. Meyer.

Bay Shore Motor Sales Company, Bay Shore, N. Y.; $5000; Charles M. Hart, Charles F. Hart, William H. Robbins

Lincoln Auto Company, Harrisburg, Penn.; R. L. Richardson, William J. Phillips, Harvey G. Stahl.

Empire Equipment Company, New Castle, Penn.; $10,000; to deal in automobiles and operate a garage; S. Curner, Clyde A. Bach, F. E. Sowersby, I. W. Daly, M. L. Rabinovitz.

Pacific Welding and Brazing Company, San Francisco, Cal.; $25,000; to deal in automobiles, machinery, etc.; J. W. Potter, O. B. McKay, J. L. Malone, S. I. Depew.

King Motor Company, Chicago, Ill.; $50,000; A. P. Mackie, C. F. Woods, J. W. MacCulehan.

Indianapolis-Detroit-Washington Company, South Washington, Va.; $100,000; to deal in automobiles; Grover Hastings, S. Edward Wright.

Bryant-Noonan Auto and Cycle Company, Rome, N. Y.; $5000; A. S. Noonan, George W. Bryant, A. J. O'Connor.

Westcott Auto Sales Company, Casey, Ill.; $10,000; W. C. Turner, H. M. Grant, J. W. Yananay.

Berlin Motor Company, Chicago, Ill.; $2500; T. W. Prindeville, J. D. Daly, A. J. Schmidt.

Co-Operative Motors Corporation, Boston, Mass.; $500,000; B. C. Boyd, H. I. Bailey, F. B. Taylor.

Cadillac Car Company, Detroit, Mich.; $12,000; Duncan Walker, H. B. Graves, Frank Krupferx, I. M. Krupferx.

Broslus Automobile Company, Fort Wayne, Ind.; $3600; Jesse Broslus, Andrew Broslus, H. Broslus.

Motor Express and Sales Corporation, Buffalo, N. Y.; $600,000; J. G. Berner, I. Campbell, J. T. Mooney.

Cadillac Automobile Company, Rockford, Ill.; $5000; F. P. Keyt, C. H. Erb, O. P. Kent.

Motor-Houghton Company, Detroit, Mich.; $10,000; Edward J. Most, Arthur J. Most, Clark F. Most, Arthur T. Houghton.

Williamsville Sales Company, Buffalo, N. Y.; $10,000; Arthur Warns, Jr., H. M. Abel, H. N. Kraft.

Auto Storage Company, Brooklyn, N. Y.; $500; Henry Bender, George Jung, D. J. Ennis.

Burger Motor Company of St. Louis, St. Louis, Mo.; $5000; Mary Burger, Ferdinand Burger, J. H. Plameier.

Motor Sales Company, Champaign, Ill.; $1000; R. S. Basett, E. B. Basett and others.

Bartlett & Smith Motor Company, Syracuse, N. Y.; $10,000; George W. Bartlett and others.

Toledo Motor Coach Company, Toledo, O.; $10,000; Valentine E. Phelps, Emma E. Phelps, Wilbur E. Phelps, Olive E. Phelps, Charles E. Phelps.

Detroit Electric Car Company of Missouri, St. Louis, Mo.; $2000; Charles M. Rice, Charles D. Long, Milton B. Strauss.

Holmes Motor Corporation, Los Angeles, Cal.; $10,000; Charles W. Gerton.

Iowa Retail Auto Dealers' Association, Des Moines, Ia.; R. R. Nesbitt, S. L. Seeman, E. C. Corry.

Fulton-Colwell Company, Cincinnati, O.; $10,000; to deal in motor vehicles and accessories; H. F. Fulton, F. C. Colwell, Robert P. Goldman, Robert Kromer, F. Watson.

Egermann Motor Sales Company, Aurora, Ill.; $8000; W. A. Egermann, S. L. Staley, W. O. Shipple.

States Motor Car Company of Indiana, Indianapolis, Ind.; $30,000; to deal in automobiles; Ralph C. Cope, William B. Smith, Walter Myers.

Hawkeye Automobile Company, Dubuque, Ia.; $10,000; Frank Zehetner, Louis Pitschner, Freeman Orne, Jacob Rausch, F. H. Clark.

Cincinnati Motor Coach Company, Cincinnati, O.; $10,000; Carl R. Kearn, Louis Bauer, August J. Kaufhold, Louis N. Bachman, Hartzell Abbott, Charles W. Melzer.

McFarlan Six Sales Company, New York City; $10,000; Sidney J. Fleet, F. Leon Shelp, Harrison E. Persons.

A-L-M Motor Sales Company, New York City; $10,000; Joseph M. Baum, Charles M. Rosenthal, Max Horowitz.

Probel-Arrison Motor Company, Washington, D. C.; $10,000; T. Oliver Probey and others.

Adams-Alexander Company, Sioux City, Ia.; $35,000; G. E. Adams, F. B. Alexander, E. L. Adams.

W. A. Trock Auto Company, New York City; Walter A. Trock, Mary Trock, Charles Hitchcock.

Westchester Auto Sales Company, New Rochelle, N. Y.; $10,000; P. J. Heldsworth, J. L. Freeborn, B. M. Holden.

Bronx Motor Car Company, New York City; $5000; William F. Wahrenburger, Edward Van Kueren.

West Coast Motor Company, Seattle, Wash.; $250,000; John B. Hill, R. B. Martin, J. C. Doyle.

A. A. Lawder & Sons, Chicago, Ill.; $30,000; to deal in automobiles; A. A. Lawder, A. A. Lawder, Jr., F. X. Lawder.

Packard Motor Company of Pittsburg, Pittsburg, Penn.; $5000; R. T. Rossell, J. A. Lager, E. C. McHugh.

Joseph J. Kittel, New York City; $10,000; to deal in automobiles; M. Kittel, J. J. Kittel, R. J. Kittel.

McDonald Brothers Motor Company, Hartsville, S. C.; $5000. Carl McDonald, L. J. McDonald.

Story & Reed, New York City; $25,000; Elmer G. Story, Ernest G. Story, Eaton V. Reed.

Ford Company, Tulsa, Okla.; $5000; D. M. Chauncey, E. N. Vandersllce, S. C. Davis.

Chevrolet Motor Company, East Orange, N. J.; $300,000; W. C. Durant, W. W. Murphy.

Laue Hardware Company, Robinson, Ill.; $10,000; to deal in

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automobiles, hardware, implements, etc.; G. H. Laue, W. G. Eaton, J. C. Laue.

Schmidt Auto Sales Company, Nacogdoches, Tex.; $15,000; H. J. Schmidt, Albert Bright, John Schmidt.

ACCESSORIES AND SUPPLIES.

Success Rubber Company, Toledo, O.; $5000; to manufacture rubber articles; Clarence B. Keemer, John M. McCabe, Walter G. Kilbridge, H. B. McCabe.

Belt Automobile Supply Company, El Paso, Ill.; $2000; C. J. Ayer, F. C. Nichols, Paul R. Goddard.

Heina Tire Company, New York City; $15,000; to manufacture automobile tires; William M. Heina.

Rex Gasometer Company, Beloit, Wis.; to manufacture measuring devices for gasoline tanks; W. H. Corcoran, R. H. Goodwin, E. R. Young.

Safety Lock Company, Carrollton, O.; $5000; to manufacture safety locks of all kinds; J. C. Farrall, M. F. Albright, Alfred Harries, E. S. Ferrall, Charles Hoffman.

Wilson & Painter Electric Company, Canton, O.; $15,000; to deal in electrical supplies; J. F. Painter, Joseph H. McCarthy, E. C. Wilson, Harry E. Fife.

Chapin-Owen Company, Rochester, N. Y.; to deal in tires, etc.; Charles S. Owen, Charles T. Chapin, Charles H. Chapin.

Akron Motor Lock Company, Akron, O.; $1200; J. S. Hill, F. H. Hill, J. H. Dugan, J. F. Miller.

Butler Fan and Motor Company, Newark, N. J.; $10,000; to deal in electrical appliances, etc.; James K. Dewey, C. B. Hatch, L. M. Krieg, Ralph I. Davis, R. F. Collins.

Air-Spring Tire Company, Bayonne, N. J.; $250,000; to manufacture and deal in automobile supplies; E. H. Hints, W. G. Smith, J. D. Milne, W. E. Meyer.

Imperial Specialties Company, Buffalo, N. Y.; $5000; to deal in automobile specialties; R. H. Templeton, L. F. Robinson, H. V. Cook.

S. and K. Oil and Gasoline Company, Brooklyn, N. Y.; Nathaniel H. Kramer, Sam Schenkel, Louis J. Kaufman.

Ideal Auto Supply Company, Albany, N. Y.; $10,000; H. G. Kosch, S. Kaplan, F. Weinstein.

California Beacon Miniature Electric Company, Albany, N. Y.; to manufacture automobile supplies; W. Risin, S. I. Rosin, M. L. Kaplam.

Numatic Company, Cincinnati, O.; $15,000; to manufacture and deal in automobile tires, accessories, etc.; Oscar H. Foster, Rovert Frenken, Frederick Havekotte, F. L. Richard, Paul William Weber.

Normal Tire Repair and Supply Company, Brooklyn, N. Y.; Percy Hind, William Hind, William Preston.

Hart Waterproof Manufacturing Company, Brooklyn, N. Y.; to manufacture waterproof and rubberized automobile goods; James H. Hart, James F. Hart, Edward F. Berry.

I. J. Cooper Rubber Company, Indianapolis, Ind.; to deal in tires; I. J. Cooper, A. D. Stocker, H. H. Brenner.

Bell-Tuttle Storage Battery Company, Syracuse, N. Y.; $3000; to deal in electrical goods; F. G. Bell, P. H. Bell, A. S. Tuttle.

Elmer W. Brown & Co., Detroit, Mich.; $5000; to deal in automobile accessories; E. W. Brown, Christian Rasmusen, O. H. Dawson.

American Double Service Tire Company, Detroit, Mich.; $3000; Hanley Dawson, J. G. Pennell, B. C. Pennell.

American Circular Loom Company, Ambridge, Penn.; $200,000; to deal in electrical and automobile supplies.

Automobile Accessories Company, Logansport, Ind.; $25,000. C. E. Young, C. B. Billman, J. Lairy.

Shoger Manufacturing Company, Chicago, Ill.; $2500; to manufacture automobile accessories; G. D. Wellington, H. C. Peterson, E. W. Clark.

Charleston Tire and Supply Company, Charleston, Ill.; $1000; J. P. Gaillard, E. B. Gaillard.

Consaulus Tire Company, Albany, N. Y.; $15,000; to manufacture tires and accessories; V. E. Consaulus, Edwin W. Sanford.

Commonwealth Motor Specialty Company, Jackson, Mich.; $5000; to manufacture automobile specialties and accessories; Earl L. McKim and others.

McCord Auto Supply Company, Macon, Ga.; $10,000; R. A. McCord, J. E. Satterfield, J. S. Ray.

Pelican Rubber Company, St. Louis, Mo.; $5000; Frank W. Sanner, M. A. Sanner, Edward C. Sanner.

Vedo Tire Inflator Company, Boston, Mass.; $30,000; A. L. Nickerson, W. W. Clark.

Triplex Inner Tube Company, Kittery, Me.; $200,000; to manufacture inner tubes; H. A. Paul, H. Mitchell.

Norwalk Tire Sales Company, Los Angeles, Cal.; $25,000; L. S. Rounsavelle.

Missonan Tire Corporation, Dover, Del.; $3,000,000; to manufacture automobile tires.

Norman Tire Repair and Supply Company, Brooklyn, N. Y.; $3000.

Globe Runner Tire Manufacturing Company, Trenton, N. J.; $650,000; W. H. Linburg, J. S. Broughton, H. L. Joyce.

Diamond Tire Sales Company, Freeport, N. Y.; $10,000; Alexander Fobes and others.

Pacific Auto Supply Company, Seattle, Wash.; $50,000; Arthur R. Jones, Charles E. Barteau.

Amsterdam Supply Company, New York City; $500; H Wheeler, M. A. Bach, G. M. Miller.

Motor Safety Device Company, Vincennes, Ind.; $25,000; to manufacture automobile accessories; Elmer Schatz, Bert Whitehouse, William F. Pelzer.

Springfield Auto Deflector Company, Springfield, O.; $2500; F. O. Wheeler and others.

George F. Grant Company, Syracuse, N. Y.; $1000; to deal in gas, electric and automobile supplies; George F. Grant, Joseph Kilmer, Thomas S. Richardson.

Rapid Seal Distributing Company, Wilmington, Del.; $100,000; to manufacture a tire sealing compound; W. Collins and others.

Safety First Appliance Company, Chicago, Ill.; $5000; to manufacture motorcycle whistles and accessories; Benjamin S Mestrow, A. G. Rosenbaum, R. H. Klein.

Auto Supp'y and Accessories Company, Aurora, Ill.; $5000. Fred R. Shearer and others.

Indian Rubber Manufacturing Company, Port Jefferson, N. Y.; $10,000; Bessie R. Rookstaver, Nathan Zebler, Adolph Crauer

Maple City Specialty Company, Adrian, Mich.; $10,000; to deal in automobile specialties; Burton E. Giles, Ralph Cushing.

Moerschell Electric and Supply Company, St. Louis, Mo.; $5000; Charles J. Kron, Victor R. Appel, William E. Moerschell

Southern Auto Supply Company, Salisbury, N. C.; $25,000; R. B. Young and others.

PARTS AND FITTINGS.

Boggis-Dietz Electric Company, Milwaukee, Wis.; to manufacture and repair electrical devices; H. F. Boggis, E. L. Dietz.

Acme Carburetor Company, Port Huron, Mich.; $10,000.

Myers-Ebersole Motors Company, Kansas City, Mo.; $10,000; J. W. Ebersole, W. D. Myers, W. A. Boring.

H. P. Dodge Engineering Company, Toledo, O.; $10,000; Henry P. Dodge, Noah A. Whitney, Martin S. Dodd, Frederick C. Averill, George F. King.

Detroit Tapering Radiator Company, Detroit, Mich.; Joseph A. Moross, Maud S. Moross, Benjamin C. Loring, Rosanna C. Loring.

Sampson Engineering Company, Louisville, Ky.; $50,000; to manufacture self-starters for motor apparatus.

National Trimming Company, Detroit, Mich.; $10,000; to manufacture automobile tops; B. B. Wetsman, James E. Kinney.

Magnus Company, Milwaukee, Wis.; to manufacture metal products; Charles H. Duback, William F. Libbay, John Jackson.

Newton Manufacturing Company, New York City; $25,000; to manufacture dynamos, engines, etc.; W. R. H. Hardingham, P. Sinnott, Bruce M. Falconer.

Auto Body Company, Indianapolis, Ind.; H. Putnam Wood, J. E. Wood, Roy M. Stuart.

Little Giant Starter Company, Canton, O.; to manufacture automobile starters, accessories, etc.; E. D. Myers, J. H. Binns, W. L. Vance, R. G. Flack, C. W. Metzger.

Seidel Wheel Company, Chicago, Ill.; $50,000; to manufacture wheels and accessories; W. R. Bond, J. A. Bode, S. W. Banning.

Electrical Shop, Racine, Wis.; $5000; to manufacture and repair electrical devices; William Pratt, Kerner Brandeis, Fulton Thompson.

Hyatt Auto Top Company, Trenton, N. J.; $20,000; William G. Hyatt, Harry M. Arnold, Bessie M. Hyatt.

Rotary Valve Manufacturing Company, Kansas City, Mo.; $250,000; C. R. Jones, J. M. Burgner, L. A. Sherman.

Otto Parts Company, St. Louis, Mo.; $2000; to conduct a general automobile business; Walter J. Judson, Charles H. Mills.

Gillespie-Boynton Company, Wilmington, Del.; $100,000; to manufacture motors; James P. Gillespie and others.

R. and L. Instrument Company, Beloit, Wis.; $25,000; to manufacture signal devices for automobiles; J. E. Keeley, L. S. Carr, H. D. Ball, J. L. Floyd.

Reliable Engine Company, Portsmouth, O.; $10,000; R. R. Schoonover, Ben Herr, C. Herr, Arthur H. Bannon, William J. Meyer.

Spring Governor Company, Chicago, Ill.; $100,000; to manufacture spring governors and other automobile devices; J. A. MacKnight, J. J. Cullen, J. F. Mooney, C. J. Daplstrom, Homer Milligan.

Federal Manufacturing Company, Detroit, Mich.; $5000; to manufacture automobile horns, lamps, etc.; A. M. McCreed, David W. Rinohl, Thomas S. Merrill.

Burdett Oxygen Company, Chicago, Ill.; $100,000; to manufacture machinery, gas generating apparatus, mechanical appliances, etc.; J. Burdett, E. G. Luenig, Paul Pleiss.

MISCELLANEOUS.

Kansas City Motor 'Bus and Transportation Company, Kansas City, Mo.; $2000; Earl C. Beig, J. A. Daniels, S. Percy Daniels.

Rochester Vulcanizing Company, Rochester, N. Y.; $5000; A C. Olp, J. M. Sill, F. E. Denley.

Bell Pump and Manufacturing Company, Detroit, Mich.; to manufacture tire pumps, oil and grease pumps; Bradley W. Bell, Horace L. Morton, Mattie E. Oakley.

Milwaukee Steel Type and Die Company, Milwaukee, Wis.; A. C. Moeller, Fred H. Scheiner, Emmet Horan, Jr.

Motor Owners' Publishing Company, New York City; $5000; Sanford A. Pette, John W. Schmidt, Ferdinand H. DeBermingham, Jr.

Automobile Country Club, Los Angeles, Cal.; Douglas White, George W. Griffiths, Jr., W. J. Rouse, W. W. Gardner, C. E. Keefe, J. J. Walsh and others.

Auto Insurance Company of Norwalk, Norwalk, O.; Dales A. Fritz and others.

Hopkinsville Automobile Club, Hopkinsville, Ky.; Charles F. Johnson, J. H. Rice, E. H. Higgins, R. L. Bradley.

Standard Protective Auto Association, Los Angeles, Cal.; $75,000; J. J. Keogh, M. C. Perkins.

Auto Parts Exchange, Sacramento, Cal.; $10,000; J. T. Wilcox, W. O'Neall, S. F. Cottrell.

Adjustable Auto Shoe Company, Indianapolis, Ind.; $10,000; W. A. Parr, L. O. Gillaspy, G. E. Parr.

Auto Spray Company, Detroit, Mich.; $10,000; R. H. Evans, H. J. Skivington, D. H. Bentley.

Gillette Safety Tire Company, Portland, Me.; $1,000,000; A. F. Jones, T. L. Croteau.

Scarborough Motor Guide Company, Indianapolis, Ind.; $30,000; Marcel Rocamora, I. R. Holycross, Claude Palmer.

Rapid Seal Distributing Company, Wilmington, Del.; $100,000; to deal in sealing liquids for automobile tires; Joseph A. Vogel, Harry R. Loose, George W. Collins.

Mathewson Taxi Company, Danbury, Conn.; $1000; Edward E. Mathewson and others.

Central Transfer and Taxicab Company, White Plains, N. Y.; $5000; Gertrude L. O'Brien, F. A. O'Brien, William A. O'Brien.

Defender Automobile Regulator Company, St. Louis, Mo.; $5000; T. Kemp and others.

Auto Transportation Company, Webb City, Mo.; $30,000; A. H. Rogers.

Jitney Service Company of Kentucky, Louisville, Ky.; $3500. R. M. Cunningham, F. A. Jack and others.

Club Gas Corporation, New York City; $5000; Aksel Wichfield, George B. Read, Robert Strange.

Kolb Portable Building Company, New York City; $10,000; to manufacture garages, engines, appliances, etc.; R. Banfield, G. Banfield and others.

Auto by the Hour Rent Company, New York City; $1000; James S. Garvin, Daniel S. Sprague, John G. MacDonald.

Loadometer Company, Wilmington, Del.; $150,000; G. W. Sillman, F. D. Buck, M. L. Harty.

Parisano Aerial Navigation Company, New York City; $100,000; M. A. Parisano, B. Simon, J. Simon.

Rome and Northern Auto 'Bus Company, Rome, N. Y.; $2000; G. Jones, A. S. Nonan, William C. Perry.

Williams Taxicab Company, Albany, N. Y.; $1200; G. D. Williams, J. F. Disken, F. Gragiglia, A. Medeo.

Automobile Tire Cooler Company, Trenton, N. J.; $500,000; D. Hall, A. Lindsay, C. C. Leonard.

Motor Car Exchange, Pittsburg, Penn.; $5000; R. P. Sullivan, Thomas R. Reed, A. E. Kountz.

Flexible Traction Motor Truck Company, Trenton, N. J.; $500,000; to manufacture motor trucks; F. A. Conkling, H. W. Brookes, W. J. Watson.

Union Jitney Company, Memphis, Tenn.; $1500; Casey Todd, John W. Spencer, W. A. Schmidt, Travis C. Biggs, Hunter Wilson.

Clayton Auto Painting and Trimming Company, New York City; $20,000.

Seubert Bearing Company, New York City; $1,000,000; to manufacture ball bearings; L. H Seubert, C. O. Whitney, William E. Lewther

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GENERAL NEWS OF THE MANUFACTURERS.

Gray & Davis, Inc., Boston, Mass., during 1914 did a business of $4,000,000, which is a high-water mark. The first six months the sales totalled $2,500,000, and the remaining portion of the year about $1,500,000. The earnings of the year were in excess of $300,000, over two-thirds of which was contributed in the six months to June 30.

The Herff-Brooks Corporation, Indianapolis, has announced a new small four, which is known as the Herff-Brooks 25 and will sell at $765. The car will be manufactured at the Richmond plant. It has a four-cylinder motor, developing 25 horsepower, the cylinder being cast en bloc. Left drive and centre control are used. The car has 106-inch wheelbase.

The Lozier Motor Car Company, Detroit, after a shut down for several months, has resumed work. Men are making up 550 cars, the materials for which were purchased by the syndicate that bought the plant at the receivers' sale. Negotiations for the sale of the plant to New York capitalists are being carried on by the operating company.

Dodge Brothers, Detroit, manufacturer of the Dodge automobile, has just installed in its laboratory a new torsion machine, which is in duplicate of one owned by the Japanese government, these two machines being the only ones in existence. This machine is known as a torsion automatic, autographic tester and is designed expressly for measuring the torsion or twisting strength of steel used in the manufacture of moving parts.

The Olds Motor Works, Lansing, Mich., states that present conditions assure an excellent spring business. The first train load order for the model 42 Oldsmobile touring cars, which originated with C. H. Larson, New York City, was for 120 cars. This order will occupy space of 42 freight cars and will make 42 car loads of the new model. J. B. Hall, sales manager of the company, states that it in one year made an increase of more than 700 per cent., in its selling organization, and that this resulted from the popularity of the four-cylinder car. A substantial increase in demand for cars in large cities is a further evidence of prosperity.

The Continental Motor Manufacturing Company, Muskegon, Mich., is in its banner year, according to A. H. Zimmerman, secretary-treasurer of the concern. It has contracts that will keep the plant running to full capacity until September. The company is employing 1700 men, is operating night and day, and is busier now than it was a year ago. Most of the orders, however, are for domestic trade, although a few war orders have been filled.

The Port Huron Construction Company, Port Huron, Mich., has closed a contract with the Regal Motor Car Company of Detroit, for the construction of 1000 motors of the four-cylinder type and which are known in the automobile field as the Jenks motor The concern will also build a number of eight-cylinder motors, which will be installed in Regal cars.

The Booth Felt Company, Inc., Chicago, will open a new factory at 116-118 South Fifth avenue. Edward S. Sheppard will manage the company's affairs.

The Abbott Motor Car Company, Detroit, has recently moved to a new location in the A. C. Knapp Company's plant, at Lafayette and Meldrum streets. The first Buick cars were built in this portion of the Knapp factory.

The Knight Tire and Rubber Company, Canton, O., announces the opening of a new branch at 215 West 51st street, New York City. This will be a distributing office for New York, New Jersey and western Connecticut. L. I. Ris has been placed in charge.

The K. P. Foot Rest Heater Company, New York City, has established its headquarters at 250 West 54th street. The company's offices were formerly at Boston, Mass.

The Somers Carburetor Company, Detroit, has been organized and will manufacture the Somers carburetor. James Somerville is president.

Wheeler & Schebler, Indianapolis, is issuing a leaflet in large size, dealing with the many triumphs won with Schebler carburetor equipment.

The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., is publishing a booklet entitled "Gear Shifting by Electricity", which explains the principles and advantages of the Vulcan electric gear shift.

The Asbestos Protected Metal Company, Beaver Falls, Penn., is issuing a beautiful catalogue covering its line of Asbestostell for roofs and walls.

The Burd High Compression Ring Company, Rockford, Ill., is issuing a directory of piston ring sizes which tells the motor car owner the size to use in his car, irrespective of the make or model.

The Firestone Tire and Rubber Company, Akron, O., is sending out a handsomely lithographed large size folder, portraying the Los Angeles-Phoenix and El Paso-Phoenix road races, which were won on Firestone tires.

A. S. Hecht, New York City, doing business as Hecht's Magneto Exchange, has formed the Magneto Parts Company, Inc., to manufacture and distribute parts for all standard magnetos. E. M. Lowe is secretary-treasurer of the new company.

The Plant of the Olds Motor Works, Lansing.

The Lewis Spring and Axle Company, Jackson, Mich., has just announced an eight-cylinder, five-passenger car to sell at $985, equipped. The car will be known as the Hollier eight and it is manufactured complete in the Lewis factory. The company expects to turn out 3000 within the next year.

The Locomobile Company of America, Bridgeport, Conn., announces that it will this year increase its production of motor trucks from 1200 to 1500, and it is probable that the number will reach 1800. The models comprise three, four, five and six-ton trucks.

The J. M. Shock Absorber Company, Philadelphia, has opened a direct factory branch at 250 West 54th street, New York City. Users of J. M. shock absorbers are invited to run their cars to this branch and have factory experts make adjustments without charge. Edward Knauss is in charge.

The New Lite Manufacturing Company, Boone, Ia., which was recently incorporated for $50,000, is building a new plant there.

The J. I. Case Threshing Machine Company, Racine, Wis., announces that because of unusually heavy orders for trucks and tractors for export it has been obliged to increase its working force to 1400 men and in the near future it will be further increased to 1800 hands. Russia has purchased a large number of Case cars.

The Kissel Motor Car Company, Hartford, Wis., is working extra shifts in order to fill the foreign and domestic orders for pleasure cars and trucks.

Gray & Davis, Inc., Boston, Mass., has opened a new branch consisting of office and salesrooms at 245-49 West 55th street, New York City. W. W. Burke is in charge as eastern sales manager.

R. M. Owen & Co., New York City, manufacturer of the Entz electric transmission, has secured a factory at Fifth avenue and 142nd street. This will give the com-

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pany 50,000 square feet of floor space.

The Republic Rubber Company, Youngstown, O., will open a European branch in London in the near future. Frank V. Springer will be in charge.

The Splitdorf Electrical Company, Newark, N. J., has secured the contract for supplying all 1916 Overland cars with the new Dixie magneto.

The National Motor Vehicle Company, Indianapolis, has purchased a tract of land adjoining its factory and will build a large addition to its plant. The company has just increased its capital stock to $600,000.

The Westinghouse Electric and Manufacturing Company, East Pittsburg, Penn., through its equipment department, has opened new sales service stations as follows: New York City, 250 West 54th street; 2025 Euclid avenue, Cleveland; 2007 Michigan avenue, 427 North Meridian street, Indianapolis.

The Haynes Automobile Company, Kokomo, Ind., according to its general manager, A. G. Seiberling, says: "There is as much difference between the light, high speed, high efficiency motor and the low speed motor as there is between a greyhound and a shepherd dog. The light, high speed motor, such as is found in the Haynes Light Six, is a distinct type of motor. Its reciprocating parts must be light—not for increased power, but for balance at high speeds and quick acceleration or getaway. The overall efficiency of the car depends much upon the ratio of power to motor weight. The high speed motor may reach speeds well up towards 3000 revolutions a minute, while the low speed motor rarely exceeds 1500 revolutions a minute. The bore is smaller.

The Thomas B. Jeffery Company, Kenosha, Wis., makes statement that much satisfaction obtains with owners of the new Jeffery Chesterfield Six. Experiments conducted at different times have, claim is made, proven the worm drive to be much more efficient than the bevel gear drive. In addition to its increased efficiency it has more strength and is silent in operation.

The Service Gear and Machine Company, Reading, Penn., has purchased the stock of gears, shafts and patterns of the service department of the American Die and Tool Company of that city. The former company will maintain a stock of transmission gears, spline shafts, counter shafts, bevel differential gears and axle shafts for a great many obsolete cars. The American Die and Tool Company will devote its energies to the production of transmissions, light car rear axles, gears and other parts for manufacturers only.

The Packard Motor Car Company, Detroit, is issuing a live wire bulletin entitled "Brobdingnagians of Battle and of Business", in which is portrayed thought for the American business man. The present war has brought many orders to the Packard Company for trucks to be used in active war fare. Department of Commerce reports show that truck shipments have averaged in value from $2,500,000 to $3,500,000 a month since last fall. More trucks were shipped in 30 days than during the whole of the year 1913.

The Ferro Machine and Foundry Company, Cleveland, has recently introduced two eight-cylinder V type motors for automobiles. The upper half of the crank case and the two cylinder blocks are in one casting. The dimensions of the motors are 3 by 3½ and 3¼ by 4, respectively.

The Maxwell Motor Company, Detroit, has purchased the business of the Piedmont Motor Company of Charlotte, and will continue the establishment as a direct factory branch.

The Willys-Overland Company, Toledo, O., manufacturer of the Willys-Utility truck, and its subsidiary company, the Garford Company, manufacturing the Garford truck, has disposed of its motor truck business to the Gramm Motor Truck Company and will hereafter manufacture the pleasure car only. The Gramm Motor Truck Company was a subsidiary of the Willys-Overland Company, but a controlling interest has been sold to the Geiger-Jones interests of Canton, O. The capital stock of the Gramm Company is $750,000 common and $489,000 preferred. The Willys Company owned $518,500 of the common stock.

The Cadillac Motor Car Company, Detroit, has had its eight-cylinder car become the official car of the Panama-California Exposition at San Diego. Three cars have been ordered by E. A. Davidson, chairman of the fair committee. These cars will be used by the members of the executive committee on official business. Two Cadillac cars have also been purchased for the Panama-Pacific Exposition at San Francisco, Cal.

The Dorris Motor Car Company, St. Louis, in adding a six-cylinder car to its line, has adhered to standard features of design, including unit power plant, multiple disk dry clutch, overhead valve mechanism with inclosed valves and speedometer drive from the inside of the gear case. It is a seven-passenger touring car and has a wheelbase of 128 inches.

The Maxwell Motor Company, Detroit, is building seven cars to be entered in the chief speedway events of the 1915 racing season. The different cars will be constructed for different classes so that their itinerary will include almost every race scheduled between the coast. Ray Harroun is the chief engineer of the company and he will superintend the construction of these cars.

The Paige-Detroit Motor Car Company, Detroit, is now working on a 24-hour schedule, with three eight-hour shifts.

The Swinehart Rubber and Tire Company, Akron, O., is having plans made for a three-story reinforced concrete and brick addition, to be made to its plant at a cost of $75,000. It will measure 60 by 130 feet.

The Pennsylvania Rubber Company, Conshohockon, Penn., will increase its force from 800 to 1400 men as soon as its new plant is opened.

The F. and H. Wire Wheel Company, Springfield, O., has moved its plant and offices from Columbus, O., to obtain increased manufacturing facilities. It has a much larger plant with greater facilities for machine work and assembling.

The Rayfield Motor Company, Chrisman, Ill., has arranged to produce the Rayfield 20 in large numbers. The engines, transmission and axles will be supplied by the Pittsburg Model Engine Company; bodies and tops will be manufactured in Indianapolis, hoods, fenders and radiators will be made in Detroit; wheels in Columbus, springs in Chicago and the frames will be built at Milwaukee. The final assembly will be at the company's plant in Chrisman and the Great Western Automobile plant at Peru, Ind.

The Autocar Company, Ardmore, Penn., held its annual meeting recently and the former board of directors was re-elected as follows: President, David S. Ludlum; vice president, John S. Clarke; secretary-treasurer, Edwin A. Fitts, and assistant secretary-treasurer, Frank C. Lewin.

The Hartford Auto Parts Company, Hartford, Conn., has been completely reorganized, the final step being taken by the securing of additional capital and the election of officers. The company operating with its newly acquired financial strength is now able to take care of all requirements. Cyrus C. Chambers is president and the vice president and treasurer of the company is James M. Carney.

Mich., Where the Oldsmobile Models are Made.

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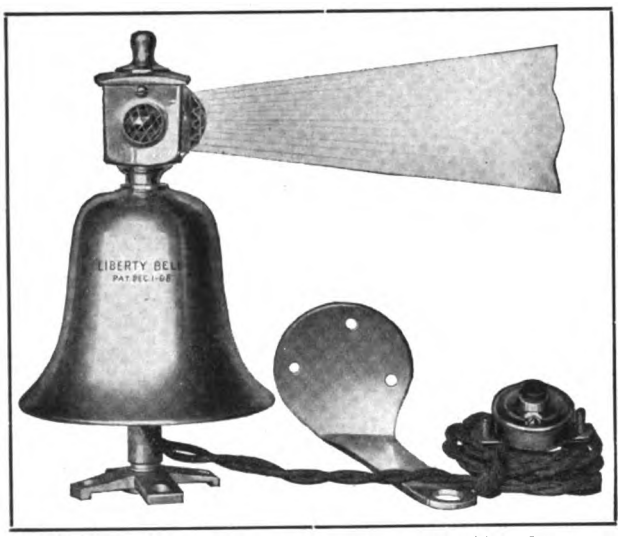
THE LIBERTY BELL COMPANY.

Manufacturers of Novel Electric Signal Has Exclusive Territory for Worth-While Dealers.

The Liberty Bell Company, the Arcade, Cleveland, O., manufacturer of the novel electric signal known as the Liberty Bell, is making a very liberal proposition to



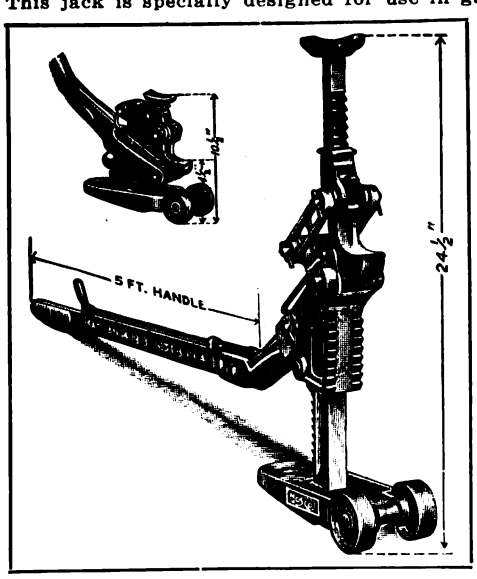
The Liberty Bell, a New Automatic Signal.

dealers who wish to handle an accessory in much demand. One type of this bell not only serves as a signal, but is also a warning lamp. Mounted on the top of the bell and fully protected, is a lamp with a ruby lense, which is flashed when the bell is sounded, as may be noted by the accompanying illustration. The sound of the bell is melodious and penetrating, and appeals to all motorists who desire a high-grade, efficient signal, pleasing to the ear as well as the eye. The company points out that the dealer who wishes to handle this line does not have to make a large investment, as a half or quarter dozen will demonstrate its quality and the existing demand for this novel and interesting accessory. A letter or post card to the company will bring complete details to the inquirer.

MOSCO EXCEL GARAGE JACK.

Motor Specialties Company Is Selling a Powerful Tool for Rapid and Easy Handling of Automobiles.

The Motor Specialties Company, Waltham, Mass., manufacturer of the widely known Mosco products, is selling the Excel garage jack, a heavy and powerful tool, with which large and small cars can be easily handled. This jack is specially designed for use in garages, service stations, repair shops, tire agencies, etc., and weighs 50 pounds. As may be seen from the accompanying illustration, it has a five-foot handle, which gives powerful leverage, and which will raise either end of a car 4½ inches with a single stroke. The range of lift is from five to 26 inches from the floor. The company makes liberal discounts to garages and dealers. Dealers and agents interested should write for the 1915 Mosco catalogue, mentioning The Accessory and Garage Journal.

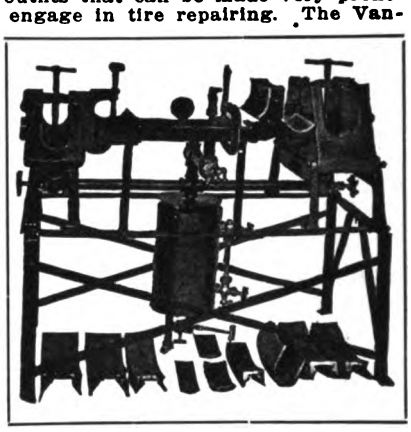


The Excel Jack Sold by the Motor Specialties Company.

VANDERPOOL VULCANIZING OUTFITS.

Springfield, O., Company, makes Practical Equipment for the Service Station or Repair Shop.

The Vanderpool Company, Springfield, O., is manufacturing vulcanizing outfits that can be made very profitable by those who engage in tire repairing. The Vanderpool vulcanizer is a two cavity, machine fit, with which the repairman can do any work necessary on tubes or castings quickly and with minimum labor. This outfit is simple in construction and no expense is required after the initial investment. The price of the outfit is extremely reasonable and every sale is made with an absolute guarantee of material and workmanship. The repairman who is enterprising can make large profits on a small investment. The garage or repair man who is interested in a vulcanizer that will do any work should write the company for full information and a copy of its latest catalogue, mentioning The Accessory & Garage Journal.



The Vanderpool Vulcanizing Outfit.

FEDERAL TIRE SERVICE COMPLETE.

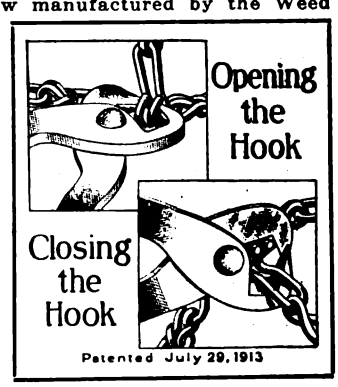
Well Known Milwaukee Concern Co-Operating with Its Agents and Customers to Insure Satisfaction.

The Federal Manufacturing Company, Milwaukee, Wis., manufacturer of the Federal double-cable-base tires, has a service for its dealers and customers that is business promoting from every viewpoint. Federal tires, rugged or plain treads, are made of pure para rubber and best quality "square" woven fabric. Double-cable-base construction eliminates rim cutting, tube pinching, side wall blowouts and the danger of slipping from rims. Claim is made that Federal tire users are free from these annoyances and causes of expense. It is worth any dealer's while to write the company and secure full details of its selling plan, its trade price list, etc.

WEED TIRE CHAIN PLIERS.

New Repair Tool for Circular Hooks Is Produced by the Weed Chain Tire Grip Company.

A pliers specially designed for opening and closing the circular hooks of the new type of cross chains for Weed tire chains is now manufactured by the Weed Chain Tire Grip Company, Bridgeport, Conn., which is known as the Weed pliers. The ends of the latest types of Weed cross chains are fitted with circular hooks, and the pliers are intended to expedite the removal of these hooks when a chain is broken and must be replaced. The accompanying illustrations shows the pliers with which the repair can be made in a very short time. With the flat end of the pliers the hooks can be spread, and the patented square opening in the tool is used for closing the hooks when making replacements. All users of Weed chains will find this tool especially advantageous, so that practically all motorists can be regarded as probable customers for them. Dealers who sell Weed chains can, by mentioning the Accessory and Garage Journal in their inquiry, receive detailed information direct from the company.



Weed Chain Pliers.

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NEW LOCATIONS AND REMOVALS.

The Central Automobile Company, Albany, N. Y., has removed to 450 Central avenue.

John F. Hunt, Lynn, Mass., agent for the Reo car, has moved into show rooms at 109 Summer street. The location is more attractive and better adapted to showing cars than the former garage at 108 Empire street. He carries a complete line of accessories and supplies.

The Gahran-Pinchbeck Company, Albany, N. Y., distributor of the Buick car, has removed to larger quarters at 132 Quail street.

The Albany Motorcycle Company, Albany, N. Y., agent for the Harley-Davidson motorcycle, has removed to larger quarters at 222 Central avenue.

The Fairfield Automobile Company, Bridgeport, Conn., has moved into new sales rooms at Broad and John streets. The Imperial car is represented.

The Johnson Motor Car Company, Philadelphia, distributor of the Haynes and Saxon cars, is now located at 134 North Broad street.

The Dayton and Troy Auto Company, Toledo, O., is to remove into new quarters in the Beckel block. The company handles the Ford car.

The Kelly-Springfield Tire Company, San Francisco, Cal., has removed to larger quarters at Van Ness avenue.

Stanley Lusader, Frankfort, Ind., is now located in North Jackson street. The building was recently overhauled and contains a repair shop, which occupies the whole of the second floor. He proposes to keep his establishment open day and night and every day in the year.

The Goodyear Tire and Rubber Company, Omaha, Neb., is now located at 2549 Farnham street. The increasing business necessitated this move.

The Auto Tire Sales Company, St. Louis, Mo., has removed to a new building at 3434 Locust street. The company handles the Marathon tires.

M. J. Wolfe, Brooklyn, N. Y., will open new quarters at 1150 Bedford avenue. He handles the Moon car. A service station is being erected at 172 Quincy station.

The International Motor Truck Department of the International Harvester Company, Harrisburg, Penn., is now located at 619 Walnut street.

The I. and R. Auto Tire Repair Company, St. Louis, Mo., is now located at 5027 Delmar boulevard. The company is composed of W. H. Ingraham and A. J. Reinhart.

The Motor Car Sales Company, Chicago, has moved to the three-story building at 2338 Michigan avenue. The first floor is devoted to the Pathfinder car, the second to the Briscoe and the third floor is used as a service department.

The Superior Garage, Stockton, Cal., is now at 318 North Eldorado street.

The Potter & Petrie Garage, Battle Creek, Mich., has moved into larger quarters in West Main street.

The McNaul Tire Company, Chicago, will soon locate at 2120 South Michigan avenue.

The Jamestown Motor Company, Grand Forks, N. D., is now located in Pacific street. Cadillac and Studebaker cars are represented.

The Illinois Auto Sheet Metal Company, Chicago, has leased the premises at 2015-17 South Michigan avenue for a term of years at a yearly rental of $2400.

The Seneca Motor Car Company, Rochester, N. Y., is now located at 336 East avenue. It has the agency for Peerless pleasure cars and Raugh & Lang electric cars.

The Foss-Hughes Motor Car Company, Wilmington, Del., is now established in its new building at 11th and Orange streets.

The Tate-Gilham Motor Car Company, St. Louis, Mo., has removed to the remodelled Hass building at 23rd and Locust streets. The company is agent for the Dodge car and will operate a service station.

Hall Brothers, Manitowoc, Wis., has moved into a new garage at Commercial and Ninth streets. The building is 50 by 120 feet.

The Buick-Hensel Company, Huntington, Ind., has moved into the T. H. A. T. building on Franklin street.

The Ashby Auto Company, Ashby, Minn., has completed its garage. Up-to-date machinery has been installed, including drills, lathes and other tools.

The Abbott Motor Sales Company, Toledo, O., is now located in its large sales rooms in the Meredith building at Jefferson avenue and Michigan street.

The Yakima Auto Supply Company, North Yakima, Wash., has leased the new garage building in South Third street.

The Shaw-Pearson Motor Company, New York City, has leased the store at 1892 Broadway.

The Fisk Company, Houston, Tex., is now located in new quarters at 7120 Main street.

The Pennsylvania Rubber Company, Detroit, Mich., has moved from 254 Jefferson avenue to larger quarters in Woodward avenue.

Louis Helm, Stafford Springs, Conn., has completed a garage which has accommodations for 30 cars.

J. N. A. Langevin, Southbridge, Mass., has moved his garage business to Central street.

The Fond du Lac Auto Company, Fond du Lac, Wis., has moved into a new garage on Macy street. The company handles the Cadillac and Buick cars.

The K. Y. Tire Company, Phoenix, Ariz., has moved to the Craig building at 142 West Adams street. The company was formerly located in the Blue Light garage.

The Moon Sales Company, Brooklyn, N. Y., is now located at Bedford avenue and Monroe street.

The Atlas Garage, Dayton, O., has removed to a new building in South Jefferson street. It is owned by George F. Deady and George H. Holland.

The Springfield Automobile Supply Company, Springfield, Mo., has leased the first floor in the new Fraternity building.

The Valley Auto Supply Company, Saginaw, Mich., has moved to 521 Tuscola street. The company handles all makes of automobile tires and general accessories.

A. M. Speare, Jr., Portland, Me., has removed to the old Spear Auto Company's quarters at 92 Gross street, where he will operate a service station and garage. Dodge cars are represented and a complete line of automobile accessories and supplies is carried.

The Byerley Hoole Tire and Repair Company, Kansas City, Mo., has removed to a three-story building at 2814 McGee street.

Charles Snyder, Allentown, Penn., agent for the Saxon car, has purchased property in 10th street and will remodel the building for his use.

The Thomas Motor Car Company, Buffalo, N. Y., has removed to larger quarters at 1231 Main street.

The Grand Central Garage Company, Olean, N. Y., has removed to new quarters in the Opera House building.

The Auto Aero Supply Company, White Plains, N. Y., has leased a building on Bank street and will locate there.

The Rex Tire and Rubber Company, Philadelphia, is now located at 304 North 15th street. A repair department is also maintained.

The Parker Motor Car Company, Seattle, Wash., has leased new quarters at 1507-11 Broadway. Pullman cars are represented.

The Pennsylvania Rubber Company, Detroit, will locate at 864 Woodward avenue.

Elmer W. Brown & Co., Detroit, is now located at 967 Woodward avenue. The company has been appointed distributor for the Diamond tire and will also carry a complete line of automobile accessories and supplies.

The Overland Automobile Company, Macon, Ga., is now established at 552 Second street in Criswell's garage.

Joseph F. Burkey, Galesburg, Ill., has rented the building at 176 East Simmons street. He handles the Jackson and Empire cars.

The Anderson Tire and Rubber Company, Wichita, Kan., has moved into new offices and sales rooms at 121 North Lawrence avenue.

The Jones Auto Exchange, Wichita, Kan., will remove into larger quarters from North Topeka avenue to the Fort Morgan block in West Douglas avenue. The company will install an automobile repair shop at an approximate cost of $40,000. Ford cars are represented.

The Brasher Motor Car Company, Columbus, O., is now located at Fourth and Gay streets. The company handles the White cars for central Ohio.

Junclas Automobile Company, Cincinnati, southern Ohio distributor of the Overland car, has secured new salesrooms at Eighth and Race streets.

The Shafer-Decker Company, Rochester, N. Y., has taken over the garage and service station of the Empire State General Vehicle Company at 13 Circle street. The company deals in automobiles.

John D. Westbrook, Inc., Norfolk, Va., has moved to 331 Granby street. W. L. Stevenson is in charge of the sales department and S. J. McKenzie, from the Republic Rubber plant, is in charge of the vulcanizing and repair department. The company handles the Republic tire for that territory.

The Knight Tire and Rubber Company, Boston, Mass., has moved from 153 Massachusetts avenue to 179 Massachusetts avenue.

The Reliable Tire Company, St. Louis, Mo., has moved to 3117 Locust street. The company handles tires and tire accessories and does a repair business.

The Buckeye Motor Company, East Liverpool, O., is now located in a new building at Fifth and Walnut streets. The first and second floors are used for storage purposes and the third floor for a repair and paint department. The company handles the Maxwell, Hudson and Packard pleasure cars and Modern trucks. A line of accessories is also carried.

J. H. Lang, Fargo, N. D., has leased the Bonde garage at 215 N. P. avenue.

Thomas J. Hay, Chicago, has moved to 2519-21 Michigan boulevard, where the floor space available is 30,000 square feet. He handles the Hupmobile and Chandler cars.

The Ford Sales Company, Macon, Ga., has moved to the old McCord-Wade garage in First street.

Mitchell & Spicer, Oxnard, Cal., has leased the Opsahl garage and will locate there.

The Briscoe Garage, Salem, Ore., will shortly remove to new quarters at 229 State street.

Schrader & Marsh, Audubon, Ia., will move into the M. T. Foley building, where better facilities for conducting its automobile agency and garage is maintained.

The Pegau Auto Company, Des Moines, Ia., has leased the large store room on 10th and Walnut streets, where it will represent the Herff-Brooks car.

The Akron Tire and Repair Company, Toledo, will open headquarters at 340 Erie street, in the Gates building.

The Leighton Cyclery Company, Toledo, O., has removed from 149 Michigan street to 129 Erie street.

The American Vulcanizing Company, Syracuse, N. Y., has removed to 327 East Onondaga street. J. F. Walters is the manager.

The Mound City Buggy and Auto Company, St. Louis, Mo., has leased the building at 2007 Locust street and will make extensive improvements and locate there. The company handles the Jackson and Allen cars.

Erie P. Nevins, De Kalb, Ill., has taken headquarters in the Lincoln Highway garage. He is agent for the Studebaker car.

The Mitchell Auto Company, Chattanooga, Tenn., has moved into its new garage at Seventh street.

Horn & Baird, Minneapolis, local agent for the Indian motorcycle, has removed into a new home at 417 South Sixth street.

Coffin & Taber, Boston, Mass., auto and supply dealer, has leased a group of fireproof buildings to be erected in the Back Bay district by a company headed by Albert Geiger, Jr.

The Athena Auto Company, Chicago, has leased the two-story building at 118 East 23rd street and will locate there.

G. A. Hollinger, Troy, N. Y., has leased the former carriage store of John J. Blackhall at 3100 Sixth avenue and will locate there. He will convert it into a modern garage. Grant cars are handled.

O. J. Usher and R. Netz, Chehalis, Wash., owners of the Chehalis garage, have leased part of the Geissler building and will equip it for a garage and will maintain a repair shop.

The Jandorf Automobile Company, New York City, has leased an entire floor in the building at 1759 Broadway.

The Peterson Motor Company, Portland, Me., is now located in new headquarters in Forest avenue.

H. C. Woodward, Pasadena, Cal., is now located at 129 West Colorado street. He represents the Saxon and Oakland cars.

The North Side Sales Company, Fort Wayne, Ind., agent for the Allen car, has removed to 119 Clinton street.

The Standard Vulcanizing Works, Saginaw, Mich., has removed its plant to 136 North Warren avenue from 107 South Weadock avenue.

John F. Burkey, Chicago, has secured the building at 173 East Simmons street. He handles the Jackson and Empire cars and will also carry a complete line of automobile accessories and supplies.

The Motor Mart, Lowell, Mass., agent for the Ford car, is now established in the new Ford garage on Ford street. It is modern throughout.

The Pioneer Rim and Tire Company, Minneapolis, has secured new quarters at 1405 Hennepin avenue. The company will locate there.

S. W. Rothenberger, Minneapolis, has removed his automobile repair establishment to 93-95 11th street. He was formerly located at 1204 Mary place.

The Miller Automobile Company, Sacramento, Cal., has removed to new quarters at 1806 M street from 1329 Seventh street. The company handles the Dodge car.

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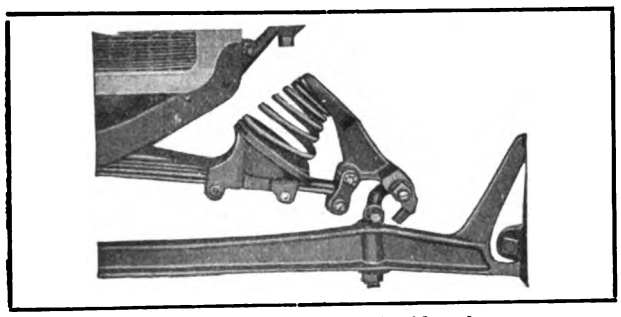
HASSLER SHOCK ABSORBER.

Indianapolis Concern Has Efficient Equipment for Ford Cars That Is Greatly in Demand by the Trade.

Robert H. Hassler, Inc., West 10th and Canal streets, Indianapolis, Ind., is selling a set of four Hassler shock absorbers to Ford owners at a retail price of $20. This



The Hassler Ford Shock Absorber.

equipment as may be seen from the accompanying illustration, is a new type absorber, with which the company maintains tossing and rebound are entirely eliminated. These absorbers make for easy steering and safe driving, and will not strike the lamp brackets or body. The company is selling the Hassler device by comparing its qualities with similar equipment, and the guarantee is broad in every respect. By inquiry made to the manufacturer at the above address the dealer or jobber will receive detailed information of the absorber installation requirements, etc., together with prices and discounts.

BIG DEALERS' OPPORTUNITY.

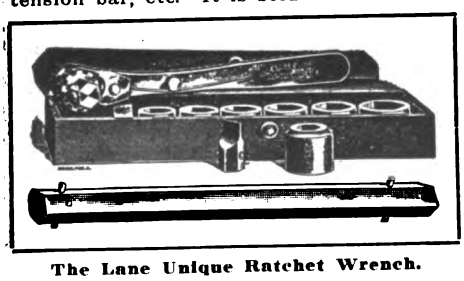
Cotton Company's Complete Line of Bodies for Ford Cars Meet a Very Large Demand.

The dealer who desires to sell automobile bodies, including a type designed for Ford chassis, will be much interested in the product of L. M. Cotton, Inc., 922 Commonwealth avenue, Boston, Mass., which has exceptional qualities and large opportunity for sales. The Cotton Company will exhibit a series of its bodies at the Boston automobile show and will occupy spaces 331, 332, 333 and 334 in the basement. This company is building a Ford limousine body that dealers should find an excellent seller. The margin of profit on Cotton bodies is exceptionally liberal, and details of the company's sales proposition can be obtained by writing the company or visiting the company's booth during the show.

LANE UNIQUE RATCHET WRENCH.

A Special Tool for Close and Difficult Work from Which the Dealer Should Realize Large Profits.

Will B. Lane, 180 North Dearborn street, Chicago, Ill., is manufacturer of the Unique ratchet wrench, a special tool that should be in large demand, and ought to be a source of lucrative profit for progressive dealers. The Lane Unique wrench is designed for use in close and difficult work and for service where the space is limited. One desirable quality is that it can be used to turn nuts very close to a wall. The tool is complete in every detail, including sockets that will not break or split, extension bar, etc. It is sold with a strong guarantee. It will be specially useful for repairmen or garagemen, as with it much work can be done that is frequently performed with a cold chisel, a method that is necessarily destructive.



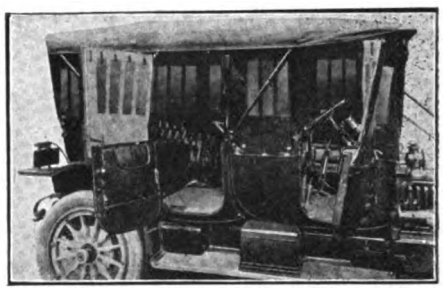
The Lane Unique Ratchet Wrench.

An inquiry to the above address will bring the dealer or jobber full details of the construction and uses to be made of the tool, trade discounts and other information that will be of interest to interested parties.

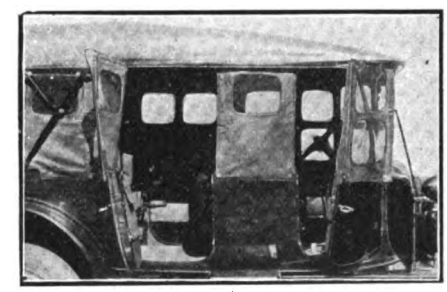
BLACKMORE CURTAIN OPENERS.

Dayton Top Improvement Company Equips Its Latest Design Automobile Curtains with This Device.

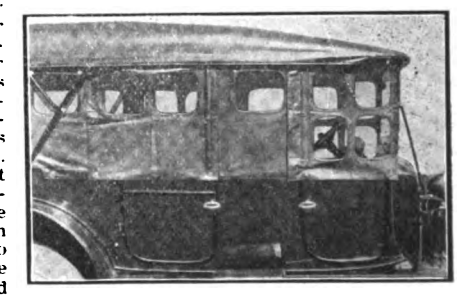
The automobile curtains made by the Dayton Top Improvement Company, Dayton, O., are equipped with the Blackmore curtain opener, which the company maintains will afford the greatest convenience for car users. With this opener the motorist can open the door instantly and close it tight without buttons. A bracket supports the curtain at the door edge and swings open the door section of the curtain, or tightly closes it. This eliminates the use of curtain buttons. The company states that this improvement has been used, because of the many unusual qualities at an increase in cost, on the 1915 models of Packard, White, Cadillac, Chalmers and Hupmobile cars. The curtains are being tried by other manufacturers, and the manufacturer expects that a large number of concerns will add them to their equipment. The Blackmore curtain openers are especially desirable for winter use, although their convenience is equally satisfying whenever curtains are needed. The equipment practically incorporates the curtains with the doors, so that both are opened and closed together, and the passenger can as conveniently enter or leave the car as he would a limousine. Motor car manufacturers using these find that the curtains have increased the utility and comfort of open cars during the winter months, for instant ingress or egress to a car without the necessity of removing the curtains from fasteners, is a quality that is highly approved by ladies.



Dayton Curtains with Doors Open.



Dayton Curtains Used on Packard.



Car Completely Enclosed with Dayton Curtains.

These retail at $1.50 a door curtain and liberal discounts are made to dealers or top makers. Any accessory dealer or garageman interested in this line should communicate with the company and mention The Accessory and Garage Journal. Full information as to discounts, selling plans, etc., will be supplied.

ELECTRIC STARTER FOR FORD CARS.

Puritan Machine Company, Detroit, Mich., Can Make Immediate Delivery of 400 Complete Systems.

The Puritan Machine Company, 41 10th street, Detroit, Mich., has purchased the assets of the Detroit Electrical Appliance Company, maker of Deaco electric lighting and starting systems. This purchase includes the stock and repair parts of the Deaco Company, from which the Puritan Machine Company can make immediate delivery of 400 complete systems. These are offered for $55 each, f. o. b., Detroit. These starters are adaptable to the Ford or other make cars, and are being sold by the Puritan Company for less than cost.

This is but one of the many "specials" offered by the Puritan Company, and in its stock of 1,300,000 different parts and accessories for motor cars and trucks, the purchaser can find many worth while bargains.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, The Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3117—New York Dealer is in the market to represent a line of gasoline pleasure cars selling from $395 to $785.

3120—California House wants to represent a line of cars selling from $600 to $1000.

3123—Iowa Firm is in the market for pleasure cars selling from $490 to $2000.

3126—Ohio House is interested in a line of automobiles selling from $795 to $2000.

3129—New York Firm wants information relative to cars selling from $500 to $2000.

3130—Idaho Company is anxious to hear from a line of pleasure cars selling from $350 to $2000.

3132—Washington Concern wants to secure the agency for a line of cars selling from $515 to $2100.

3133—Ohio Company wants information pertaining to cars selling from $495 to $1385.

3135—California Dealer is in the market to represent cars ranging in price from $1200 to $2000.

COMMERCIAL CAR AGENCIES.

6186—Ohio House would consider the agency of motor trucks selling from $900 up.

6188—New York House is in the market to secure the agency for a line of commercial vehicles selling from $500 to $1500.

6189—Ohio Firm is anxious to secure a line of motor trucks selling from $795 to $1500.

6192—Ohio Concern wants to represent a line of commercial vehicles selling from $500 to $1500.

ELECTRIC PLEASURE CAR AGENCIES.

534—Ohio House wants information relative to electric pleasure cars selling from $1800 to $3500.

538—Ohio Company is in the market to represent a line of electric pleasure cars selling from $1500 to $2000.

MOTORCYCLE AGENCIES.

149—Ohio Firm is anxious to secure the agency for a line of motorcycles selling from $150 to $300.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

704—Indiana House is interested in air compressors, air pumps, anti-rattlers, batteries, belts, bodies, bulbs, bumpers, cable, carburetors, chains, fans, fenders, fire extinguishers, horns, jacks, lamps, locks, maps, mechanical starters, mufflers, patches, plugs, polishes, primers, radiators, searchlights, shock absorbers, sockets, speedometers, starters, steering wheels, switchboards, switches, tools, transmissions, valves, washers and whistles. Also electric self-starters, parts and supplies for Ford cars.

707—Michigan Company is interested in air compressors, anti-rattlers, anvils, arbor presses, asbestos, axles, banding, batteries, bearings, belts, bolts, brakes, bulbs, bumpers, burners, cabinets, camshafts, cans, carburetors, cases, castings, celluloid, cements, chains, charging apparatus, clamps, clutches, coils, commutators, cones, connectors, couplings, cups, curtains, cushions, cylinders, dashes, dimmers, drills, emblems, engines, fasteners, fenders, fire extinguishers, forgings, gaskets, gasoline, gears, headlights, horns, hose, hubs, hydrometers, ignition, lamps, leather, locks, magnetos, maps, mechanical starters, mufflers, nuts, packing, paints, pans, patches, pedals, pinions, pins, pistons, platinum, polishes, primers, printed matter, radiators, reamers, rectifiers, reflectors, carbon removers, rheostats, rims, rods, rubber, scrapers, screws, shafting, shock absorbers, soaps, sockets, solder, speedometers, spokes, springs, stampings, starters, steel, steering wheels, storage systems, strainers, tape, terminals, testers, timers, tire accessories, tires, tools, tops and parts, transmissions, trimmings, tubing, turntables, upholstery, valves, varnishes, vulcanizers, washers, waste, wheels, whistles, windshields, wire wrenches and special bodies for pleasure cars. The goods are to be used in a general automobile repairing establishment.

708—Michigan Dealer wants air compressors, air pumps, anti-rattlers, arbor presses, batteries, bearings, belts, brushes, bumpers, burners, cabinets, cable, cans, carburetors, cases, cements, charging apparatus, chemical tanks, clamps, clips, cloth, clutches, coils, commutators, connectors, controllers, couplings, cups, curtains, cushions, gaskets, gasoline, gauges, goggles, graphite, hammers, headlights, heaters, hoists, holders, horns, hose, hydrometers, ignition, indicators, injectors, jacks, jigs, joints, knuckles, lamps, lathes, leather, locks, lubricators, magnetos, maps, mechanical starters, meters, measuring instruments, motor controllers, mufflers, paints, pans, plugs, polishes, printed matter, pumps, punches, racks, radiators, ratchets drills, reflectors, regulators, carbon removers, searchlights, seats, shock absorbers, soaps, sockets, solder, speedometers, stampings, starters, steering wheels, storage systems, strainers, switchboards, switches, tape, testers, terminals, timers, tire accessories, tires, tools, tops and parts, transmissions, trimmings, trunks, tubing, turntables, upholstery, varnishes, ventilators, vises, voltmeters, vulcanizers, washers, washstands, waste, wearing apparel, wheels, whistles, windshields, wire, wrenches, oils, greases and recording time clocks.

711—Indiana Concern is interested in air compressors, air pumps, anvils, batteries, racing bodies, bulbs, burners, cable, carburetors, castings, chains, clutches, coils, commutators, cones, cups, drills, emblems, gaskets, racing gears, horns, jacks, lamps, magnetos, pinions, pins, polishes, printed matter, radiators, reamers, rubber, scrapers, shafting, shock absorbers, speedometers, steering wheels, timers, tools, tops and parts, tubing, vulcanizers, wearing apparel and wrenches. These products are to be used to stock a garage.

714—Ohio Company is interested in air compressors, air pumps, arbor presses, bolts, chains, drills, elevators, fasteners, fire extinguishers, furnaces, gaskets, gauges, graphite, grinders, heaters, horns, hose, nuts, pins, plugs, polishes, primers, printed matter, reamers, carbon removers, scrapers, screws, shock absorbers, soaps, solder, strainers, tape, testers, tire accessories, tools, turntables, vaporizers, vises, vulcanizers, waste and wrenches.

717—South Carolina Dealer would consider the agency for a line of accessories and supplies.

720—Illinois House wants air compressors, autogenous welding equipment, carburetors, chains, charging apparatus, dynamos, engines, fire extinguishers, gasoline, lathes, magnetos, mechanical starters, motors, carbon removers, shims, speedometers, tire accessories, tires and vulcanizers.

723—New York Dealer wants rubber and low-priced guaranteed tires.

724—Texas Dealer wants to purchase autogenous welding equipment, storage battery charging apparatus, horns, hose, jacks, lathes, gasoline engines, milling machines, wrenches, vulcanizers, tape, soap, drills, solder, tools, spark plugs, polishes, chains, reamers, waste, bolts, glass, hoists, tire accessories, tires, tubing, valves, wearing apparel, whistles and all kinds of automobile and bicycle accessories. The goods are to be used for resale.

727—Michigan Manufacturing Company wants machinery for manufacturing plant.

729—Indiana House is anxious to secure a full line of Ford specialties and supplies for that territory and also become a branch of a large jobbing house.

732—Ohio Concern is in the market for batteries, catalogues and automobile accessories and supplies.

735—New York Dealer wants air pumps, batteries, bearings, belts, bolts, brakes, bulbs, bumpers, burners, carbide, carburetors, castings, cements, chains, clutches, coils, controllers, cups, cushions, dimmers, drills, engines, fire extinguishers, gaskets, gasoline, gauges, gears, goggles, graphite, guns, hammers, headlights, horns, jacks, lamps, leather, lubricators, magnetos, maps, mechanical starters, motors, mufflers, nuts, paints, patches, plugs, polishes, printed matter, pumps, racks, reflectors, carbon removers, screws, searchlights, seats, shock absorbers, soaps, speedometers, spokes, springs, starters, storage systems, strainers, switches, tanks, tape, terminals, tire accessories, tires, tools, tubing, valves, vaporizers, varnishes, vulcanizers, washers, waste, wheels, whistles, windshields, wire, wrenches, oils, greases and bodies for commercial cars. The above products to be used in a service station and for resale.

738—California Dealer wants information relative to air compressors, anvils, cutters, drills, gear cutting machines, grinders, platinum, reamers, shims, starters and tires.

742—Ohio Company is desirous of securing batteries, belts, bumpers, cable, cans, coils, commutators, cups, cushions, dimmers, fire extinguishers, generators, goggles, headlights, ignition, jacks, leather, magnetos, odometers, paints, platinum, pumps, races, rectifiers, shock absorbers, soaps, speedometers, starters, steering wheels, storage systems, tops and parts, upholstery and wire. The goods to be used for retail.

744—New York Dealer is in the market for commercial car bodies.

745—Idaho Dealer wants air compressors, arbor presses, autogenous welding equipment, batteries, bolts, bumpers, carburetors, charging apparatus, drills, fenders, fire extinguishers, gauges, jacks, machinery, magnetos, plugs, races, radiators, reamers, starters, vulcanizers and wheels. The goods to be used in a garage.

748—Washington House wants $1000 worth of motor truck tires and $700 worth of parts for Ford and Buick cars.

752—California Company is anxious to secure asbestos, bearings, cable, carburetors, coils, cones, cups, drills, engines, fire extinguishers, gaskets, grinders, horns, hose, ignition, magnetos, mechanical starters, packing, pistons, platinum, plugs, races, radiators, reamers, carbon removers, seats, shims, shock absorbers, solder, springs, switchboards, switches, tanks, terminals, tire accessories, tires, tools, turntables, washers and waste. The above products to be used in a garage.

755—Kentucky Firm wants automobile bodies of special design and cash boxes for use in a jitney 'bus service.

758—Pennsylvania House is in the market for cases, fire extinguishers, generators, headlights, speedometers, tire accessories, tires and trunks. The products to be used for Saxon and Reo cars.

759—Michigan Firm wants information relative to air compressors, batteries, bulbs, chains, horns and hydrometers.

761—Illinois Dealer wants a line of tires in seconds.

764—Kansas House wants five-horsepower, alternating current, 60-cycle, single-phase motor that has been used.

765—Michigan Concern wants to hear from a line of air pumps, batteries, bulbs, bumpers, carburetors, dimmers, gauges, headlights, heaters, horns, jacks, lamps, locks, magnetos, maps, mechanical starters, patches, plugs, primers, printed matter, radiators, reflectors, carbon-removers, searchlights, shock-absorbers, speedometers, starters, steering wheels, switchboards, tire accessories and tires.

768—Iowa Dealer is in the market for anti-rattlers, autogenous welding equipment, batteries, bulbs, bumpers, dimmers, gasoline, locks and carbon removers.

769—Michigan Firm wants the wholesale prices on air compressors, air pumps, anti-rattlers, batteries, bearings, belts, bodies, bulbs, bumpers, carbide, carburetors, celluloid, chains, cloth, coils, commutators, cones, curtains, cushions, dashes, doors, fasteners, fenders gaskets gasoline, goggles, graphite, grinders, guards, headlights, horns, ignition, jacks, lamps, magnetos, mechanical starters, nuts, paints, patches, pistons, plugs, radiators, reamers, rims, searchlights, seats, shock absorbers, speedometers, springs, starters, steering wheels, switches, tanks, testers, timers, tire accessories, tires, tools, tops and parts, upholstery, valves, vaporizers, varnishes, vulcanizers, washers, wheels, windshields and wrenches. The goods to be used for retailing purposes.

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772—Indiana Concern wants air pump, anti-rattlers, asbestos, autogenous welding equipment, batteries, bearings, belts, bolts, bulbs, bumpers, burners, cable, cans, caps, carbide, carburetors, cases, cements, chains, coils, dimmers, emblems, gaskets, gauges, generators, goggles, graphite, hammers, headlights, horns, hose, hydrometers, ignition, injectors, lamps, magnetos, maps, mechanical starters, odometers, paints, patches, plugs, polishes, primers, pumps, radiators, reflectors, carbon removers, rheostats, rubber, scrapers, screws, searchlights, shock absorbers, soaps, sockets, speedometers, starters, steering wheels, tape, terminals, testers, timers, tire accessories, tires, tools, trunks, vaporizers, varnishes, voltmeters, vulcanizers, waste, windshields, wrenches, oils and greases, which will be used for resale.

775—Massachusetts Company wants air compressors, banding, brakes, emblems, fire extinguishers, hoists, hydrometers, indicators, injectors, packing polishes, presses, carbon removers, storage systems, testers, tire accessories, tires, tools, vises, vulcanizers and wrenches. Goods to be used to equip a garage.

777—Wisconsin Firm is desirous of securing axles, carburetors, engines, lubricators, magnetos, radiators, steering wheels and transmissions. The products to be used for farm tractors.

778—Ohio Concern wants commercial car bodies.

781—California House wants batteries, belts, bolts, bulbs, bumpers, cable, caps, castings, cements, charging apparatus, coils, cups, cylinder machines, dimmers, drills, drums, dynamoters, emblems, fire extinguishers, forgings, gaskets, gear cutting machines, goggles, graphite, headlights, horns, hose, hydrometers, ignition, lathes, leather, locks, lubricators, machinery, magnetos, maps, mechanical starters, meters (measuring instruments), mufflers, nuts, odometers, packing, paints, patches, pinions, pistons, platinum, polishes, presses, primers, printed matter, pulleys, pumps, punches, radiators, reamers, rectifiers, carbon removers, rheostats, rims, screws, searchlights, shock absorbers, soaps, solder, stampings, starters, steel, storage systems, switchboards, tape, terminals, testers, timers, tire accessories, tires, tools, tubing, valves, varnishes, vises, voltmeters, vulcanizrs, washers, waste, whistles, wire, wrenches, oils and greases.

784—Nebraska House is desirous of securing air compressors, autogenous welding equipment, batteries, bodies, gaskets, lathes, platinum, seats, speedometers, starters, tanks, tires and windshields. The goods to be used for Ford cars.

787—Indiana Dealer wants air compressors, batteries, dynamos, jacks, motors, rubber, soaps, speedometers, tire accessories, tires. Goods to be used for resale.

788—Georgia Dealer wants brass castings, emblems, grinders, jigs, molds and cores, presses, screws, stampings and tools.

791—New York Firm is anxious to secure tops and parts, trimmings and upholstery.

793—Illinois Company is in the market for air compressors, bulbs and chain hoists. The products to be used for shop and accessory sales.

796—Iowa Company wants to secure a line of horns, patches, plugs, polishes, tire pumps, shock absorbers, tire accessories, vulcanizers and whistles.

797—Ohio Firm wants air compressors, arbor presses, bodies, brushes, celluloid, curtains, drills, dynamos, fire extinguishers, gaskets, gears, hoists, hydrometers, lamps, maps, mechanical starters, meters (measuring instruments), nuts, packing, pins, platinum, pulleys, ratchet drills, rheostats, screws, shims, starters, tape, terminals, varnishes, vulcanizers, wrenches and bodies for motor trucks. The products to be used in general garage work.

800—Wisconsin Dealer wants autogenous welding equipment, lathes and shapers for repair shop equipment.

804—Illinois House wants information relative to horns, plugs, speedometers, tire accessories, tires, tools and wearing apparel.

807—Wisconsin Company is anxious to secure arbor presses, bolts, bulbs, carburetors, charging apparatus, commutators, cylinder machines, drills, dynamos, gasoline heaters, pistons, plugs, rheostats, shapers, tire accessories, tires, waste, wrenches, oils and greases.

810—Indiana Company wants wholesale quotations with a view to jobbing to the trade on air compressors, air pumps, anti-rattlers, asbestos, dry cell batteries, belts, bulbs, bumpers, burners, ignition cable, catalogues, cans, caps, carbide, cements, clamps, coils, commutators, connectors, drills, fire extinguishers, gaskets, gauges, goggles, graphite, headlights, horns, hose, ignition, jacks, lamps, packing, patches, pins, platinum, plugs, primers, pumps, radiators, rubber, screws, searchlights, seats, shock absorbers, soaps, sockets, solder, speedometers, starters, tape, tire accessories, tires, tools, tubing, ventilators, voltmeters, vulcanizers, washers, waste, wearing apparel, windshields, wire and wrenches.

811—Virginia Firm would like to hear of a line of batteries, celluloid, chains, dashes, horns, plugs, pumps, starters and tools.

814—Kentucky Company is in the market for air compressors and charging apparatus.

817—Maryland Firm wants information relative to batteries, bolts, bulbs, bumpers, carbide, cements, chains, battery connectors, cutters, gasoline, graphite, horns, hose, jacks, nuts, packing, patches, pumps, soaps, tape, tire accessories, tires, valves, washers, oils and greases.

820—California Company wants dimmers, fire extinguishers, headlights, horns, lamps, plugs, reflectors, searchlights, shock absorbers, storage systems, tire accessories, tires, wheels, whistles, oils and greases. The goods to be used for sale.

822—Indiana Company is in the market for air compressors, air pumps, anti-rattlers, anvils, arbor presses, axles, banding, batteries, bearings, belts, bodies, boilers, bolts, brakes, brushes, bulbs, bumpers, burners, cabinets, cable, camshafts, cans, carbide, cases, castings, cements, chains, charging apparatus, chemical tanks, clamps, clips, cloth, clutches, coils, collars, commutators, cones, connectors, controllers, cranes, cups, cutters, cylinder machines, cylinders, doors, drills, engines, fans, fenders, fire extinguishers, gaskets, gasoline gauges, gears, generators, goggles, graphite, grinders, hammers, headlights, hoists, horns, hose, hubs, hydrometers, injectors, jacks, joints, knuckles, lamps, lathes, lubricators, machinery, magnetos, motors, nuts, odometers, paints, pedals, pinions, pistons, platinum, plugs, polishes, presses, pullers, pulleys, races, radiators, ratchet drills, reamers, reflectors, rims, scrapers, screws, shafting, shims, sockets, solder, speedometers, starters, steel, tape, terminals, tools, transmissions, valves, varnishes, vises, vulcanizers, washers, washstands, waste, wheels, windshields and wrenches. The goods to be used in a general repair and rebuilding shop.

824—New York Company is anxious to secure air compressors, air pumps anti-rattlers, bulbs, cable, carbide, cements, cranes, fire extinguishers, graphite, hammers, hose, jacks, nuts, printed matter, carbon removers, stampings, vulcanizers, waste, wrenches and recording time clocks. Also wants metal name plates with its own name for attachment to new cars.

828—Iowa Concern wants air compressors, air pumps, batteries, belts, bolts, caps, carburetors, chains, dynamos, gasoline, goggles, jacks, locks, maps, rheostats, shock absorbers, solder, speedometers, storage systems, switchboards, tire accessories, tires, tools, tops and parts, tubing, valves, voltmeters, washers, waste, wire, wrenches, oils and greases, which are to be used as garage equipment.

831—North Dakota Company is in the market for air compressors, air pumps, anti-rattlers, anvils, asbestos, axles, banding, batteries, belts, bolts, brakes, brushes, bulbs, bumpers, burners, cable, carbide, carburetors, cements, chains, clamps, clips, clutches, coils, cones, curtains, dimmers, drills, fans, fasteners, fenders, gauges, glass, goggles, graphite, grinders, guards, hammers, headlights, hoists, horns, hose, hubs, ignition, jacks, jigs, lamps, lathes, magnetos, mufflers, nuts, pedals, pinions, pins, pistons, plugs, polishes, primers, printed matter, pullers, pulleys, pumps, punches, racks, radiators, ratchet drills, reamers, rectifiers, reflectors, regulators, rims, rods, rubber, scrapers, searchlights, seats, shock absorbers, soaps, sockets, springs, starters, testers, timers, tire accessories, tires, tools, trunks, valves, vaporizers, vises, voltmeters, vulcanizers, washers, waste, wearing apparel, wheels, whistles, windshields, wire, wrenches and bodies for pleasure cars.

833—Washington Concern wants information relative to air compressors, cable, charging apparatus, gaskets, gauges, headlights, heaters, horns, hose, lamps, magnetos, plugs, polishes, primers, radiators, reflectors, searchlights, seats, shims, shock absorbers, soap, starters, steering wheels, storage systems, switchboards, switches, tanks, terminals, trunks, tubing, vulcanizers and waste.

PYRENE FIRE EXTINGUISHERS.

Exceptional Opportunities Are Offered to Agents for This Fast Selling Safety Equipment.

The Pyrene Company of New England, 88 Broad street, Boston, Mass., is offering very attractive agency contracts to dealers in motor vehicle supplies and equipment. By using the Pyrene extinguishers the motorist can save 15 per cent. of automobile fire insurance. This fire extinguisher has been approved by the National Board of Fire Underwriters, and its efficiency has been demonstrated in hundreds of instances. In addition to protecting the automobile the extinguisher safeguards other property. Brass and nickel plated quart capacity extinguishers are standard equipment, are light in weight and occupy but little space in a car.

Pyrene extinguishers make an excellent display for dealers and garagemen, they sell rapidly and agents are sure of quick returns on capital. The company makes exceptional offers to dealers, and a letter to the Boston address will bring full information as to selling plans, price lists, discounts and all other data of interest. In these days of safety first crusades the dealer handling such a line as Pyrene realizes quick returns on his investment, and with the cooperation the company gives its dealers sales are guaranteed from the start.

The annual election of officers for the Automobile Trade Association of Philadelphia was held recently at the clubrooms, Broad and Callowhill streets, and the following officers were elected: President, William P. Herbert; vice president, J. C. Bartlett; secretary and treasurer, J. E. Gomery.

THE DIXON DEALERS' BOOKLET.

Jersey City Manufacturer of Graphite Automobile Lubricant Has Published Valuable Literature.

In keeping with its policy of co-operating with its dealers to the fullest extent, the Joseph Dixon Crucible Company, Jersey City, N. J., has issued a 16-page booklet describing its graphite automobile lubricants. These are supplied to the Dixon dealer, and the name and address of the latter are printed on the three-color cover. This cover pictures the entrance to a garage or supply house and the name of the dealer can be printed, as if a sign, over the door. The first four pages are devoted to a pointed address to those interested in graphite lubrication, and following this are descriptions of the Dixon lubricants. A distinctive feature of these lubricants is the use of a series of well drawn pen and ink sketches that serve the triple purpose of showing the "which, where and how" of Dixon's graphite automobile lubricants. This booklet is an illustration of the Dixon cooperative thoroughness of the company's selling plan, and will be explained to interested dealers at request.

The National Automobile Chamber of Commerce has designated dates for a commercial vehicle convention. The New York automobile show for 1916 will open New Year's eve and the Chicago show will be opened January 22. The commercial vehicle convention will be held in Detroit, May 5 and 6, following the regular monthly directors' meeting. The commercial vehicle committee of which Windsor T. White is chairman, is arranging to have important papers presented.

Evidence that the recent shows at the Grand Central Palace, New York, and the Coliseum at Chicago, broke all records for attendance was shown.

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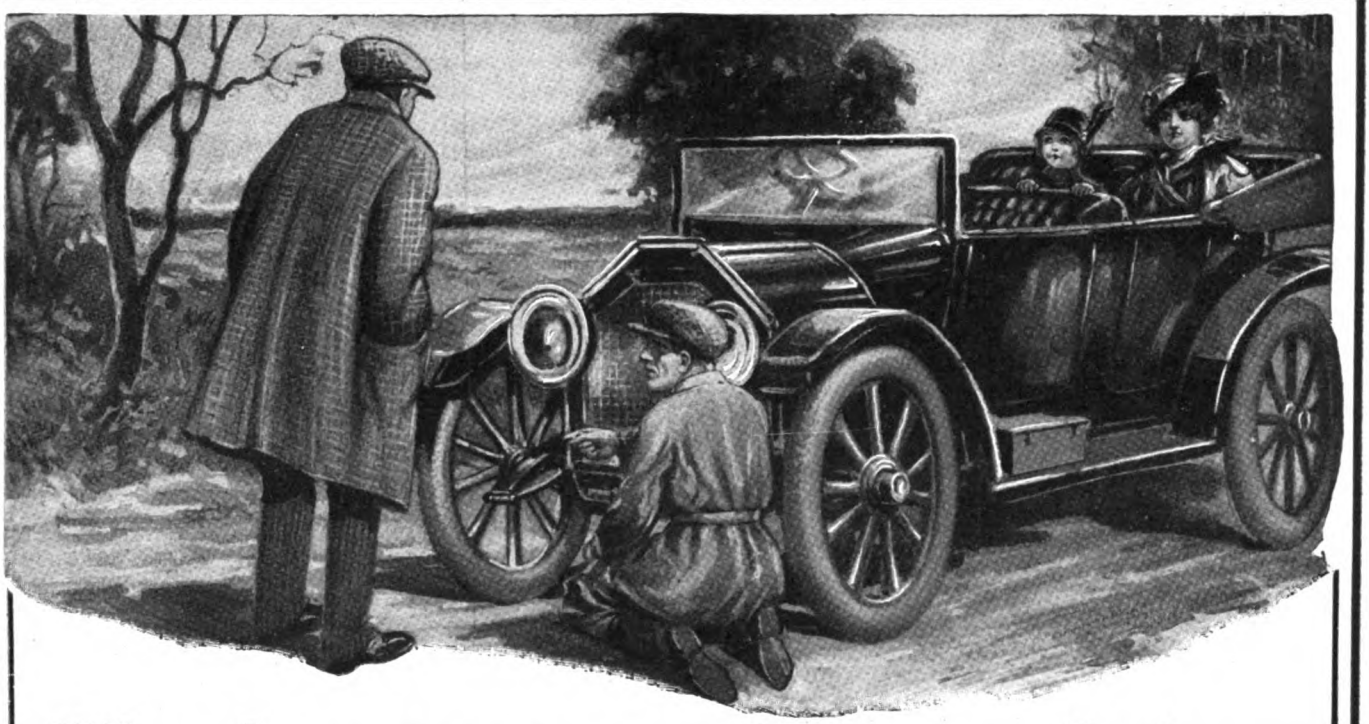

When he comes to you for a new Spring—sell him a Tuthill Titanic

NO SPRING CAN BE MADE TOO STRONG

Don't be afraid of selling your trade a spring that is too strong—it can't be done.

When your customer comes into your place and asks for a Spring, tell him, "Here's the Tuthill Unbreakable Titanic—the best spring made, guaranteed forever against center breakage—a lubricated, easy riding spring that I personally guarantee will last as long as your car."

Don't hesitate to make this guarantee—we will back you up—because the Tuthill has no Center Bolt—it is strongest where 75 out of 100 other springs break.

Tuthill Titanic Unbreakable Spring

GUARANTEED FOREVER AGAINST CENTER BREAKAGE

IMMEDIATE SHIPMENTS

It won't be long now till a lot of old cars will be awakened up from their long winter's sleep.

And new cars will be as thick as grass-hoppers in your territory this Spring.

Just how are you going to "cash in" on this repair business that is sure to come?

It's easy. Just wire or write your jobber or send direct to us. Most all jobbers carry a complete line of the different sizes of Tuthill Titanic Unbreakable Springs for all kinds of cars. Our quick Service Supply Department never sleeps—we can ship most orders on the day they are received—any special order within 48 hours.

Write today for "Special Proposition"

Tuthill "Titanics" can be easily adapted to any axle construction and quickly mounted without any extra expense.

TUTHILL SPRING CO.,

776 POLK ST., CHICAGO, U. S. A.

Tuthill Titanics are Guaranteed Absolutely Against Center Breakage.

Strongest at the Center Where the Greatest Strain Comes.

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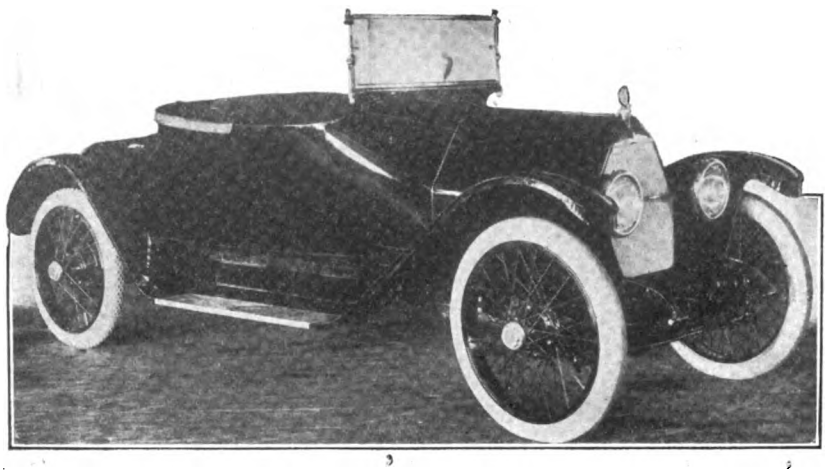
LEWIS VI FOR 1915.

Refined Touring Model Selling for $1600 Equipped.

THE Lewis VI for 1915 is a car distinctive among others for its streamline, full torpedo body, and simplicity throughout. It is a touring type, manufactured by the



The Lewis VI Roadster, with Disappearing Top, Which Has Space for Three Suitcases Behind the Seat.

L. P. C. Motor Company, Racine, Wis., which sells for $1600. It is finished in a deep Brewster green, the fenders, frame and hood being enamelled black.

Cast en bloc, the six-cylinder, L head, water cooled motor, with bore of 3½ inches and stroke of six, has a horsepower rating of 29.40 by S. A. E. formula, but the company's engineers state that repeated trials establish production in excess of 60 horsepower with brake tests. The main cylinder casting, the crank case and the flywheel housing are molded in one piece. The cylinder block head is a single cored casting, with water spaces that coincide with the water jacket passages in the cylinder casting. This is so designed that its removal affords access to all the exhaust and inlet valves, as well as to the pistons.

The crank case is closed by a flat, easily removed aluminum bottom plate, which does not support the crankshaft. The crankshaft is mounted on three main bearings, all 2¼ inches in diameter, 2¾ inches length at the front and centre and three inches length at the flywheel end. The flywheel is bolted to a flange forked integral with the crankshaft. The I section connecting rods are high quality material, and the weight of the reciprocating parts is kept to a minimum. The connecting rod caps are each held in place by two chrome nickel steel bolts, and the big end bearings, which are faced with Parsons' white brass, are 2¼ inches in diameter and two inches length.

The valve and valve-actuating mechanism are of unusual and interesting construction. The valves are operated by a single camshaft. The valves themselves, of 7/16-inch lift, are 1 13/16 inches in diameter. Instead of push rods, small rocker arms are assembled into the cylinder walls from the outside, where they are held in pairs by a yoke construction, by which a single stud and yoke at once aligns and holds in place the whole actuating mechanism for two adjacent valves. In the rocker arms are mounted the hardened cam rollers, while on their ends, under the valve stems, are hinged adjustable valve lifters, each constituted of an eyebolt with hardened cap and check nuts, the former engaging directly with the valve stem.

The Remy electric starting motor is so arranged that it constitutes an inbuilt part of the power plant. It is mounted on a bracket integral with the right side of the motor casting, and this, with the shaft, driving sprocket, and the water circulating pump, are attached by bolts in elongated holes, so that the entire assembly can be moved slightly to the right, affording adjustment to the silent chain, by which it and the camshaft are driven. The ignition current supply is a battery, and a distributor takes the current from the same battery that serves the lighting and starting systems.

CHANDLER LIGHT WEIGHT SIX.

Chandler Reduces Price of Light Six to $1595.

HAVING reduced the price of its light weight six-cylinder car to $1595, the Chandler Motor Car Company, Cleveland, O., is equipping this chassis with a new series of open and closed bodies. An improved stream-line effect predominates in its coupe, sedan, cabriolet and limousine models. The coupe, which is listed by the company at $2200, is illustrated on this page.

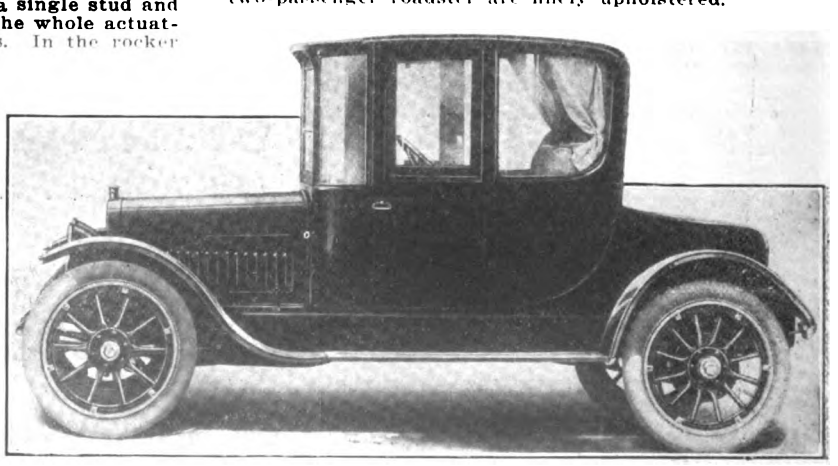
The Chandler engineers have in no way changed the design of the car's power plant, which is practically the same as for the past two seasons. A detailed description of Chandler car was recently published in the Accessory and Garage Journal, but a brief resume follows: The six-cylinder, L head, motor cylinder units are cast in blocks of three, with bore 3⅜ inches and a stroke of five, and has a horsepower rating of 27.40 by the S. A. E. formula. All valves are enclosed and a silent motor has been built by using imported silent chains to operate the cam, pump and magneto shafts. The ignition system consists of a high-tension Bosch magneto and Bosch spark plugs. A Gray & Davis electric generator is used for lighting, and the engine is fitted with a Gray & Davis starting motor. A spiral cut drive shaft pinion and master gear insure an exceptionally quiet rear axle.

Of the new Chandler body styles, in the limousine all front seats are upholstered in leather, having space for driver and one passenger The rear compartment has a 47-inch seat, with generous seating accommodations for three. The two extra seats may be folded, but when in use the passengers may sit facing either direction. The windows in the two rear doors are adjusted by patent regulators to any desired position. The limousine is exceptionally light, weighing 3175 pounds.

The sedan model is an owner-driver type, with all passengers enclosed. The rear seat, like that of the limousine, is 47 inches wide, seating three people. The front seat folds when not in use to give access to the driver's seat. The weight of the sedan fully equipped is 3125 pounds.

The coupe will seat two passengers facing forward, and has a corner seat for the third passenger facing rearward. This model weighs 3050 pounds. The Chandler cabriolet is an admirable car for all-year-round use. Two passengers, exclusive of the driver, facing forward, can be carried. With the leather top and side windows in position the car is ideal for winter driving, having all the advantages of a coupe. With the top and windows lowered the cabriolet has the appearance of a fine looking roadster model. The windows fold into the doors. To enclose the car the doors are opened, the windows raised and the doors closed. On all Chandler models the windshield is adjustable for rain or clear vision, or ventilation. The weight of the cabriolet is 2915 pounds.

Both limousine and coupe are upholstered in Bedford cord and lace of high-grade material, and have the usual equipment of curtains, interior electric lights and other conveniences. The five-passenger touring car and the two-passenger roadster are finely upholstered.



The Chandler Light Six Three-Passenger Coupe.

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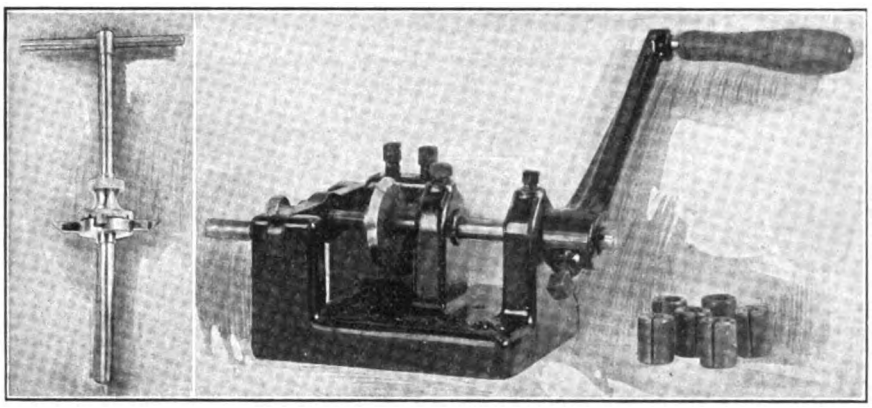
AMERICAN VALVE TOOLS.

Useful Equipment That Will Be Found Extremely Practical in the Work Shop.

The American Valve Tool Company, Stamford, Conn., is manufacturing a complete line of American adjustable valve seating and valve facing tools, which should be especially attractive to dealers and garage men. These tools, shown in the accompanying illustration, are stated to be adjustable to any size valve seat in less than 30 seconds. The tool is supplied with four different size pilot stems to fit the different size valve heads, an arrangement that makes possible trueing of eccentric valve seats. The American valve tool is made in two sizes and will reseat all poppet type valves from those of the motorcycle to those of the largest vehicle engine.



The American Adjustable Valve Seating and Facing Tools.

The refacing tool is especially valuable in the garage or repair shop, as it is quickly and easily adjusted to any size valve stem, as well as to any diameter valve. It can be permanently attached to the work bench, screwed or clamped to the wall, and with it valves may be refaced accurately in quick time.

MILLER RUBBER COMPANY.

Manufacturer of Noted Tires Is Making Exclusive Agencies with Dealers in All Sections.

Following a nation-wide advertising and publicity campaign, the Miller Rubber Company, Akron, O., is making exclusive agencies in all parts of the country. The dealer in Miller tires, the company points out, does not divide his profits with others. He controls his own tire trade and meets with no competition from other Miller tire dealers. The latest addition to the Miller publicity medium is a new six-page folder. The company will supply these to dealers with their names imprinted on them. This folder makes answer to the skid question recently asked by the company in its national advertising campaign. This answer, the company states, should be sent to every car owner in each dealer's territory, and if any dealer has a list too large to fully supply the company will make a reasonable proposition of assistance. By addressing the company and mentioning the Accesory and Garage Journal, the inquirer will be sent complete details relative to the Miller campaign.

GOODYEAR SHOW CASE OFFER.

Akron, O., Company Is Giving Exceptional Co-Operation to Dealers Throughout Country.

The Goodyear Tire & Rubber Company, Akron, O., in keeping with its policy of co-operation, is offering a handsome show case free to its dealers. This is one of the company's stimulations of business, which is certain to be productive of large results. The show case is for the display of Goodyear accessories, and the company points out that a two-minute explanation of the use of a Goodyear "tire saver" will often give a sale. With the case a dealer can demonstrate how quickly a customer can patch a tire with Goodyear quick repair gum; how to use the Goodyear friction tape, and a dozen other Goodyear specialties. The company offers either a small, medium or large case, the size depending on the stock the dealer carries. The medium size case is 20 inches high, made of mahogany finished metal, with glass top and front, and a shelf and stock compartment in the rear. The ordinary cost of such a case would be $15, but the company offers it free to all its dealers. Dealers who are interested in the Goodyear line should address an inquiry to Desk 124, which will bring full details, without any obligation on the dealer's part.

WELDING EQUIPMENTS.

Dyer Apparatus Company Producing Complete Outfits That Meet All Possible Requirements.

A wide variety of welding and decarbonizing equipments is produced by the Dyer Apparatus Company, Cambridge, Mass. One of these, Style A, is shown herewith, and this outfit includes everything necessary for work of any character. The style A combined welding and carbon removing outfit is complete in every particular, and can be made very profitable in the garage and repair shop, as the range of work it will perform is practically unlimited.

The Dyer Apparatus Company states that its regulators, by tests on a mercury column, have proven their high degree of efficiency. The flow of gases is regular and steady, as the correct proportions are always maintained, assuring accurate and satisfactory results.

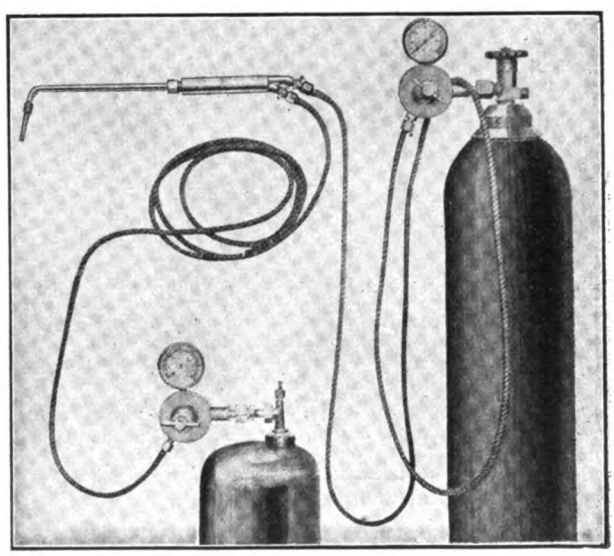
The style A carbon removing outfit is a high-grade, popular-priced apparatus. The regulator is a diaphragm type with a hard rubber seat and phosphor bronze diaphragm, designed for high pressure. A double connection is used at the tank end, fitting either the standard Linde tank or the ¾-inch straight thread sometimes used on oxygen tanks.

The gauge indicates to 150 pounds reading and has a bevel glass. The hose is the best grade, having a woven linen cover, and is tested to high pressures. Couplings are provided at either end, making for easy and rapid assembly and disassembly.

Particular attention is directed to the torch. The drop handle maintains the hose in a natural position, preventing wear and breakage at the joint, and the trigger valve is instantaneous in operation, shutting off the supply of gas, or bringing it into service without using both hands. The tube is of flexible copper, a decided advantage.

The maker states that with this outfit carbon can be completely removed from a gas engine cylinder in from two to five minutes. An extra long nozzle is supplied for removing carbon from mufflers when desired.

The Dyer Apparatus Company is manufacturing an equipment which can be converted to a decarbonizing outfit, at a very moderate cost. Details of this, as well as others produced, and trade prices, will be supplied to those addressing the company. The Dyer Apparatus Company invites the trade to visit its plant, which is one of the largest welding shops in New England.



Style A Combined Welding and Decarbonizing Equipment Manufactured by the Dyer Apparatus Company.

The Iowa Retail Automobile Dealers, Association of Des Moines, Ia., held its annual meeting recently and the following officers were elected: President, J. F. Russell, Creston; vice president, Jacob Friedman, Dyersville; secretary-treasurer, S. L. Seeman, Des Moines. The directors are: D. O. Babcock, Gowrie; W. B. Sloane, Brooklyn; Edward O'Connell, Lake City; Charles England, Van Meter, and T. S. Wood, State Center.

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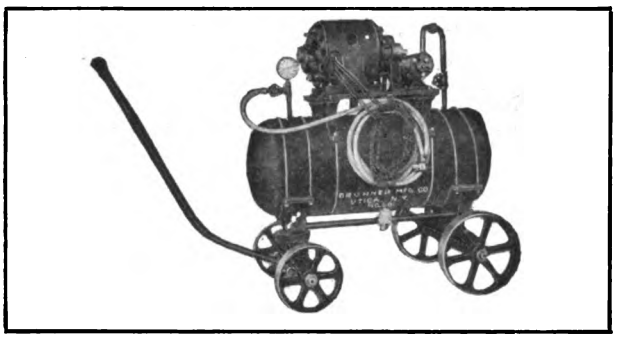
BRUNNER AIR COMPRESSORS.

Equipment for the Garage or Repair Shop, Sold for a Small Initial Cost, That Is Extremely Profitable.

The Brunner Manufacturing Company, Utica, N. Y., manufacturer of the Brunner air compressors, produces equipment that is extremely convenient for many ser-



Brunner No. 52 Portable Air Compressor.

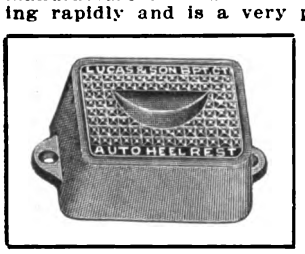
vices in garages and repair shops. The uses made of compressors are so numerous and the advantages so many that a compressor system is a necessity and not a convenience when even a few cars are kept. In every department of a shop a compressed air system is a means of saving time. Once installed the cost of operation is comparatively small.

The Brunner company, which produces air compressors in all sizes, either stationary or portable, and to meet all conditions and requirements, states that its equipment can be maintained at the average cost of two cents a year for repairs and replacements. This fact was established by an audit of the books of the company, and the record covered all Brunner machines in service, motors and accessories, for six years and seven months. Brunner workmanship and material, as well as design, are responsible for this excellent showing. Garages and repair shops contemplating the installation of air compressors, will do well to investigate the line produced by the Brunner Manufacturing Company. Details of the product will be supplied upon request.

LUCAS AUTO HEEL REST.

J. L. Lucas & Son Make an Ingenious Specialty That Adds Much to Motoring Comfort.

J. L. Lucas & Son, 40 Fox street, Bridgeport, Conn., manufacture the Auto heel rest, a specialty that is selling rapidly and is a very profitable equipment for live dealers and agents. The Auto heel rest is designed for use on all cars, and it serves equally well when operating either the brake or clutch pedals or the foot accelerator. It raises the foot to a comfortable right height and easy position, and relieves any strain at the ankle. The Lucas Auto heel rest is made of polished aluminum, and in four sizes, ½-inch, one-inch, 1½ and two inches. As may be seen from the accompanying illustration this is a simple and ornamental accessory, and can be quickly and easily attached. A postal or letter to the above address will bring to the inquirer full details of prices, trade discounts, etc., and descriptive literature.



The Auto Heel Rest.

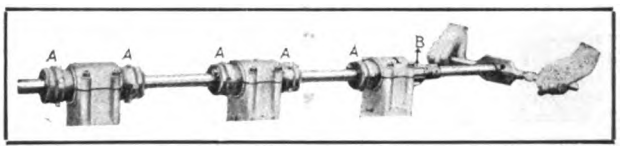
MARTELL ALIGNING REAMER.

Harding Manufacturing Company Is Producing a Thoroughly Practical Tool for Repairmen.

The Harding Manufacturing Company, South Main street, Mansfield, Mass., is making the Martell aligning reamer, a tool with which a shop can successfully compete with any facilities of large factories. Any tool obtaining more accurate results than possible with manual methods, and which economizes in time, is a profitable investment for the repairman and the service station. This applies particularly to the motor bearings. Many large factories have abandoned hand scraping crank bearings because of inaccurate results and the time consumed.

With the Martell aligning reamer the work can be done quickly and accurately, and alignment insured. One of the several advantages of the Martell aligning reamer is that it can be used on any motor. It not only produces perfect surfaces in exact alignment with each other, but makes possible the correct meshing of gears. It is equally adaptable to connecting rod and other bearings.

The supporting bushings, shown in an accompanying illustration of the Martell reamer in service, are provided with a very fine thread on the tapered portions, and screw firmly into the ends of the bearings to be reamed. They are provided with means of adjustment in any direction, the range being about .095-inch. They



Martell Aligning Reamer Fitted to a Three-Bearing Crankshaft.

also have a micrometer reading, showing the amount of "set."

The reamer consists of two heads, each carrying six adjustable blades, the range of adjustment being about .08 inch. The small head takes all sizes from 1⅝ to 1⅞ inches, and the large from two to 2¼ inches. This range is obtained by the use of six blades, which can be quickly changed.

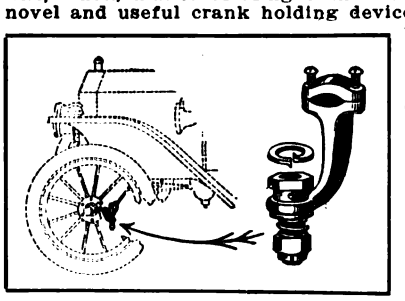
The maker states that the operation of the tool does not require an expert; a workman more or less familiar with bearings and the use of a micrometer can operate it. The Martell tool eliminates uncertainty in estimating jobs for repair work. It is as easy to ream .02 as .002-inch.

Mr. Martell, the inventor of the reamer, is a well known mechanical engineer. For several years he was the head of the experimental and testing department of the Packard Motor Car Company. He is now with the Harding Manufacturing Company as factory manager. The company issues a booklet upon bearings, which will be mailed upon request. The Harding Distributing Company, Boston, Mass., is the sole distributor.

TWO KING SPECIALTIES.

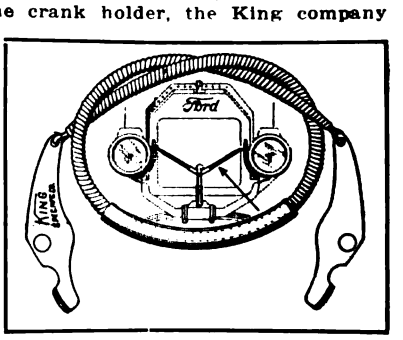
Brookline, Mass., Concern Offers Quick Selling Accessories to the Trade With Liberal Discounts.

The King Specialty Manufacturing Company, Brookline, Mass., maker of King crank holder, is producing a novel and useful crank holding device, which is meeting with ready sale. The King crank holder is stated to be a convenience for every auto owner. It holds the starting crank rigidly in an upright position. This prevents rattle of the crank, and an attachment made to the headlights minimizes vibration and breakage of bulbs. The accompanying illustration shows the manner in which the King crank holder is attached.



The King Spindle-Joint Anti-Rattler.

In addition to the crank holder, the King company is making a spindle-joint anti-rattler. This is designed to prevent rattle at the spindle joints. This anti-rattler, as may be noted from an illustration, is simple in construction and can be quickly attached without special tools. When installed no further attention is required. Statement is made that it obviates the "slap" often felt at the steering wheel. The company's selling plan is broad and liberal terms are made to dealers who desire a very profitable line. A request mentioning the Accessory & Garage Journal, will bring full information.



The King Crank Holder.

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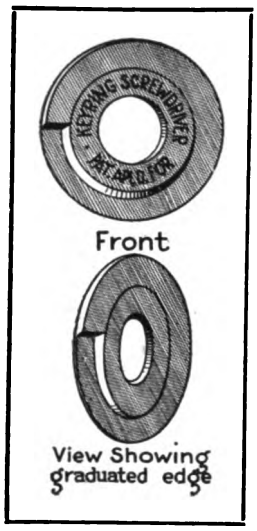
NEW POCKET SCREW DRIVER.

Philadelphia, Penn., Company Manufacturing and Marketing a Handy Pocket Screw Driver.

Hess & Son, Philadelphia, Penn., recently placed in the market a unique screw driving device that, while entirely different from standard forms, affords all the service of any ordinary screw driver, while its convenience should appeal to motorists particularly. It is disc shaped, as is shown in the accompanying illustration, and is no larger than a 25-cent piece. Its rim is of a graduated thickness, so that the tool will fit almost any screw head, thus removing the necessity of carrying around numerous bulky screw drivers to fit screws of varying sizes. Its utility is obvious, and its convenience is emphasized by the fact that it can be carried on a key ring or in the vest pocket.

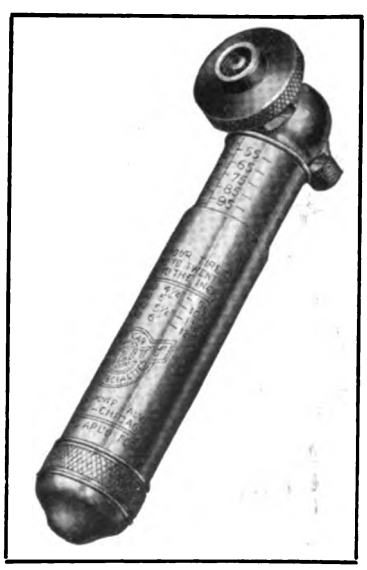


Not only is this unique device a decided convenience to the car owner, but the dealer and garage men will frequently find it of great service in working around a machine. It is not only designed for automobile work, but can be used in the home, the office and the factory in a score of different ways. Being made of tempered steel, it will withstand exceedingly great strains without the edge turning or being nicked, and it will last practically forever. Its low price makes it attractive to everyone. This handy pocket tool may be obtained at the rate of 10 cents each from the manufacturer, Hess & Son, 1031-33 Chestnut street, Philadelphia, Penn., and by mentioning the Accessory and Garage Journal when writing.

UTILITY TIRE PUMPS AND PNEU-METERS.

Hill Valve Pump Company Marketing Rapid Selling Inflaters and Automatic Protectors Against Over-Inflation.

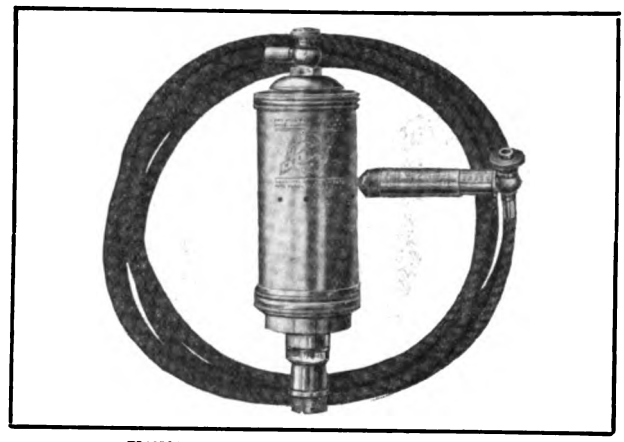
Among the products of the Hill Valve Pump Company, Chicago, Ill., that merit attention from dealers and garage men is the Utility motor-driven tire pump and the automatic Pneu-Meter, which absolutely prevents over-inflation by automatically closing the tire valve when a predetermined pressure point is reached, notifying the motorist by a shrill whistling sound. It is an equipment that immediately appeals to the car owner, and is priced to allow a liberal profit to the distributor.



Tire Inflation Controller.

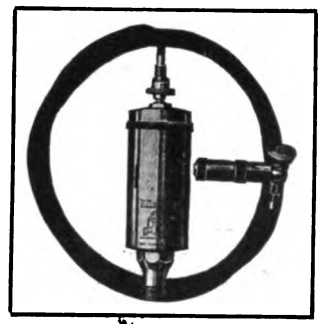
The pump is of the spark plug type, the air being forced through a flexible tube tested to 1500 pounds pressure. A large knurled nut insures easy attachment to the tire valve. The controlling device, known as the Pneu-Meter, is attached to the tube at the valve, and when the required pressure of air is obtained in the tire, it automatically closes the valve and provides an outlet for the air that is thereafter pumped. The air rushing through the outlet causes a shrill hissing or whistling noise, which is sufficiently loud to attract the attention of the motorist. A feature of the device is that though the engine is allowed to run indefinitely, no air beyond what is necessary to inflate it to the pressure set can enter the tire; thus over inflation is prevented. The Pneu-Meter is so constructed that adjustment for any required pressure can be easily and quickly made. It is provided with a table of pressures for the various sizes of tires, and a corresponding table which shows the pressure point at which the device should be set, which is quickly accomplished simply by revolving the outer sleeve of the Pneu-Meter until it clicks. It can be set from 50 to 125 pounds pressure. It can be used with any power or hand pump.

The Utility automatic tire pump unit is a compact accessory, made of polished brass, nickel, and blued steel. The Utility (large size) sells for $10. The Utility Junior (Ford size) sells at $6. The Pneu-Meter is sold in combination with the pump, but when sold separately the price is $2. The manufacturer guarantees that if it does not give satisfaction the purchase price will be refunded.



Utility Tire Pump and Pneu-Meter.

Two other products that are especially useful are the Utility socket, or jaw, wrench set, and the Utility demountable rim wrench. The first mentioned consists of a steel tube, in one end of which is carried a pair of powerful steel jaws, the other end having holes into which a lever for turning it can be inserted. Three stocks make up the set, and they will take all size and shape nuts used in auto work, from 3/16 to half an inch inclusive. They will not mutilate or round corners of nuts or bolts, not even those made of brass, and they cannot slip and bruise the fingers of the workman, the jaws having a rigid bearing on four sides. One feature is that the jaws hold the nut securely when removed, so that it cannot become lost, as frequently happens with ordinary wrenches. And the nut can be placed in the jaws and applied to bolt or screw when these are inaccessible to the hands. The set sells complete for $2.50. The demountable rim wrench combines the best features of a whole tool kit in one piece, and is small, simple and practically indestructible. It is similar to the Utility socket wrench, but is equipped with a brace stock that is foldable so as to make the wrench a compact unit, easy to carry. It sells for $1.50. Further information concerning these accessories can be obtained by addressing the Hill Valve Pump Company, 18-20 East Kinzie street, Chicago, Ill., and mentioning the Accessory and Garage Journal.



Automatic Tire Pump.

L-A STEADY STEERER.

Lockwood-Ash Motor Company Producing a Ford Car Accessory That Is Attractive to Dealers.

The Lockwood-Ash Motor Company, 511 Horton Street, Jackson, Mich., is manufacturing an equipment that "makes a Ford car walk a chalk line." This is known as the L-A steady steerer, and when attached to the car it is stated that all body sidesway is eliminated. The device is a steering rod arm that insures the car being driven in a certain course, when rounding corners, turning out to pass vehicles and when moving over rough roads. The L-A steady steerer is made in two sizes, type R fitting any standard Ford car, and type S for use with Ford cars equipped with shock absorbers, selling for $2 and $2.50 respectively. The company has a strong selling proposition and dealers interested should write immediately for prices and terms.

A petition in bankruptcy, giving assets as about $200,000, liabilities of $37,000, cash at $400, and authorized capital stock of $3,500,000, has been filed in the United States court, Trenton, N. J., by the Century Rubber Company, Plainfield, N. J. F. B. McDermott, Jersey City, was named receiver.

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MIDGLEY STEEL AND RUBBER TIRES.

Lancaster, O., Company Making Composite Tread Shoes That Do Not Skid Under Any Conditions.

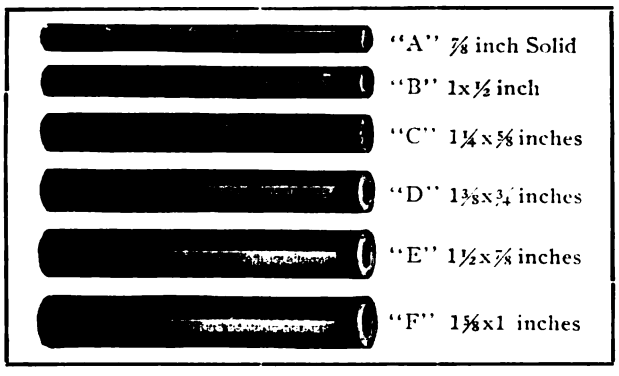
The Midgley Tire and Rubber Company, Lancaster, O., is now marketing its new wire tread tires. The company is producing a tread that will, according to its officials, obviate the use of chains on tires. The Midgley composite tread is of steel and, as may be seen from the accompanying illustration, is a studded type. The company exhibited these tires at the recent Boston show, and from the interest shown by owners and the orders received from dealers, there is belief that the tire will meet the approval of the motoring public. The company invites all dealers and distributors to write for full information. Harry Davis is president of the Midgley Tire and Rubber Company, Thomas Midgley first vice president and general manager, and Henry Plow second vice president and sales manager. A letter addressed to Sales Manager Plow will bring the inquirer complete details of the company's selling plans, territory open, trade discounts, etc. It would be well to mention the Accessory and Garage Journal when writing to Mr. Plow. The company will extend its fullest co-operation to distributors, and has made provision for liberal profits to those who handle the Midgley tires which, the company is certain, will be in big demand by owners.

Midgley Wire Tread Tire.

AMERICAN BRONZE COMPANY.

Berwyn, Penn., Company Offers a New Assortment of Non-Gran Cored Bars for Bushings.

The American Bronze Company, Berwyn Penn., is now producing for the trade of dealers and jobbers a special assortment of its Non-Gran cored bars for bushings. The sizes included will make bushings to fit any shaft diameter up to 1¼ inches. These bushing bars, six in number, are shown in the accompanying illustration, and are known as the the 6-54 assortment. By using these bars the repairman will require less stock than is now necessary with other material. The assortment is not expensive, a special price of $9.69 being made to the trade, which is 47¼ cents a pound. The company has established new low prices on standard and near-standard size Non-Gran cored bars. Through manufacturing economics Non-Gran cored bars are now sold at 52½ cents to the trade. This price is net, as the list price is 75 cents a pound. A 30 per cent discount has been made on all standard and near standard sizes, which brings the price to 52½ cents. By addressing the American Bronze Company, Department M, the dealer, jobber or repair man will receive full details of the company's stock, prices, discounts, etc.



Complete Line of Non-Gran 6-54 Cored Bars for Bushings.

How the Non-Gran 6-54 Assortment Is Shipped.

SILVEX COMPANY HELPS DEALERS.

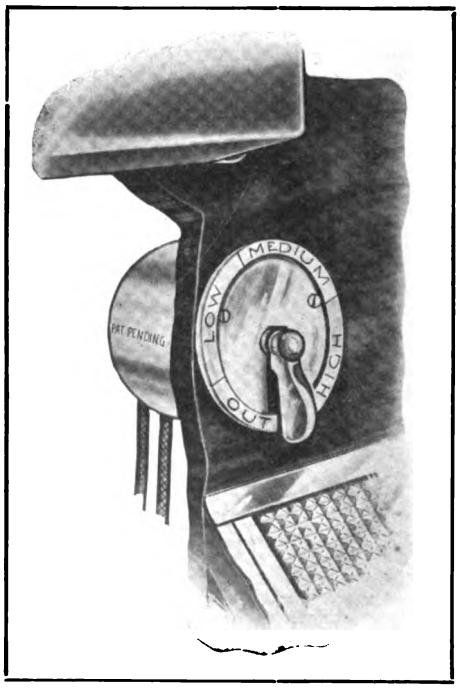
Bethlehem Spark Plug Maker Gives Fullest Co-Operation to Its Distributors.

The Silvex Company, New York City, is co-operating to the fullest measure with dealers and jobbers who handle its product. On the advertising cards that the company displays in the New York City subway, it has arranged to include the name and address of the New York Sporting Goods Company as distributors of the Bethlehem motorcycle plug, and in addition thereto gives the distributor representation on their Indian motorcycle and Smith motor wheel lines. According to Sales Manager Fischer, the Silvex Company has been a pioneer in co-operation of the most intensive character with the jobber. While the sporting goods company's case is an extreme, similar co-operation has been entered into with dealers and jobbers throughout the country. The Silvex Company has prepared a booklet fully describing and illustrating its line of Bethlehem spark plugs, which are guaranteed for the life of the car on which they are installed. By addressing the company at 171 Madison avenue, New York City, and mentioning the Accessory and Garage Journal, dealers and jobbers will receive an interesting proposition that promises large and quick returns. The company has a limited quantity of display cases for distribution, they stocking 48 plugs and six extra cores.

CHANEY HEADLIGHT DIMMER.

With It a Driver Can Regulate Electric Headlights From the Instrument Board by Controlling Lever.

The laws and ordinances requiring headlight dimming in city driving, are increasing very rapidly, and the dealer who sells a practical dimmer that can be adopted to all cars, has something worth while for the motoring world. The L. F. Chaney Company, Springfield, O., is manufacturing an automobile headlight dimmer that is claimed to answer every requirement. It is thoroughly proven, it can be installed by an owner, and it is long enduring equipment. The trade in cities prohibiting the use of glaring lights will do well to investigate the merits of the Chaney headlight dimmer shown in an accompanying illustration.



The Chaney Headlight Dimmer.

One of its desirable qualities is that with it the driver can graduate the intensity of the lights with a minimum of effort, as the control lever is located on the dash and can be operated by a touch. The Chaney dimmer is broadly guaranteed. It is moderately priced and the discount to the trade is liberal. Complete details and prices will be supplied upon request.

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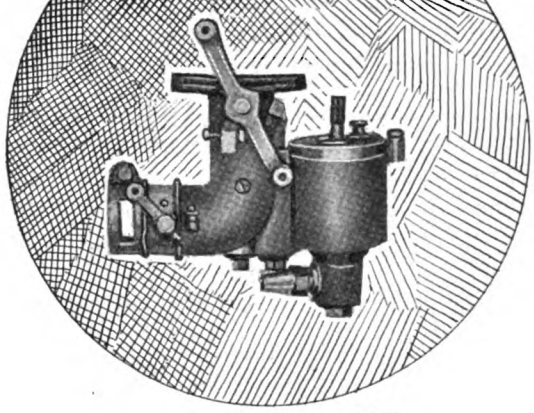
$20.

ZENITH



Ford Carburetors

Every Other Car Is A Customer For You

The No-Adjustment Carburetor

THE ZENITH CARBURETOR ADJUSTS ITSELF

The compound nozzle does it. Always a PERFECT MIXTURE, for every range of speed from low to high, with guaranteed infallible precision.

Because of its extreme simplicity it never needs repairs. A carburetor with world-wide reputation that is sweeping this country as the Universal Carburetor for the Universal Car—The FORD.

Over 600,000 Fords are in daily use in the United States alone. Every Ford owner is interested in the Zenith. It means time and money, money, money, to him. Therefore, the dealer who can supply the information, or can show the attached carburetor, will reap a harvest of good profits.

EVERY OTHER CAR IS A CUSTOMER FOR Carburetor in the United States. We are appointing a YOU. We are the sole Producers of the Zenith Ford representative dealer in every town, to help share our profits. Write now for a sample, and information about our profit-sharing discounts.

MOTOR PARTS COMPANY

818 NO. BROAD ST., PHILADELPHIA, PA.

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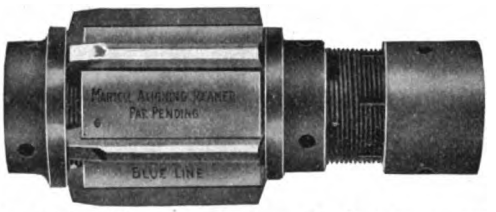
THE MARTELL ALIGNING REAMER
FOR "SCRAPING" BEARINGS

This will bore out and burnish a set of crank-shaft bearings to exact size and at the same time leave all burnished surfaces in perfect alignment.



It will enable you to do many times as much work and to acquire a thoroughly satisfied and steadily increasing number of customers.

The Cutting and Burnishing Tool for Factory Production as well as Repair Work.
HARDING DISTRIBUTING CO. (Write for Booklet) BOSTON, MASS.

SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

Our selling policy and proposition is the most liberal ever offered to the trade.

One Model, 3,000 Lbs. Capacity
Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
Rochester, New York

HOUK
DETACHABLE
Wire Wheels

Made by the largest wire wheel manufacturer in America

HOUK MFG. COMPANY
1709 Elmwood Ave. BUFFALO, N. Y.

We Sell Everything

pertaining to the automobile at half regular prices. Send for our great "PRICE WRECKER" No. 5, containing 3000 auto bargains at cut prices. TIMES SQUARE AUTOMOBILE CO. World's largest dealers. S. W. Cor. 56th St. and Broadway, N. Y. 1210 Michigan avenue, Chicago.

1915
Auto Mailing Lists of All Lines For Sale

80,370 Auto Dealers, U. S.—$40.00 or $2.50 per M.
6,200 Auto Ford Dealers, U. S.—$15.00 or $3.00 per M.
19,543 Garages, U. S.—$30.00 or $2.50 per M.
20,924 Auto Supply Dealers, U. S.—$30.00 or $2.50 per M.
21,983 Auto Repair Shops, U. S.—$30.00 or $2.50 per M.
1,680,000 Auto Owners.....$2.00 per M.
353,000 Auto Ford Owners....$3.00 per M.
Have Every Other Auto Trade List.
All Typewritten, Showing Financial Rating.
Ask for Particular Territory Wanted.
A. F. WILLIAMS, Mgr.
166 West Adams St., Chicago.
Franklin 1182.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Friction. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

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SALESMEN WANTED:

Men calling on automobile and accessory dealers to handle the Ford One-Man Silk Mohair Top, complete with Jiffy Curtains. Also strong line of seat covers for all cars. Liberal commission and exclusive territory.

ONE-MAN TOP AND SUPPLY CO., Flint, Mich.

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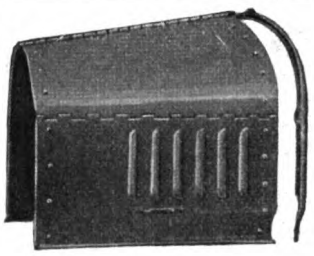


Stamped out of extra heavy steel, with 14 ventilators—a smooth streamline hood that adds longer lines to the Ford—some beauty!!

IMMEDIATE DELIVERY

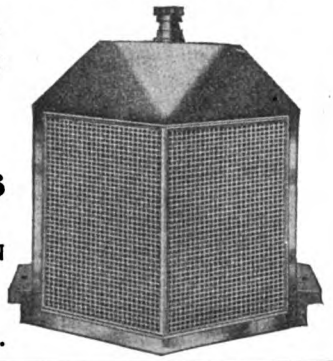
"Superior" Streamline Ford Hoods

So great has been the demand for "Superior" Streamline Hoods that the increased output has enabled us to announce the new price of **$8.00** Complete

TWO MODELS
No. 1 Fits 1912-13-14 Fords
No. 2 Fits 1915 Fords

Finished in hard, black, baked enamel. Cannot be compared with light metal hoods, which are just merely painted, and chip off easily.

"Superior" Hoods are protected under patent rights pending.



"Superior" V-Type Honeycomb Radiators

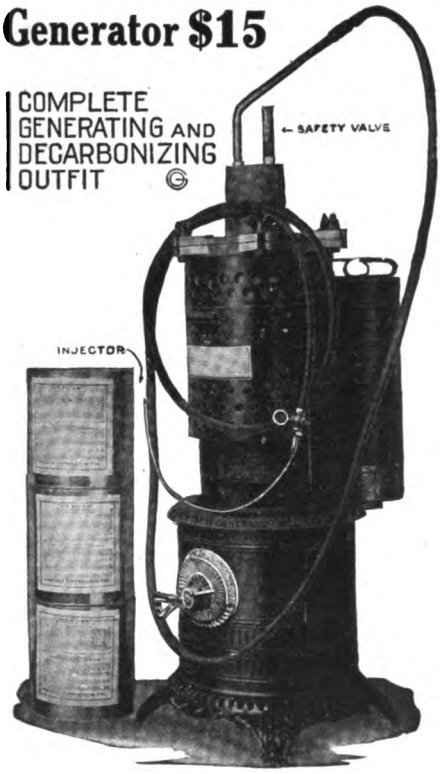
The Only Radiator That Really Cools. Guaranteed One Year For Any Defect.

Price—Brass **$34.70** German Silver **$38.00**

GET OUR PROPOSITION WRITE TODAY!

SUPERIOR LAMP MFG. CO., 136 W. 52d St. NEW YORK, U. S. A.

An Oxygen Carbon Remover and Generator $15



A generator not too large for a small garage or shop, but with capacity great enough for the largest.

Sold with complete equipment, extremely economical to operate and guaranteed in every particular.

No tanks to bother with, no delay in securing material. A practical equipment that can be operated by any one.

Carbon can be removed from any cylinder in three minutes.

Oxygen can be generated in three minutes.

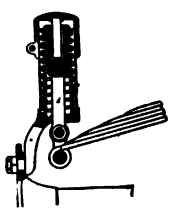
It is a time, money and labor saver.

$9 A SET OF 4 FORD "O-G" SHOCK ABSORBERS $9

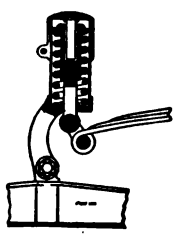
For Ford Delivery, Touring Cars and Runabouts

Adjustable when placed on the car, and automatically adjusted in service. Can be attached in fifteen minutes.

Sold with a guarantee that covers workmanship, material, finish and satisfactory service during the use of car.



The above illustration shows method of attaching to rear of Ford car. Bearings of fine material, lubricated grease cups, there can be no rattle or squeaks.



This illustration makes clear the method of attaching the front "O-G" and shows the large amount of spring action possible. By twisting the cap, the spring in the absorber is tightened or loosened, giving the necessary increase in spring tension.

Immediate refund if the "O-G" Shock Absorbers do not prove to be entirely satisfactory.

Our Jobbers and Dealers discount sheets and special circulars at request. Write today.

OXYGEN GENERATOR CO., 301 RIVER STREET, TROY, N. Y.

38,000 AUTOMOBILE TRADE NAMES.

These names are used constantly and the entire list is revised daily. It is the only list that is so operated and revised. Divided into six divisions and arranged by towns, cities and states. The greatest number of proven trade names known.

For trade mailing list service, for the highest degree of efficiency and for 50 per cent. saving in operation, for the elimination of all waste in printed matter, postage, etc., use these names.

There is a reason why the largest users of trade names in America utilize these names and the Accessory and Garage Journal trade mailing list service. The same degree of economy and service is offered to you.

THE ACCESSORY & GARAGE JOURNAL

TIMES BUILDING **PAWTUCKET, R. I.**

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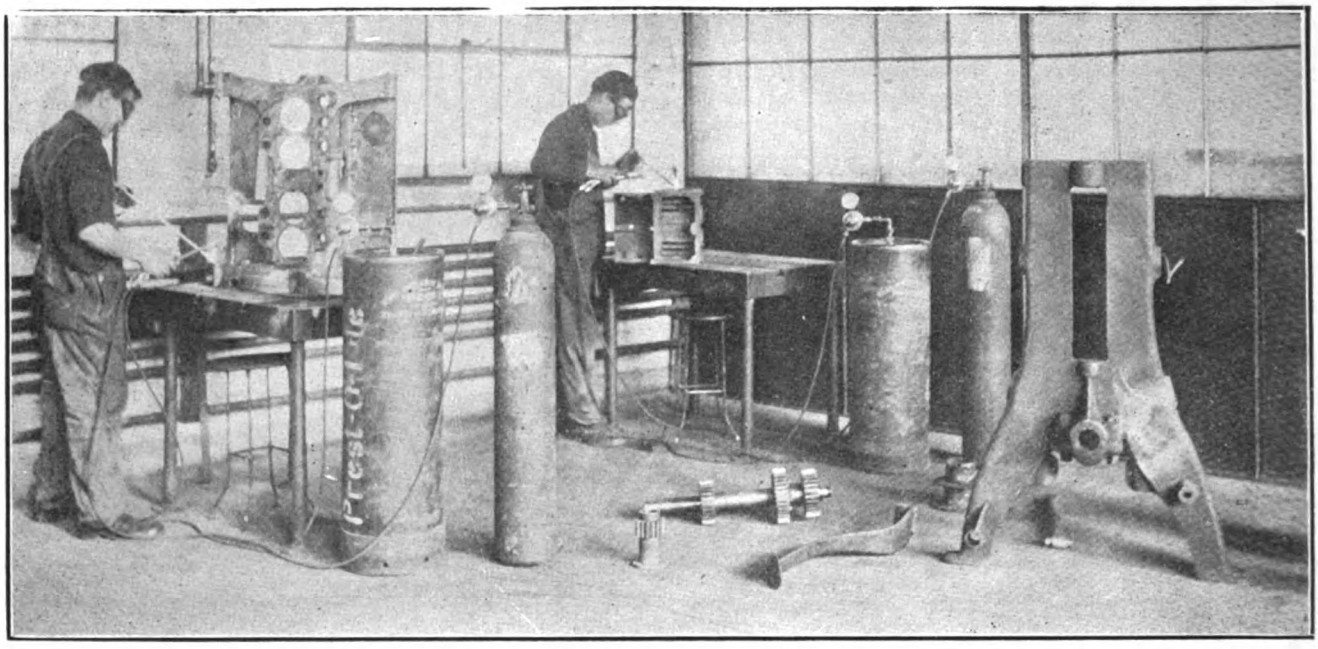


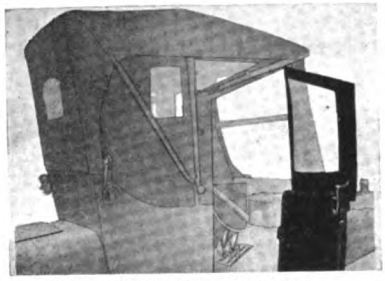
2 Sets of Dyer Welding Apparatus in Operation Illustrating Its Unlimited Range

35.00 OXY-ACETYLENE WELDING and CARBON REMOVING OUTFIT

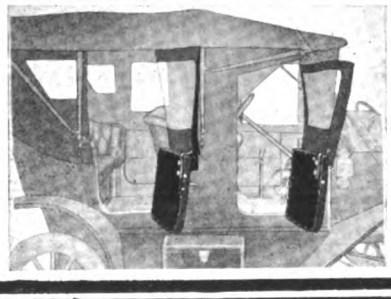
COMPLETE WITH SUPPLIES. EVERYTHING NECESSARY EXCEPT TANKS.

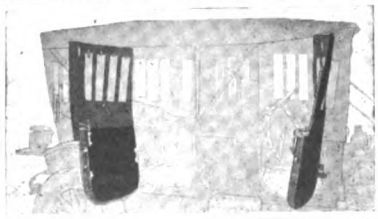
Write us for particulars of Style D Outfit. 1500 SETS IN USE. If you now have a carbon remover we can quote you a lower price on the necessary additional apparatus to convert it into a welding outfit also.

The DYER APPARATUS CO., 155 BROOKLINE STREET CAMBRIDGE, MASS.



Convenient as a Coupelet.





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MAKE A

CHEAP LIMOUSINE OF ANY OPEN CAR

THE GREATEST CURTAIN ANNOYANCE ENDED. THEY OPEN AND CLOSE TIGHT WITH THE DOOR. NO MORE BUTTONS TO LOCK YOU IN.

NO MORE LOOSE CURTAINS DANGLING FROM A WIRE

Your top maker can alter your present curtains no matter what kind. The latest and best for use during five or six months of this year. This improvement does not prevent folding up curtains or dropping same from top hurriedly. Door attachments come off with the curtains. No tools necessary.

If properly made will give you all the cold weather protection of a limousine or detachable glass top without weight or rattle and at a very small cost.

Demonstrating cars equipped this way mean sales during the winter months—Get busy. Top makers no royalties to pay. Liberal discounts on fittings. An unlimited field is open to you.

Write or wire at once to

30 N. Ludlow St. Jitney Curtain Co., Dayton, Ohio

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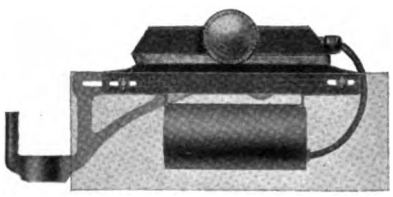
Great Opportunity for Dealers in Selling the

MALCO BATTERY TAIL LIGHT



This fits any number holder or may be attached flat against body of car and will illuminate the largest number plate evenly. Burns 95 hours on two ordinary dry cells. Won't rattle. Lamp 9 1-2" long, silver-plated reflector. Intensifying glass in base protects inside from mud and water. Heavy stock Battery case attached to body with two screws. Self-contained Ediswan socket and switch. All parts removable without use of tools. Black and nickel, $3.50. Tail Light only with 6 volt Mazda lamp, $2.75. A revelation for Trucks. Write for dealers' proposition.

MALTON SPECIALTY CO.

755 Boylston St. **BOSTON, MASS.**

Stevens Valves
Stevens Auto Tire Check Valve

Patents Issued
Actual Size Complete Valve 1,043,224—1,050,942—1,078,347 and others Pending. Actual Size Dust Cap Removed

A Valve that Operates the Full Length of the Pump Compression Stroke, Can Give 100 Pounds Pressure when Pumping Is with One Hand, Saves Half the Time and Three-Quarters of the Labor when Inflating Tires, Insures Accurate Inflation Pressure, and Can Be Applied to Any Tire Tube Valve System.

More Than 200,000 in Use.

Used by Ralph DePalma, the Premier American Driver, Winner of the 1912 Vanderbilt Cup Race, After Testing Them Without Dust Caps. They Take the Fire and the Ire Out of Pumping, and They Are Paid for After the First Puncture or Change of Shoes.

Sold for $1.00 a Set of Four, with the Guarantee of 30 Days' Trial and Money Back If Not Satisfactory.

The Quickest Selling Accessory in the Market.

Agencies Wanted in All Unassigned Territory. Write for Terms and Discounts.

STEVENS MANUFACTURING & SUPPLY CO.
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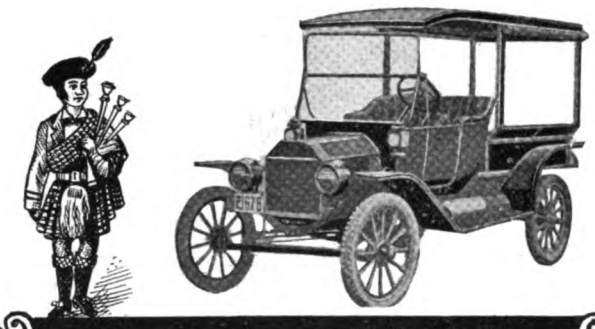
Sold By Dealers



HIGHLAND Commercial Bodies for FORD CARS

Build a Business on the
Highland Factory
RESOURCES

The productiveness of a Highland Body Agency is limited only by the strength of your representation. It is what you make it

NO CAPITAL

And the specialized production of the largest commercial body building concern in the world, that will be in demand by all requiring fast, light delivery, and which is sold at attractive prices, are the real features of the

HIGHLAND BODY AGENCY

Highland bodies are built to standardized designs that have been developed by advanced engineering to meet the requirements of all services. They are constructed of high grade materials, are intended for all classes of work, and are handsomely finished.

SHIPPED READY TO ATTACH

Highland bodies are interchangeable with all Ford chassis. They may have special fittings, and they are in all useful types. All models are stock and any order can be filled at the factory in an hour.

Bodies Sold From Catalogues

Dealers—We want representation in all communities. The agency contract is a broad one and offers big profits. Write for catalogue 15 A and full details.

HIGHLAND BODY MFG. CO.
CINCINNATI, OHIO.

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"Don't Gamble With Safety!"

USE "S--M--C" BRAKE LINING

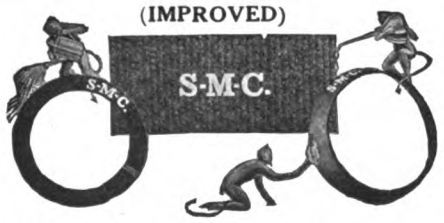
S-M-C Quality is the best that science, highest grade material and ideal facilities for manufacturing can produce.

S-M-C Endurance has been proven to be greater than any other brake lining made.

S-M-C Efficiency is equally good until the lining is worn through.

S-M-C Brake Lining is sold with the broadest guarantee that this quality can be realized by every user—money will be refunded if perfect satisfaction is not found, no matter what the service.

(IMPROVED)



S-M-C Improved Brake Lining is made in all widths and thicknesses. It is heat, oil, and water resisting.

UNIVERSAL Ford Transmission Lining

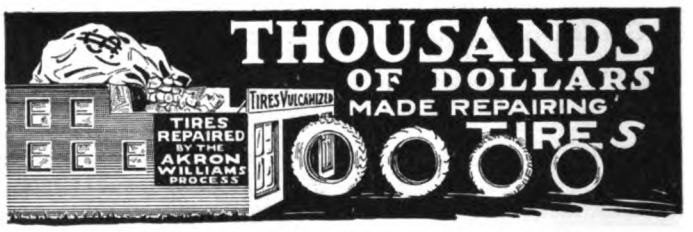
A special quality for lining the transmission bands, that has extreme endurance, and which obviates all trouble from slipping or binding. Sold, complete with rivets, ready for installation.

Jobbers and Dealers, S-M-C Brake Lining will meet the requirements of any car owner. Your profits depend upon the trade discounts Learn the S-M-C list and net prices before making contract for stock.

STAYBESTOS MFG. CO.

Germantown, Philadelphia, Pa.

Makers of
Asbestos and Rubber Packing, Gaskets, Radiator Hose, etc.



You can make anywhere from $1500 to $3000 a year above expenses. Your investment to start is small, returns are quick and income cash. Profits are large on every job. The Tire repair business is growing every year. Every city and town offers opportunity for you. Buy only an

AKRON-WILLIAMS TIRE REPAIR EQUIPMENT

The better your equipment, the better your work and the greater your volume of business. Start right. Use equipment which is

Endorsed by 30 Leading Tire Manufacturers We are making an unusual offer to everybody who buys our equipment. You can become a tire repair expert by our plan.

SEND FOR OUR 30 DAY SCHOOL PLAN

You start right. No experimenting. No failures. You become a practical, first-class repair man.

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WILLIAMS FOUNDRY & MACHINE COMPANY
ASH STREET. AKRON, OHIO

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Another Great Failure
KEETON MOTOR CAR CO. SOLD AT AUCTION
WE BOUGHT THE PARTS

900 set	Cyclecar Axles, shaft drive, including front and rear axle, 30x3 wire wheels.....Per set	$30.00
	4-cylinder Motors	65.00
	Steering Gears	5.00
	Splitdorf new magnetos, model A	10.00
	Stewart Speedometers, suitable for Ford cars	6.00
100	slightly used Tires, 36x4½.....Each	7.00
150	34x4½.....Each	7.00
	Wire Wheels, 34x4½.....Each	5.00
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40	4-speed selective Sliding Gear Transmissions..	60.00

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The One Practical Mechanical Starter for Ford Machines.

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Including three motoring magazines—one given over to the pleasure car field—another to commercial vehicles and the third to industrial interests. Each magazine distinct.

The lowest rate ever made for leading motoring papers. Write for details.

ACCESSORY & GARAGE JOURNAL
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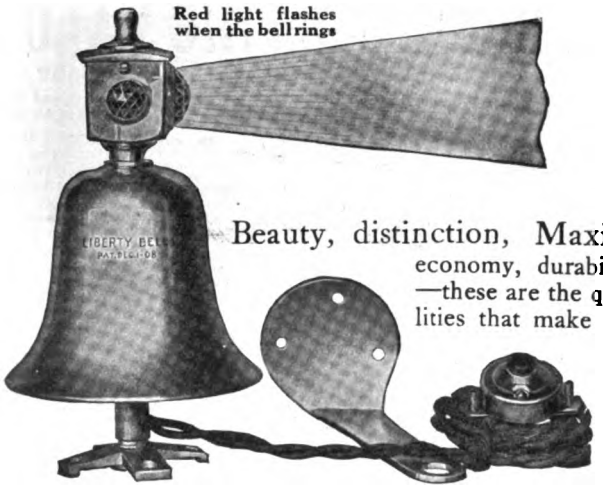


The Greatest Automobile Warning Signal Ever Produced ∴ ∴

Beauty, distinction, Maximum warning efficiency without offense, reliability, economy, durability —these are the qualities that make the

LIBERTY BELL

absolutely the best warning signal for automobiles ever produced. Both EYE and EAR announce the coming of the car equipped with this signal.

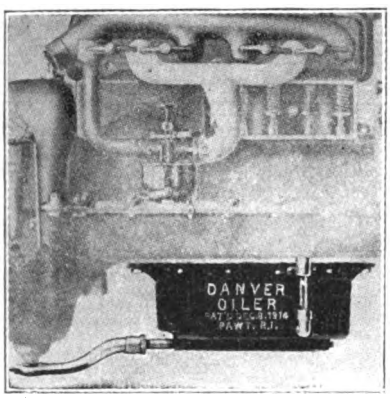
You couldn't buy a more satisfactory warning device for your car. Made of finest bell metal, highly polished and handsomely finished. It has the beautiful clear attention-compelling bell tone that cannot be equalled in effectiveness by any other type of signal. Must be seen and heard to be appreciated. Everyone obeys its command instinctively, yielding the right of way without being either offended or frightened.

The Liberty Bell is easy to attach and economical to operate. It uses only a small fraction of the current consumed by an electric horn and can be operated on storage battery or dry cells.

Not mere noise, but an efficient alarm that is weather-proof, trouble-proof, always ready and will last a life time. Cheapest and best from the standpoint of service and appearance.

THE LIBERTY BELL COMPANY

346 B The Arcade, **CLEVELAND, OHIO**



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Every Daco attachment is a big seller and the Daco line is a live wire dealer's proposition. The Daco specialties are produced in enormous quantities, sold with a guarantee as to quality, workmanship, material and finish and have all features to be found only in high-grade lines.

Jobbers and Dealers note 1915 list prices

Discount sheets at request

The Danver Automatic Oiler for the Model T Ford is now listed at $6.

Daco Combination Anti-Rattler and Grease Cup is now listed (forsteering rod, $.45) (for radius rods $.55).

Daco Flexible Brake Rod Support is now listed (malleable iron $.30) (bronze $.60.)

Daco Spring Leaf Separator now listed at $.50.

Daco Adjustable Wheel Puller now listed at $.50.

Daco Rear Axle Housing Truss now listed at $.90.

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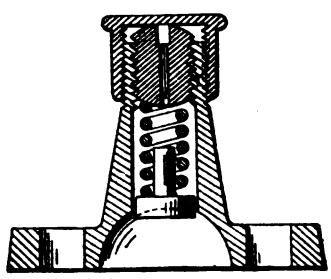
There are no just as good Ford specialties as the DACO. There are none so easy to sell and no better jobbers' and dealers' proposition was ever offered to the trade.

The DANVER automatic oiler is the WONDER seller of all Ford attachments

Catalogue and full information at request. Immediate shipment of orders.

DANVERS AUTO ACCESSORY CO., Office and Works, 18 Broadway PAWTUCKET, RHODE ISLAND



Anti-Rattler and Grease Cup.
Patented Nov. 10, 1914

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M-O-N-E-Y

Because the MAYO Pump is the lowest priced ***high grade*** power pump on the market. That's why MAYO outsells all others. The MAYO is the pioneer spark plug pump—the oldest, best known pump obtainable. There is nothing experimental about it. It has been making good for years.

MAYO SPARK PLUG PUMP

You sell it and it stays sold. It never comes back to eat up your profits.

Our 30-day free trial makes a sale out of every inquiry. Our advertising running in every prominent motor car paper is creating a tremendous number of sales for accessory dealers. Our dealer help, co-operation and service makes selling MAYO Pumps easy. The MAYO will do anything any pump will do, regardless of price.

Adapted to any car. Complete, with 12 ft. quality hose, gauge, all connections, price $10. MAYO Ford pump, complete with hose and gauge, $8. MAYO Valve Cap Pump for permanent attachment to the motor, complete, $15.

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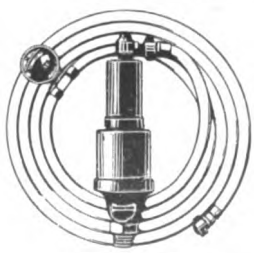
MAYO MFG. CO.

66 E. 18th Street **Chicago, Ill.**

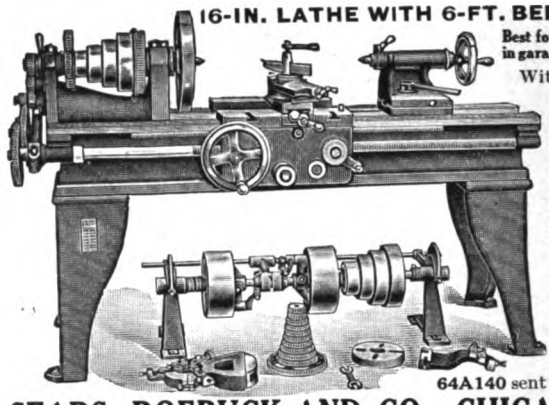
COMPLETE $10 WITH GAUGE



OUR BIGGEST LATHE VALUE

16-IN. LATHE WITH 6-FT. BED, $252.00.

Best for all around work in garage and repair shop.



With one of these lathes you can handle repair jobs that carry bigger profits—make more money. Other sizes at proportionately low prices. Every Sears-Roebuck lathe is a guaranteed lathe. Buy *your* lathe from us and save $50.00 or more.

Machinery Catalog No. 64A140 sent free on request.

SEARS, ROEBUCK AND CO., CHICAGO, ILL.

Bunting Bearing Bronze IN Cored Bars

Bunting Bearing Metal is standard today with both Manufacturer and Repairman.

Is for sale by most any Jobber or can be purchased direct from us.

STOCK SIZES

PIECE NO.	Outside Diameter	Inside Diameter	Length	Approximate weight
A	1	½	12	2
B	1¼	½	12	3½
C	1½	¾	12	5
D	1¾	¾	12	7
E	2	1	12	8½
F	2¼	1¼	12	10
G	2½	1½	12	11½
H	2¾	1¾	12	12½
I	3	2	12	13½
J	3¼	2¼	12	15½
K	3½	2½	12	17
L	4	3	12	20
M	4¼	3¼	12	21

The Bunting Brass & Bronze Co.

727 Spencer Street **Toledo, Ohio**

You Can Secure Prompt Delivery of the Famous

Engine Driven KELLOGG TIRE PUMP

Garage Pumps and Other Specialties from the Following Distributors:

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HOGGSON TIME STAMPS

Time Every Act, Operation or Transaction.

Arrival and departure of cars or persons, work being done, etc:

PRICE $5.00, $10.00, $15.00 Guaranteed

S. H. HOGGSON & CO.

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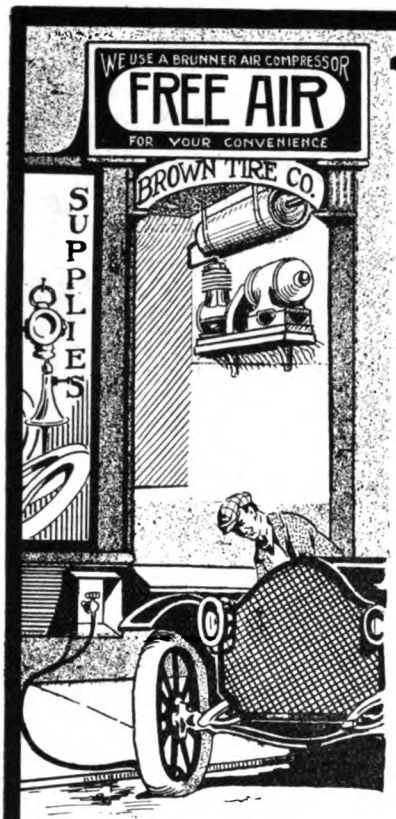

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ARE IDEAL TIRE REPAIR SHOP EQUIPMENT

For Practically Every Work Air Under Pressure Is Needed, and There Is the Necessity of Supplying the Customers Conveniences for Tire Inflation.

Where business and patronage depend upon the machines used, and the "BRUNNER" apparatus necessitates a very reasonable investment only, the best is within the reach of every tire repairer.

The first cost is not the real measure of economy—the actual gauge is the expense of maintenance. Judge by what others expend. For a period of six years and seven months the average repair charge of all the thousands of BRUNNER Compressors in use was

LESS THAN 2 CENTS A YEAR

That Sum Is So Small You Doubt It. But It Is the Finding of Auditors of International Repute

BRUNNER Compressors are built in vertical and horizontal types, of different capacities, for differing powers, and either stationary or portable. They may be hand or automatically regulated. The highest grade materials are used, the designs are the best that science can develop and they will endure many years.

BRUNNER Compressors are sold with a guarantee of quality and service.

At request we will give you **the name of the** nearest jobber who handles **BRUNNER Air** Compressors.

BRUNNER MANUFACTURING COMPANY, Utica, N. Y.

Does Your Ford Hold the Road?

"An ounce of prevention is worth a pound of cure."

The L-A Steady Steerer eliminates the side-sway of the body in the spring shackles of a Ford car, thereby preventing the dangers that threaten the Ford owner when travelling at a high rate of speed or driving over rough roads.

L-A Steady Steerer
FOR FORD CARS

It is a simple inconspicuous strut or radius rod which keeps the body and axle in perfect alignment under all driving conditions. Can be installed by any one in 15 minutes and lasts a life time. Makes your Ford steer and hold the road like a Packard.

Type "R" fits any standard Ford Car.....Price **$2.00**
Type "S" for use with Ford cars equipped with shock absorbers.
Price ... **$2.50**

Either of the above types will be sent prepaid with directions for installing if unobtainable at your dealers.

Dealers — Write for prices at once and be prepared to supply an immediate demand. Every Ford owner wants one.

LOCKWOOD-ASH MOTOR CO.
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Jackson, Mich.

Don't Grind Valves By Hand

You can cut valves and seats in one-quarter the time required by hand, with a

FOSNACHT VALVE RESEATER

Does the work far more accurately, quickly and conveniently than by the old fashioned hand method. Occupies little room in your repair kit. No garage man's outfit is complete without it. Fully guaranteed. Send for free book thoroughly describing the FOSNACHT—it's worth while. Write **to-day.** Address

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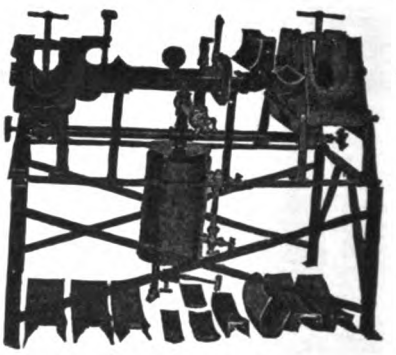
IF YOU USE A VANDERPOOL SHOP VULCANIZING OUTFIT

The only practical equipment for a public service station or repair shop. With the two cavity outfit any work on tubes or casings can be done with minimum labor and time. No expense after the initial investment. The cost is reasonable and every sale is made with an absolute guarantee of material and workmanship. Make the profit on the work you now send to others. It is UP TO YOU.



Catalogues and Full Information Sent You at Request.

VANDERPOOL COMPANY - - - - - Springfield, Ohio.

Earl Grey, Saskatchewan, Canada, August 24, 1914.

Vanderpool Co.
Vulcanizer is working fine.
R. R. Clarke.

Winkleman, Ariz., September 9, 1914.

Vanderpool Co.
Gents:—The Vulcanizer does very nice work. Am very well pleased with it. Yours very truly,
J. F. Merino.

Century Automobile Cigar Lighter. Complete $1.00 Each, F. O. B. Indianapolis.

Mabey's Trouble Lamp Complete with Lamp $1.25 F. O. B. Indianapolis.

Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

Mabey's Electric & Mfg. Company
940 N. Pennsylvania Street. Indianapolis, Ind.

DO NOT ECONOMIZE

By purchasing inferior oil for your car

MONOGRAM OIL

Though higher in price than some other brands, saves expenses for repairs and is more economical than cheaper grades.

MANUFACTURED BY

NEW YORK LUBRICATING OIL CO.,
Consolidated with Columbia Lubricants Co. of N. Y.
116 Broad Street NEW YORK

Stop the Blinding Headlight Glare!

The law says it must be done —blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street —the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on any car. The average car owner can place it on his car.

Dealers: At $3.50 the Chaney Dimmer is the best value in the accessory field and a fast seller. Our liberal trade terms make your margin of profit generous. You can clean up in your territory, for the dimmer is a legal necessity, and the Chaney is the best of all dimmers, and the only one sold under a ten year guarantee.

Write now for full details and Dealer's Proposition

THE L. F. CHANEY CO., SPRINGFIELD, OHIO

"NORMA"

BALL BEARINGS

Hundreds of thousands of "NORMA" Ball Bearings are in daily use in the automobiles and motor trucks of the country—in the ignition apparatus, lighting generators and starting motors. Would the builders of these machines agree on "NORMA" Bearings, if they were not sure that "NORMA" stood for *service*? Why not follow their example?

"NORMA"

Ball, Roller, Thrust, and Combination Bearings.

THE NORMA COMPANY OF AMERICA

1790 BROADWAY NEW YORK

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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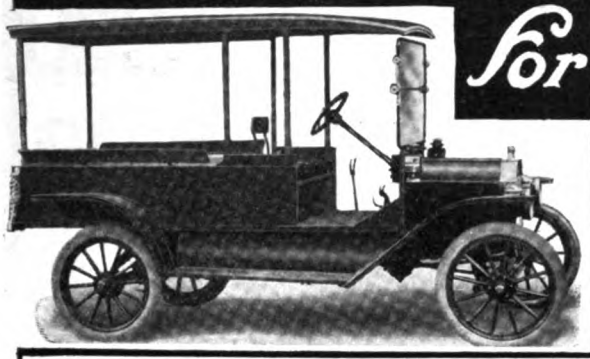
LONDON COMMERCIAL BODIES for FORD Chassis



A TYPE FOR EVERY PURPOSE

Dealers in London Commercial Bodies for Ford Chassis can fill practically any demand immediately, as orders are filled by factory shipments from stock

Special bodies can be quickly supplied to specification to meet any requirement.

London bodies are sold with an absolute guarantee of quality and satisfaction, and for prices that are only possible through quantity production. The materials are the highest grade, the construction to designs perfected by sound engineering, the workmanship is the best, and the finish is to a high standard.

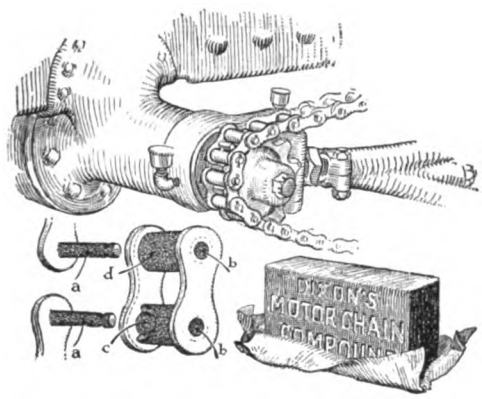
All bodies are shipped to dealers ready to install, with the necessary irons, bolts and attachments. Bodies are interchangeable with all Ford chassis and can be installed by any owner.

Dealers in London Bodies need carry no stock, need make no investment, and can depend upon our manufacturing facilities and high class production to maintain a lucrative business.

Send for catalogue and dealers' proposition.

LONDON AUTO SUPPLY COMPANY

2540-48 Wabash Avenue, Dept. B, - - - - CHICAGO, ILL.



Give driving chains a bath that will lubricate all of the inner bearing surfaces; prevent rust and wear and stop that accumulation of dust and dirt.

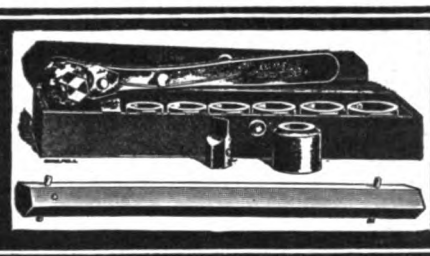
DIXON'S
Motor Chain Compound

is the best material with which to accomplish these results. Its application is described in the new automobile lubricant booklet No. 49-G.

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE CO.

Established 1827.



DON'T USE A COLD CHISEL

USE THE LANE UNIQUE RATCHET WRENCH

FOR CLOSE AND DIFFICULT WORK

IT TURNS NUTS VERY CLOSE TO THE WALL.

is easily and quickly reversed, sockets will not break or split and fits three standards and automobile nuts.

MADE FOR HEAVY SERVICE

Wrench is machine made. Sockets are turned from steel bars, cold broached and case hardened. Fully warranted. Every repairman should have a UNIQUE RATCHET WRENCH SET.

SPECIAL SET FOR FORD CARS

Dealers, Jobbers and Garagemen, Write for Trade Discounts

STANDARD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
7 Sockets to fit semi-finished hex. nuts as follows:
U. S. Standards from 1-4 in. to 1-2 in.
A. L. A. M. Standards from 5-16 in. to 11-16 in.
Cap screw heads from 5-16 in. to 5-8 in.
Price in leather case, $2.50.

THE FORD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
1 Extension bar 7 inches in length.
SIX SOCKETS to fit all nuts and bolt heads on Ford car, including the cylinder head.
Price in leather case, $3.00.
Sold by dealers everywhere.

WILL B. LANE. Manufacturer, 180 N. Dearborn Street, Chicago, Ill.

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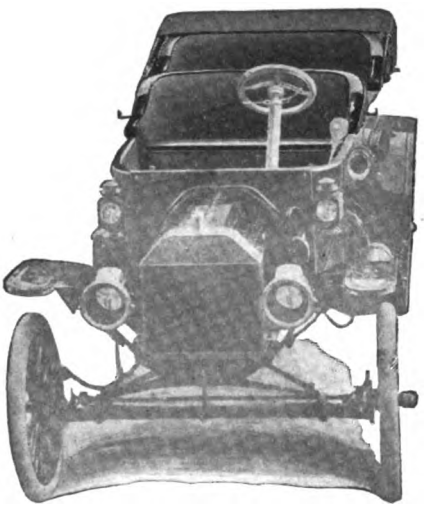
Satisfied Customers are the best advertisers—you will make every buyer a satisfied customer if you give him—

BADGER
SEAT COVERS



Live dealers, in every state, sell the Badger line exclusively. Past experience has proven to them that it is more profitable and satisfactory than any other.

We offer a greater selection of materials—the fit and workmanship are superior—and our prices are surprisingly low.

Let us convince you that the Badger line is the one you should represent. Send today for our Catalogue of samples and prices.

Wisconsin Auto Top Co.
Dept. 7
Racine **Wisconsin**

World's largest makers of Seat Covers

GETTING THE MONEY
REPAIRING TIRES

The biggest money making field in the Automobile Industry today is in **repairing tires.** It is an enormous field and growing larger every year. Locations for good tire repair shops are open in every city and town in the country. You can make

$1500 TO $5000 A YEAR

if you learn by our system of instruction. We teach you every phase of **TIRE REPAIRING and TIRE CONSTRUCTION** by practical demonstration, in a school equipped with every necessary appliance. This is not a correspondence course. You get your training by actually using equipment and repair material. That's the only way.

WE TEACH YOU BUSINESS METHODS

Instruct you how to open your shop. How to take care of sales. How to retain your trade. How to make your shop pay.

WHAT OUR STUDENTS SAY

O. E. Bonnell writes, "I did a $15,000 business last season." **A. A. Robinson,** "Have been in business 30 days. More than doubling expenses. Did not know money could be made so easily." **C. E. Kurtz** says, "We are crowded with work." **G. M. Marsh,** "Business coming too strong, and I have not advertised a bit" Hundreds of others tell of similar success

SEND FOR OUR FREE BOOKLET D

It tells all about our school, about our methods of teaching, what our students have accomplished Be first to enter into this big paying business in your town.

CLOUSE TIRE REPAIR SCHOOL
Euclid Avenue and 90th Street, Cleveland, Ohio

CLEAN CYLINDERS
Ball Carbon Remover

A chemical compound tablet that burns instantly, destroying the deposits of carbon in the explosion chamber, cleaning the combustion chamber and piston and coating the walls with a film of lubricant.

No need to take down an engine to restore perfect operation and obtain high fuel economy.

Territorial rights are open. Address Dept. A

BOWLING GREEN SALES COMPANY
42 BROADWAY, NEW YORK

Sole Distributors for the United States and Canada.

Time Savers
For Charging Storage Batteries

Universal Test Clips

MADE of copper—lead plated—indestructible—may be used over and over again—will carry 15 amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Your money back without quibble if not entirely satisfied.

Single Lots - - Each 15c.
Lots of 10 - - Each 12 1-2c.
Lots of 100 - - Each 10c.

R. S. MUELLER & CO., 431 High Ave., S. E., CLEVELAND, OHIO

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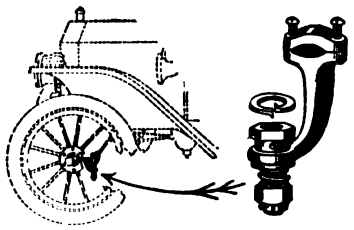
FOR FORD CARS

King Spindle-Joint Anti-Rattler



Permanently chokes that rattle emitting from the spindle joints. Can be attached quickly with little effort.

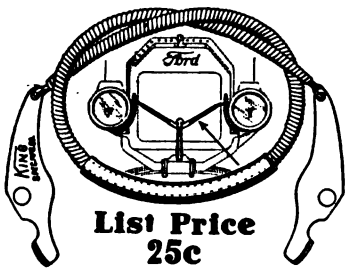
When once in place it requires no further attention.

A "Stitch in Time" device which checks that perpetual slap felt at the steering wheel.

A Finishing Touch to Auto Perfection

List Price $1.00 Per Set *Dealers: Write for particulars*

KING CRANK HOLDER



List Price 25c

A Quick Seller to A Big Market

A nerve saver for every auto owner.

Fastens the starting crank upright with a vice-like grip. Eliminates that constant rattle. Attaches to headlights, preventing vibration or breaking bulbs. Keeps crank out of the mud. Saves wear and tear on all crank parts.

Adds to the appearance of car.

Dealers: Write for particulars

KING SPECIALTY MFG. COMPANY - - - - BROOKLINE, MASS.

HYATT QUIET SERVICE

HY·FLEX·ROL

Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated.

HYATT SERVICE STATIONS

Atlanta, Ga. Detroit, Mich.
Boston, Mass. Los Angeles, Cal.
Chicago, Ill. New York, (Harrison, N. J.)

SERVICE AGENTS

High Wycombe, Broom & Wade England

HYATT ROLLER BEARING CO.
DETROIT, NEWARK, N. J. CHICAGO

Get this Catalog

It contains descriptions of all the famous Campbell Motor Car Accessories; Seat Covers, Percama, Johnson Model "D" Carburetor, Straps, Boots, etc., etc.

Territory open for reliable established dealers.

THE PERKINS-CAMPBELL CO.
603 Broadway - - - - - Cincinnati, Ohio.

New Carleton No. 68 Generator

48 watt Direct Current. Steady Light either with or without Storage Batteries.

COMPLETE ELECTRIC LIGHTING EQUIPMENT FOR USED OR NEW CARS

MOST EFFICIENT LOWEST PRICED

Simple and positive drive, easy to install, and its output is guaranteed to meet all requirements.

SPECIAL EQUIPMENT FOR FORD CARS is shown in illustration

No machining or alterations are necessary. It can be installed with a screw driver and a wrench.

OUR NEW PORCUPINE DRIVE Operates All Generators. No Slipping of Belt, No Unnecessary Wear on Bearings.

The Carleton No. 68 Generator Lists at $15.

Automatic Cut Outs, Ammeters, Storage Batteries, etc.

DEALERS' DISCOUNTS WILL INTEREST THE TRADE

Patent Applied For

The Carleton Company *172 Summer St., Boston, Mass.*

American Made for American Trade

New Departure Ball Bearings

THE NEW DEPARTURE MFG. COMPANY, BRISTOL, CONN.

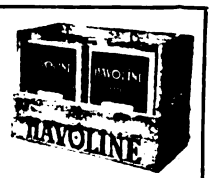
MAKES OLD TOPS NEW

$3 to $5 will waterproof the outside and re-dye the lining, making any auto top good as new. Send for information.

RUB-ON MANUFACTURING COMPANY
98 Brayton Street Buffalo, N. Y.

HAVOLINE OIL

"It Makes a Difference"



Manufacturer: —"We have used HAVOLINE OIL with great success in our *C——Cars. What oil do you sell?"

Garageman: —"Oh! That's the one oil that meets the general demand of the trade. Our customers find they get more miles per gallon from HAVOLINE than from any other oil."

Manufacturer: —"Yes! and it leaves practically no carbon in the cylinders."

Garageman: —"I find that practically all manufacturers advocate its use in their cars. It certainly gives perfect lubrication."

Manufacturer: —"It certainly is well advertised. I see HAVOLINE advertisements everywhere."

Garageman: —"Their magazine, the 'Sales Oiler', is surely a big help to any live garageman, in creating trade."

(*Name of car on request.)

Be sure you sell the oil in the Blue-and-White Can with the inner seal. We offer the garagemen the best packaged goods proposition on the market. Write for our Representative or for full information. Be sure and write for the "Sales Oiler."

INDIAN REFINING COMPANY
17 Battery Pl. Dept. M New York

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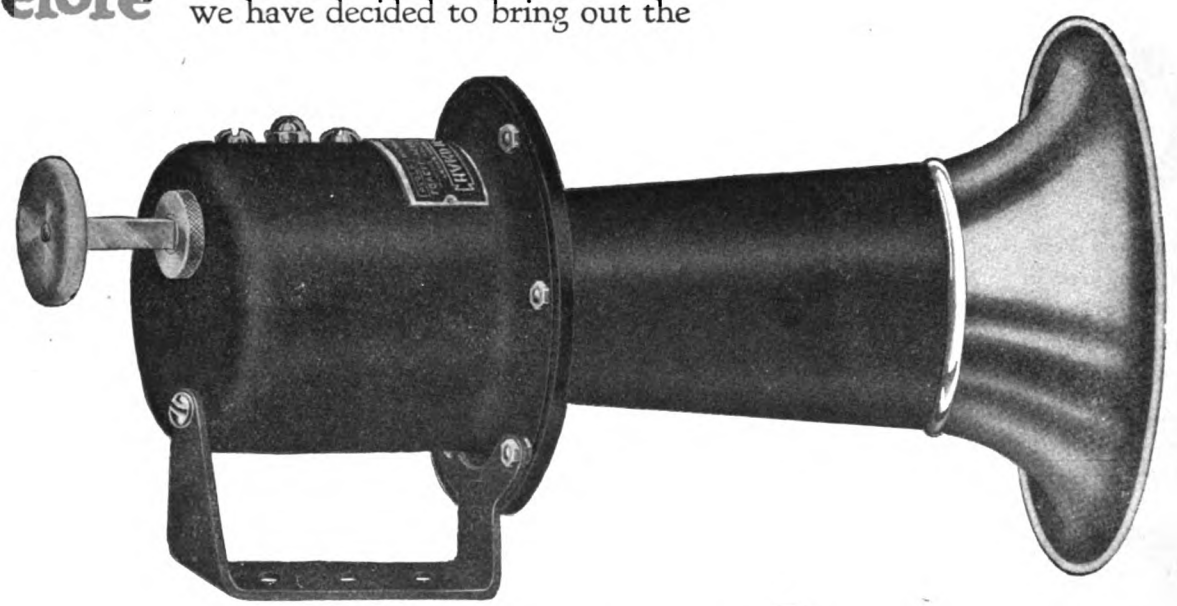
We still think

that hand signals are makeshifts; that car owners will be far better satisfied from every standpoint with motor-driven Klaxons

but there are some car owners who still want hand signals and want them at a low price.

therefore we have decided to bring out the



Hand Klaxonet

Klaxon Permanent Guarantee; Klaxon Quality; Klaxon Note; Brass projector (not steel); Oval bell. Finished in black and nickel, black and brass, all black.

LOVELL-McCONNELL MFG·COMPANY
MAKERS OF THE "KLAXON"·NEWARK·N·J·

$4

Deliveries May 1st

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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Effective February 1

Reduction No. 3

On Goodyear Tires

Making Total Reductions 45 Per Cent in Two Years
To Give Always the Most for the Money

We are glad again—for the third time in two years—to announce a big reduction on Goodyear tires, effective February 1st.

Goodyear policy on price is to give the utmost in a tire at the lowest possible profit. Our reductions are made to that end, without ever reducing the quality.

That always means, with our matchless output, more for the money than any other maker can give.

As rubber came down our prices came down. As our output multiplied, reducing factory cost, our prices came down with it. In two years our reductions—including the present—have totaled 45 per cent.

Last year we increased our output 26.6 per cent. A few days ago the embargo on rubber was modified so that supplies seem assured. The market price for rubber seems for a time established. Fabric costs less than last year. So, under our minimum profit policy, we announce this new reduction.

Only Fair Basis

We consider profit margin on a tire the only fair price basis. We keep that margin just as low as our line allows.

While we do that, Goodyear tires will always undersell any tires that compare with them. That is because we have the largest output. We have a new factory, modernly equipped. And we have world-wide facilities for buying rubber, of our extra grade, at the lowest market price.

For a long, long time most tires have sold much above Goodyear prices. Some have sold one-third higher. A few have sold lower, as some always will, because of less rubber, less quality. But we can and do, under all conditions, give more for the money than any rival tire can offer.

The Best We Know

Goodyear Fortified Tires offer the best we know. They are built to give you the lowest cost per mile. They minimize tire trouble in five costly ways employed by no other maker. And they are always the same, regardless of price reductions.

Most tires will always sell higher, because of smaller output. Some tires will always sell lower because of lower standards. But we promise you that none will ever give better than Goodyear value.

This policy has made Goodyears the largest-selling tires in the world. It will make them more so as more men find them out.

Ask your Goodyear dealer for our new price on the size you buy.

THE GOODYEAR TIRE & RUBBER CO.
Akron, Ohio

(2230)

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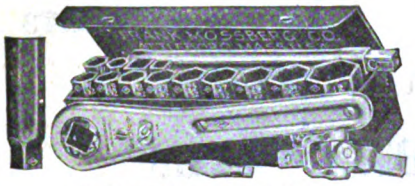
D

Socket Wrench Set No. 7

$3.00

Socket Wrench



Socket Wrench Set No. 16

$6.00

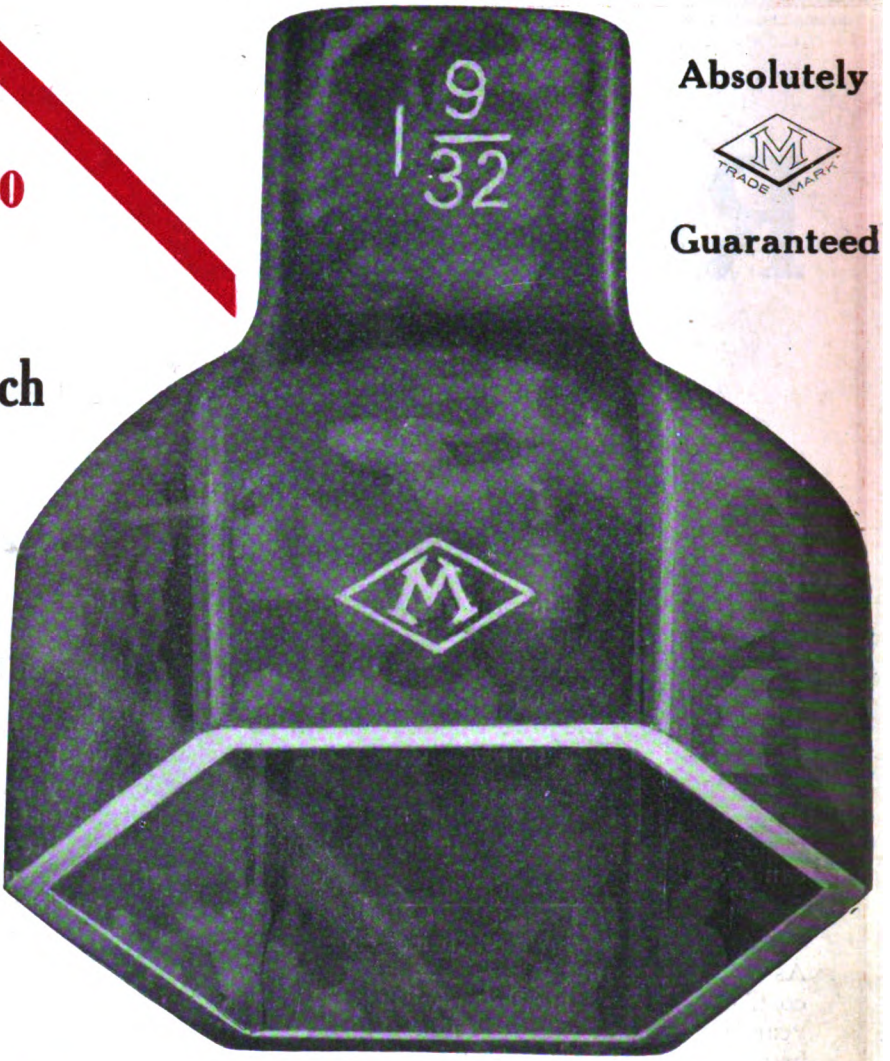
Sets of

Socket Wrench Set No. 10

$8.00

All Sizes

Socket Wrench Set No. 14



Absolutely

TRADE MARK

Guaranteed

MOSSBERG

Socket Wrenches Are The Logical Wrenches

$12.00

If you cannot obtain from dealer, we will ship direct on receipt of price.

Save—

Time
Money
Delay
Replacing
"Cussing"

Make MOSSBERG Prove It

FRANK MOSSBERG CO.

ATTLEBORO, MASS.

Catalog No. 171 A will tell you more

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20 CENTS the COPY

1915 22,500 Copies the Issue Guaranteed

Unequalled Service—Greatest Known Trade Distribution.

$2.00 the YEAR

THE ACCESSORY -AND- GARAGE JOURNAL

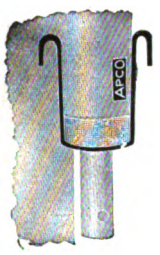
Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., APRIL, 1915. NO. 12

TRADE APCO MARK

VALVE STEM PACKINGS

VALVE STEM PACKINGS.



When the valve guides on an engine wear it is impossible to get a perfect mixture as air is drawn thru the space between the valve stems and the wall of the guides. This results in a skip that is impossible to find, especial-ly at low engine speeds and full power can not be obtained from the engine, as part of the suction stroke is wasted by drawing air by the valve stems. The [redacted] pack-ing consists of a special steel stamping and felt washer which is held in position by valve spring as shown in cut. When in position the felt both prevents air from entering the cylinders and also lubricates the valve stem preventing further wear. They are necessary on the new cars as well as old, and the installation in either case is a matter of a very few minutes without tools of any kind.

Price per set of Eight 50c.

FREE SAMPLE

This is one of the most necessary accessories we have ever offered and in order to introduce it we will mail a sample set to dealers and garages free of charge.

Simply pin the coupon to your letterhead and enclose ten cents in stamps for mailing and insurance.

Only one sample set will be sent, and none unless coupon is enclosed.

AUTO PARTS COMPANY
OF PROVIDENCE R. I.

Manufacturers of the Largest Line of Ford Specialties in the World.

CLIP THE COUPON AND MAIL IT TODAY

Name _____

Street _____

City _____ State _____

Send to the above a free set of Valve Stem Packings for which enclosed find 10c to cover postage and insurance.

PUBLISHED BY THE AUTOMOBILE JOURNAL PUBLISHING COMPANY, PAWTUCKET, R. I.
For Owners Use Automobile Journal. The Motor Truck For Truck Buyers.

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WALDEN WORCESTER WRENCHES

Are you selling wrenches

BUILT TO USE,

Or others merely made to sell?

ALL ORIGINAL DESIGNS

WALDEN - WORCESTER GUARANTEED QUALITY TOOLS

The first wrench ever offered for use on brake and reverse bands, designed with a knowledge of clearance around the nuts.

The peculiar shape of the handle is to allow for full working space.

50¢ EA

New design, all steel tool. Bar handle swivels on cone bearing. Pins are hardened steel and socket shaped to fit valve head—a real tool.

30¢ EA

Most useful single wrench for Ford Cars. Cylinder Head Bolts, rear axle nuts and housing, water intake pipes and sundry other places. Sockets are shaped to allow full clearance.

38¢ EA

Original Designs

Original Designs

35¢ EA

It will fit any rod in practically any position without removing the engine from the car. The first and only wrench on the market today which will accomplish this purpose.

There are many nuts and bolts on the Ford Car which with ordinary wrenches are very inaccessible, causing much loss of time when making adjustments or repairs. These tools are designed and tested under practical service conditions and greatly simplify the work, saving much time and annoyance. The tools are built to meet hardest service conditions and are fully guaranteed. Every Ford owner and garage needs these tools.

35¢ EA

Sizes are 9/16 and 3/4 in., to fit main bearings and engine base bolts and other parts. Most desirable tool for your Ford equipment.

DESIGNED AND PROVEN FOR EFFICIENCY AND SERVICE.

A NEW BIG VALUE IN SERVICE WRENCHES FOR FORD CAR

In other words, are you using our goods to not only make a profit for yourself and build up a permanent business (with patrons who will stick to you because of the quality of your merchandise) or have you been deceived by the lure of a little more profit, into selling "something just as good." Remember that being lured into doing that kind of business invariably turns out to be a loss, for you drive away your patronage and are left with an inferior stock.

Walden Manufacturing Company

60 Commercial Street

WORCESTER MASS.

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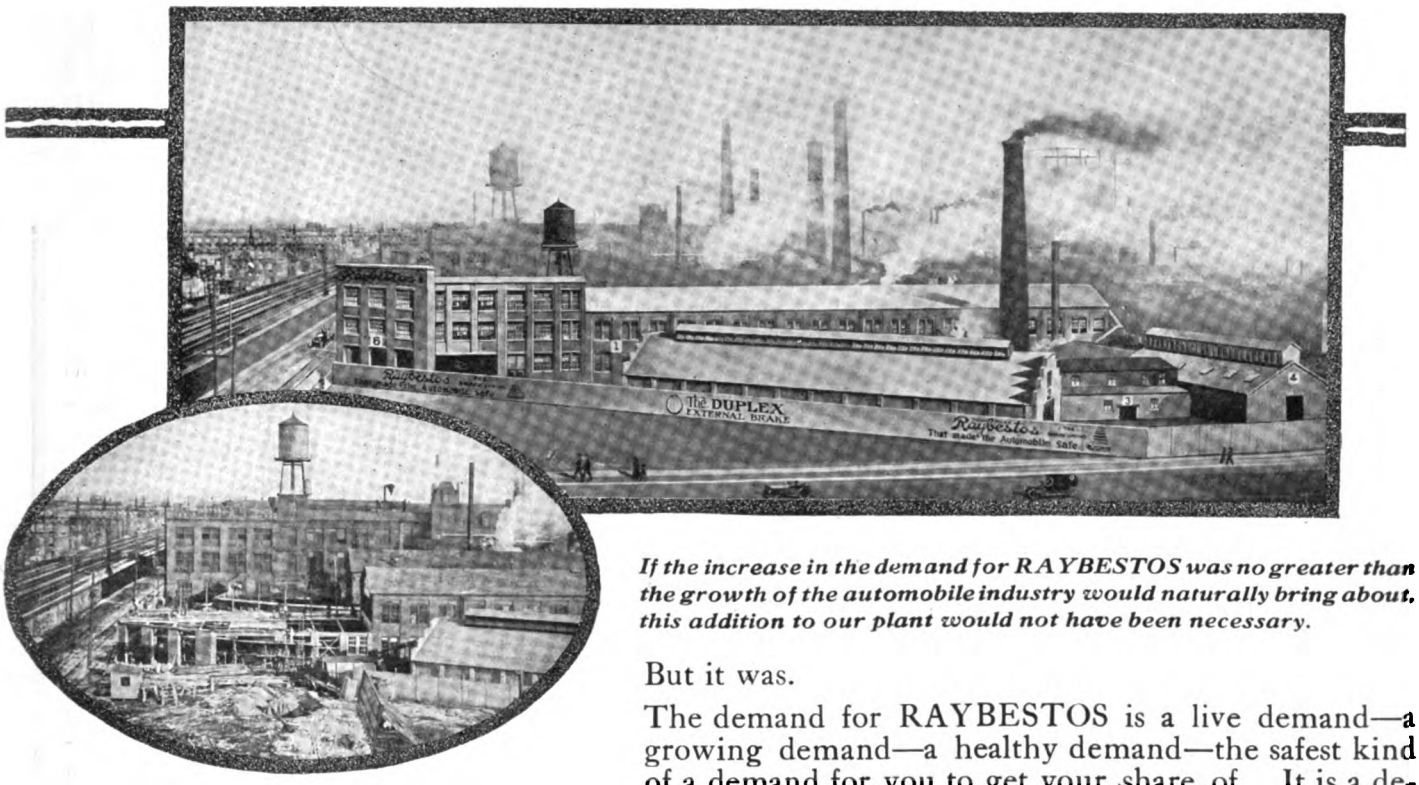
The Quality of Raybestos Will Increase Your Business the Same as it has Ours



If the increase in the demand for RAYBESTOS was no greater than the growth of the automobile industry would naturally bring about, this addition to our plant would not have been necessary.

We have just completea an addition to our main factory building which gives us a total floor space of 65,000 square feet—facilities which if housed under one roof, would mean a 5-story building, 260 feet long and 50 feet wide.

Here RAYBESTOS is woven, treated, trademarked and prepared for shipment —to the majority of automobile manufacturers as original brake equipment and to nearly one hundred of the leading jobbers in various centers for distribution through the trade for replacements.

But it was.

The demand for RAYBESTOS is a live demand—a growing demand—a healthy demand—the safest kind of a demand for you to get your share of. It is a demand brought about by the quality of RAYBESTOS and nourished by the relative superiority of its service.

Merit established RAYBESTOS—merit built up the demand for it—and because its intrinsic merit has increased steadily with the passing years, the demand for it has grown—in face of competition—to such an extent that the name

TRADE MARK **Raybestos** REG. U.S. PAT. OFF.

"THE ORIGINAL AND BEST ASBESTOS BRAKE LINING"

is the term universally applied to good brake lining.

Merit did this—not sharp merchandising practice.

This increase in our manufacturing facilities means more to you than the fact that a new building has been built.

The Royal Equipment Company

1380 Bostwick Ave. Bridgeport, Conn.

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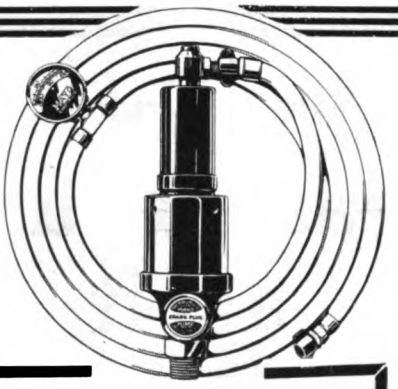
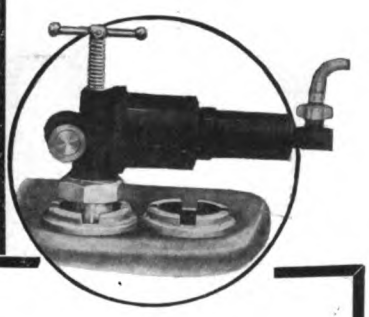
Sold on 30-Days Free Trial



The Pioneer of all Power Pumps —World Famous



The very latest in a permanently attached tire pump, always ready for instant service.

MAYO VALVE CAP PUMP

Readily installed into one of the valve caps on any 4-cycle motor.

No gears to grind and become noisy. Pumps a tire in three minutes instead of 10. Complete with 14 ft. hose and gauge—

$15

Liberal Discount

None of the disadvantages of gear pump installation and upkeep expense.

This pump is our leader —the fastest selling pump on the market.

Oldest and best known.

MAYO SPARK PLUG PUMP

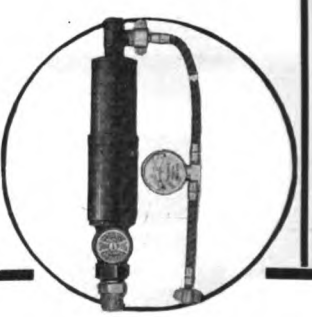
Pumps pure, fresh air only. Adapted to any car. Instantly substituted for any spark plug. Built with rings like your motor—and lasts as long. Complete, 12 ft. hose and gauge—

$10

Q. D. Spark Plug, $1.50 Extra

Liberal Discount

The lowest priced quality tire pump. Investigate.



Complete your line of pumps with this little wonder. Over 700,000 Ford prospects. Indestructible.

MAYO FORD PUMP

Let every Ford owner try one. Made especially for Ford cars, and as perfectly as the largest MAYO. Attached and operated exactly like standard MAYO Spark Plug Pump.

Complete with 10 ft. hose and gauge—

$8

Liberal Discount

The first quality pump at a price consistent with Ford cost.

Your Customers Will Need a MAYO Pump on that Tour this Summer.

Mayo Mfg. Co.

64 East 18th Street

Chicago Illinois

Write Us for Attractive Dealers' Proposition

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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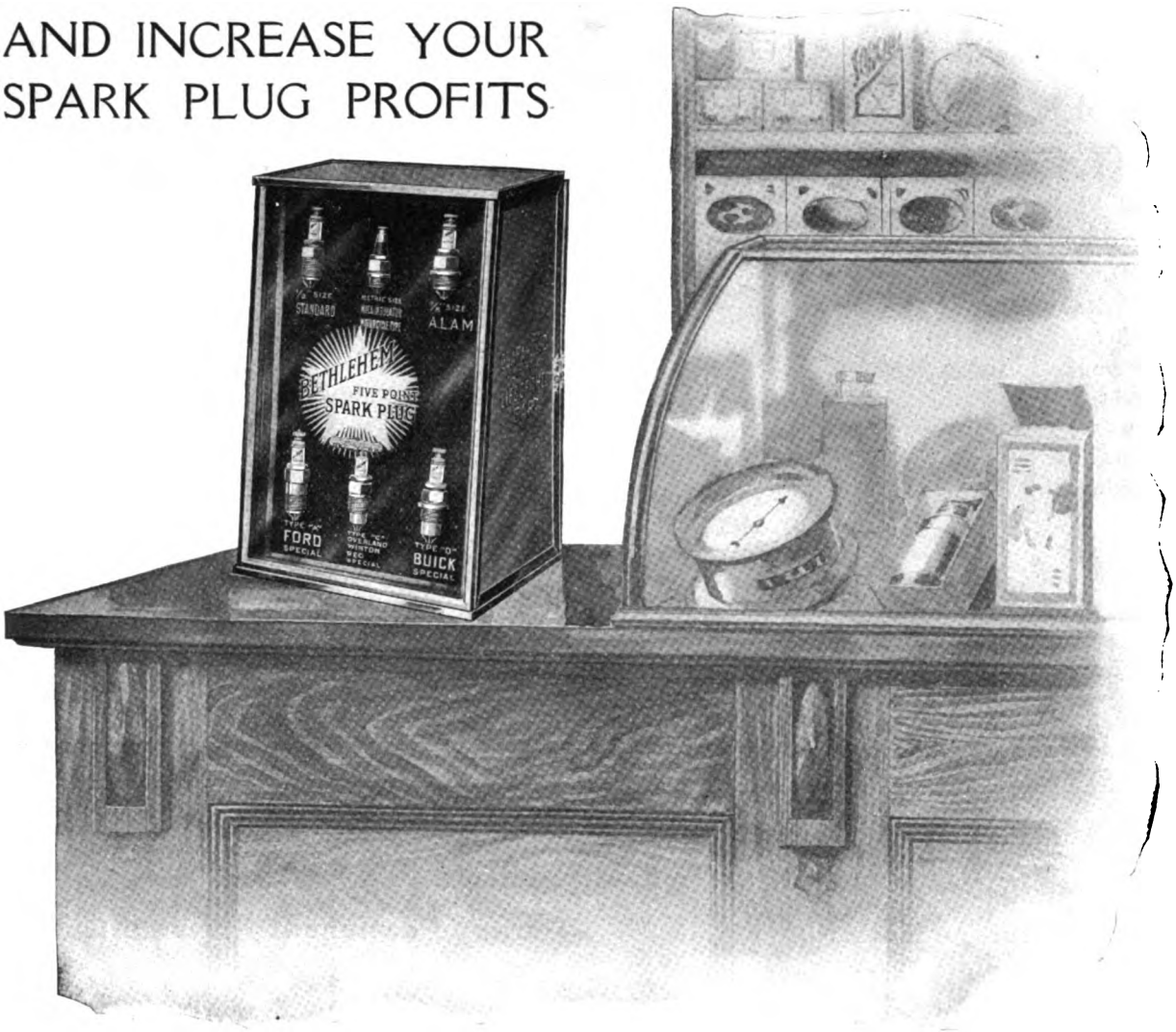
PUT THIS CASE ON YOUR COUNTER

AND INCREASE YOUR SPARK PLUG PROFITS



This handsome Display Case gives you a Display, a Stock and a Salesman—for $25.00. The Case costs you nothing.

It is a big convenience. It attracts trade—and concentrates sales on *Quality* Plugs—

BETHLEHEM FIVE POINT SPARK PLUGS—*Guaranteed for the Life of the Car*

Car owners are buying Bethlehems because they give real SERVICE. They look for this Case—it contains a complete assortment of the various types of plugs our experience has proven to be right for each type of motor.

The Cases are selling fast. Send in your order. Remember, Bethlehems pay you a better profit than cheap plugs! $1.25 each—and worth it. Descriptive booklet free.

THE SILVEX COMPANY, 171 Madison Ave., New York

Factory: South Bethlehem, Pennsylvania.

Pacific Coast Branch: Oakland, California.
W. N. DAVIDSON, Manager

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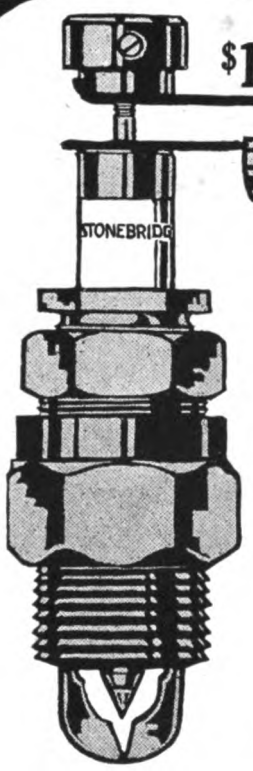
STONEBRIDGE



The Plug That Makes Both Profit and Friends for You

The demand for this plug is headed your way Right Now. As fast as we can explain it—we sell it. If you held one in your hand and looked it over carefully you'd understand why live dealers all over the country are stocking the Stonebridge "Easy Clean" Spark Plug. Its advantages are right where you can see them, for yourself.

DEALERS—We pay your advertising Bills—not in talk—but in Real Money! Write us.

1 THE ONLY PLUG THAT CAN BE CLEANED WITHOUT REMOVAL FROM THE CAR.

2 NEVER NEEDS ADJUSTING.

3 ENTIRE PORCELAIN CAN BE REMOVED AND REPLACED, WHILE PLUG PROPER STAYS IN MOTOR.

4 HAS SPECIAL SAFETY CONNECTION ON TERMINAL.

5 YOU CAN TEST OUT PLUG WITHOUT THE USE OF ANY TOOL.

6 SPRING TERMINAL ALWAYS ASSURES POSITIVE CONTACT—NOT SOMETIMES, BUT ALWAYS.

Dealers: We have a proposition that is a wonder; it reaches right through your front door and rings the cash register. It's a kind of co-operation you never heard about before. Write us now for particulars.

Stonebridge Sales Co.

10 Wall Street New York, N. Y.

PURITAN PRICES

Storage Batteries

16 volt—50 hour—with box	$9.99
6 volt—50 hour—with box	9.99

Lighting Batteries

6 volt—100 hour (without box)	8.98
Battery boxes, 15x7x8 inches	1.75

Tops

For Ford Cars, Roadster	11.00
For Ford Cars, Touring	15.00

Complete with side curtains and boot. Also tops for all other makes.

Radiators

For Ford Cars—

Model T Honeycomb	17.00
Model T Honeycomb (V shape) Brass	23.00
Model T Honeycomb (V shape) Nickel	25.00

Big supply of radiators for all other makes.

Puritan Permanent Portable Garages

10x14	62.50
10x18	75.00

Big Bargain Counter Specials

Gas Headlights—pair	4.50
Simplex Tire Engine Pump	7.50
Oil Side Lamps	3.00
Thermos Bottle—1 pint	1.45
Ford Monarch Dashboard Oil Gauges	1.00
Handy Trouble Lamps, complete	.75
Dash Lamps, with bulb	.75
Tire Repair Kits	.30
Stewart Speedometers, complete	8.00
Windshields, complete	7.90
Tire Covers, all sizes	.75
Metal Polish, gallon	.50
Pliers from 15c to	.35

Robes below cost.

SEND FOR NEW SPRING CATALOGUE

PURITAN MACHINE COMPANY

A. O. DUNK, President

ALL PARTS FOR ALL CARS

51-10th Street DETROIT

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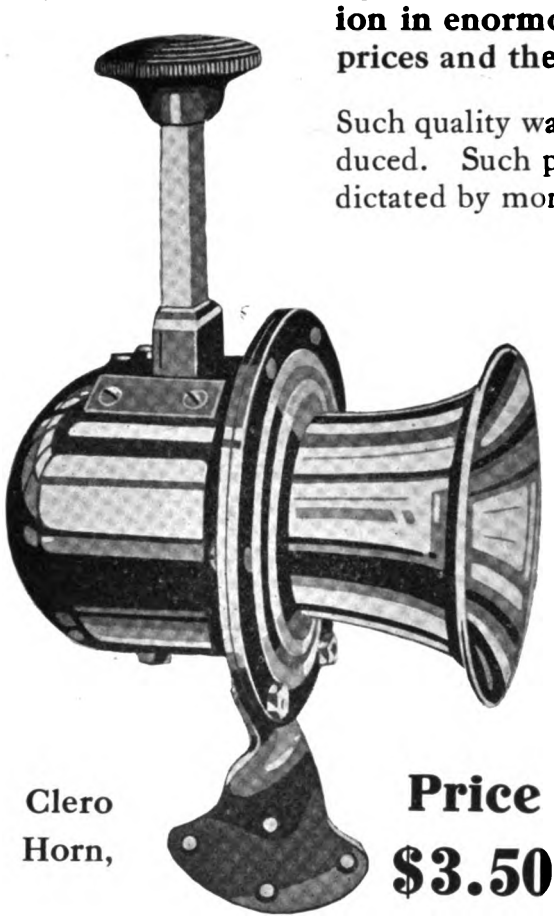
$3.50 CLERO HORNS $4.00

THE BEST HAND-OPERATED MECHANICAL WARNING SIGNALS EVER PRODUCED.

Not cheap because the price is lowest. CLERO HORNS are superior in quality to all other horns, because unequalled manufacturing facilities and production in enormous quantities has made possible minimum prices and the finest of materials, workmanship and finish.

Such quality was unheard of until CLERO HORNS were produced. Such prices were undreamed of. Other horn prices were dictated by monopolistic control of patent rights.



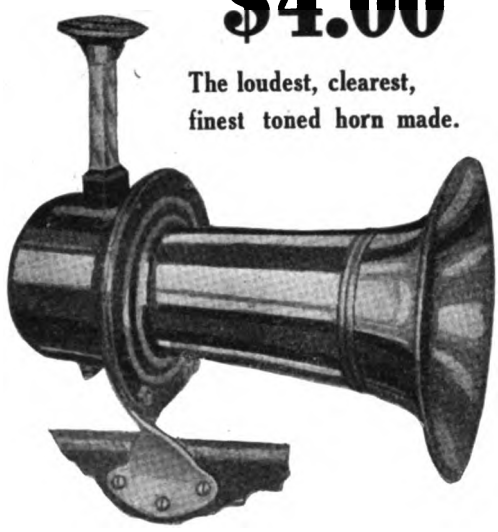
Clero Horn, **Price $3.50**

BIG CLERO PROFITS FOR YOU EVERY DAY

Clero Long Projector Horn

$4.00

The loudest, clearest, finest toned horn made.



Mr. Dealer, Now's the Chance

Your profits depend upon the volume of business you do, not on the number of sales. There's a wide margin on CLERO HORNS, their distribution is being promoted the nation over, and the demand is already extremely large.

CLERO HORN QUALITY is right, CLERO HORN PRICES are right, CLERO HORN PROFITS are right. These three factors are irresistible in business. Mr. Dealer, if you fail to grasp the opportunity, the loss is yours. Your business is what you make it. Are you a business builder? Full information for the asking.

FITZGERALD MANUFACTURING CO.

TORRINGTON CONNECTICUT

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Every Gasoline Station
Every Garage Owner
Every Car Dealer

Should carry Weed Chains in stock because the motoring public demands them.

For safe and successful car operation, there are three absolute necessities:

Gasoline, Oil, and Weed Chains

If you are not selling this ***third necessity*** you are missing some real profits, some comparatively easy money that your customers are willing to surrender —because they are coming to realize more and more that ***Weed Chains are the only positive safeguard against skidding.***

If you are not selling Weed Chains, write us at once. We will put you in touch with a decidedly pleasing profit plan that you should take advantage of ***immediately.***

Weed Chain Tire Grip Co.

Bridgeport, Conn.

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THE TRADE'S BEST SELLERS

Five Widely Known Motoring Utilities, a Necessity in Every Garage and Car, That Will Economize Operating Expense and Increase and Improve Vehicle Service.

$10

Utility Pump, Complete with Whistling Pneu-Meter.

The only automatic, practical and positive power tire pump, operative from a spark plug opening by the motor, adaptable to any car. Any pressure can be obtained. Can be attached instantly, is always ready when needed, and is easily carried in a car. Built of high grade material and will endure for years. It cannot fail and cannot wear. With it tire protection and economy is certain.

As necessary as fuel and sold for prices within the reach of every motorist.

$6

Utility Junior Pump, Complete with Whistling Pneu-Meter.

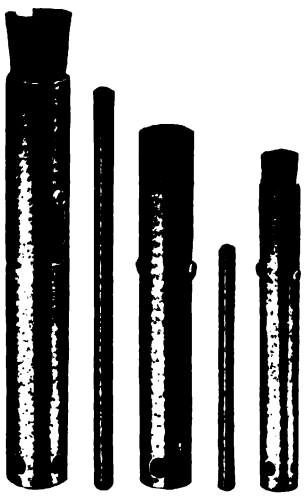
Equally serviceable as the larger pump, but with a range from 40 to 80 pounds it is designed for Fords and similar light cars having tires to 3 1-2 inches diameter. The most practical equipment ever offered to motorists.

$2

Utility Whistling Pneu-Meter.

A pressure gauge that sounds a shrill whistle when the pressure at which it is set is reached when inflating tires. Range from 50 to 120 pounds by five-pound units. The air by-passes when the pressure is reached. It is a safety valve and prevents over-inflation. It can be used with any pump, and is sold separate.

The Utility pumps and the Whistling Pneu-Meter are superior to all other tire pumps or protective devices. They have been proven in the use of thousands of motorists and never fail to satisfy in any instance.



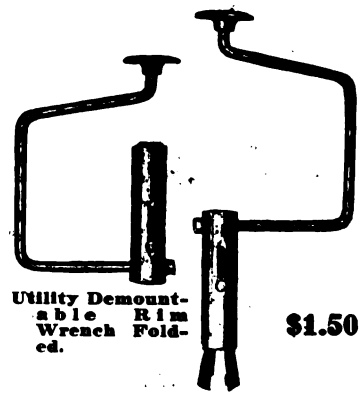
Utility Socket Wrench Set, Complete, $2.50.

Utility Socket Wrench Set

A set of three jawed socket wrenches that are instantly adjustable and will take all nuts that a set of 14 sockets will fit; fits all sizes and shapes used on motor cars; either square, hex, cock or wing, and holds the nut after it has been removed. It can be used to set nuts in places inaccessible to the hands. Will take all sizes from 3-16 to 1-2 inch inclusive. Is packed in a canvas bag.

Utility Demountable Rim Wrench

Designed for removing the nuts of all demountable rims, this instantly adjustable wrench has many uses. The wrench can be used with both hands, for it holds the nut firmly until it is released. It operates as does a bit brace and can exert great pressure. It can be folded and carried in the tool box.



Utility Demountable Rim Wrench Folded.

$1.50

Utility Demountable Rim Wrench.

DEALERS; The Utility pumps, Whistling Pneu-Meter and the wrenches are so manifestly superior that they sell at sight. They are in demand the entire year, and they are bought by all car owners who know their economy and service value. Full information supplied all correspondents.

THE HILL PUMP VALVE CO.

18-20 E. Kinzie Street **CHICAGO, ILL.**

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Removes Rims Instantly

HERE is an instantaneous tool that does not touch the tire, but opens the rim lock, overlaps the rim ends, and holds them contracted, to permit the immediate removal and replacement of tires in an upright position. For all sizes of Kelsey and Stanweld Rims. Weighs 2 pounds, is rust-proof and fits tool box.

FRIESTEDT RIM CONTRACTER

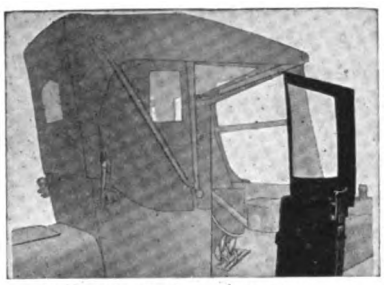
Retails at $2.00

DEALERS: A convincing and quick selling tool that will go by the thousands. Widespread publicity, attractively colored display cards and genuine selling assistance is yours.

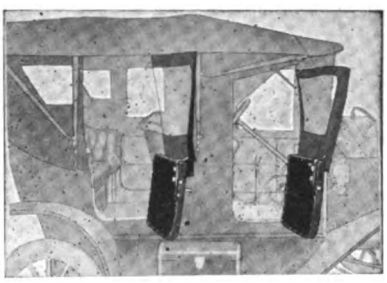
It's a natural seller. Write today for attractive proposition. 75% of the cars have these rims.

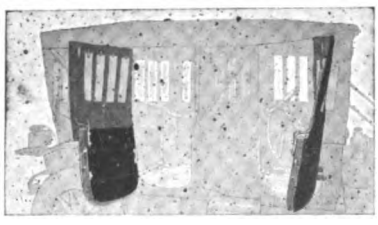
The Friestedt Rim Contracter Co.
2929-2935 W. Lake Street Chicago, U. S. A.

"IT OPENS THE RIM LOCK"



Convenient as a Coupelet.





JITNEY CURTAINS

Reg. U. S. Patent Office

MAKE A

CHEAP LIMOUSINE OF ANY OPEN CAR

THE GREATEST CURTAIN ANNOYANCE ENDED. THEY OPEN AND CLOSE TIGHT WITH THE DOOR. NO MORE BUTTONS TO LOCK YOU IN.

NO MORE LOOSE CURTAINS DANGLING FROM A WIRE

Your top maker can alter your present curtains no matter what kind. The latest and best for use during five or six months of this year. This improvement does not prevent folding up curtains or dropping same from top hurriedly. Door attachments come off with the curtains. No tools necessary.

If properly made will give you all the cold weather protection of a limousine or detachable glass top without weight or rattle and at a very small cost.

Demonstrating cars equipped this way mean sales during the winter months—Cet busy. Top makers no royalties to pay. Liberal discounts on fittings. An unlimited field is open to you.

Write or wire at once to

30 N. Ludlow St. **Jitney Curtain Co.,** Dayton, Ohio

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YOU NEED THIS WATERHOUSE

Because it is a money maker.
With it, broken auto parts are made as good as new at a far less cost than new parts.
You should have it in your business because it is a PROFIT PRODUCER.

YOU SHOULD HAVE THIS WATERHOUSE

Now here is how you can get it.
Just order it
And if after it comes you find that you do not want it send it back and the deal is off.

But you will be tickled to death with it because it gives you more value for your money than any other equipment on the market. The man who does things is the man who gets there. Order a WATERHOUSE and get the welding business of your community.

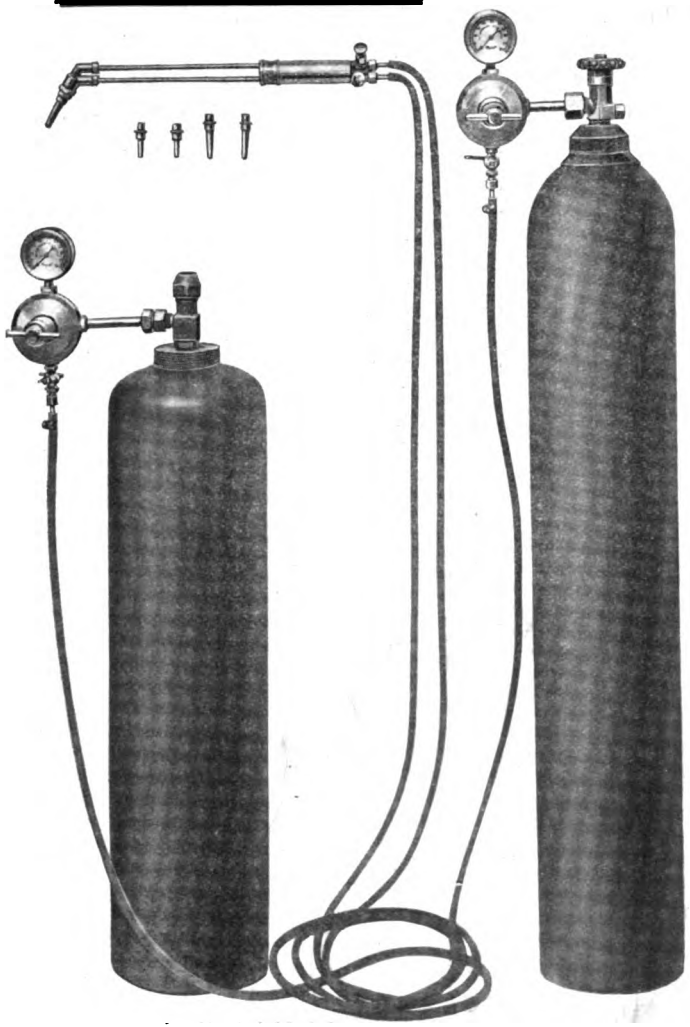
WHAT YOU GET

THE WATERHOUSE OUTFIT	Value
1 B Welding Torch with 5 tips	$17.00
1 Oxygen Reducing Valve with 50-lb. line pressure gauge	10.25
1 Acetylene Reducing Valve with 50-lb. line pressure gauge	11.00
1 Set of Special Welding Hose (20 ft.)	3.00
1 Pair of Welding Glasses	.75
1 Carbon Burning Torch	Free
1 Set Instructions	Free
Net Cost Complete	**$42.00**

If you have a regulator for carbon burning, the oxygen regulator with the outfit is unnecessary, and you can deduct the price ($10.25), from the above total price.

HOW YOU PAY

5 per cent. discount for cash with order or C. O. D. shipment, or $20.00 with order, balance in two payments; first of $12.00 in thirty days, second of $10.00 in 60 days.



WATERHOUSE WELDING CO.

"Makers of the Torch That Never Flashes"

AMERICA'S PIONEER WELDER

3 PELHAM STREET BOSTON, MASS.

See WATERHOUSE Advertisements in previous issues of this paper

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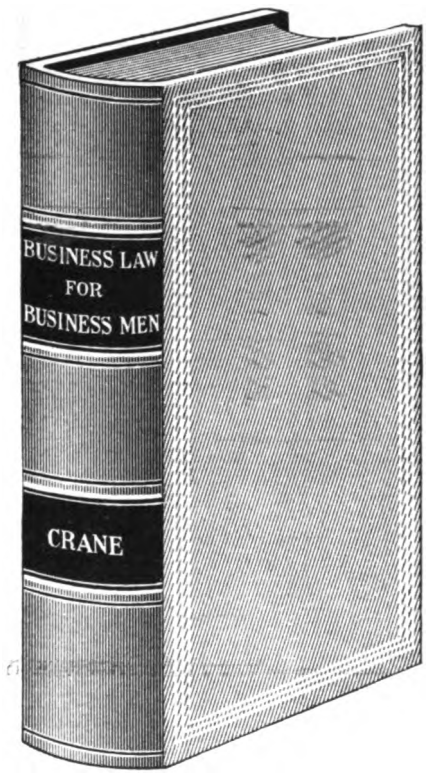
THIS SILENT PARTNER CAN ALWAYS TELL YOU
Stop Taking Chances---Stop Making Mistakes

The one practical, always available and ever useful book for Garagemen, Repairmen, Dealers in Cars, Agents and Accessory Men.

"BUSINESS LAW FOR BUSINESS MEN"



Is a work of this kind. It is prepared especially for the busy business man. It is the only work of like purpose that is free from technical language. It applies to every state in the Union; it is down-to-date in every particular; it serves silently as Counsellor: never makes mistakes; and never asks a fee.

The legal forms should be in the possession of every trade interest.

Its contents comprise the following departments: Contracts, Partnerships, Corporations, Negotiable Instruments, Real Estate and Conveyancing, Bankruptcy, Insurance, Common Carriers, Patents, Banks and Banking, Trade Marks, Copyrights, Sales, Domestic Relations, Business Crimes, Building and Loan Associations, Architects and Builders, Money, Executors and Administrators, Constitutional Law, each with its numerous sub-divisions. It also contains the latest and most improved legal forms, including Contracts, Powers of Attorney, Wills, Deeds, Assignments, Leases, etc., etc.

"BUSINESS LAW FOR BUSINESS MEN" comprises over 600 pages. It is bound in a specially prepared law buckram that is made to stand the government tests for a material that will outwear leather, with leather labels on back stamped in gold. Size 6½x9¼ inches.

LAW ADVICE FOR A LIFETIME—IT COSTS YOU BUT THE POSTAGE. With one year's subscription to the Accessory and Garage Journal this book is given free. The cost to automobile industrial interests only is $2.15. The regular price for "Business Law for Business Men" is $3.50. A year's subscription to the Accessory and Garage Journal is $2. A $5.50 book and magazine value for $2.15.

Make all remittances by Check, Postoffice or Express Money Order. Currency at risk of sender.

ACCESSORY AND GARAGE JOURNAL

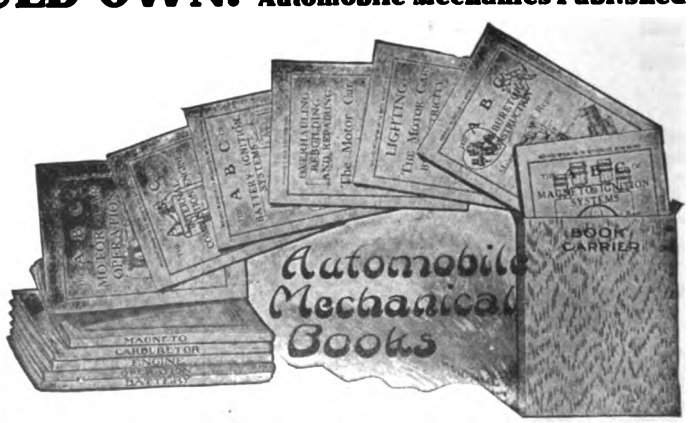
Times Building *Pawtucket, R. I.*

BOOKS THAT YOU SHOULD OWN.

The Only Complete Library of Automobile Mechanics Published

LIST OF BOOKS AND PRICES.	
Engine	35c
Magneto	35c
Carburetor	35c
Battery	35c
Tires	25c
Chassis	25c
Lighting	50c
Operation	50c
Overhauling	50c
Motorcycle	35c
Truck Operation	$1.00

11 BOOKS
All indexed
All complete
No theory
All revised
Up to date
1000 pages of text
2000 Illustrations
Including many series of page charts and working diagrams.



This library is a business asset. A necessity to every garageman, repairman, accessory man, dealer and agent. The practical working knowledge contained in these books cannot be secured in any other way at any cost. The contents tell what to do, how to do it and when it should be done. A lifetime of practical knowledge at command.

SPECIAL PRICE PER SET UP TO 1000 SETS in combination with one year's subscription to the Accessory and Garage Journal, $5, transportation charges prepaid. This offer is made only to industrial interests. Make remittances by Check, Postoffice or Express Money Order. Currency at risk of sender.

ACCESSORY AND GARAGE JOURNAL

TIMES BUILDING
PAWTUCKET - - - R. I.

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The Big Way to Advertise in the Month of May When All in the Trade Are Buying.

No Advertising Magic—

JUST FACTS

When business men knew very little about advertising the old time advertising men used to talk to them a lot about "Advertising Magic." Whatever that may have been it went out of style long ago.

You are now, doubtless, sending out many catalogues every month, direct-by-mail folders, and using trade directory space and space in automobile journals which cover some part of the trade. It is difficult for you to estimate how many people you are reaching, but perhaps you can make a rough guess. Then figure how much it costs you every month.

Analyze these definite figures showing how much wider distribution, how much more service, INDEED, HOW ABSOLUTELY COMPLETE A SERVICE we offer you at a fraction of the cost.

The May issue of the Accessory and Garage Journal mailed on or about May 25th will reach 14,594 men who operate garages; 1553 who operate repair shops; 1100 who conduct accessory and supply stores; 400 who do a jobbing business in automobile supplies; 390 hardware dealers who conduct wholesale automobile supply departments; 15,567 who deal in vehicles; and 698 who conduct the leading automobile businesses in Canada.

This includes all Ford dealers and all of those who sell Ford accessories and equipment. There is a distinct section in each issue of the Accessory and Garage Journal given over to advertisers of Ford parts, equipment, accessories, etc.

The Trade Will Read and Keep This Number

In it will be published for the first time in any motoring paper complete detailed mechanical specifications of every pleasure and commercial car produced in America, names and addresses of makers, models, body types, parts used, equipment and prices.

Car Data That You All Must Have

These are facts that every man in the trade wants always within arm's reach—that he needs to refer to every day in the year. It will be a trade directory in itself in addition to being a live trade magazine with a dozen departments that the dealer or his salesmen use constantly. You will want to keep it for your own use.

One page, $60; Half page, $36; Quarter page, $24; Eighth page, $14

Page size 7 1-2 by 10 inches. Two columns to page.

ACCESSORY AND GARAGE JOURNAL

Times Building **Pawtucket, R. I.**

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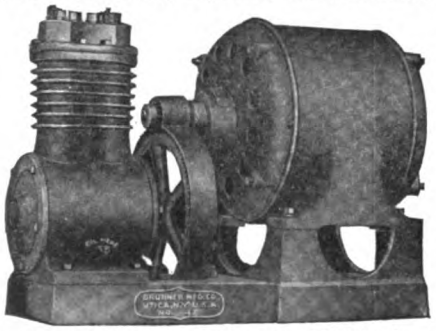
BRUNNER AIR COMPRESSORS

SAVE TIME AND LABOR IN THE PRIVATE GARAGE

Economy is an important factor in the administration of any business enterprise. The highest quality equipment is not extravagance, for it insures efficiency and satisfaction.

BRUNNER Air Compressors are the best machines of the kind that are built. They are designed and constructed to careful engineering principles and from high grade materials. There is no purpose that cannot be served by a BRUNNER machine, either stationary or portable, horizontal or vertical, for any power and of any capacity, and with hand or automatic regulation.



No. 42 Double Cylinder, Vertical.

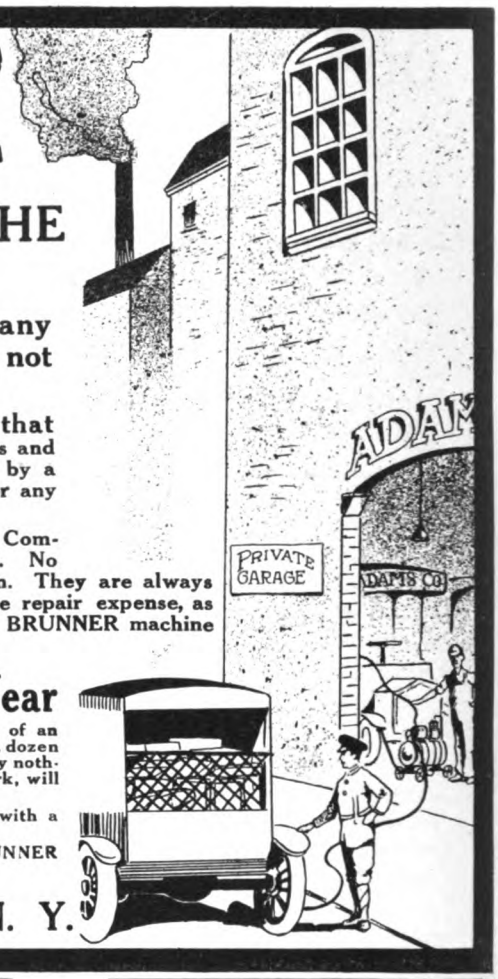
After the first cost, BRUNNER Compressors have no upkeep expense. No attention is needed but lubrication. They are always ready, always dependable, and the repair expense, as shown by an audit covering every BRUNNER machine in service for 79 months averaged

Less Than 2c a Year

A BRUNNER Compressor is the equal of an extra man in a garage storing more than a dozen vehicles. The actual money saving, to say nothing of the convenience and the better work, will pay for the installation in a short time.

BRUNNER COMPRESSORS are sold with a guarantee of positive satisfaction.

There's a jobber who handles the BRUNNER line near you. Write us for his address.



BRUNNER MANUFACTURING CO., Utica, N. Y.

THE FAST SELLING JENSEN LEVER TIRE PUMP

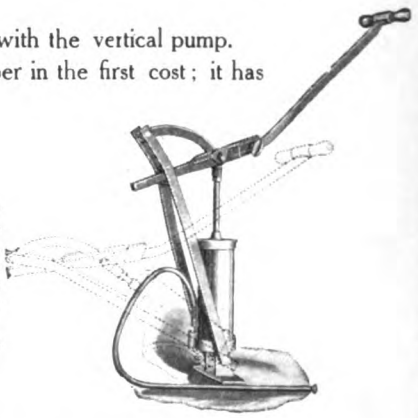
Will do four times more work than any other pump with one-fourth the effort.

It is a fulcrum pump—the leverage multiplies the operator's strength.

It will pump against ninety pounds pressure easier than against sixty-five pounds with the vertical pump.

It is more convenient and dependable than an engine driven pump. It is cheaper in the first cost; it has equal speed.

A boy or woman can easily operate it. Compact and will fit any tool box.



Sigourney, Ia., Oct. 29, 1914.

W. H. HOWELL CO., Geneva, Ill.

Gentlemen—We do not see how any one thought of making the pump, but now since it is made we must say that it is by far the best thing in its line that we have ever seen. The piston is sufficiently large to be substantially made. It is just as simple as can be, yet is made in a way to be the easiest to operate. We have tested these pumps out to a pressure of over 300 pounds per square inch with no leak past the piston, and must say that this was done just as easy as pumping up to ordinary pressure with any other pump.

We do not say the Jensen is the best pump because we sell it, but we are selling it to dealers in Iowa because we know it is the best.

Yours truly,

FRIDAY MACHINERY & SUPPLY CO.

By R. J. Friday, Gen. Mgr.

List Price $5.00. Jobbers and dealers write for special discount sheets.

The Practical Way to Sell Brake Shoes For Fords

We are now supplying the trade with Emergency Brake Shoes for Ford cars, fitted with asbestos lining. These shoes will last five times longer than the ordinary ones and are shipped ready to attach.

List Price $1.25 a Set. Jobbers and dealers discount sheets at request.

W. H. HOWELL CO., Geneva, Ill.

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THE MOTOR TRUCK

A Magazine Devoted to the Commercial Vehicle Field.

IT IS READ BY A MAJORITY OF THE DEALERS IN BUSINESS WAGONS IN AMERICA, and Supplies the Kind of Information That Can Be Used in the Selling, Operation, Car and Repair of Power Wagons.

A Business Investment for You **Subscribe Today**

12 Issues. $2.00 the Year.

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FEDERAL RUBBER MFG. CO.
MILWAUKEE, WIS.

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Motor Parts Co	59
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Mueller & Co., R. S	52
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New Departure Mfg. Co	50
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Royal Equipment Co	1
Rub-On Mfg. Co	50
Sears, Roebuck & Co	56
Silvex Co	3
Standard Woven Fabric Co	14
Staybestos Mfg. Co	60
Stonebridge Sales Co	4
Sullivan Motor Car Co	51
Superior Lamp Mfg. Co	61
Times Sq. Automobile Co	13
Trade Circular Addressing Co	13
Tuthill Spring Co	53
Vanderpool Co	54
Walden Mfg. Co	Cover
Waterhouse Welding Co	9
Weed Chain Tire Grip Co	6
Williams, A. F., Mgr	13
Williams Foundry & Mch. Co	51
Wisconsin Auto Top Co	52

We Sell Everything

pertaining to the automobile at half regular prices. Send for our great "PRICE WRECKER" No. 5, containing 3000 auto bargains at cut prices. TIMES SQUARE AUTOMOBILE CO. World's largest dealers. S. W. Cor. 56th St. and Broadway, N. Y. 1210 Michigan avenue, Chicago.

1915
Auto Mailing Lists of All Lines For Sale

80,370 Auto Dealers, U. S.—$40.00 or $2.50 per M.
6,200 Auto Ford Dealers, U. S.—$15.00 or $8.00 per M.
19,543 Garages, U. S.—$30.00 or $2.50 per M.
20,924 Auto Supply Dealers, U. S.—$30.00 or $2.50 per M.
21,983 Auto Repair Shops, U. S.—$30.00 or $2.50 per M.
1,680,000 Auto Owners.....$2.00 per M.
353,000 Auto Ford Owners....$8.00 per M.
Have Every Other Auto Trade List.
All Typewritten, Showing Financial Rating.
Ask for Particular Territory Wanted.
A. F. WILLIAMS, Mgr.
166 West Adams St., Chicago.
Franklin 1182.

Use an Air-Friction 1914 Model "C".

Increases power and economy of motor one-half. Absolutely impossible to choke or load. Uses distillate, gasoline or half kerosene with finest results. Starts easy in coldest weather. We fit all motors, guaranteeing definite results, or refund money. Exclusive county rights. Liberal exchange on other carburetors, and old style Air-Friction. THE AIR-FRICTION CARBURETOR CO., Dayton, O.

SALESMEN WANTED:

Men calling on automobile and accessory dealers to handle the Ford One-Man Silk Mohair Top, complete with Jiffy Curtains. Also strong line of seat covers for all cars. Liberal commission and exclusive territory.

ONE-MAN TOP AND SUPPLY CO., Flint, Mich.

BRANCH MANAGERS

In leading cities for auto specialty who can carry stock and handle men. No competition. An exceptional opportunity for good men. Address 1063 McCormick Building, Chicago, Ill.

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Follow the White Foot Prints

In this day of particular buyers there are mighty few good places that fail to show the Multibestos Cabinet or at least a stock of Multibestos with White Foot Prints. What's the reason?

Just this—Multibestos combines, as no other brake lining, downright satisfaction to both the man who buys and the man who sells it. It is safe to use. It is profitable to sell. It makes a friend every time the money passes.

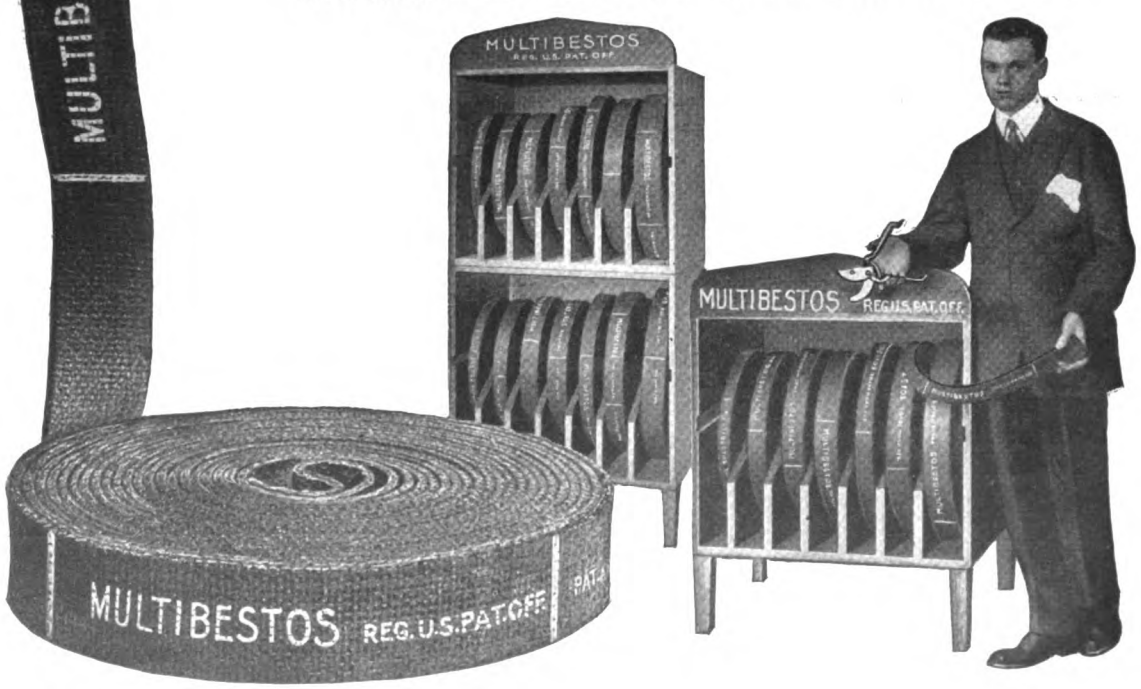
Follow the White Foot Prints and be Safe in the Grip of Multibestos.

Standard Woven Fabric Company

FACTORY, FRAMINGHAM, MASSACHUSETTS

SALES BRANCHES

Boston—F. Shirley Boyd, 175 Massachusetts Ave.
Chicago—F. E. Sparks, 1430 Michigan Boulevard
Philadelphia—N. A. Petry Co., Inc., 1309 Race Street
San Francisco—Fred Ward & Son, Inc., Corner First and Howard Sts.



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THE ACCESSORY -AND- GARAGE JOURNAL

Devoted Exclusively to the Automobile Trade and Allied Interests

VOL. IV. PAWTUCKET, R. I., APRIL, 1915. No. 12

ACCESSORY MAKERS WORK NIGHT AND DAY.

Reports from Plants Throughout the Country Indicate that the Prosperity of the Car Builders is Shared by Parts Makers.

THE automobile industry is experiencing the greatest wave of prosperity that it has ever known. Coincident with the reports of great gains in business from such car manufacturers as the Ford Company, the Willys-Overland, the Studebaker corporation and others, are the statements that the parts and accessory manufacturers throughout the country are sharing in the greatly increased volume of business.

Detroit, Mich., is generally considered a barometer of the industry. It is said that many of the accessory manufacturers there, as well as in other industrial centres, are being pressed so hard by the car manufacturers for their products that they have been obliged to curtail their promises for deliveries in June and July. However, they will, in some way best known to themselves, be able to meet all demands, as they have in the past.

One method has already been adopted, and that is to work the plants on day and night shifts, and by adding machinery and buildings to the plants. The Continental Motor Company is stated to have more than 2300 men at work in its Detroit and Muskegon works, and is turning out 325 engines every day by working the forces through day and night. The company's business has increased 25 per cent. since the corresponding period of last year.

World's Largest Axle Maker.

Probably one of the busiest of the parts makers is the Timken roller bearing and axle concern. This company has been taking over allied plants, one of the latest being the Metal Products Company's plant, where axles are being made in extraordinary quantities for several car manufacturers. Other new factory buildings are being added to the plant, one of which is nearing completion and will be used for the manufacture of David Brown worm gear axles. The affiliated companies of Timken-Detroit Axle Company and the Timken-David Brown Company have been running day and night for the past three months. Further building, some of which structures will be erected on property that the company owns in Detroit, and other additions, the whole of which will involve $750,000, will make the Timken interests the largest axle producers in the work, it is said. At present there are more than 2500 men on the payrolls, a great many of them working overtime and several departments running on a 24-hour schedule.

The Zenith Carburetor Company has been extending itself for some time in the effort to keep pace with the demand for its product, which demand is said to have increased 50 per cent. in the last six months. This plant also is working a night shift, and carries 90 men in its working force. The Zenith company foresaw such possibilities and erected a modern structure with plenty of provisions for expansion. Increase of facilities is now in progress and consists of adding new and modern machinery, which is expected to raise the present output of 200 carburetors a day.

Working Day and Night.

Among the steering gear manufacturers, the Gemmer Manufacturing Company is far exceeding its previous production records. The company has booked more than 20 per cent. more orders for its equipments than it had on its books last spring, and is keeping its 350 to 400 employees exceedingly busy. The machinery departments are kept working on night shifts, and thus the company is able to produce between 360 and 400 complete steering gears, including the steering wheel, etc., every day.

Another motor builder, the Massnick-Phipps Company, manufacturer of Perkins motors, is reporting exceptional increase in business. A short time ago the company took over the plant of the Wahl Motor Car Company, which brings the total floor space for the company up to 60,000 square feet. The company is employing at present a third more men than ever before, making the number of the present force about 350 men. The force is not only working in two 10-hour shifts, but is also working Sundays. The company is turning out about 50 engines daily, 75 per cent. of them being eight-cylinder. Business has increased 100 per cent. over last year.

The Long Manufacturing Company is turning out about 175 radiators a day, and is striving to increase this schedule to 250 daily to meet the demand. More than 5000 feet of additional floor space is now being added to the plant for general manufacturing and enamelling ovens. Night and day work has been the rule in the Vanguard company for some time, and the company is producing more than 1000 windshields a day. Indicative of the increased fortunes of the Vanguard company is the fact that the working force has been doubled in the past 12 months.

Detroit newspapers are publishing a large amount of help wanted advertising for the various Detroit motor car and parts companies. They require men who have worked on automobile construction and know the special machines and special operations thoroughly. This shortage of competent men is felt in Detroit nearly every year at about this time, but as business is on a much larger scale this year than is usual the demand is larger than ever. Those who are bidding for men range from small plants employing 100 men to large ones in which many thousands work.

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MANUFACTURER TALKS TO DEALERS.

In a "Heart-to-Heart" Talk, the Maker of the Stutz Cars Gives Pertinent Facts About Selling Cars and the Proper Maintenance of Stores.

There are many who are willing to give advice to the novice in automobile selling business, but it is seldom that the motor car manufacturer, who no doubt has an excellent opportunity to analyze conditions, can come in direct contact with dealers and give them the benefit of their suggestions. The following "heart-to-heart" talk comes from the manufacturer of the Stutz automobile, the Stutz Motor Car Company, Indianapolis, Ind. It is couched in pithy and pertinent statements and queries, which the reader can answer to himself, and probably benefit greatly thereby. The statement is as follows:

Realize first that the selling of motor cars is a regular business and not a game, a "gamble."

The successful seller of motor cars must be a merchant using systematic business methods to sell his merchandise.

No "happy-go-lucky" or "hit-or-miss" method can possibly succeed now.

The same methods, the same conservation, the same hard work and the keeping eternally at it, that have made for success in other lines, are equally applicable to the sale of motor cars.

Have you the necessary capital to insure your success? If you have not, it is better that you never enter the business, as under the circumstances your venture is foredoomed to failure.

If you have the necessary capital, the next thing in order is to get the right company to represent. Here it is well for you to remember the fact that the right company will always build the right car.

When you have the right company, stick to it, not for a few months, or a year, but as long as you are in the business. Don't build up a paying business by spending your money and by hard work, only to lose all you have gained by taking up some "fly-by-night" proposition that apparently promises a little discount, or for other reasons that momentarily appeal to you. The longer you are identified with a certain product, whether it is motor cars or something else, the greater will be your return, if you work. The most requisite things to remember in picking the factory you are to represent are that it is financially strong beyond question of doubt, and that the product is beyond question. Why not get a special agency rating on the people with whom you are about to do business?

Concentrate your efforts and keep eternally at it. This is the day of success for the one idea man, the specialist.

Don't blame your failure on the factory you represent. The success of the factory is yours also. Notice the most sought after cars on the market today and you will find they are the ones that give the greatest value for the price.

A manufacturer of this sort does not have to give extra discounts to induce trade, because he cannot do so and keep up his quality. And, while speaking of discounts, did you ever think why the manufacturer of motor cars gives the large discount he does? No? For profit of the dealer and for service to the owners who purchase the manufacturer's cars. This is why the manufacturer, the reliable one, has a right to demand that owners receive proper service.

Have you ever stopped to think that a factory willing to consign cars to agents does so from necessity—because they must do everything and anything to sell their cars? A good substantial company doesn't have to do this kind of business.

Don't grab off all the territory you can get just because in some cases the factory grants same. You cannot work it, and you know you cannot. Why ask it? You tie up territory, because the factory stands by its contract, and you do not work it, which is of no benefit to yourself (excepting a few floating orders that may be forthcoming) and at the same time you prevent the factory from getting business therefrom. Why not be honest and face the matter squarely, asking for only what you can readily care for?

Do you ever say to yourself: Have I conducted this business in a business-like way, making every sale stand by itself, and show its own profit? Some dealers think of and talk about the automobile business as a "game." Why should it be different from any other business? Why not use the same common business sense that has been successful in other lines of merchandizing?

What about the salesman? Why not take a good, honest, young man and teach him your methods; provided he has, in addition to natural ability to sell cars, the one great fundamental of success, that of "staying on the job?" The day of general jollification is past. Application now counts most.

How does your salesroom look? Pretty good? Why not have it clean and neat and inviting? It counts. Sometimes ladies come to look at cars, and a slovenly-looking show room does not appeal to them and frequently spoils a prospective sale. Keep your repair shop away from your show room. No really fine dealer mixes up his dirty shop with his show room. Its bad for business. Think about it.

How do you demonstrate your cars? By pulling off some particular "stunt" that some competitor does, just because he does it? Did you ever think that most "stunts" are the things that the car is not intended to do, and is seldom if ever required to do in actual service? This being the case, why do it? It can do the car no good, and it proves nothing. Why not, therefore, give a dignified, smooth demonstration, such as the car is usually called upon for in service?

Have you ever stopped to think that a car is never "sold," excepting at full price? Order taking by meeting the other fellow's idea is not "selling" your merchandise. "Selling" a car is making a prospect want what you have to sell, no matter what the price is. Isn't that right?

What do you do about trading the used car? Do you make "wild-cat" trades? Just to meet those of your competitor, or what you are told your competitor is doing? Don't you know that if half the trades you hear about were made as they are reported to you, that the man making them would have gone broke long ago? Don't let what the other fellow does influence you. Make your own trades on a business-like basis and let it go at that. You trade for profit; if you cannot make it you are better without the business.

PENN DEALERS FIGHT MOTOR BILL.

Taxation on a Basis of Horsepower Would Greatly Increase Cost of Licenses.

Automobile dealers throughout Pennsylvania are helping in a hard fight against a bill introduced into the legislature by Representative Lipschutz of Philadelphia, which would base automobile taxes on the horsepower and practically double the fees which have been paid in the past. Under this law the proposed rate for pleasure cars under 20 horsepower would be $10, as compared to the present rate of $5; for cars from 20 to 35-horsepower, $20, as against $10; 35 to 50, $30, against $15, and more than 50-horsepower, $40, in place of $20. Rates are also doubled on solid tire vehicles, trailers and dealers' cars.

ANNUAL MEETING OF DIXON COMPANY.

At Annual Meeting of the Joseph Dixon Crucible Company, the Board of Directors Was Re-Elected.

The annual meeting of the stockholders of the Joseph Dixon Crucible Company, Jersey City, N. J., was held at the company's office, April 19, and the vote recorded was the largest ever represented at an annual meeting in its history. Out of a possible 20,000 votes, 19,519 shares were recorded. The stockholders attested their general satisfaction with the present management by re-electing the board of directors, which consists of George T. Smith, R. E. Jennings, George E. Long, E. L. Young, William G. Bumsted, J. H. Schermerhorn and Harry Dailey. The officers for the coming year include the four directors named, Mr. Smith, president; Mr. Long, vice president; Mr. Schermerhorn, treasurer; Harry Dailey, secretary. Albert Norris is the assistant secretary and assistant treasurer.

George W. Dunham, formerly second vice president and consulting engineer of the Chalmers Motor Company, Detroit, Mich., has resigned to devote his energies and experience in the capacity of an independent consulting engineer, along lines similar to those in which he has been prominently engaged during the last 10 or 15 years. C. C. Hinkley, chief engineer of the Chalmers company, will continue in that position and will also assume the responsibilities of the position held by Mr. Dunham. As one of his first clients, Mr. Dunham has secured the Chalmers company, two others have also made arrangements for a portion of his time, while four other companies are considering the retention of his services.

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GENERAL NEWS OF THE INDUSTRY.

Will Exceed Production Limit Set by Rebate Plan—600 Cars a Day to be Overland Schedule—Jeffery Cuts Prices.

TO ENABLE small automobile manufacturers to compete with large concerns in price, the Pontiac Chassis Company, Pontiac, Mich., has been organized. Instead of making parts for sale to someone else to assemble, the company makes a complete chassis, to which the customer gives a name and supplies tires, bodies and equipment. In this way it is figured the company will be able to buy parts as cheaply as the large manufacturer, retain a margin of profit for itself and still be able to supply the finished chassis to automobile companies at a lower price than they could assemble them from parts bought in small lots.

The incorporators of this unique concern are R. A. Palmer of Pontiac, formerly general manager of the Cartercar and Oakland companies; Robert Perkins, secretary of Massnick-Phipps Company, Detroit, makers of four and eight-cylinder motors, and H. H. Brooks, former sales manager of the Marathon Motor Works of Nashville, Tenn., and later connected with the Herff-Brooks company. The capitalization is $100,000.

A chassis has been designed and is being produced in the plant of the defunct Flanders Manufacturing Company. It has a 25-horsepower engine of the Perkins-Phipps make, with a bore of 3¼ and stroke of 4½ inches. The chassis throughout is of the conventional design. Wheelbase is 106 inches. Choice is offered as to ignition, either Atwater-Kent or magneto being available, and the chassis may be had with or without starting and lighting equipment. Wheels may be 30 by three, or 28 by three. Several other chassis may be designed and offered if the selling policy proves to be successful.

BELGIANS START U. S. PLANT.

Dover, N. J., Chosen as Site for Factory That Will Employ 200 People.

The International Peace Brotherhood, a Belgian organization, with offices at The Hague, has secured a site for an automobile plant at Dover, N. J. Two hundred men will be employed and by the terms of the agreement the undertaking must continue in operation for 20 years. In addition to automobiles, the new company will make marine motors, aluminum castings and pressed and spun wares.

FORD'S PRODUCTION TO REACH 325,000 CARS.

Indications Now Are That the Ford Company Will Reach More Than 300,000 Cars—Buyers' Rebates to Be Paid

All records for the production of automobiles have been broken frequently by the Ford Motor Company. The high mark for a day's production is 2096 cars, reached on March 17. On many days more than 2000 were produced.

Commercial Manager Hawkins, after a trip around the country to study conditions, declared that a million Fords could be sold this year if they could be turned out, but that production will probably reach about 325,000. This will assure the repayment to buyers of about $15,000,000 in rebates which were promised if the year's business amounted to 300,000 cars, manufactured and sold.

Of the 2096 cars which made up the big day's production, 1300 were produced at the Detroit plant, where 16,000 men are now employed. The remainder were assembled in the various assembly plants about the country. The production of the Canadian plant for March was 3000 cars. Hours in this plant have been cut to eight a day, and a minimum wage of 50 cents an hour established. This is an increase of 15 to 60 per cent. over the wages formerly paid.

At the Top Is a General View of the Ford Plant and Below May Be Seen a Part of the Ford Army of Employees.

OVERLAND TO BUILD 600 CARS DAILY.

Factory Additions, Which Will Be Complete by June 1, Make Big Production Possible.

John N. Willys has announced that additions to the Toledo plant of the Overland company will make it possible to produce 600 cars daily after June 1. Just now the company is building 300 cars a day and selling as many as it can make. This represents a 30 per cent. increase over last year's business. President Willys thinks that the increase for 1916 will be 100 per cent. and he hopes to be able to turn out 600 cars a day throughout the fiscal year.

MADISON MOTORS IS INCORPORATED.

Concern with Plants at Anderson, Ind., Will Produce Six-Cylinder Car with Reutenber Motor.

The Madison Motors Company, which owns plants at Anderson, Ind., has been incorporated for $500,000. The principal stockholder is C. E. Gibson, former treasurer of the Gibson Automobile Company, Indianapolis. Associated with him as directors are W. E. Moore and O. R. Ewing. At present the company will concentrate on a six-cylinder car with a Reutenber motor, but a four-cylinder machine has been designed and will shortly be placed on the market.

PACKARD ADOPTS DYNAMOMETER TEST.

General Manager Alvan Macauley Puts $40,000 Into Equipment for Testing Packard Motors.

The human element in testing motors for passenger cars and trucks will be largely eliminated at the Packard factory in the future by an elaborate system of wattmeters and dynamometers, which have recently been installed. Each new motor, to limber it up, is now run on

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a belt with a wattmeter attached to show just the amount of power required to operate it when it has been limbered to the point where it will run with the amount of power that is normal, a dynamometer is attached and it is run under its own power. When all adjustments have been satisfactorily made they are sealed and are not touched again until the car or truck is delivered to the purchaser. These instruments show within a fraction of an ounce the amount of power that is developed. They are much more exact and in spite of the cost of the equipment Manager Macauley feels that the more certain results will be well worth the outlay.

General Manager Alvan Macauley, Packard Motor Car Company.

The new equipment greatly reduces the amount of road testing required. No attention need be given the motor in the final test and attention can be concentrated on other parts of the chassis.

AUSTIN-CADILLAC INJUNCTION MODIFIED.

Cadillac Is Given Right to Repair and Resell Cars in Which the Two-Speed Rear Axle Is Used.

The injunction secured by the Austin Automobile Company, Grand Rapids, Mich., preventing the Cadillac company from using a two-speed rear axle, which was judged to have infringed the Austin patents, has been modified by the United States court of appeals in Cincinnati so that the Cadillac company can repair, resell and use axles made on that plan. This makes it possible to continue its business in regard to the cars made and sold last year. The two-speed axle is not part of the Cadillac design at present.

LOZIER TAKES OVER SERVICE STATIONS.

Lozier Company Takes Over Service Stations of Harry Houpt, Inc., in New York and Philadelphia.

The new Lozier organization is to market its product in New York and Philadelphia through the branch system, and for that purpose the officers of the company, Theodore Friedeberg, president; Charles Shongood, vice president, and Harry Frank, treasurer, have taken over the plants of Harry Houpt, Inc., in New York City and Philadelphia, installed a sales and service force and begun business. The San Francisco branch will be managed by G. A. and J. L. McPherson of Detroit.

"ORPHAN CAR" PARTS NOW OBTAINABLE.

Rare Bargains in Repair and Service Parts for Cars Not Now Being Manufactured.

The recent purchase of the assets of the Speedwell Motor Car Company by the Puritan Machine Company, Detroit, Mich., has emphasized the fact that service and repair parts of automobiles and commercial vehicles the manufacturers of which have since gone out of business, can be obtained at a cost said to be at least one-third the cost of manufacture. The Speedwell purchase marked the 61st company whose assets were bought by the Puritan Machine Company, and that company now carries a stock of over 1,300,000 different parts and accessories for motor cars and trucks. In addition to buying up defunct companies, the Puritan company also purchases the surplus stocks of manufacturers and consequently has practically all parts for all cars. Among the "orphan cars" and others for which parts can be supplied, are the Speedwell, Warren, Everett, Marquette, Ranier, De Luxe, Michigan, F. A. L., Reliable, Dayton, Welch, Wayne, Northern, Marion, Carter H., Henderson, Auhut, Elmore, Barnes, Cutting, Grabowsky, Abbott-Detroit, Demot and other makes. The complete list of cars and parts and their prices is given in a bulletin which is free to any one who addresses the company at No. 41 10th street, Detroit, Mich., and mentions the Accessory and Garage Journal.

DEALERS FIGHT FIRE DEPARTMENT.

New York Association Starts Campaign to Have More Satisfactory Regulations Adopted.

The Automobile Dealers' Association of New York City has a struggle on with the New York fire department. It has decided to go before the board of aldermen to make a strong fight on regulation for garages which were recently announced. The trouble with the present arrangement, according to R. H. Johnson, president of the dealers' association, is that it leaves too much to the discretion of the fire commissioner, so that dealers do not know exactly where they stand. The dealers have drawn up a set of regulations and submitted them for consideration. Several dealers protest against the regulations that require them to handle their gasoline as though it were nitroglycerine.

MEETING OF MICHIGAN GARAGE MEN.

Important Convention of Michigan Garage Men to Be Held at Detroit on May 22.

Under the auspices of the Detroit Garage and Station Operators, incorporated last August under the laws of Michigan, the garagemen representing about 70 of the higher class garages of the state, will assemble in convention at the Hotel Statler, Detroit, Mich., May 22. The purpose of the convention, it is said, is to organize a state association, affiliated with the Associated Garages of America, and to raise the standard of the garage business, to secure better legislation, and also to insure the mutual protection of the garage men and the public. Present indications are that the convention will be a record affair. Robert Bland, president, and E. J. McQuirk, secretary of the national association, will be present, as will H. E. Halbert, president of the Chicago association; W. D. Taylor, president of the Illinois association; F. E. Avery, president of the Columbus association, and several other distinguished guests. Two prominent Detroiters who will be present are L. C. Steers and F. A. Bean, first vice president and treasurer respectively of the national association.

PREMIER'S PRODUCTION MANAGER.

New England Man Takes Charges of Factory Production for the Premier Motor Manufacturing Company.

The designing and manufacturing ideas which Stanley Whitworth, factory production manager for the Premier Motor Manufacturing Company, Indianapolis, Ind., has brought to the company were gained in a measure in Rhode Island, where he served his apprenticeship in the city of Providence. It is stated that Mr. Whitworth is largely responsible for the company's turning out one of the best products in its history, and has much to do with the general advancement of the plant.

Mr. Whitworth, who was raised in Providence, has had several valuable and responsible connections with automobile manufacturing and engineering. He has been associated with such men as Fred Moscovitz of the Marmon Motor Car Company; Chester Griswold, consulting engineer for the Franklin Manufacturing Company; Orlando Weber, vice president of the Partin-Palmer Company, and others. He was also connected with the manufacturing end of the Overland, Waverly electric and the underslung American cars, advancing until he now holds a very important position.

Stanley Whitworth, Premier Manager.

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JEFFERY CUTS FOUR-CYLINDER PRICE.

Large Business in All Parts of the World Makes It Possible to Sell for $1150, Announcement States.

The Thomas B. Jeffery Company, Kenosha, Wis., has announced that increased production of its four-cylinder car, which was priced originally at $1450, has made it possible to cut the price to $1150. The working force at the factory has been increased by 500 men and the plant is now running 24 hours a day.

AUTOCAR REDUCES CHASSIS PRICE.

Light Truck Formerly Sold for $1850 Can Now Be Bought for $1650—Increased Production the Cause.

Demands for the Autocar have grown to a point where a very large increase in production will be necessary for the next year. This has made cheaper production and distribution possible and, accordingly the Autocar company has announced a reduction of $200 in the price of its chassis. The Autocar is now used by 2400 firms in many diverse lines of business.

CHALMERS TO BUILD $1400 SIX.

New Chalmers Model Priced $250 Lower Than Light Six Which Is Now Being Sold.

Announcement has been made by the Chalmers Company that it will market during the coming season a "Six-40," priced at $1400. The exact details regarding the car have not yet been announced, but it is to follow closely the lines of the "Six-40," which has been marketed this year for $1650.

PAIGE-DETROIT INCREASES DIVIDENDS.

Return to Stockholders Raised from Four to Seven Per Cent. a Month—18 Men Benefit.

The Paige-Detroit Motor Car Company, Detroit, Mich., which has only 18 stockholders and is capitalized at $250,000, has raised its monthly dividend rate from four to seven per cent. The stock has a par value of $100, but the last sale was made at 325. The company's net earnings for the year are about $750,000, leaving half a million for surplus after 100 per cent. annual dividends have been paid.

PAYMENTS TO LOZIER CREDITORS.

Voiturette Company Creditors Also Receive Dividends on the Amounts Due to Them.

The Detroit Trust Company, receivers for the Lozier Motor Company and the American Voiturette Company, have paid dividends of five per cent. to the Lozier creditors and of 10 per cent. to those of the Voiturette company. The total amount of the Lozier dividend was $50,000. One more payment is due the Voiturette creditors.

SEPARATE COMPANY SELLS USED CARS.

C. T. Silver, Overland and Peerless Dealer, Tries New Method of Disposing of Traded-in Stock Cars.

The Rodney K. Haynes Company has been organized in New York for the purpose of disposing of used cars taken in trade by the C. T. Silver Motor Company. The new venture will be directed by Rodney K. Haynes and F. M. Simons, both of whom are widely experienced in the New York City second-hand car field.

"THE GREATEST OF ALL TESTIMONIALS."

Bosch Distributing Poster Bearing Signatures of Racing Drivers Who Indorse Its Magneto.

Collectors of signatures of the famous, as well as users of Bosch magnetos, will appreciate the beautiful poster which the Bosch Magneto Company, 223 West 46th street, New York City, is distributing throughout the trade. It contains facsimile signatures of 32 of the leading racing drivers who use Bosch magnetos on their cars, they having signed a general letter indorsing the product. The poster consists of an enlarged letter head in white set in a background of yellow, which is bordered with red and black. It also presents the winner and time of the races of 1914 and the first quarter of 1915, in which the Bosch magneto figured as part of the winning car. The company states, "We will be glad to forward one to any of your subscribers who may be interested in securing a copy."

MEETING OF DONELLY CREDITORS.

Referee in Bankruptcy Names May 6 as Day of Hearing Claims Against Estate.

The assignor, attorneys for assignee, and attorneys for petitioning creditors in the case of the Donelly Motor Equipment Company, Inc., petitioned the court for a hearing, which has been granted and set for May 6, when allowances for services rendered the estate of the above-named bankrupt will be heard before Seaman Miller, special master referee in bankruptcy, at No. 2 Rector street, New York City.

STUDEBAKER ANTICIPATING BONDS.

Large Earnings of the Corporation During Last Few Months Make It Possible to Take up Bonds.

Bonds issued by the Studebaker Corporation, Detroit, Mich., are being anticipated from the exceptionally large earnings of the company during the past few months. Of the $400,000 worth that fall due in May, 75 per cent. are said to have been taken up, as well as a considerable proportion of those maturing March, 1916. The company is said to have added $20,000,000 gross to its business because of war orders. The Locomobile Company of America, Bridgeport, Conn., is also in the market for its own bonds, having offered 105 for 10-year sinking fund bonds maturing later than June 1 of this year.

DEEDS TAKES MANAGEMENT OF DELCO.

Former Vice President and Assistant General Manager of National Cash Register Takes Charge of Delco.

E. A. Deeds, formerly vice president and assistant general manager of the National Cash Register Company, has taken charge of the Dayton Engineering Laboratories, of which he is president, and will act in the capacity of general manager. This company is the maker of Delco starters and other well known products. C. F. Kettering, vice president and until recently general manager of the company, will in the future devote his attention more especially to the engineering and production departments of the business. The production of the company will be nearly doubled when the construction of a large new concrete factory now under way is completed.

KING'S BIG SHIPMENT OF EIGHTS.

King Motor Car Company Ships Trainload of Eight-Cylinder Cars Valued at $100,000.

Interest in eight-cylinder cars was stimulated by the announcement that the King Motor Car Company, Detroit, Mich., recently made a trainload shipment of its eight-cylinder cars, valued in the aggregate at about $100,000, to the King distributors at Chicago, R. J. Morgan and C. F. Woods. Accompanying this announcement was the statement that the company is taxed to its capacity to fill orders. On the arrival of the King eights at Chicago they were piloted through the Loop district under their own power by men and women operators. The King company is one of the pioneers in the eight-cylinder field.

B. F. GOODRICH ENLARGES.

Company Puts Up New Building Valued at $500,000—Great Plant Is Now Running Night and Day.

On land recently purchased on the old canal in the rear of its present plant, the B. F. Goodrich Company, Akron, O., is beginning the construction of a large new building which will cost $500,000 when it is completed. The company will employ several hundred additional men. The present plant is now running at full capacity.

The Hupp Motor Car Company, Detroit, Mich., has established a warehouse at Boston, Mass., from which it will handle direct its wholesale sales in the New England territory. The Wentworth-Fosdick Company, which formerly had control of the wholesale, will take charge of the retail business of the district. The new branch will make quick service possible, which will appeal to the New England dealers.

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PERSONAL NEWS OF THE INDUSTRY.

J. G. Perrin, Detroit, is now identified with engineering department of the Continental Motor Manufacturing Company. He designed the first Lozier automobile of the Lozier Motor Company, and remained as chief engineer until the company became insolvent.

John G. Perrin of Continental Motor Company.

A. I. Philp, Detroit, general sales manager of Dodge Bros., left recently for the Pacific coast. He will visit the agents of Dodge cars in Denver, Portland, San Francisco and Los Angeles.

Henry H. Hower, Cleveland, sales manager of the F. B. Stearns Company, has been travelling the southwest, visiting a number of the Stearns agents.

P. J. Kelley, New York City, has been appointed manager of the local sales and service branch of Gray & Davis, Inc., Boston, Mass. He is well known to the automobile trade, having been prominently identified with the Splitdorf Company.

Frank V. Springer, New York City, formerly in charge of the railroad department of the Republic Rubber Company, has gone to London, England, to look after the company's interests in Europe.

J. J. Mahoney, Boston, Mass., has accepted a position with the Nettleton-Crittenden Company, New England distributors of Chandler cars, as publicity man.

C. E. Wells, Baltimore, Md., has become manager of the Baltimore house of the John Deere Plow Company. He was formerly manager of the John Deere Plow Company, Dallas, Tex.

J. H. Whaley, New Haven, Conn., has been appointed manager of the New Haven Chevrolet branch. He has severed his connections with Hartford Buick Company.

W. C. Henne, Columbiana, O., has become general manager of the Columbiana Tire and Rubber Company. He was formerly sales manager of the Mansfield Tire and Rubber Company.

C. A. Newcomb, Detroit, vice president of the Anderson Electric Car Company, died recently at the age of 78 years.

A. S. Blakely, Indianapolis, Ind., of the advertising department of the Cole Motor Car Company, who has been ill for several weeks, has returned to his desk.

Herman F. Loechler, Columbus, O., has become manager of the electrical department of the Standard Motor Car Company. He was formerly identified with the Ohio Electric Car Company.

Newton A. Fuessle, Detroit, has been appointed advertising manager of the Chalmers Motor Company. He was formerly with the advertising department of the Packard Motor Car Company.

L. M. Baker, Detroit, has joined the sales department of the Standard Steel Spring Company of Coraopolis, Penn. He will take care of all the western business, with offices at 999 Woodward avenue.

W. R. Cavanaugh, South Bend, Ind., has been appointed assistant general superintendent of the Studebaker works. He was formerly chief of the methods department of the Studebaker Corporation, Detroit.

E. N. Mackey, Hartford, Conn., has been appointed dealer for Dayton airless and Dayton pneumatic tires. He will open a new store and will carry a full line of Dayton tires.

W. W. Austin, South Bend, Ind., has been appointed general superintendent of the Studebaker works. He was formerly superintendent of service, parts, machining and experimental work for the Studebaker Corporation, Detroit.

Joseph A. Atwell, New York City, has been transferred by the Michelin Tire Company of Milltown, N. J., from Philadelphia territory to New York City, where he has charge of the company's branch, a position which he held some years ago.

S. deJong, administrator-director of the Minerva Motors of Antwerp, Belgium, and D. Citroen, director general of the same concern at London, England, were recent visitors in Detroit. They inspected a number of the automobile factories.

R. C. Carr, Kansas City, Mo., has been appointed special representative for the Studebaker Kansas City branch. He has been in the employ of the Oakland Motor Car Company covering Texas and Missouri for more than three years. He is well known to the trade.

H. G. Berau, Philadelphia, has been appointed manager of the retail department of the Briscoe Motor Car Company, with headquarters at 2033 Market street. He was formerly manager of the old Maxwell-Briscoe Motor Car Company.

George W. Galdzik, Kenosha, Wis., has been appointed special representative for the Thomas B. Jeffery Company. He is a well known automobile engineer in and around Detroit.

H. H. Benjamin, Kansas City, Mo., has identified himself with the Studebaker Kansas City branch, and will co-operate with J. B. Clark as special representative for the line of Studebaker delivery cars.

William J. Slater, Akron, O., has joined the sales organization of the Firestone Tire and Rubber Company. He was formerly assistant sales and advertising manager of the motor car department of the Durant-Dort Carriage Company of Flint, Mich.

W. F. Townsend, Philadelphia, has been appointed sales manager of the E. C. Johnson Company. This concern is distributor of Reo cars. Mr. Townsend was previously connected with the United States Motor Company.

W. E. Trenchard, Columbia, S. C., has been appointed dealer for Dayton airless and Dayton pneumatic tires for the State of South Carolina.

Ben A. White, Detroit, has joined the Federal Rubber Company as city representative. He was formerly chief clerk of the Detroit branch of the Goodyear Tire and Rubber Company.

Joseph R. Drake, Detroit, vice president of the Hupp Motor Car Company, has returned to the factory after an absence of four weeks on the Pacific coast. He attended the opening of the Panama-Pacific Exposition and the automobile show, held in connection with it.

Albert C. Rea, Milwaukee, Wis., for 11 years an erecting engineer for the Allis-Chalmers Manufacturing Company, has resigned.

J. A. Holihan, Detroit, formerly of the Briscoe Manufacturing Company and the Holihan Manufacturing Company, has joined the staff of the McCord Manufacturing Company.

A. C. Jones, Indianapolis, formerly manager of the Dayton branch of the Pyrene Manufacturing Company, has been appointed manager in the former city and has opened a sales distributing branch at 345 North Capitol avenue.

H. S. Hamilton, New York City, has been appointed manager of the exchange car department of the Locomobile Company of America.

W. C. Kenney, Detroit, has been appointed factory manager of the King Motor Car Company.

G. F. Heising, St. Louis, Mo., has been appointed chief engineer of the Moon Motor Car Company, succeeding L. F. Goodspeed.

Glenn A. Davis, Winchester, Ind., formerly in the production department of the Allen Motor Company, has been made sales manager of the Hoosier Automobile Company.

Edward F. Lyon, Detroit, is now in charge of the salesroom of the Lewis Spring and Axle Company, at 1003 Woodward avenue.

Norval A. Hawkins, Detroit, Mich., has left on a six weeks' tour of the various cities in the South and southwest in which Ford branches are located. He will also visit Los Angeles and San Francisco. Mr. Hawkins is sales manager of the Ford Motor Company.

George B. Bouthinon, Hempstead, N. Y., has resigned his position with the G. B. Garage and Manufacturing Company.

Ray M. Owen, New York City, has joined forces with Harry S. Houpt through the purchase of a substantial interest in Harry S. Houpt, Inc.

W. J. Drumpleman, Lansing, Mich., has become southern sales representative of the Olds Motor Works. He was formerly central district manager of the Lozier Motor Company.

C. E. Stebbins, Detroit, Mich., has returned from an extended business trip through the South and West. He is assistant sales manager of the Maxwell Motor Car Company.

Ray M. Owen, Associated with Harry S. Houpt, Inc.

H. P. McQuiston, Detroit, has been appointed manager of the used car departments of the Bemb-Robinson Company. He has held similar positions with other large automobile dealers.

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Ernest L. Smith, Detroit, former western representative of the R. I. V. Company, has been appointed sales manager of the Russel Motor Axle Company.

J. H. McDearmon, Pontiac, Mich., has become identified with the Oakland Motor Company. He was formerly assistant sales manager of the John Deere Plow Company and is well known to the industry.

J. H. McDearmon of Oakland Motor Company.

Harry Bland, Springfield, Mass., has resigned as president and secretary of the Blue Ribbon Garage Company.

W. S. Chilman, Detroit, has been appointed manager of the local branch of the Regal Motor Car Company, located at 758 Woodward avenue.

O. E. Pore, Toledo, O., has become city sales manager of the Roberts Toledo Auto Company. The company handles Ford cars.

Charles T. Naddy, Columbus, O., has been appointed travelling representative of the Everitt Auto Sales Company. He was formerly with the Great Lakes Refining Company, Cleveland.

C. J. Brokaw, Omaha, Neb., has become district manager for the Maxwell Motor Sales Company. He succeeds G. H. Williamson.

C. B. Reeser, Cleveland, has resigned as manager of the Chicago branch of the Kellogg Manufacturing Company, Rochester, N. Y., to join the Willard Storage Battery Company. He is located at 1112 South Michigan avenue.

C. L. Lewis, Detroit, Mich., is the new president of the Consolidated Car Company. He was formerly with the Abbott-Detroit Company.

Carlton R. Mabley, New York City, has become affiliated with the sales organization of the SKF Ball Bearing Company. He has been for the past five years general manager of the R. I. V. Company.

Earl Morris, Chicago, Ill., has been appointed manager of the local branch of the Kellogg Manufacturing Company, succeeding E. B. Reese, who resigned.

Charles E. Felts, St. Louis, Mo., has been appointed manager of the service department of the local White establishment. He was formerly connected with the motor car business in St. Louis for the past 10 years.

Walter R. Bamford, Detroit, Mich., has been appointed distributor for the State of Michigan by the Monarch Motor Car Company. He will have his temporary headquarters at the factory, Walker and Woodbridge streets. Mr. Bamford has been identified with the motor car trade for many years, having started with the Olds Motor Works when that company made its curved dash runabout. More recently he was with the Chalmers Motor Company.

Walter C. Allen, New York, has been elected president of the Yale & Towne Company, succeeding H. R. Towne, who was made chairman of the board.

A. L. Aldrich, Sauk City, Wis., is now permanently located in its new works. He has been promoted to first vice president. Mr. Aldrich was formerly connected with the Shaw Motor Company.

F. W. Wilkening, Philadelphia, formerly manager of the Boston branch of the Motor Parts Company, has been transferred to the Philadelphia branch as manager. His brother has succeeded him at Boston.

George Harper, Burlington, Wis., has been appointed superintendent and general manager of the Burlington Brass Works, to succeed W. B. Crawford, who resigned to return to eastern connections in a like line.

L. S. Sackett, Boston, Mass., has returned to the sales force of the Cadillac Company. He was formerly manager of a branch in Providence. The service stock and accounting departments of the Cadillac agency have been moved to 79 Brookline avenue.

Milo Herron, New York, has been appointed sales manager, and R. A. Hayes assistant sales manager of the Federal Motor Truck Company.

Herbert Adams, Springfield, Mass., has accepted a position with the Knox Motor Car Company. He was formerly vice president of the Massachusetts Corset Company. He was also elected a director in the Springfield Board of Trade.

Jack Yates, Lynn, Mass., is now manager of the Pope Motor Sales Company's model store at 33 Andrew street. He is well known in Boston and one of the most famous racing men of the East. The store is one of the handsomest motorcycle stores in New England, in which can be found a full line of motorcycles, bicycles and sundries.

F. D. Markee, Boston, Mass., has been appointed district manager of the New England branch of the Mitchell Motor Car Company and will make his headquarters with F. H. Lucas, who has the Mitchell line in Boston.

J. H. Armstrong, Detroit, has joined the Cutting & Smith Sales Company. He was formerly in charge of the local office of S. E. Bowser & Co.

J. H. Wagner, Saginaw, Mich., has started in business. He is a practical repairman and specializes in electric lighting and starting systems. His headquarters are with E. L. Black, agent for Dodge cars. Mr. Wagner was formerly with the local Hudson Sales Company.

J. A. Moroney, Akron, O., has been made sales manager of the carriage tire department of Goodyear Tire and Rubber Company. He was special representative of the carriage tire department at Akron. A few years ago he was manager of the company's St. Louis branch, and was brought to Akron from that position to act as special representative of the carriage tire department in the carriage manufacturing trade. His shift as manager is in recognition of his services in that special work.

R. W. Lytle, Wichita, Kan., has been appointed superintendent of the Jones Six factory, maker of the Jones Six car. He was formerly with the Lycoming Motor Car Company of Marion, Ind.

Frank A. Witt, Detroit, Mich., has been appointed sales representative of the Detroit Motor Car Supply Company, manufacturer of Ford commercial bodies. He will travel throughout the West and southwest for this company. Mr. Witt was formerly a member of the Studebaker and Lozier sales organizations.

P. J. Dasey, Ypsilanti, Mich., has been made manager of the sales department of the Michigan Crown Fender Company. The offices have been opened in the Kerr building at Fort and Beaubien streets. He was formerly sales manager of the George W. Houk Company.

Walter E. Billings, Boston, Mass., has purchased an interest in the Wheelock-Jeffery Company, local agent for Oldsmobile cars, and has become sales manager of the company. Mr. Billings has been identified with the industry in New England for the past 14 years.

Charles E. Miller, New York City, a well known automobile accessory jobber, says there is an abundance of prosperity ahead. He says the New York, Chicago and Boston automobile shows amply demonstrated his statement.

Lincoln T. Kauffmann, New York City, has joined the sales force of the Nonpareil Horn Manufacturing Company at 75 Wooster street. He was formerly in the employ of the Bi-Motor Equipment Company's Boston office.

A. J. Rogers, Indianapolis, has joined the forces of Nordyke & Marmon Company as head of the sales service department and will give sales and advertising co-operation to Marmon dealers. He was formerly manager of the Remy Electric Company's office at New York City and was later with the Jones Starter Company of Chicago.

H. T. Hayes, Racine, Wis., has been transferred from Dallas, Tex., to have charge of marketing Mitchell automobiles in all states west of the Mississippi river.

A. J. Rogers of Nordyke & Marmon Company.

A. P. Sullivan, Houston, Tex., has become head of the Overland Sales Company, C. W. Lindsay, former manager, having retired.

Albert S. Holly, Boston, Mass., has severed his connection with Alvin T. Fuller, to assume the management of the J. C. Tucker Company, distributor of Chase trucks in the Boston territory. The J. C. Tucker Company has handled the Chase line in Rhode Island for a number of years. The new company will maintain offices and sales room at 68 Brookline avenue, with a service station in Cambridge.

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William A. Schendel, Milwaukee, Wis., has become purchasing agent of the A. J. Lindemann-Hoverson Company. He was formerly assistant purchasing agent of the A. O. Smith Company.

A. Morehouse, Detroit, has resigned as assistant chief engineer of the Hudson Motor Car Company.

William E. Metzger, Detroit, has been elected president of the Auto Parts Manufacturing Company.

T. C. Woodwin, Kansas City, Mo., has been appointed district sales manager for the states of Kansas, Missouri and Nebraska for the Lewis Spring and Axle Company of Jackson.

A. M. Potter, Detroit, has been appointed manager of claims of the service department of Dodge Bros., well known manufacturer of the Dodge automobile. He was formerly manager of the service department of the Lozier Motor Company.

William L. Burgess, St. Louis, Mo., has become affiliated with the Dorris Motor Car Company, and will have entire supervision over sales. He was formerly manager of the rim department of the Firestone Tire and Rubber Company of Akron, O., and was also sales manager of the Enger Motor Car Company, Cincinnati, O.

William P. Herbert, president of the Philadelphia Automobile Trade Association, was one of the guests of honor at the annual dinner of the association held at the Hotel Adelphia, Philadelphia, Penn., recently. James E. Gomery, treasurer, and E. C. Johnson, Ralph Coole and E. B. Johnson were the other principal guests. The banquet was attended by about 150 members of the association.

Percy F. Todd, Detroit, has been appointed chief draftsman for the King Motor Car Company. He is a graduate of the mechanical engineering department of the Ohio State University of 1906. Mr. Todd succeeds C. E. Jacobs, who has been appointed chief inspector for the King Company.

factory representative for the Scripps-Booth Company. He is now in Naples, Italy, and will tour the continent in one of the latest models of the Scripps-Booth, deliveries of which are now starting.

L. B. Berger, Detroit, has been placed in charge of sales of the Lozier Motor Company. He was with the Willys-Overland Company when the Willys-Knight car was manufactured in the Garford plant in Elyria, after which he joined the sales forces of the Toledo company, from which position he was called to Detroit to take up his present work.

Fred I. Huntington, Cleveland, has been appointed city sales manager for the Seidner-Merritt Company. He was formerly connected with the Cuyahoga Sales Company.

F. S. Komp, Brooklyn, N. Y., has been appointed head of the Lansden Automobile Company, manufacturer of electrically propelled vehicles. He was formerly manager of the Lehigh Valley Structural Steel Company.

L. E. Kennedy, Burlington, Wis., has returned to his former home to engage in business. He was formerly secretary, treasurer and general manager of the Western Brass Company.

Charles H. John, Milwaukee, has been elected first vice president of the Milwaukee Metal Trades and Founders' Association. He was formerly president and general manager of the Wisconsin Motor Manufacturing Company.

Albert R. Hasen, Boston, Mass., has joined the selling force of the Reed-Crockett Company. He was formerly with the Oldsmobile Company in that city.

B. A. Simpson, Omaha, Neb., has been appointed manager of the Apperson Jack Rabbit Automobile Company. He was for six years associated with the Buick agency.

Ray Hockaday, Hutchinson, Kan., will be the manager of the Hockaday Automobile Supply Company.

Flashlight View of a Portion of the Banquet Room Where the Philadelphia Automobile Trade Association Assembled for Its Annual Dinner—About 150 Members Gathered at the Board.

E. H. Wagner, Indianapolis, has become secretary and treasurer of the E. M. Owens Sales Company, distributor for the Detroiter.

J. B. Siegfried, Detroit, has been appointed production manager and superintendent of purchases. He was formerly purchasing agent for the King Motor Car Company.

John L. Prewitt, East Orange, N. J., has resigned his position as sales manager for J. W. Mason to open a wholesale and retail automobile supply store, to be known as the Essex Auto Supply, at 453 Main street.

A. M. Russell, Detroit, Mich., formerly with the Lippard-Stewart Company, recently joined the sales force of the Signal Motor Truck Company as district manager and has been covering the states of Iowa, Illinois and Minnesota since March 1.

William A. Somerville, Detroit, is now associated with the Ralston Printing Company. He was former advertising manager of the Rapid Motor Vehicle Company, Pontiac, and later was with the Stromberg Motor Devices Company, Chicago.

Fred Cousins, Clintonville, Wis., has become eastern sales manager of the Four Wheel Drive Company, having charge of the New York and New England states. He was formerly with the Peerless company.

Roy D. Chapin, Detroit, is at present on a visit to the Pacific coast. The visit will be strictly in the nature of a vacation tour, including a stay at the two "fair" cities, San Francisco and San Diego, Cal. He is president of the Hudson Motor Car Company.

George Desautels, Syracuse, N. Y., has been appointed representative in the western territory for the Hammond Steel and Forging Company. Before taking up this new connection Mr. Desautels was sales representative of the Anderson Drop Forge Company.

Hildaire J. Holder, Detroit, has been made European

Frank S. Sims, Detroit, has been appointed advertising manager of the Timken-Detroit Axle Company, succeeding E. A. Walton, resigned. He was formerly assistant advertising manager of that company.

Eugene L. Caton, Worcester, Mass., has joined the sales forces of the Norcross Automobile Company. He was for some time connected with the Hudson agency in that city. He is also president of the Worcester Automobile Dealers' Association.

Jay A. Mellish, New York City, has become identified with the Harrolds Motor Car Company. He was for several years manager of the exchange car department of the Locomobile Company of America.

J. M. Quinn, Pittsburg, Penn., has been appointed manager of the local branch of the Goodyear Tire and Rubber Company.

G. S. Loomis, Louisville, Ky., has been appointed manager of the Southern Motors Company and W. F. Winklemann has become sales manager. They were formerly connected with the Packard interests in Detroit.

A. Warren Cahill, Milwaukee, has become associated with the Jesse A. Smith Auto Company. He was formerly connected with the Wells-Fargo and Western express companies at Waukesha, Wis.

E. P. Kempff, Harrisburg, Penn., is in charge of the newly established branch of the Fisk Rubber Company in that city. He was formerly with the Front Market Motor Supply Company and is well known to the industry.

L. D. Robertson, Detroit, has been appointed manager of the new factory branch of the Packard Motor Car Company, recently opened at the plant on East Grand boulevard.

H. F. Campbell, Indianapolis, treasurer of the Stutz Motor Car Company, has been elected treasurer of the Columbia Club of that city.

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INDUSTRIAL HAPPENINGS AND COMMENT.

The Sommer Motor Company, Bucyrus, O., has sent to its preferred stockholders checks for 3½ per cent., which is half of the sum due as dividends on the stock for 1913 and 1914. An announcement sent with the checks states that it is expected that another dividend will be paid July 1, 1915. The company is working a full day and half night shift.

The Velie Motor Vehicle Company, Moline, Ill., manufacturer of the Velie Light "Six," report a most prosperous outlook for the coming season. George H. Lloyd, sales manager of the company, advises that more orders are on the books now than ever before at this season of the year, and that the feeling of depression which has apparently existed in the outlying territories heretofore is being rapidly dispelled by the approach of spring.

The United States Rubber Company, New York City, shows net sales of $83,678,812, the first report since the company changed its fiscal year to correspond with the calendar year. The company has made an increase of about $4,850,000 over last year, in plants and properties, expending about $2,100,000 in 1914 on the company's rubber plantations in Sumatra. Many other improvements were also made.

The Standard Welding Company, Cleveland, O., has added 79 men to the working force in its rim department. Officials of the company report that manufacturers are ordering up to specifications. The added working force will bring more than normal the production of rims by this company.

The Pullman Motor Car Company, York, Penn., is being operated to its fullest capacity. The increased business is due to the orders for the Pullman Junior, the new model placed on the market this season. Shipments are being made daily.

The Hans Motor Equipment Company, La Crosse, Wis., has been reestablished on a sound basis and is operating at the largest capacity yet attained by the plant. During last week about 25 additional workmen were employed and if the present rush of orders is maintained the force will be still further increased. The company manufactures gasoline and oil gauges, pumps and other small equipment which is used by the leading car builders of the country.

The Republic Rubber Company, Alma, Mich., has received an order from the Anglo-American Export Company, London, England, for 300 trucks to be delivered this year.

The Haywood Tire and Equipment Company, Indianapolis, Ind., has acquired the building adjoining its present location on North Capitol avenue and is fitting it up for immediate occupancy. The building will give the company 10,000 square feet of floor space, which was made necessary by the increased demand for Haywood vulcanizers.

The Goodyear Tire and Rubber Company, Akron, O., has been taking active co-operation with its dealers in displaying their Goodyear tires to the best advantage. The company supplies the dealers with seasonable displays for their windows, one of which is reproduced on this page, which is made up of accessories as well as Goodyear tires.

The B. F. Goodrich Company, Akron, O., held its annual meeting of stockholders recently. The officers elected are: President, B. G. Work; secretary, S. B. Raymond; treasurer, W. A. Means. The number of directors was reduced from 16 to 14. The stockholders voted in favor of reducing the capital stock of the company from $90,000,000 to $88,000,000, by reducing the authorized preferred capital stock from $30,000,000 to $28,000,000.

The Vacuum Oil Company, Rochester, N. Y., held its annual meeting recently and the following directors were elected: C. M. Everest, Edward Prizer, G. P. Whaley, C. E. Bedford, C. C. Campbell, W. M. McGee, C. E. Arnott and R. W. Everest.

The Goodyear Tire and Rubber Company, Bowmanville, Ont., is doubling the capacity of its plant. The increased output will materially effect the cost of production and the consumer will reap the benefit by a reduction in price.

The Puritan Machine Company, Detroit, Mich., has bought large quantities of the assets of the Krit Motor Sales Company. The company will continue the manufacture of parts for the Krit and will also build a limited number of complete cars. This makes something like 60 different makes of cars, no longer manufactured, for which the Puritan Machine Company furnishes parts.

The American Pattern Works, Detroit, Mich., has increased its capital stock from $10,000 to $50,000. Joseph F. Buhr has been elected president, William Blank vice president and Edward Stephens secretary. The concern manufactures the Gemmer-Detroit starter for Ford cars.

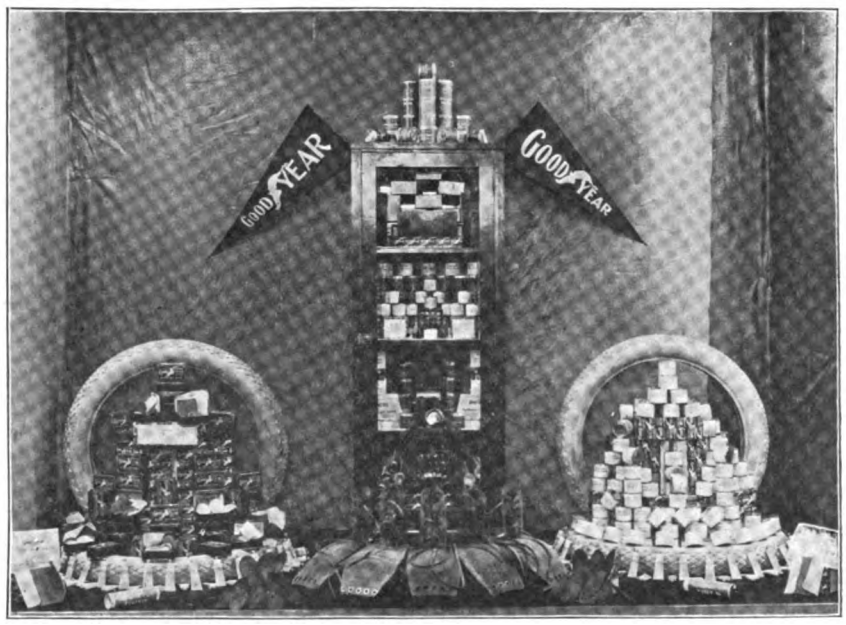
The Kellogg Manufacturing Company, Rochester, N. Y., maker of the famous No. 101 All-Metal, Engine Driven Tire Pump, with attachments for over 30 cars, reports that the company is working day and night shifts to take care of the increasing orders.

The Thomas B. Jeffery Company, Kenosha, Wis., has orders for 1150 trucks for delivery all over the world. Over one-half of these are light delivery vehicles and the others are 1½-ton trucks and the famous Jeffery Quads, which drive, brake and steer on all four wheels.

Robert L. Morton, Harrisburg, Penn., sailed recently for London. He represents the Morton Truck Tractor Company and will endeavor to secure contracts for the allied armies. Mr. Morton is an efficiency expert of the four-wheel drive, which is the type of truck produced by the Morton company.

The Kentucky Revive Battery Company, Louisville, Ky., has taken a large factory at Ninth and Jefferson streets for a daily capacity of rechargeable dry storage batteries valued at $1000.

The Columbiana Rubber Company, East Liverpool, O., has been sold to a syndicate of capitalists from Mansfield, O., at a price which has not been made public. The appraised value of the plant is $85,000. It has a capacity of 400 motor car tires daily. The plant will resume operations in a few weeks.



Window Display Design Supplied to Dealers by the Goodyear Tire and Rubber Company.

The Troy Wagon Works Company, Troy, O., has commenced building a new motor truck trailer works which will cover 16,800 square feet of ground and will enable the firm to turn out more than 60 trailers weekly.

The Studebaker Corporation, Detroit, Mich., is erecting a steel stamping and enamelling plant at West Jefferson and Clark avenues. The structure will be four stories high, 220 by 80 feet, and will have 70,000 square feet of floor space, at an approximate cost of $85,000.

The Remy Electric Company, Anderson, Ind., held its annual meeting recently. Officers were elected as follows: President, Stoughton A. Fletcher; vice president, Hervey Bates, Jr.; secretary and treasurer, H. W. Griffith. The officers and Theodore Stempfel compose the board of directors.

The General Motors Company, Detroit, Mich., has produced and sold 20 per cent. more of its cars than for the same period of last year. The company has $13,500,000 cash in the treasury, which is 40 per cent. more than a year ago.

The Chase Motor Truck Company, Syracuse, N. Y., has decided that the company will not accept any more orders for motor trucks to be shipped to the nations at war.

The Federal Motor Truck Company, Detroit, Mich., is operating full capacity and reports an increase of business of 25 per cent. during the first two months of this year as compared with January and February of 1914. The company employs 200 to 250 men.

The Nyberg Automobile Company, Anderson, Ind., is

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making arrangements to reopen its plant, which has been closed for several months. It is reported that a light, popular priced car is to be manufactured.

The Elbert Motor Car Company, Sunnyvale, Cal., has arranged to purchase the Goldy plant, where Elbert light cars will be manufactured. The Elbert company is operating a plant in Seattle. The new factory will enable the company to manufacture almost all of the entire car. It occupies 20 acres of ground. Six buildings, with a total ground space of 40,000 square feet, have already been erected.

The Detroit Foundry Company, Detroit, Mich., was destroyed by fire of unknown origin. The blaze started in the stock room on the first floor. The loss to the building, machinery, etc., was about $100,000. The plant was the property of the American Motor Castings Company, makers of gray iron castings.

The Pyrene Manufacturing Company, Indianapolis, Ind., has opened a sales branch at 345 North Capitol avenue. A. C. Jones, formerly manager of the Dayton, O., branch, has become manager for Indiana.

The W. H. Mullins Company, Salem, O., manufacturer of automobile parts and bodies, has purchased a lot north of the present plant, upon which a large addition to the plant will be erected. The present plant has been in operation for four years.

The Ford Motor Company, Detroit, Mich., through the head of the sociological department, John R. Lee, states that the Ford plant is now employing 20,000 men of all nationalities. A year ago 55 per cent. of them had no knowledge of the English language. Today there are established classes where they are taught English. John R. Lee also states that since the profit-sharing plan went into effect accidents have decreased 54 per cent.

The Paige-Detroit Motor Car Company, Detroit, Mich., had an increase of 61 per cent. in the sales during January and February, 1915, as compared with January and February, 1914.

The Atwater Kent Manufacturing Works, Philadelphia, Penn., announces that the month of February was a banner month, the number of ignition systems shipped being more than 100 per cent. greater than the output of February, 1914. The present schedule for 1915 deliveries on Atwater Kent ignition equipment called for 80,000 systems, with the probability of a very heavy increase. An addition to the plant has just been completed to take care of the growing business.

The Steel Products Company, Cleveland, O., has just completed an addition to its main plant. The officers of the company are: President and general manager, C. E. Thompson; vice president and superintendent, W. D. Bartlett; secretary and sales manager, J. A. Krider, and treasurer, G. H. Brown.

The Victor Rubber Company, Springfield, O., contemplates the erection of an addition to its plant.

The Frost Manufacturing Company, Kenosha, Wis., is manufacturing the "Brad-Kent" carburetors for Ford cars. It is absolutely automatic in its operation, insofar as the amount of air to gasoline is concerned. It has no cams, springs or other delicate mechanism to be thrown out of adjustment by vibration. This carburetor saves time and gives more power, speed, economy and flexibility.

The Falls Rubber Company, Cuyahoga Falls, O., has purchased a site on Main and Broad streets. The company will erect an up-to-date factory.

The Regal Automobile Company, Berlin, Ont., is making an addition to its factory, which will be fully equipped. This company is a direct branch of the Detroit concern.

The Red Arrow Automobile Company, Orange, Mass., has awarded the contract for a fireproof factory, which will be used for the manufacture of automobiles. The building will be modernly equipped.

The United States Wheel and Tire Company, Rockton, Wis., will erect a plant, 100 by 110 feet, of brick, steel and concrete construction, to be equipped for the manufacture of elastic wheels for automobiles and commercial trucks. It will be 2½ stories in height. The company is capitalized at $300,000 and E. S. Gleasman is the president.

The West Bend Aluminum Company, West Bend, Wis., contemplates the erection of new buildings to its already large plant. The company has increased the wages of its employees 10 and 20 cents a day, the increase being graduated by the term of service.

The Harrison Manufacturing Company, Lockport, N. Y., manufacturer of automobile radiators, will erect a large addition to its plant at a cost of $15,000.

The J. I. Case Threshing Machine Company, Racine, Wis., is preparing to erect a large warehouse and office building for its factory branch in Madison, Wis. The building will be 100 by 140 feet in size, two stories high, of solid brick construction and will cost approximately $35,000. The Madison branch was one of the first to be established by the Racine concern.

The Haynes Automobile Company, Kokomo, Ind., has received five carloads of new machinery and the factory is running 24 hours a day. The crowned fenders will now be manufactured within the Haynes factory. The new fender making equipment consists of presses and rolls for forming the crown or convex surface. The drop forging department has also been increased in capacity.

The H. Wagner Rubber Company, Cleveland, O., will manufacture all kinds of rubber products at Broadway and Gallup streets. The plant was formerly occupied by Samuel Austen & Sons.

The Billings & Spencer Company, Hartford, Conn., has purchased the plant formerly occupied by the Columbia Motor Car Company. The forge shop has been remodelled, and the whole plant has been completely changed. The company is said to be rushed with large orders for drop hammers.

The Standard Aluminum Company, Two Rivers, Wis., at its annual meeting, decided to increase the capital stock from $250,000 to $500,000 to accommodate the growth of business. The Alexander Warehouse, opposite the plant, has been purchased. The company is running at full capacity and on full time and may make extensions during the present year.

The Electrical Motor and Construction Company, Findlay, O., has increased its capital stock from $15,000 to $30,000, and has established branch houses at Fostoria and Norwalk. The company will build a large addition to the plant.

The New Castle Rubber Company, Sharon, Penn., has purchased the building and property of the New Castle Iron and Steel Company. The building will be remodelled for the manufacture of tires and other rubber goods. The new company is capitalized at $250,000 and soon will be in operation.

The Massnick-Phipps Manufacturing Company, Detroit, Mich., has secured the plant of the former Wahl Motor Company. This company manufactures the Perkins four and eight-cylinder motors. An addition of 30,000 square feet of floor space will be made. The working force will be increased to 500 men and the production increased from 50 to 100 motors a day.

The Midler Auto Supply Company, Trenton, N. J., has been appointed distributors for the well known Braender tires. They will carry a full stock of the standard sizes in both the plain and nonskid tires and tubes, and car owners in their vicinity will have no difficulty in securing this popular tire promptly and to meet their requirements.

The Saxon Motor Company, Detroit, Mich., has announced that 1500 cars will be made in April; an output of 25,000 cars for the year is being figured on. Shipments of the Saxon "Sixes" have been started from the plant and Saxon dealers will receive the new $785 machine as fast as production will permit.

The Fitzgerald Manufacturing Company, Torrington, Conn., has lowered the price of the Clero hand-operated warning signal from $4.50 to $3.50. The extra large model is now listed at $4.

The Autocar Company, Ardmore, Penn., has reported a 40 per cent. increase in its business at this season of the year, without the assistance of any "war orders." The sales of its commercial cars are taken to indicate both a big revival in general business and a growing appreciation of the motor vehicle in commercial work.

Chandler Motor Car Company, Cleveland, O., is now offering to the trade a model with a new body, carrying seven passengers. The body is built in sweeping stream lines, and in order to accommodate it the wheelbase has been lengthened. This is the only mechanical change, and the price remains at $1295. Two jump seats fold into the back of the front seat when not in use, and are then concealed by flaps, so that there is nothing to indicate that the machine carries more than five passengers. By a single direct motion of the hand the seat may be raised into position, when it is self-supporting. There are no supports beneath it, so that the passenger in the back is not cramped for foot room.

The Columbia Tire and Rubber Company, Columbiana, O., recently organized to manufacture automobile tires and tubes as part of the Mansfield Tire and Rubber Company of Mansfield, O., has elected the following officers for the first year: Charles Hoffman, president; W. G. Henne, vice president and general manager; Jessie E. LaDow, secretary, and Walter F. Henne of Piqua, treasurer. These officers and William Isaly of Mansfield, J. C. Henne and J. E. Schauer of Troy will act as the board of directors.

The Connecticut Telephone and Electric Company, Meriden, Conn., is adding two stories on one of its present three-story buildings. This will make a building 50 by 100 feet, five stories in height.

The Airplex Inner Tire Company, Springfield, Mo., has moved from St. Louis and in the new location will increase its equipment.

John Colyer & Co., Newark, N. J., will build a factory on Halsey street. The company manufactures carriages and automobiles bodies.

The Swinehart Tire and Rubber Company, Akron, O., is having plans prepared for a three-story reinforced concrete and brick factory addition, which will be 60 by 130 feet.

C. W. Mower, Spokane, Wash., is planning the erection of a factory at Los Angeles, Cal., for the construction of portable garages and beach houses to cost $40,000.

The Babcock Automobile Spring Company, Milwaukee, Wis., will erect a brick factory for production of spring assemblies for automobiles and trucks and also a number of shock absorbing devices. The factory will be 30 by 100 feet and will be located on Milwaukee street, near Chicago avenue.

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A HIGHLY EFFICIENT SERVICE STATION.

The Service Extended by the Packard Motor Car Company of Boston to Owners and Dealers—A Unit of a National System.

THE largest service station in this country, if not in the world, is said to be that of the Packard Motor Car Company of Boston,

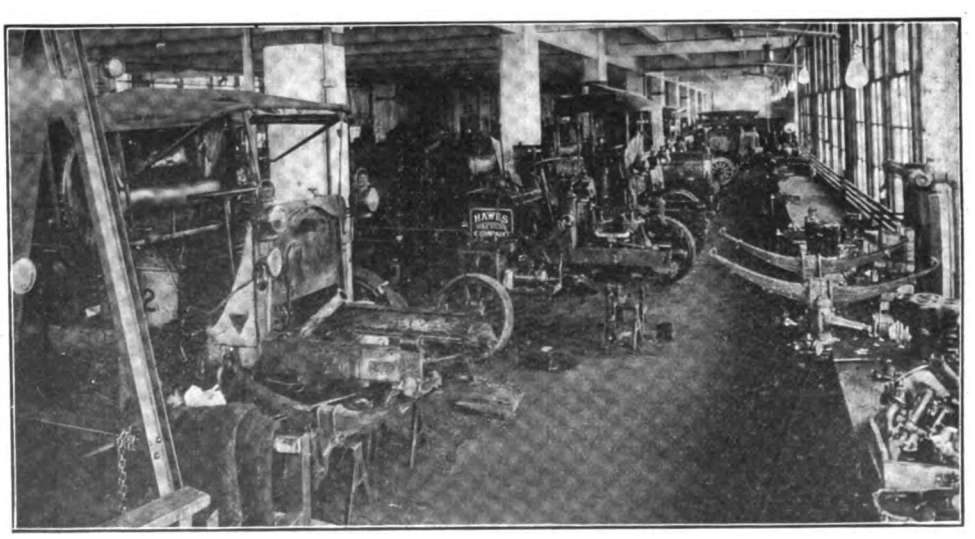
The Alvan T. Fuller Building, the Salesrooms and Service Station of the Packard Motor Car Company of Boston, Fuller Square, Allston, Boston.

which is situated in the Boston suburb of Allston, at Fuller square. It is maintained by the Packard company's Boston branch, which also is headquarters for the other New England branches located in Providence, R. I., Worcester, Mass., and Portland, Me. This station is one of the many that the company conducts throughout the country for the convenience of owners and operators of Packard pleasure cars and motor trucks, and is representative of the vast organization. The following description is typical of all Packard stations.

Erected in 1909, the structure, consisting of four stories and basement, has a floor space of nearly three acres. In addition there is a yard of considerable size which is so sloped that the basement, for perhaps a third of the building's length, is lighted by windows, and can be entered direct from the yard. The building is constructed of stone, concrete and steel, and is as fire proof as modern science will permit. Care was taken in building that all parts of the interior would be lighted by natural light as much as possible.

The station is a combination of salesroom, repair shop, garage and stock room, where the motorist can either buy the latest model Packard pleasure car or truck, or have his machine overhauled, repaired or supplied almost instantly with any article of standard equipment The stock room, whose normal supply has been roughly estimated to have an aggregate value of $250,000, contains besides the actual components of Packard machines, a full line of equipment except tires, of which only a sufficient supply is maintained for use by the service station's own vehicles. In the repair shop, Packard machines are repaired or overhauled by experts who are specialists in their departments, insuring work up to factory standards and at a minimum of cost and time.

The station departments have been so laid out that work can be routed to obtain the most expeditious service. In the basement is located a large garage for the purpose of storing the company's machines, the heating



Part of the First Floor Where the Motor Truck Chassis Are Repaired, the Machines Being Disassembled Here and the Work Done in the Different Departments.

plant, two recreation rooms and a large locker room for employees, and the garage wash stands. The first floor is occupied by the salesroom in front, the offices of the executive, Alvan T. Fuller, and the general manager and the department managers, while the remainder of the

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floor is intended for the storage of machines that are being repaired or adjusted. This section is entered from the yard and by elevator, one end of which is accessible from the yard and the other from the main floor.

The front of the second floor is occupied by the accounting department. The stock room, in which is maintained a full series of every part required for the maintenance of every type of Packard car or truck, is adjoining. The back of the floor is given up to the storage of bodies and some new cars, many of the bodies belonging to owners who possess two bodies, keeping one at the station and using the other on a single chassis, making change according to the season's requirements. The company also maintains a stock of new bodies of varying types for sale.

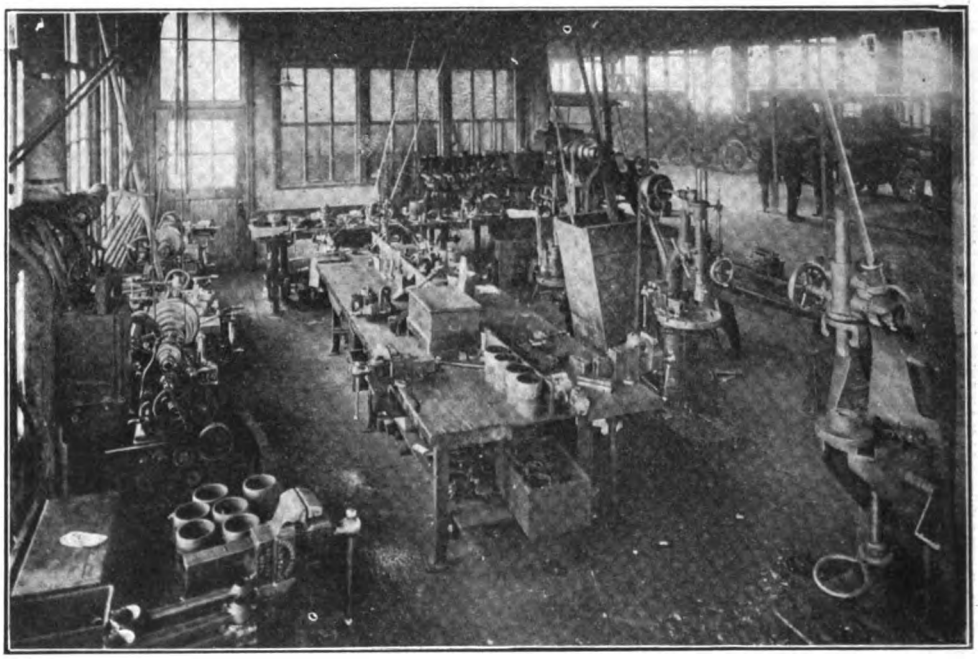
The third floor is taken up by the office of the truck sales department, the woodworking, top making, upholstering and paint shops, and the varnish room. Here also is large space for storage.

One of the most interesting departments, from the owner's viewpoint, is the repair shop on the fourth floor, which occupies about a half acre of space, and is served by elevators and stairways. One of the features is the 600 foot long work bench that almost girdles the floor and is lighted by large windows against which the bench is located. A section is shown in an accompanying illustration. The method of work is to line the vehicles head on to the bench, leaving only sufficient space for the workmen's movements and not enough to make for unnecessary steps. The shop is divided into departments, the motor repairing being done at the rear of the shop, the steering gears overhauled in an adjoining department, machine work performed in another department, etc. The machine shop is equipped with every power tool and labor saving device that experience has shown necessary, such as arbor presses, drill presses, lathes, shapers and grinders. In an accompanying illustration is shown a section of the machine shop and a door leading to the blacksmith shop.

For the protection of itself and its customers, the company has installed a very complete record system of all work done and material supplied. The equipment of a machine is carefully checked when received. A work order, specifying particularly the exact work to be done, is made out on a form blank and is placed in leather and celluloid case that is attached to the machine. As each phase of the job is done it is so written upon the order blank. Requisitions for material, signed by the foremen, time cards, issued by the foremen and signed by the workmen, and credits for supplies or parts requisitioned but not used, are placed in the holder, which is sent to the accounting department when the job is completed. Every item of the charge can thus be traced to its origin, a fact that insures an accurate bill for the owner and prevention of waste for the company.

The Allston station is the main service station of the Packard Company in New England, though there is an equally complete organization in Providence on a smaller scale. The Worcester and Portland stations are equipped to do ordinary repair work, while special jobs and overhauling are intended to be sent to the Allston station.

The Packard company stands behind its product up to a reasonable standard. Its obligations to every purchaser are set forth in its statement of service policy, which is attached to the face of every retail selling contract. Briefly stated, the company contracts to give monthly inspections and minor adjustments, that require no more than three hours, for the first year without charge if the vehicle is delivered to the service station. Otherwise an inspector will be sent monthly after the first month, and will make adjustments that require three hours or less, the charge being as follows: $1.50 per inspection, if within a 10-mile radius; $2.50, if within a 20-mile radius, and $3, if within a 30-mile radius. Special arrangements will be made for greater distances. If any repair work ordered by the customer is done, a charge for labor and material based on the regular rates is made. Provided the truck has not been tampered with, or injured through accident, overloading or overspeeding, and is brought to the service station, all necessary adjustments will be made gratis during the first month after delivery. Defective parts will be installed without charge at the station for a period of 90 days after delivery. If desired, an instructor will be supplied within a radius of 100 miles for a period of three days without charge to the owner.



The Machine Tool Department of the Fourth Floor of the Service Station, Given Over to General Mechanical Repairing—The Room Beyond the Tools Is the Blacksmith Shop.

WILL HAVE BIG SERVICE SYSTEM.

Detroit Organization Plans to Establish Plain of Stations Along Route of the Lincoln Highway.

The National United Service Company, Ford Building, Detroit, Mich., has been organized with the purpose of establishing service stations in many or all of the principal cities and towns through which the Lincoln Highway has or will be built. The stations will be known as of the "Nusco" systems, the initials of the company name being used to coin the word. Statement is made that the company plans to extend the chain of stations so that service can be afforded on every travelable roadway in the United States. The company's activities will first be confined to the Lincoln Highway. The concern states that for the past two years it has been perfecting its organization and plans and that all details were settled before making a public announcement. It has undertaken to market the entire outputs of 46 different concerns who manufacture various lines of automobiles, accessories and motor car parts, and is now ready to sell Nusco equipment ranging from spark plugs to motor trucks.

HAS DOUBLED CAPITAL STOCK.

Demand for Victor Gaskets so Great That Manufacturer Has Largely Increased Production Facilities.

The Victor Manufacturing and Gasket Company, Chicago, Ill., has increased its capital stock from $50,000 to $100,000, to provide adequate manufacturing facilities made necessary by the big demand for its large variety of copper-brass asbestos cylinder head gaskets such as are largely used by manufacturers on detachable head motors. For the aid of owners, dealers and jobbers, the company has published a ready reference and list of Victor gaskets, illustrated, so that practically every size gasket on the market for repair purposes can be obtained at reasonable prices from the Victor company without first writing to the manufacturer for information. These lists can be secured by addressing the Victor Manufacturing and Gasket Company, Troy and 21st streets, Chicago, Ill., and by mentioning the Accessory and Garage Journal.

An initial dividend of 10 per cent. has been ordered for the creditors of A. H. Kling & Co., Detroit, Mich., automobile supply dealers.

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NEW CONCERNS RECENTLY INCORPORATED.

CAR MANUFACTURERS.

SUPERIOR SIDE CAR CORPORATION, NEW YORK CITY; $20,000; to manufacture automobiles, engines, etc.; William Vaughan, Howard E. Whealey, Martin Berger.

PILLIOD MOTOR COMPANY, TOLEDO, O.; $100,000; to manufacture automobiles; C. J. Pilliod, C. J. Pilliod, Jr., G. H. Hartman, S. Earner, Jr., G. F. Defenthaler.

TRIBUNE ENGINEERING COMPANY, OSWEGO, N. Y.; $10,000; to manufacture automobiles, motor boats, etc.; C. A. Jones, M. Kelly, H. Moseson.

ROBERTS MOTOR MANUFACTURING COMPANY, SANDUSKY, O.; $50,000; F. B. King, W. H. Burke, R. K. Ramsey.

D. C. GILLILAND MANUFACTURING AND AUTO SUPPLY CO., ST. LOUIS, MO.; $8000; to manufacture automobiles and supplies; David C. Gilliland, Elmo P. Orner, H. Spoeneman, F. Spoeneman.

TRANSCONTINENTAL WHEEL COMPANY, HORNELL, N. Y.; $125,000; to manufacture automobiles, motors, rotary appliances, wheels, parts, etc.; H. Orsenigo, E. J. Orsenigo, F. V. Ubezzi.

MALCOLM MOTOR CAR COMPANY OF NEW YORK, NEW YORK CITY; $35,000; to manufacture automobiles, trucks and parts; G. J. Rubin, E. J. Otis, M. Greenberger.

O. C. ARLITZ & CO., NEW YORK CITY; $25,000; to manufacture automobiles and accessories; O. C. Arlitz, D. Morris, G. L. Stamper.

THE J. M. COLVAN MANUFACTURING COMPANY, WHITE PLAINS, N. Y.; $12,000; to manufacture, repair, sell and rent motors.

SWAN MANUFACTURING COMPANY, PHILADELPHIA, PENN.; $100,000; to manufacture, sell and deal in and with automobiles, cycle cars. F. R. Hansell, Philadelphia; George H. B. Martin, S. C. Seymour, Camden, N. J.

GARFORD MOTOR TRUCK COMPANY, LIMA, O.; $5000; to manufacture and sell all kinds of motor vehicles. Edward W. Stevens, Joseph B. Immler, Perry J. Long, A. C. Fenwick, R. W. Loichet.

STANDARD FUEL OIL COMPANY, WILLOUGHBY, O.; manufacturers of oil engines operating on the Diesel principle, sizes 50, 75, 100, 150 and 200 horsepower. Officers: L. W. Penfield, president; E. J. King, vice president; F. N. Shankland, secretary and treasurer. Directors, L. W. Penfield, F. N. Shankland, E. J. King, J. E. Morley, C. H. Gale.

MOERSCHELL ELECTRIC AND AUTOMOBILE SUPPLY COMPANY, ST. LOUIS, MO.; $5000; to buy, sell and manufacture automobiles. Charles J. Kron, Victor R. Appel, William E. Moerschell.

THE EMPIRE MOTOR TRUCK CORPORATION, NEW YORK CITY; $10,000; to deal in automobiles, supplies and accessories; L. A. Robinson, Albert L. Johnson and Walter Dix.

THE K. AUTO SERVICE COMPANY, PELHAM MANOR, N. Y.; $500; Dora A. Desenberry, Edith A. Kay and Roy C. Kay.

THE CARBOMOBILE CORPORATION, BROOKLYN, N. Y.; $150,000; to manufacture machines, motors and engines. T. T. Wells, R. Gerbracht, Jr., G. H. Fitzgerald.

THE R. & R. MANUFACTURING COMPANY, CRAWFORDSVILLE, IND.; $100,000; A. L. Ringo, A. T. Grady, E. H. Tillson.

EUGENE ATKINS COMPANY, ELKHART, IND.; $10,000; to manufacture automobiles and accessories, also distributors of the Yankee Folding Tire Pump; Eugene Atkins, Ward A. Bump, Willard M. Ellwood.

HIL-KO RIM LOCK COMPANY, ST. LOUIS, MO.; $25,000; to deal in automobiles, rim locking devices. Maurice R. Kohn, Frank D. Hiller, Sr., Frank D. Hiller, Jr., Charles L. Pyne, Frank M. White.

BLOOMINGTON AUTO COMPANY, BLOOMINGTON, IND.; $10,000; Martin L. and David W. Harmon.

GARAGES AND REPAIR SHOPS.

SEYFANG GARAGE COMPANY, TOLEDO, O.; $10,000. Fred Seyfang, H. H. Blair, Fred Mundhenk, Charles C. Seyfang.

COLONIAL GRUBE AUTO SERVICE COMPANY, CLEVELAND, O.; $10,000; to conduct a repair and service shop; W. H. Taylor and others.

GENERAL MOTOR SERVICE COMPANY, INDIANAPOLIS, IND.; $10,000; to conduct a general automobile repair shop and deal in accessories; Charles L. Ballenger, Peter Englehart, Samuel M. Fitch.

LYON GARAGE, SEATTLE, WASH.; $3000; J. L. Shannon, O. G. Korb.

NEW YORK ELECTRIC GARAGE, NEW YORK CITY; $50,000; I. W. Donner, R. R. Livingston, J. W. Crandall.

AUTO TOWING AND SUPPLY COMPANY, BROOKLYN, N. Y.; $1500; to conduct a garage; G. H. Seeth, W. F. Seeth, C. E. Hiscock.

BEETON GARAGE, LIMITED, BEETON, ONT.; $40,000.

WOLVERINE GARAGE COMPANY, DETROIT, MICH.; $1200; to conduct a general garage business. A. T. Hamlin, J. R. Gilbert, C. C. Harnbridge.

THE THOMAS GARAGE, NEW YORK; $5000; Julius E. Siegel, 475 Broadway.

ROBERT A. HILL'S GARAGE, BROOKLYN, N. Y.; $1000; Robert A. Hill, Mary E. Hill, Robert E. Palmer.

WANTAGH GARAGE, WANTAGH, N. Y.; $1000; Birdsall Jackson, Walter Ashdown and Gertrude S. Jackson.

AUTO REPAIR AND MANUFACTURING COMPANY, TULSA, OKLA.; $10,000; L. F. Barnes, M. O. Randell, M. A. Campbell.

OLEWINE'S GARAGE, PHILADELPHIA; $50,000; to maintain storage houses and garages. F. E. Hansell, G. Purnell, S. C. Seymour.

MEDINA COUNTY GARAGE COMPANY, MEDINA, O.; $10,000; to operate a garage and sell accessories. A. C. Marsh, Fred F. Clark, H. E. Kimmell, C. R. Warner and Thomas F. Hallock.

THE ELECTRIC AUTOMOBILE DELIVERY CORPORATION, NEW YORK CITY; $10,000; to deal in garages and autos; J. B. Purcell, F. H. Parcells, G. Tierman, 50 Wall street.

McCLEARY GARAGE COMPANY, DEFIANCE, O.; $20,000; A. C. McCleary, D. W. Cook, D. A. Baker, W. J. Miller, E. R. Mallett.

HUB GARAGE COMPANY, NEW YORK CITY; $2000; Henry Ahr, Adolph Ahr, John T. Booth.

TRENTON GARAGE COMPANY, TRENTON, N. J.; $1000; Phillip E. Drake, Charles R. Sweet, Albert Numbers.

CLOUSE TIRE REPAIR SCHOOL COMPANY, CLEVELAND, O.; $2500; to teach tire repairing. J. A. Burke, C. A. Burke, F. F. McFadden, R. M. Schrod, E. C. Spades.

LIESMANN'S GARAGE, NEW YORK CITY; $1000; Herman Liesman, Edward Eberhart and Frank A. Eberhart.

LEXINGTON AUTO SUPPLY COMPANY, NEW YORK CITY; $15,000; to deal in automobiles, supplies and accessories. M. A. Noble, R. H. Waddell, A. M. Nascher.

ANAWANDA GARAGE COMPANY, NEW YORK CITY; $3000; to deal in automobiles, supplies and accessories. Samuel Whitman, Murray Shyer, Henry Herz.

NORTHERN GARAGE COMPANY, CINCINNATI, O.; $1000; to operate a garage and repair shop. Robert H. Doepka, William L. Doepka, F. Morris, Edward B. Ulrich and H. H. Wiggers.

LUCERNE GARAGE CORPORATION, NEW YORK CITY; $3000; Charles H. Minder, Patrick W. Hanrahan, Robert J. Algie.

EDGARTOWN GARAGE COMPANY, EDGARTOWN, MASS.; $3000; D. T. Cassidy, Richard L. Cobler, E. A. Kelly.

ROSS GARAGE AND TAXI COMPANY, NEW YORK CITY; $1000; to deal in automobiles, supplies and accessories. Ben Ross, George Kearney, Rudolph Loewenthal.

THE THORNTOWN GARAGE, THORNTOWN, IND.; $3500; Zeb Couger, E. Altym and Marley Riley.

AUTOMOBILE DEALERS.

GEORGE D. BROWN, INC., NEW YORK CITY; $5000; to deal in automobiles; Frank W. Lane and others.

GUTTAG & STENGEL, NEW YORK CITY; $1000; to deal in automobiles; Charles M. Rosenthal, Joseph M. Baum, Max Horowitz.

McGILL AUTO COMPANY, ELGIN, ILL.; Chester T. McGill, L. W. McGill, Alvin G. Wampole.

KWAD MOTOR VEHICLE COMPANY, ROCHESTER, N. Y.; $2500; William M. Kipp, Marian L. Allen, Ray L. Davis, Ambrose B. Warren.

GINDELE-JOCHMUS COMPANY, POUGHKEEPSIE, N. Y.; $20,000; to deal in motorcycles, sporting goods, etc.; Hazel G. Gindele, Woodward Gindele, Leslie H. Jochmus.

GLASS-EVANS AUTO COMPANY, GRAND ISLAND, NEB.; $25,000; V. E. Evans, J. B. Glass, E. C. Burger, George E. Fleming.

WINCHESTER AUTO SALES COMPANY, WINCHESTER, VA.; $20,000; C. W. Fritts, J. C. Horn.

O. C. ARLITZ & CO., NEW YORK CITY; $25,000; to deal in automobiles and accessories; Oscar C. Arlitz, David Morris, George L. Stamper, Frederick Klein.

N. A. CHRISTENSEN COMPANY, MILWAUKEE, WIS.; $50,000; to deal in automobiles. N. A. Christensen, R. L. Gruber, W. M. Spooner.

FORD MOTOR CAR COMPANY OF BRIDGEPORT, BRIDGEPORT, CONN.; $30,000; Harry M. Ford, B. H. Jones, James P. Lee.

MONARCH LIGHT TRUCK COMPANY, MILWAUKEE, WIS.; $100,000; R. A. Fuhrman, E. C. Klann, R. Fuhrman.

HERRING MOTOR COMPANY, DES MOINES, IA.; $500,000; Clyde L. Herring, Morgan J. Alexander, Ernest E. Herring, A. R. Rockwell, William E. Wissler.

SUPERIOR WELDING COMPANY, TRENTON, N. J.; $30,000; to deal in automobiles; J. P. Gler and others.

ENSIGN MOTOR COMPANY, SPRINGFIELD, O.; $30,000; H. C. Ensign, E. L. Ensign, K. E. Ensign, J. F. Anderson, E. F. McKee.

MOTOR SALES AND SERVICE COMPANY, NORFOLK, VA.; $25,000; R. C. Taylor and others.

BREAKSTONE COMPANY, CHICAGO, ILL.; $6000; Samuel Breakstone, A. Griffin, J. F. Parks.

GRAND AUTO COMPANY, PEORIA, ILL.; J. Shirley West, William J. Cook, C. A. Ullman.

MAXWELL MOTOR COMPANY, INDIANAPOLIS, IND.; $500,000.

THE LAKE CITY MANUFACTURING AND SUPPLY COMPANY, CLEVELAND, O.; $10,000; to deal in motor cars. G. H. Hanna, J. J. Gillespie, J. E. Filbin, Fred Amsden, J. W. Sheehan.

THE HAVANA AUTOMOBILE COMPANY, WILMINGTON, DEL.; $1,000,000.

WEST AUTO COMPANY, LINCOLN, NEB.; $50,000; W. W. Wertz, president.

THE I AND I COMPANY, SPRINGFIELD, O.; $10,000; to deal in motor vehicles. Thos. D. Hodge.

THE CLAIRE CITY MACHINE AND AUTO SUPPLY COMPANY, ABERDEEN, S. D.; $10,000; Jno. H. Ahrens.

THE IMPIRE MOTOR TRUCK CORPORATION, TROY, N. Y.; $10,000; Albert J. Johnson, etc.

ADAMS-OAKLAND COMPANY, CLEVELAND, O.; $55,000; to deal in automobiles; H. M. Adams, A. A. Sterns, J. C. Royan, J. A. Chamberlain, L. A. Krauss.

CLINESMITH MOTOR COMPANY, WAKITA, OKLA.; $5000; F. L. Clinesmith, John Clinesmith, William Clinesmith.

MUSKOGEE AUTOMOBILE DEALERS' ASSOCIATION, MUSKOGEE, OKLA.; W. A. Campbell, C. L. Anderson, Harry Kitto, Henry Waterston, S. J. Miller.

GWIN AUTO COMPANY, NEW ALBANY, IND.; $1000; Newland Gwin, Edith Gwin, Charles B. Gwin.

THE PORT JERVIS AUTOMOBILE COMPANY, PORT JERVIS, N. Y.; $10,000; Peter J. Rutan and others.

ALLBAUGH MOTOR SALES COMPANY, CLEVELAND, O.; $10,000; J. W. Allbaugh, T. K. Allbaugh, C. S. Allbaugh, W. A. Allbaugh and B. K. Allbaugh.

BRADLEY AUTO SUPPLY COMPANY, ALBANY, N. Y.; $5000; to deal in motors, engines, cars, garages; John L. Bradley, Herman W. and Harry F. Webster, Jr.

SYRACUSE AUTO BUSINESS, SYRACUSE, N. Y.; $15,000; Charles J. Piquet, Adam G. Helterline, Walter H. Hinkley.

THE COALGATE MOTOR COMPANY, COALGATE, OKLA.; $2500; J. A. Jackson, Fred Varner, H. N. Charles and C. Vance Coalgate.

PULASKI MOTOR CAR COMPANY, PULASKI, VA.; $25,000; J. W. Eckman, H. L. Trollinger, R. R. Moore, W. H. Trollinger, F. J. Laughon, H. W. Steger.

SPRING CITY AUTO COMPANY, CHATTANOOGA, TENN.; $7000; J. D. Carlin, G. W. Stephenson, J. M. Adams, O. P. Darwin, C. C. Moore.

ATHENS AUTO COMPANY, CHICAGO, ILL.; $10,000; Leo Newgrass, George Buzane, W. J. Bradburn.

INDEPENDENT MOTOR COMPANY, AUGUSTA, GA.; $2000; Henry Protaut, W. R. Eve, A. B. Protaut.

SIDNEY AUTO SALES AND SUPPLY COMPANY, SIDNEY, O.; $20,000; W. H. Persinger, W. L. Alton, B. H. Mires, J. D. Barnes.

KERR-RUNYON COMPANY, NEW YORK CITY; $20,000; Carman R. Runyon, Jr., Murray Earle, John S. Carroll.

CO-OPERATIVE AUTOMOBILE COMPANY, SULPHUR SPRINGS, N. C.; $15,000; Otta T. Maier and others.

COMMONWEALTH AUTOMOBILE CORPORATION, CHICAGO, ILL.; $250,000; Charles M. Hellock and others.

MOTOR VEHICLE SALES CORPORATION, NEW YORK CITY; $1000; Harold T. Edward, Henry Caplan, Thomas G. Durkham.

VIRGINIA AUTO SERVICE COMPANY, RICHMOND, VA.; $25,000; Harry H. Fones and others.

CAPITAL CITY AUTO COMPANY, AUSTIN, TEX.; $5000; L. S. Houston and others.

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CHANDLER SALES COMPANY, CHICAGO, ILL.; $2500; William J. Fox, James J. Leahy, Edgar J. Phillips.

A. D. ALLEN AUTOMOBILE COMPANY, NIAGARA FALLS, N. Y.; $2500; Alphonse D. Allen, Louisa A. Allen, C. Edgar Allen.

L. & L. COMPANY, SPRINGFIELD, O.; $10,000; to deal in motor vehicles; Ray L. Lesson and others.

SMITH, NOREM & CO., NEW YORK CITY; $20,000; Ralph U. Krause, Walter M. Smith, Hilmer P. Norem.

B. H. S. COMPANY, BROOKLYN, N. Y.; P. H. Seigel, G. Heatter, M. M. Black.

THE NOVO MOTOR TRUCK COMPANY, CLEVELAND, O.; $10,000; to deal in motor trucks, engines and passenger vehicles; W. M. Stein, J. J. Klein, W. Gibson, M. V. Amerman, C. D. Mason.

THE BOARD OF TRADE, DOVER, N. H.; $2500; has purchased a site for the erection of an automobile industry; Frank Wentworth is interested.

THE AKRON AUTO LIVERY COMPANY, AKRON, O.; $40,000; to operate a taxicab company; C. F. Schree, A. L. Schultz, M. C. Mitchell, C. C. McNeil, E. L. Schnee.

MAIN MOTOR CAR COMPANY, LOGAN, O.; $25,000; T. A. Johnson, A. H. Johnson, Flora Sophn, F. A. Koppe, L. K. Kienle.

GHOLSON AUTO COMPANY, CLEVELAND, O.; $10,000; K. M. Gholson, W. F. Gholson, A. N. Meyer, Esther Hayes, J. G. Murphy.

BATES MOTOR CAR COMPANY, DAYTON, O.; $10,000; O. E. Bates, E. G. Bates, C. E. Bates, A. M. Bebhart, J. C. Schneffer.

THEOBALD AUTO EXCHANGE, NEW YORK CITY; $2000; Joseph L. Dunham, William P. Buchler, Joseph L. Kalmuk.

MOTORCYCLE RIDERS' SUPPLY COMPANY, NEW YORK CITY; $5000; to deal in motorcycles, automobiles and motors; R. Klien, G. Murdo, M. Rosenthal, 208 East 82nd street.

THE WATERMAN TRUCK AND AUTO COMPANY, INC., NORFOLK, VA.; $15,000; to deal in automobiles; K. Waterman, president; J. K. Vells, secretary.

THE COALITION COMPANY, NEW YORK CITY; $8000; to deal in automobiles, supplies and accessories; Abram Wyse, Hugh C. Gibson, Emil Frankel.

CLARK & KENDRICK, NEW YORK CITY; $10,000; Wilbur C. Clark, Alfred R. Kendrick and Louis J. Rest.

SIMSON MOTOR CORPORATION, ALBANY, N. Y.; $3000; Edward Cyamon, Geo. H. Levine, Abraham Levine, R. L. Howe.

F. S. WOODS COMPANY, ST. JOHNSBURY, VT.; $10,000; F. S. Woods; Nellie S. Woods, Gilbert E. Woods and Fred D. Gilman.

THE HENRY ROTIER COMPANY, MILWAUKEE, WIS.; $10,000; Henry Rotier, Mabel Rotier, Eugene Denison.

THE DEARBORN MOTOR COMPANY, LAWRENCEBURG, IND.; $2000; N. E. Squibb, A. L. Fox, H. G. Warneford.

FRANK S. FEESER COMPANY, INDIANAPOLIS, IND.; $10,000; Frank S. Feeser and J. C. Feeser.

THE FARMACK MOTOR CAR CORPORATION, RICHMOND, VA.; $100,000; Albert J. Farmer, J. L. Crossman, M. Monroe McIntyre.

FOUR WHEEL DRIVE MOTOR COMPANY OF KANSAS, KANSAS CITY, MO.; $500,000; Theodore Ditmars, H. A. Dougherty, S. B. Gatewood.

ACCESSORIES AND SUPPLIES.

CLEVELAND-DAYTON TIRE COMPANY, CLEVELAND, O.; $10,000; to deal in tires and accessories; A. H. Greeley, F. W. Dunsford, D. D. Pettigale, C. D. Singer.

CONSUMERS' TIRE AND SERVICE COMPANY, CHICAGO, ILL.; $500; Lynn S. Snow, Earl C. Snow, Robert A. Stephens.

DONELSON AUTO SUPPLY COMPANY, MEMPHIS, TENN.; $5000; L. R. Donelson, Glen A. Donelson, L. R. Donelson, Jr., A. J. Donelson, John D. Martin.

QUALITYRE RUBBER COMPANY, PORTLAND, ME.; $100,000; to manufacture rubber goods; A. F. Jones and others.

BUTCHER BUICK COMPANY, ATHENS, O.; $10,000; to deal in automobiles; Robert Clifford, Ura Butcher, Edmund A. Van Den Brock, Albert H. Boggs, J. Dana Connett.

AUTO SERVICE AND SUPPLY COMPANY, EUREKA SPRINGS, ARK.; $14,000; F. B. Stowe, B. M. Stowe, J. A. Monagan, E. E. Monagan.

THREE STAR TIRE COMPANY, TRENTON, N. J.; $50,000; to manufacture tires; E. H. Steel, A. F. Updike, R. G. Whitehead.

STANDARD AUTO ACCESSORY COMPANY, LEIPSIC, O.; $3000; Ralph P. Thompson, Charles W. Fogle, W. S. Thompson, Frances Thompson, Adaline Werner.

GIBRALTAR TIRE & TUBE COMPANY, NEWARK, N. J.; $100,000; to manufacture tires and tubes; H. L. Brown, R. Bradshaw, R. Brown.

INTERNATIONAL WIRE TIRE COMPANY, PLYMOUTH, N. J.; $1,000,000; to manufacture tires; J. S. Lyons, G. T. Brown, T. A. Zukoski.

DAVIS ELECTRIC EQUIPMENT COMPANY, CHICAGO, ILL.; $2500; E. S. Davis, J. E. Waters, I. G. Wooden.

COLUMBIA TIRE AND RUBBER COMPANY, MANSFIELD, O.; $300,000; A. C. Moore and others.

AUTO SUPPLY AND ACCESSORIES COMPANY, AURORA, ILL.; $5000; Edward H. Robinson, John A. Kremer, Fred B. Shearer.

COLUMBUS CIRCLE GASOLINE AND OIL COMPANY, NEW YORK CITY; $5000; Maurice Deutsch, Edgar I. Ahrweiler, Edward M. Grossman.

THE ARMOUR TREAD COMPANY, HARTFORD, CONN.; $25,000; to manufacture automobile tires and deal in autos; John A. Thoma of Albany, N. Y.

THE GLOBE RUBBER COMPANY, CUYAHOGA, O.; $20,000; to manufacture rubber novelties; F. J. Creque, F. C. Francisco, L. H. Adams, T. J. Francisco.

THE ELYRIA TIRE AND RUBBER COMPANY, ELYRIA, O.; $250,000; A. G. Snow, E. P. Parshall, G. G. Gilbert, C. W. Neubrand, J. L. Lind.

AUTO TIRE ARMOR COMPANY, LIMITED, MT. CLEMENS, MICH.; $10,000; to build motor car tires.

WISCONSIN AUTO SUPPLY COMPANY, MILWAUKEE, WIS.; $5000; to deal in motor car supplies and accessories; C. J. Stecker, J. C. Peshenny, M. G. Schauer.

B. L. B. MANUFACTURING COMPANY, ALBANY, N. Y.; $12,000; to deal in motor car accessories and motors; G. N. Nelson, G. G. Bouthinon, L. E. Bregand.

THE DAVENPORT SHOCK ABSORBER COMPANY, DAVENPORT, IA.; $10,000; to manufacture auto accessories; James McGrath.

PORTSMOUTH AUTOMOBILE AND SUPPLY COMPANY, PORTSMOUTH, VA.; $10,000; J. E. Norman, Richmond, Va.

J. J. DOUGHERTY COMPANY, MILWAUKEE, WIS.; $6000; to deal in motor car supplies, accessories, tires; J. J. Dougherty, C. C. Singer, R. A. Schwartzburg.

RUMMELE-KRIEL COMPANY, SHEBOYGAN, WIS.; $10,000; to deal in motor cars and supplies; E. H. Rummele, E. L. Kriel, Anna Rummele.

NYMPH MOTOR COMPANY, CLEVELAND, O.; $10,000; to manufacture motors; Luther Day, Benjamin A. Gage, Charles S. Wachner, H. E. Steele, A. D. Howe.

THE COLUMBIANA TIRE AND RUBBER COMPANY, COLUMBIANA, O.; $300,000; to manufacture automobile tires; William C. Henne, George W. Henne, Walter F. Henne, Jacob C. Henne, Charles Hoffman.

MOTOR IGNITION AND DEVICES COMPANY, CLARKSBURG, W. VA.; $400,000; to deal in ignition systems; E. R. Diehm, Ernest Angell, C. C. Owens, W. D. Fleming, H. T. Clark.

AUTO MART, MILWAUKEE, WIS.; $20,000; to deal in motor car supplies, accessories and parts; Israel Lazarus, Elizabeth Lazarus, Godfrey Glicksman.

BEARING COMPANY, TRENTON, N. J.; $1,000,000; to deal in accessories; incorporator, J. S. Bretz.

COMMONWEALTH MOTOR COMPANY, NEW YORK CITY; $25,000; to manufacture automobile parts and accessories.

THE PRINCE AUTOMOBILE SUPPLY COMPANY, PORTLAND, ME.; $10,000; to do a general motor supply business, Ernest W. Prince, president and treasurer; Bertha G. Prince, clerk, and James E. Manter.

SAFETY AUTO EQUIPMENT CORPORATION, NEW YORK CITY; $10,000; to deal in automobiles, supplies and accessories; Samuel M. Richardson, S. L. Harold, A. Vincent, Moses Ely.

VIRGINIA AUTO SERVICE COMPANY, ROSSLYN, VA.; $25,000; Harry H. Jones and James H. Knott.

WITHERBEE STORAGE BATTERY COMPANY, NEW YORK CITY; $10,000; to deal in automobiles, supplies, accessories; Eldred E. Jacobsom, Charles J. Steireman, M. J. Hanlon.

THE AIRFLEX INNER TIRE COMPANY OF SPRINGFIELD, SPRINGFIELD, MO.; $3000 to $20,000.

MULTIPLE GUIDE COMPANY, BOSTON, MASS.; $75,000; to deal in automobile accessories; Franklin Black, F. M. McIntyre, Henry C. McKenna.

THE HARDMAN TIRE AND RUBBER COMPANY, BOSTON, MASS.; $10,000; Frank C. Hardman, George M. Foster, Ernest S. James.

THE WENATCHEE TIRE AND AUTO COMPANY, WENATCHEE, WASH.; $5000; George K. Seaman, Ray Sagendorf and Phillip Sagendorf.

MOTOR ACCESSORY DISTRIBUTING COMPANY, AUGUSTA, ME.; $100,000; Samuel Titcomb, George K. Bassett.

GIBSON-HOLLISTER MANUFACTURING COMPANY, BOSTON, MASS.; $200,000; to deal in automobile accessories; Lester H. Gibson, George S. Hillingsworth, Penfield Mower.

M. GEORGE TIGAR BEARINGS COMPANY, NEW YORK CITY; $10,000; to deal in automobiles, supplies and accessories; M. George Tigar, Annie R. Tigar, Sol Cohen.

THE TOLEDO AUTOMOBILE CLEARING HOUSE, TOLEDO, O.; $25,000; Ralph J. Goetz and others.

J. L. B. MOTOR COMPANY, DAYTON, O.; $15,000; to deal in motor cars and accessories; Charles W. Dale, Sidney C. Kusworm, Charles Troy, J. L. Baker and Walter Baker.

PARTS AND FITTINGS.

WATSON SUSPENSION WHEEL COMPANY, DOVER, DEL.; $100,000; to manufacture suspension wheels for automobiles and trucks.

HYDROCRAFT COMPANY, DOVER, DEL.; $500,000; to manufacture motors, motor boats, etc.; L. B. Phillips, M. M. Hirons, J. M. Satterfield.

SAFETY BRAKE COMPANY, NEW YORK CITY; $2000; to manufacture brakes; A. Marhenke, H. Klinger, H. Kragel.

THEODORE KUNDTZ COMPANY, CLEVELAND, O.; $2,000,000; to manufacture automobile bodies; Theodore Kundtz, Theodore Kundtz, Jr., N. Windell, J. J. Gedgeon, Frank Friedle, Bela Kormandy, B. S. Edgerly.

BERGIE NATIONAL SPARK PLUG COMPANY, ROCKFORD, ILL.; $5000; to manufacture spark plugs, motor vehicles, parts, etc.; Andrew N. Adolph, Arthur J. Bergstrom.

WESTERN AUTOMOBILE METER FAUCET COMPANY, CHICAGO, ILL.; $25,000; to manufacture machinery and appliances; F. F. Marshall, F. Schorik, A. J. Schinagl.

SPRING HUB AUTOMOBILE WHEEL COMPANY, SAN FRANCISCO, CAL.; $200,000; to manufacture automobile wheels; W. T. Kearney, E. Kreh, C. Westerman.

ALMIRALL & COMPANY, EDDYVILLE, N. Y.; $200,000; to manufacture automobile fire extinguishers; J. A. Almirall, W. C. Adams, W. J. Wood.

ADJUSTABLE WHEEL COMPANY, PEEKSKILL, N. Y.; $5000; John H. Murray, Ross C. Weaver, James W. Husted.

SECURITY VEHICLE LOCK AND BRAKE COMPANY, NEW YORK CITY; $50,000; Selman Liss, Leopold Tropp, Bert Rivkin.

CRITES CARBURETOR COMPANY, HAMILTON, O.; $50,000; R. L. Bagg and others.

THE RACINE HANDY MANUFACTURING COMPANY, RACINE, WIS.; $10,000; to manufacture a general line of specialties chiefly for autos and all modern vehicles; G. G. Thronson.

THE PONTIAC CHASSIS COMPANY, PONTIAC, MICH.; $100,000; to build motor car chassis.

THE STANDARD MOTOR PARTS COMPANY, DETROIT, MICH.; $300,000; E. J. Dayton, W. S. Grant, O. Gumlinsky.

THE DIXIE FISCAL COMPANY, VINCENNES, IND.; $15,000; to deal in motor cars and parts; C. C. Kelch.

F. J. ERNEY MANUFACTURING COMPANY, CLEVELAND, O.; $3000; to deal in automobile signal lamps; J. H Pavolik, Jr., A. J. Kasch, J. F. Pavolik, F. J. Erney, A. A. Lutton.

CHICAGO AUTO WHEEL COMPANY, CHICAGO, ILL.; $10,000; to deal in automobile parts; John E. Kelly, H. H. McCarty, M. V. Walsh.

KIMM SALES COMPANY, NEW YORK CITY; $2500; to deal in auto springs, shock absorbers; Daniel Houston, Stephen O'Brien, George C. Norton.

A. F. OLIVER GEAR AND MACHINE COMPANY, BUFFALO, N. Y.; $20,000; gear cutting and general machine work; Arthur F. Oliver, Charles L. Wiedrich, Merten S. Gibbs.

GREAT EASTERN RUBBER COMPANY, INC., ALLENTOWN, PENN.; $100,000; to manufacture tires; C. R. Fluck, D M. Knabb, V. A. Nagle, A. E. Hodge.

NATIONAL GAUGE AND EQUIPMENT COMPANY, LA CROSSE, WIS.; $200,000; to manufacture motor car parts; Dan G. MacMillan, Philo M. Gelatt, J. M. Lavovue.

MISCELLANEOUS.

AUTO CLEARING HOUSE COMPANY, DENVER, COL.; $10,000; W. D. Hicks, A. Taylor, I. Jordan.

MIDDLETOWN TRANSPORTATION COMPANY, MIDDLETOWN, O.; $5000; C. E. Palmer, H. Strodtbeck, S. E. Strodtbeck, L. Strodtbeck, W. Gebhart.

YOUNGSTOWN TRANSPORTATION COMPANY, YOUNGSTOWN, O.; $12,000; I. M. Hartzell, Mark Perkins, R. C. Wright, J. R. Claxton, Wilber R. Young.

PEOPLE'S TRANSPORTATION COMPANY, AKRON, O.; $100,000; H. Wright, E. S. Stevis, C. G. Tachants, D. C. Grove, L. J. Oswald.

BUFFALO JITNEY 'BUS COMPANY, BUFFALO, N. Y.; $10,000; R. E. Rayman, O. S. Knisley, E. M. Ryan.

AUTO TRANSPORTATION COMPANY, WEBB CITY, MO.; $30,000; E. J Pratt, D. C. Morris, A. H Rogers.

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NEW CONCERNS AND BUSINESS CHANGES.

GARAGES AND REPAIR SHOPS.

A. E. KNAAK, FALL RIVER, MASS., has established a garage and service station. He represents the Case car.

LOUIS BUSHING, PRAIRIE DU CHIEN, WIS., has established a garage and will make a feature of repair work. He sells the Franklin car.

THE BEECHWOOD GARAGE, INC., PITTSBURG, PENN., is a new concern located in the Beechwood district. It is controlled by W. G. Blanchard, C. E. Hampton and Furman South, Jr.

C. W. WILSON, THERMOPOLIS, WYO., will open an up-to-date garage.

ANTON ZAHORIK, CARLTON, WIS., will establish a garage and repair shop. A fireproof building is being erected for his use.

THE WILLIAM PENN GARAGE COMPANY, PITTSBURG, PENN., has opened an up-to-date garage. Joseph Mazer, William Fisher and Harvey M. Aronson are interested.

THE KEYSTONE GARAGE COMPANY, MONONGAHELA CITY, PENN., has been organized by D. M. Swickward, William M. Ross and Harry R. Downer. The company has taken over the old Monongahela Garage on Chess street. Jeffery cars and commercial vehicles are represented.

THE CITY GARAGE COMPANY, IRON RIVER, WIS., is a new concern established in Main street, which is conducting a garage and repair shop, and is operating a livery. Patrick Chantelois, P. O. Lund and Max Happle are interested in the project.

ALLEN SPANG, LIVINGSTON, WIS., has opened an up-to-date garage.

THE PINESVILLE AUTO AND REPAIR COMPANY, PINESVILLE, PENN., has been organized by Draper Van Fossen and F. C. Wood. The company will build a garage at Columbus and Oak streets.

FRED FISCHER, WARREN, O., has opened a repair shop at 116 East Franklin street. E. H. Rummes is also interested.

SCHMIT BROS., BELGIUM, WIS., which conducts a garage and Ford agency at Port Washington and at Fredonia, has purchased the Krier property, which will be remodelled for garage and repair shop purposes.

McDERMOTT & BERRYMAN, SHULLSBURG, WIS., conducting a blacksmithing and machine shop, have installed additional equipment and power tools and will make a specialty of motor car work. A small garage will also be operated.

RALPH BAUER, LAKEFIELD, MINN., has re-entered the garage and repair business, occupying the Meister Garage.

M-T-Z REPAIR AND SUPPLY COMPANY, SAGINAW, MICH., has opened a garage and repair shop at Tuscola and Water street. E. E. Miner and C. B. Zehnder, who compose the firm, have the agency for Oakland cars.

MECHANICAL SERVICE COMPANY, IPSWICH, MASS., has opened a repair shop for automobiles and motorcycles in the Newman building in South Main street. The company, of which Richard Davis is proprietor, also deals in tires of all kinds.

HARRISON P. FRITZ, JOHNSTOWN, PENN., recently purchased a plot of ground on the Reitz property, on which he has begun the erection of a garage.

TIMMER BROTHERS, LANCASTER, O., has been awarded a contract for the erection of a $25,000 garage.

ARTHUR ROWE AND F. H. DORSEY, GARDNER, MASS., have obtained a permit to operate a garage in the Knowlton building, Main street.

CHARLES HARVEY, ZANESVILLE, O., has commenced the erection of a garage for Ford cars in Main street.

THOMAS SMITH, MADISON, S. D., has become owner of the Woertink Garage on West Fifth street and will continue the business.

HOTEL OSWEGATCHIE, OSWEGATCHIE, N. Y., has erected a garage for the accommodation of patrons. The building will store 50 cars.

THE PARTING MOTOR SALES COMPANY, CONNEAUT, O., 273 Main street, has improved its garage and it is one of the finest service stations in that section. The lower floor has been given over to automobiles, the second floor to motorcycles, bicycles and accessories.

DOOLITTLE MARTIN, WATERBURY, CONN., has opened a new garage and show rooms at West Main and Robins street. He is agent for the Reo cars.

THE CITY GARAGE, OLEAN, N. Y., has opened for business. The garage cost $35,000. It is located on Union street

WILLIAM JUNGCLAS, CINCINNATI, O., has opened new salesroom for the distribution of Overland cars at Eighth and Race streets.

THE INDEPENDENT GARAGE, RED OAK, IA., has been sold to C. A. Askey.

THE MARYLAND GARAGE, HAGERSTOWN, MD., has been sold to the Young Motor Car Company. The company will conduct a garage and repair business and handle supplies.

DAVID ELLIS, DODGEVILLE, WIS., and P. O. Vivian have formed a partnership and will engage in the garage business. The former Stratman Vehicle works has been leased and is being converted into a garage and repair shop.

JOSEPH W. HOEFER, ANTIGO, WIS., has established a garage and will sell Maxwell cars.

O. I. RIDDLE, EAST PALESTINE, O., and H. E. Strohecker have formed a partnership and will operate a garage. Grant cars will be handled.

WORDEN BROS., PHOENIX, ARIZ., has opened an automobile repair and machine shop at 51 South Third avenue.

WOSIKA & POWSER, TACOMA, WASH., has established the Square Deal Auto Garage at 5610 Union avenue. The company will make a specialty of buying and selling used cars.

THE AUTO TIRE AND REPAIR COMPANY, CONNEAUT, O., has opened a repair shop in Broad street.

THE PIONEER AUTOMOBILE COMPANY, MAYVILLE, WIS., has been organized by Orville Hurlbert, Frank Bauer and Alvin Butter. The company has established a garage in North Main street and will handle the Dodge car.

H. F. HANSEN, HARTLAND, WIS., will open a garage and repair shop. Laurenz Jensen will be superintendent.

A. H. KERNIAN, MOSINEE, WIS., and Alex Tigges have established an electrical store and general electrical repair shop in the Kanter building.

L. S. KOCHER, CAMBRIDGE, IA., has opened a garage in the Backous building. He operates a general repair shop and will shortly take the agency for some medium priced car.

THE BEALL AUTO COMPANY, CHANNON CITY, IA., is occupying its new garage. The firm is Studebaker and Ford agents.

WILLIAM J. LEE & SON, WASHINGTON, D. C., has been awarded contracts for the construction of a garage in the alley between 14th and U and V streets northwest. It will be of brick and steel and will cost about $15.000.

I. C. UNDLIN & MARTIN HUDSON, MADISON, MINN., has formed a partnership to operate a garage and has purchased the Smagaard business.

SCHILLE & SPIERING, GAYLORD, MINN., has purchased the Mansfield corner and will erect a concrete garage on it.

G. R. KRUEGER & H. E. PETERSON, EAST TROY, WIS., has opened a garage and repair shop.

E. W. WILLIAMS, BENNINGTON, VT., has leased the garage on Worth street. Mr. Williams is proprietor of the Bennington Garage. He will conduct both garages.

WILDHACK COMPANY, INDIANAPOLIS, IND., has leased offices and sales room in Wimm building, 52 West New York street.

PRATT AUTO COMPANY, PRATT, KAN., has leased its repair shop and equipment to Jacobs & Co.

HAHN & KNOX, CLAY CENTER, KAN., has leased a repair shop to Fred Peters.

PARVIN & ROBISON, CARMI, ILL., has leased Leathers' annex, and will maintain an up-to-date machine and repair shop.

LINCOLN VULCANIZING WORKS, EAST LIVERPOOL, O., has opened a repair shop at 438 Walnut street, Arcade building. George J. Mercerer and C. D. Crawford are the proprietors. The company is distributor of Kelly-Springfield and Firestone tires and tubes.

A. K. McLUNEY, UTICA, N. Y., has established Studebaker headquarters at his service station, but a short distance from his show rooms. He was formerly of Detroit.

W. E. BULLARD & FRED BULLARD, NEILLSVILLE, WIS., has established an electrical supply and service store and will conduct a tire selling and repair department. The shop is equipped with steam vulcanizing machinery.

LESTER LANPHERE, GLENVILLE, NEB., has opened a garage business.

THE PARK MOTOR COMPANY, LA CROSSE, WIS., has opened a garage and repair shop in the old Y. M. C. A. building on King street. It has taken the agency for the Sphinx, Allen and Enger cars.

THE BALTIMORE MOTOR CAR SUPPLY COMPANY, BALTIMORE, MD., has opened a new shop for the sale of motor supplies at 709 North Howard street. Edward Schaun is head of the new company.

J. L. RAVENSCROFT, DENNISON, O., has leased salesroom space of the City Auto Company. He is local agent for the Maxwell cars.

THE RICE LAKE AUTO COMPANY, RICE LAKE, WIS., has opened a garage in this district.

H. E. RESTER, BOGALUSA, LA., has purchased two lots on Austin street and will erect a show room and repair shop. He is agent for Ford automobiles.

THE H. A. PRICE RUBBER COMPANY, AKRON, O., has opened a tire and general rubber supply store at 84 East Market street. Kelly-Springfield and Diamond tires are carried.

JOHN R. DEWITT, COLORADO SPRINGS, COL., has opened a shop for repairing automobiles in a building in the rear of the Gazette office.

THE JEFFERSONVILLE MOTOR COMPANY, JEFFERSONVILLE, O., has completed a new brick garage.

RECENT TRANSFERS.

R. F. LILLEY, FREEPORT, ILL., has purchased the interest of his partner in the Auto Electric Company. He will make improvements.

KARL SHARP, MAUSTON, WIS., has disposed of a half interest in his garage to Fred Denicke and the firm hereafter will be known as Sharp & Denicke. A garage 65 by 92 feet will be erected at LaCrosse and Division streets. It will be of fireproof construction.

E. M. VAN SANT, GLENWOOD, IA., has purchased an interest in the Schaaf Bros., garage. The firm will be known hereafter as Schaaf & Van Sant.

C. A. MURRAY, TOMAH, WIS., and R. S. Murray, have purchased the business and property of the Tomah Iron Works and Garage. The new company will make extensive improvements. The mechanical department will be in charge of George Cousine, who was formerly with the Totten Motor Company, Rock Island, Ill.

H. S. THOMASSON, NORTH INN, MINN., has purchased the H. G. Bourquin garage and repair shop in Main street. He will sell automobile and gas engine accessories, oils, transmission grease, gasoline, etc.

PLANK & MORGAN, WORCESTER, MASS., has been dissolved. R. L. Corey having purchased B. Plank's interest. The firm is now to be known as Morgan & Corey. It is located at 830 Main street. The company specializes in magneto and ignition repair work, and is a service station for Bosch and Splitdorf magneto work.

DAUGHERTY & MARSH, NEODESHA, KAN., has sold its garage at Eighth and Main streets to F. M. Warner and C. E. Rice, who have taken possession.

HOWARD FISHER, LEAVENWORTH, KAN., has sold the Central Garage on Shawnee street. He had been in the automobile business for six years.

LEON HERPICK, UNION CITY, PENN., has purchased a half interest in the Star Garage. He will make many improvements.

CLIFFORD SMITH, FORT ATKINSON, WIS., has disposed of a half interest in his garage to Claire Roberts. The company will erect a garage of fireproof construction and will conduct a repair shop.

THE JACKSONVILLE AUTOMOBILE COMPANY, JACKSONVILLE, ILL., was purchased recently by S. W. Braner and A. H. Jensen.

THE CITY GARAGE, CASHTON, WIS., has been purchased by John L. Rudolph, who formerly conducted a garage at Courtney, N. D.

WILLIAM WOOSTER, NEW YORK CITY, has purchased the stock of accessories of the Mutual Automobile Accessories Company. He is located at 1657 Broadway.

A. B. CHENEY, AUGUSTA, GA., has purchased a half interest in the Augusta Vulcanizing Company. He was formerly with the Elmore Automobile Company. A full stock of accessories will be added to the present line.

O. H. BOYLAN, KALAMAZOO, MICH., has purchased the interest of George E. Bayle, the former Studebaker dealer of that city, and will establish a service plant. He was formerly secretary and treasurer of the Kalamazoo Implement Company.

W. L. COOK, FALLS CITY, NEB., has purchased the King Garage in 17th street.

HERMAN PAUSEGRAU, ABERDEEN, S. D., has purchased a half interest in the Maxwell agency from F. A. Craft.

OLSON & JACOBS, NEWMAN GROVE, NEB., has dissolved partnership, Mr. Jacobs retiring. The company operates a garage.

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SHERRELL & TOWLE, CALLAWAY, NEB., has dissolved partnership, Mr. Towle withdrawing from the business.

THE UNIVERSITY GARAGE, MADISON, WIS., has been purchased by Orren Smart and E. H. Phillipps. They are well known to the trade.

CLARENCE BROCKELSBY, SCHUYLER, NEB., is now sole proprietor of the Richland garage, having bought the interest of his partner, George Smith.

THE STAR IMPLEMENT COMPANY, FARGO, N. D., is succeeded by the Smith Auto Company.

CHARLES FARRA, DEPEW, OKLA., has sold the Depew garage to Bennett Bros.

DIMLER & LAUBACH, NORTHAMPTON, PENN., has dissolved. Charles Dimler having purchased his partner's interest. He will operate the business.

BROWN & GARTHWAITE, BLOOMINGTON, WIS., operating a garage, has dissolved partnership.

OAKLAND MOTOR COMPANY, CLEVELAND, 1901 Euclid avenue, has been succeeded by the Adams-Oakland Company, the Cleveland and Pittsburg branches having been transferred to that company. H. M. Adams is manager. This new company will cover all of Ohio and Pennsylvania.

FOILES E. LEROY, DE KALB, ILL., has sold his business to Courtney & Churchill.

THE MACK GARAGE, LIMA, O., has a new operating company, S. R. Buchanan having sold his interest to Charles Durbin. The business will continue under the same name.

MOORE & MUNGER'S BODY BUILDING PLANT, 602 West 52nd street, New York City, has been bought by the Universal Painting Company, which will continue the body building work and will also do general repairing and painting.

THE KING GARAGE, FALLS CITY, NEB., has been sold to W. L. Cook, who will continue it under the name of the W. L. Cook Garage.

STEPHENSON & HEACOCK, SEBRING, O., has been bought by E. L. Stanley & Son, who will continue business under the name of Sebring Auto Company. An addition 50 by 70 feet will be erected. Apperson and Allen cars are handled and a general repair shop is operated.

GUTHER GARAGE, TOMAH, WIS., has been bought by C. A. Murray & Son.

W. W. WELCH, CLARINDA, IA., has sold his business to John McMichael.

ROY DUNCAN, HANANA, ILL., Market street, has sold his business to Andy Sauers of Kilbourne.

THE EAST SIDE GARAGE, VIRGINIA, ILL., which was conducted by Creed & Hughett, is now the business of Mr. Creed, John Hughett having retired from the firm.

THE W. C. DUNCAN GARAGE, WAYNE, NEB., has been sold to Frank Sederstrom.

F. E. SMITH, SIOUX FALLS, S. D., has sold his business to W. W. Clements and P. V. Horr, who will continue it under the name of Sioux Falls Buick Company.

FIVE POINTS AUTO SUPPLY COMPANY, PHOENIX, ARIZ., is in new hands. The half interest of A. F. Henderson having been bought by E. V. Brown.

THE OHIO SALES COMPANY, NEW PHILADELPHIA, O., has been sold to J. C. Olson.

THE WILLIS GARAGE, LYONS, GA., has been dissolved. H. C. Willis continuing it under the name of the Willis Garage, and J. E. Thompson has engaged in business under his own name in Visalia, Ga.

A. A. AHLMAN, LOUISVILLE, KY., has sold his garage business to E. F. Steinhaus.

MACKEMER & PINKERTON, PEORIA, ILL., has been succeeded by the Pinkerton Motor Company.

REED & ST. HILARE, MANCHESTER, N. H., has sold its business to Reed Brothers, who will deal in rebuilt and used cars and operate a repair shop.

THE HILLSBORO AUTO COMPANY, HILLSBORO, IA., which was conducted by Hixon & Huddleston, has dissolved and S. M. Huddleston will continue the business.

SIOUX RAPIDS COMPANY, SIOUX RAPIDS, IA., has been bought by Sawyer & Johnson.

J. G. WEHN, BRIDGEPORT, NEB., has sold his business to M. E. Clark & Son.

SCHULTZ & HARDER, COLUMBUS, WIS., has dissolved partnership. The business will be conducted by Mr. Schultz.

J. A. PETTY, MT. VERNON, IA., has sold his business to Frank J. Holubar.

SHURGAS INJECTOR COMPANY, DETROIT, has been bought by the Pontiac Motor Castings Company of Pontiac, which will manufacture castings in Pontiac in the future.

BAKER & DON CARLOS, LIBERTY, MO., has bought the interest of the Baker Brothers Garage. The business will be conducted under the name of Baker & Don Carlos.

JAMES A. WILEY & SON, SEYMOUR, IND., Third street, has been sold to W. C. Bevins and Fred Everback, who will continue the business under the name of Bevins & Everback Auto Company.

THE AUTO EQUIPMENT COMPANY, CLARK'S SUMMIT, PENN., is now conducted by E. L. Ferris. L. C. Radle has withdrawn from the firm on account of other business interests.

CARLSON BROTHERS, LOOMIS, NEB., has been bought by F. K. Thorell, who will continue under the name of the Loomis Garage.

DAVLSON AUTO COMPANY, BURLINGTON, IA., has been purchased by Letts & Cooper, who will operate it under the firm name of Letts & Cooper.

RUMNEY & SMITH, CASCADE, MONT., has been succeeded by R. G. Rumney.

SIPPLE BROTHERS, HASTINGS, NEB., has bought the Cramer Jacobson Motor Car Company.

ELM GROVE MOTOR SALES COMPANY, ELM GROVE, W. VA., is now in partnership, a half interest having been purchased by Howard Atkinson. The company will continue the sales and repair business.

GRINNELL MOTOR CAR COMPANY, MONTEZUMA, IA., is a partnership, an interest having been bought by G. E. Binegar.

EMILA & ART LARSON, TABOLA, IA., has bought the machinery and inside fixtures of the Sidney Garage and leased the building from S. A. Godfrey. The firm has the agency for Ford cars.

HENRY WETTESTAD, ST. JAMES, MINN., has bought a half interest in the St. James Garage, which has been owned and operated by Frank Appel.

O. M. ARTHUR, LANSING, MICH., has purchased the garage owned by Stenger & DeYoung. It will be known as the Perry Auto Company.

HARRY M. BOWLUS & VICTOR EISENHOUR, TOLEDO, O., have engaged in business at 1015 Jefferson avenue, to do automobile work. Later they intend to add a line of tires and other sundries.

R. L. BALDWIN, COLUMBIA, MO., has purchased a half interest in the garage of W. S. Roberts at 1105 Broadway.

CHARLES E. THOMAS, MEMPHIS, MO., has bought the interest of his partner, Luther Jackson, in the East Side Garage, and will continue the business alone.

G. H. MARTIN, LENOX, IA., has purchased the Lenox Garage and will fully equip it for all kinds of automobile work.

MARK FELTIS, CAMERON, MO., has bought the Kingston Garage, including the building of Fred Heiser, and is continuing an automobile business in the same place.

SMITH BROOKS, CLARINDA, IA., has purchased a garage at New Market and will move to that place from East River township.

BEN COLE, INDIANOLA, IA., has sold his interest in the Igo-Cole Garage.

ROY DESSO, RED WING, MINN., has purchased a partnership in the garage adjoining the city hall, and the new firm of Dessor & Johnson is now doing business.

JOHN SORENSEN, ST. PAUL, NEB., has disposed of his garage and automobile business to Grant Chinn and William Clark, who are continuing it under the firm name of Chinn & Clark. They have the agency for the Mitchell and Saxon cars.

J. A. STRIMPLE, JANESVILLE, WIS., has purchased the entire stock of the Janesville Motor Company. He will continue his old garage in Milwaukee street, as well as the Main street garage.

MARTIN & HODGKIN, WINCHESTER, KY., has sold its garage in North Main street to J. S. Lowry.

R. H. BRITT, SPRINGFIELD, MASS., has bought control of the business of the Springfield Auto Top and Upholstering Company. He has recently returned from New Mexico. Mr. Britt will devote his entire time to the business, which will be broadened to include other automobile lines.

AGENCIES AND DEALERS.

THE ADVANCE SALES COMPANY, DETROIT, which recently opened an automobile salesroom at 864 Woodward avenue, now carries a complete line of accessories.

JOHN R. GRAHAM, SYRACUSE, N. Y., will establish a retail jobbing and supply house at 425 Clinton street. He will specialize in tires, tubes and starting and lighting systems.

THE KANSAS CITY AUTO PARTS COMPANY, KANSAS CITY, MO., has been organized by G. V. Nelson, who was formerly connected with the Auto Parts Company of Chicago. The new company is located at 1827 McGee street.

N. G. MANLEY, WORCESTER, MASS., has opened salesrooms at 711 Main street, where he will handle the Metz car.

THE REPUBLIC TIRE AGENCY, LITTLE ROCK, ARK., now represents the Republic Rubber Company in that territory. J. T. Holland is manager.

RILEY & SEIDL, MENOMINEE, WIS., is a new company located in the Masonic building. The company carries a complete line of supplies, accessories, buggies and spring wagons. Studebaker and Maxwell cars are represented.

I. N. SIMPSON, MILWAUKEE, WIS., has established a store and service station at 290-292 Fifth street. He also handles the Dayton Airless tires.

SPITZER & HEALEY, SCRANTON, PENN., has opened salesrooms for Inter-State cars.

THE MONTANA AUTO AND GARAGE COMPANY, BUTTE, MONT., has contracted for the agency of the Gray & Davis lighting and starting system for all of western Montana. A. L. Stapleton is manager.

THE AUTO CLEARING HOUSE, SEATTLE, WASH., is a new concern which will engage in buying and selling used cars. W. B. LaMay, formerly connected with the Anderson Electric Car Company, will be manager. The company is located at 1708 Broadway.

THE MAIN AUTO COMPANY, APPLETON, WIS., is a new concern established at 785 Market street. In addition to handling Case cars the firm also has the agency for farm implements manufactured by the J. I. Case Threshing Machine Company of Racine. It was organized by A. G. Main.

THE STANDARD AUTO SALES COMPANY, DERBY, PENN., a new retail concern, has the agencies for the Hupmobile and Dodge cars. A garage will be erected in Fourth avenue.

HEATH & CARPENTER, INC., DETROIT, has engaged in an accessory business at 208 Jefferson avenue. The company handles Witherbee batteries, Newton horns and a full line of Firestone tires.

THE ELYRIA TIRE AND RUBBER COMPANY, ELYRIA, O., has selected a site for a factory. The incorporators of the concern have been connected with the Firestone company of Akron, O., and have had long experience in building and marketing tires. About $50,000 will be spent in installing machinery in the new plant.

THE ST. PAUL HUPMOBILE COMPANY, ST. PAUL, MINN., has opened a service station exclusively for the Hupmobile at Fifth and Market streets. The manager is H. C. Blum, who was connected with the Hupmobile agency in Chicago.

THE AUTO ACCESSORY COMPANY, COLUMBUS, O., has opened an automobile accessory supply house at 651 North High street.

THE REX TIRE AND RUBBER COMPANY, PHILADELPHIA, has opened salesrooms at 304-306 North 15th street, under the supervision of I. B. Humphreys.

THE OMAHA LEXINGTON COMPANY, OMAHA, NEB., has recently organized to handle Lexington cars. Salesrooms have been secured at 2209 Franam street. C. W. Bruce is manager.

THE COSTELLO-LANG COMPANY, SAN FRANCISCO, CAL., has begun business. It is the Pacific Coast agent for Cross-Grain tubes and Falls tires.

THE BENNETT MOTOR CAR COMPANY, SPRINGFIELD, MASS., has begun business at 99 Liberty street. The company handles the King car for Hampden and Hampshire counties.

THE WEST MICHIGAN MOTOR CAR COMPANY, GRAND RAPIDS, MICH., has taken possession of the Luebeck Garage. The building is being remodelled. Bernard Tafee and A. E. Johnson compose the company.

THE STERNBURG MOTOR COMPANY, WICHITA, KAN., has purchased property at 222 South Lawrence avenue, on which will be built a one-story brick structure. The company was formerly located at 114-116 North St. Francis avenue.

THE MOTOR SALES COMPANY, SELMA, ALA., recently organized, has established salesrooms and a service station for Studebaker cars at 1310 Alabama street.

THE CHAPIN-LABORIE COMPANY, ROCHESTER, N. Y., has been taken over by the Chapin-Owen Company, which will improve the store and will deal in a full line of tires, accessories and supplies.

THE SOUTHERN CALIFORNIA TIRE WORKS, SAN DIEGO, CAL., has taken the agency for Federal tires. J. B. Krontwick and John Monyhan are the owners.

THE IOWA RUBBER COMPANY, PHOENIX, ARIZ., has contracted for the agency for Kelly-Springfield tires, and opened warerooms at 308 North Central street.

THE WHITAKER-KEELEY SALES COMPANY, INDIANAPOLIS, is a new concern located at 425 North Meridian street, which will handle Metz cars.

THE BUNCE-CRANE COMPANY, DETROIT, is a new concern organized by E. M. Bunce and Charles S. Crane, with headquarters at 851 Woodward avenue. The company will handle Enger cars in the State of Michigan.

THE CENTRAL AUTO COMPANY, NORTH YAKIMA, WASH., is a new concern in which W. D. Baker and W. W. Sheane are interested.

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AUGUST LANS, WABASH, MINN., has opened an automobile showroom in the Trottner building.

THE CAPITAL SQUARE AUTO REPAIR COMPANY, COLUMBUS, O., is a new concern established at 24 North Front street. The company makes a specialty of Delco work. It is owned by C. D. McDonald and Walter Schirtzinger.

THE WEBER IMPLEMENT AND AUTOMOBILE COMPANY, ST. LOUIS, MO., has taken over the agency in the St. Louis district for the Disco electric starter for Ford cars.

C. W. HILL, HOUSTON, TEX., has established headquarters at 901 Main street. He has been identified with several automobile houses in that city.

THE CAMERON TIRE AND VULCANIZING COMPANY, CAMERON, MO., has been established by H. L. Knight and Chester Peairs. The company has leased space in the Calder block, which will be fully equipped.

MADISON BROS., NEWBURG, N. Y., has opened a store at 137 Broadway. The company carries a complete line of automobile supplies and accessories.

THE CUTTING & SMITH SALES COMPANY, DETROIT, will handle the Van Sicklen speedometer for the states of Michigan, Ohio and Indiana.

FRED J. BARR, DAVENPORT, IA., is manager of a vulcanizing plant which has been established at 125 East Third street. He is agent for Ajax tires.

HAUGLAND & ROBERTSON, HARLOWTON, MONT., is a new firm organized to handle Dodge cars.

THE BAKER GARAGE AND SUPPLY COMPANY, SAGINAW, MICH., operates a well equipped garage and repair shop, with an electrical department in charge of Albert Smith.

THE BRADENTOWN GARAGE, BRADENTOWN, FLA., has been bought by H. P. Collins, who will continue business under the same name, operating a general garage and repair business and carrying a full line of accessories.

THE HAYNES BRANCH, KANSAS CITY, MO., has been taken over by G. A. Jones, who has been handling Haynes cars in Wichita. He will maintain salesrooms and service stations in both cities.

W. T. KISTLE & SON, LE MARS, IA., has sold its business to J. C. Kilburg and C. Rickabaugh, who will handle Dodge and Haynes cars and do repairing under the name of the Kilburg-Rickabaugh Auto Company.

AMPLEX MOTOR CAR COMPANY, MISHAWAKA, IND., will be continued by Adolph Kamm, Sr., who recently bought the plant and equipment. He will manufacture Amplex cars in limited numbers in addition to manufacturing parts and replacements.

K. W. NORTON & H. H. MACKIRGAN, JACKSONVILLE, FLA., has opened a wholesale and retail automobile supply and accessory house at Main and Ashley streets. In connection with the business a Jones speedometer service station has been established with a complete stock of speedometers and repair parts.

THIBAUT & MAUTZ, MARION, O., has installed in its hardware store a complete line of automobile accessories. It has the agencies for Pullman and Diamond tires.

LOUIS BOOMHOWER, MARSHALL, MICH., has opened a branch office to deal in automobile accessories.

THE SERVICE SALES COMPANY, NORFOLK, VA., has opened a salesroom at 614 Granby street, which will be operated in connection with a service station at 720 and 722 Granby street. The company deals in pleasure and commercial cars, both electric and gasoline.

THE JOHN M. LEAMAN COMPANY, MILWAUKEE, WIS., has taken over the business of the Wold Brothers Company, dealer in automobile lamps, tires and dust covers, and manufacturer of automobile tops, bodies and windshields.

THE WAYNE MOTOR SUPPLY COMPANY, KALAMAZOO, MICH., has been established to deal in a full line of accessories, electrical supplies, three makes of tires and to do tire vulcanizing. Alfred Downs and George E. Foster are in charge of the business.

CHANGE OF NAME.

THE JONES MOTOR COMPANY, PITTSBURG, PENN., is now managed by J. C. F. Jones. The company, which handles the Crescent and Famous Leight cars, was formerly known as the Ohio Motor Sales Company.

ROBERT MANNING, JOLIET, ILL., has remodelled the garage formerly occupied by Erickson Brothers. Mr. Manning will also conduct the garage.

THE SERVICE GEAR AND MACHINE COMPANY, READING, PENN., has bought the stock of gears, shafts and patterns of the service department of the American Die and Tool Company. The new company will have no connection with the American Die and Tool Company.

THE PURITAN MACHINE COMPANY, DETROIT, MICH., has bought all repair parts of Abbott cars, as well as the Deacon Company of Detroit, and the Michigan Parts Company of Kalamazoo, owned by E. F. Gerber.

THE ELECTRIC WELDING PRODUCTS COMPANY, CLEVELAND, has changed its name to the Steel Products Company, which better dennes the business in which the company is engaged. The capital stock has been increased from $250,000 to $1,000,000, and in addition to the main plant just completed, contracts have been let for three additional units, each 125 by 54 feet.

THE CAR-NATION MOTOR CAR COMPANY, DETROIT, MICH., was recently bought by the Car-Nation department of the American Voiturette Company, which will continue to manufacture cars in limited numbers, as well as look after the service requirements of the business. All Keeton repair parts may be procured from the new company.

BERRY HINNANT, WILSON, N. C., has engaged in business in the name of the Hinnant Auto Company. He was formerly of the Hinnant Auto and Cycle Company. Mr. Hinnant has the agency for the Buick and Chalmers cars. A full line of accessories and oils is sold.

THE LONGWELL AUTO AND TRUCK SALES COMPANY, EL PASO, TEX., has changed its name to the El Paso Overland Auto Company.

FRANKLIN NICHOLS MOTORS COMPANY, SPOKANE, WASH., has changed its name to the Franklin Auto Sales Company.

WOLLEAGER SALES COMPANY, MILWAUKEE, WIS., 417-21 Wells street, has changed its name to John G. Wolleager Company. The officers and directors remain the same.

THE WESTERN IRON WORKS, MANITOWOC, WIS., has changed its name to the Grimm Aluminum Castings Company.

THE HINNANT AUTO AND CYCLE COMPANY, WILSON, N. D., has changed its name to the Artman Motor Company. Berry Hinnant and G. B. Artman, the owners, dissolved partnership, Mr. Hinnant selling his interest to P. D. Grady.

THE ADAMS BROTHERS COMPANY, FINDLAY, O., has changed its name to the Adams Truck, Foundry and Machine Company.

THE FLATONIA AUTO COMPANY, FLATONIA, TEX., was recently rented by Snell & Eidelbach, who will do business under their own name. All communications should be addressed to J W. Snell.

THE HANSEN AUTOMOBILE COMPANY, WILMINGTON, DEL., has changed its name to the Moore Automobile Company.

BUFFALO AUTOMOBILE STATION COMPANY, 240 W. Utica street, Buffalo, N. Y., has changed its name to the Babcock Sales Company, Inc. This company is doing a general battery business, building batteries for electric vehicles, ignition and starting batteries for gas cars and also handles repair parts for Babcock electrics. A complete garage for the care of both gas and electric cars is maintained.

THE AUTO AND SALVAGE COMPANY, EAST HARTFORD, CONN., has been taken over by William M. Saunders, Jr., and William A. Konopaska, who will trade under the name of the East Hartford Garage.

MISCELLANEOUS.

THE RIPON AUTO COMPANY, RIPON, WIS., has installed a welding and cutting equipment. J. H. Battell, the proprietor, has enlarged the facilities of his garage and repair shop.

THE CHAMBERSBURG AUTOMOBILE COMPANY, CHAMBERSBURG, PENN., has eliminated its garage and repair shop and is now exclusively engaged in the sale of new and used cars.

THE EDNA CITY GARAGE, EDNA, KAN., agent for Maxwell cars and Firestone tires, recently installed a steam vulcanizing and an acetylene welding plant.

THE CALLANDER-CADILLAC COMPANY, WICHITA, KAN., has expanded by taking the second story of the building it occupies at 238 South Lawrence street.

THE STANDARD RACINE RUBBER COMPANY, MILWAUKEE, WIS., state agent for Racine tires, has one of the largest steam vulcanizing plants in that city. The equipment includes six tanks of 280 gallons capacity each. The company recently occupied new and more commodious quarters in the Oxford building.

CHARLES VAUGHAN, MARSHFIELD, VA., has established a livery and taxicab service.

E. W. NITCHKE, STAPLES, MINN., is conducting an automobile livery business. Pete Kinneberg is interested with him in the project.

THE HENNING & GEASLAND SHEET METAL WORKS, PLATTEVILLE, WIS., has been established and is doing business in the Oettker building.

THE MOTOR SUPPLY COMPANY, SAPULPA, OKLA., recently opened a branch store at 12 North Water street.

THE CENTRAL AUTO AND SUPPLY COMPANY, NORTH YAKIMA, WASH., is now opened for business.

FOREIGN TRADE OPPORTUNITIES.

(Address Bureau of Foreign and Domestic Commerce, Washington, D. C., Giving Number, Which Will Forward Correspondence, Unless Otherwise Stated.)

Automobiles, No. 15,918—An American consul in Denmark reports that a firm in his district wishes to represent American manufacturers of automobiles. Correspondence may be in English.

Automobiles and Accessories and Men's Furnishings, No. 15,935—The commercial agent of the Bureau of Foreign and Domestic Commerce at New York City reports that a South American commission merchant, who is now in New York City, desires to secure agencies from reliable manufacturers for the sale of the following lines in South America: Shirts, collars, cuffs, leather belts, men's socks and underwear, knitted neckwear; men's, women's and children's shoes; and automobiles and accessories. It is stated that all orders will be paid for in New York City.

Automobile Parts and Accessories and Aniline Dyes, No. 16,001—The commercial agent of the Bureau of Foreign and Domestic Commerce in New York City reports that the representative of a foreign automobile company is in this country and desires to make purchases of automobile parts and accessories. He is also anxious to place a large order for aniline dyes. Interested American firms should get into communication with this man at once.

Automobile Trucks, No. 16,011—An American consular officer in Central America reports an opportunity to sell automobile trucks.

Lumber, Small Automobiles and Motor Trucks, No. 16,022—An American consul in southern Europe reports that a firm in his district is desirous of receiving catalogues, price lists, etc., on small automobiles, motor trucks and lumber. Bank reference is given.

Automobiles, No. 16,161—An American consular officer is in receipt of a request from a business man in England stating that he wishes to be put in touch with American manufacturers of a small automobile which may be sold for about $1000, together with electric light and starting equipment. Reference is given.

Typewriters, Automobiles, Etc., No. 16,368—An American consular officer in Italy reports that a business man in his district desires to enter into commercial relations with American manufacturers of typewriters, kerosene engines, from one to 10 horsepower, for industrial use, low and medium priced automobiles and codfish. Catalogues, prices, etc., should be sent at once. Correspondence may be in English.

Automobiles, No. 16,371—A firm in South America informs an American consular officer that it desires to correspond with American manufacturers of light automobiles. Catalogues, specifications, etc., with prices f. o. b steamer New York, should be sent at once.

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AGENCIES APPOINTED DURING THE MONTH.

Arranged alphabetically, according to state, city, make of car and agency. *Indicates commercial vehicle; †electric; ‡light car.—Add to and Correct Your Mailing List.

ALABAMA.

Birmingham—*Denby, T. E. Morris, Jr.

ARKANSAS.

Bentonville—Metz, H. S. Hess.

CALIFORNIA.

Glendale—Oldsmobile, E. Bennett, Jr.
Isleton—Oldsmobile, Netherland Garage.
Los Angeles—Moline-Knight, Moline Automobile Co.
Oxnard—KisselKar, J. L. Milligan.
Rialto—Moon, Ben Buxton.
Sacramento—*Mack, J. D. Lauppe.
*Republic, J. D. Lauppe.
San Francisco—King, Reliance Automobile Co.
San Luis Obispo—Oldsmobile, California Garage.
San Pedro—Moon, E. Amar.

COLORADO.

Berthoud—Grant, Berthoud Garage Co.
Coldale—Chevrolet, Phillip & Perry.
Monroe, Phillip & Perry.
Colorado Springs—Pilot, W. W. Price.
Denver—Dort, J. S. Morrison Auto Co.
Hercules, South Denver Garage Co.
King, Mid West Auto Sales Co.
Pilot, Elmore Auto Co.
Saxon, Colorado Motor Car Co.
Fort Collins—Chevrolet, Ben Mosman.
Monroe, Ben Mosman.
Greeley—Hupmobile, Schoonmaker & Lee Bros. Hardware Co.
Montrose—Pilot, John Hodges.
Pueblo—Pilot, E. I. Crockett.
Trinidad—Moline-Knight, D. H. Gottlieb.

CONNECTICUT.

Bridgeport—Saxon, Home Garage.
Danbury—King, A. C. Penny.
Derby—King, W. C. Gilbert.
Hartford—Pilot, J. J. Molloy.
New Haven—King, W. R. Moore.
Saxon, French & Farr.
*Denby, J. McLay.
Shelton—Pilot, H. L. Stiphen.

DISTRICT OF COLUMBIA.

Washington—Oldsmobile, Pollock Car Corp.

FLORIDA.

Miami—Saxon, J. K. Dorn.
*Denby, L. A. Jones Garage.
Tampa—Westcott, Westcott Motor Sales Co.

GEORGIA.

Atlanta—Chevrolet, Johnson Motor Co.
Monroe, Johnson Motor Co.
*Signal, Signal Truck Co.
Augusta—*Koehler, Speth Garage & Sales Co.
Savannah—*Koehler, J. C. Lamb Auto Repair Co.

IDAHO.

Blackfoot—King, E. & G. Bills Auto Co.
Twin Falls—Moon, Smith & Spafford.

ILLINOIS.

Aurora—Moline-Knight, Sprinkel & Bromley.
Pilot, E. J. Ellis.
Belleville—Moon, G. W. Sahlender.
Belvidere—KisselKar, D. P. Greenlee.
Bushnell—Moline-Knight, S. H. Robinson.
Cambridge—Moline-Knight, P. A. Johnson.
Champaign—Westcott, J. L. Weise.
Chicago—Chevrolet, Chevrolet Motor Co. of Illinois.
*Signal, Siegmund-Baylies Truck Co.
Crete—Chandler, W. Siegelbruch.
DeKalb—Haynes, Sawyer & Sons.
Saxon, Sawyer & Sons.
Effingham—Saxon, Curry Motor Car Co.
Farmington—Moline-Knight, C. A. Negley.
Ferreston—Moline-Knight, Abels & Korf.
Freeport—Franklin, D. E. Sunderland.
Inter-State, Mauerer Bros.
Moline-Knight, G. W. Brokhausen Automobile Co.
Saxon, Freeport Motor Mart.
Galena—Moline-Knight, K. V. Johnson.
Harvard—Chandler, Marshall Bros.
Hillsdale—Moline-Knight, J. F. Butzer & Son.
Joliet—Moline-Knight, Long Bros.
Lacon—Chandler, Peter Petri.
La Harpe—Pilot, B. N. Byler.
LaSalle—Dort, J. E. McCabe.
London—Moline-Knight, White Latiurette & Sampson.
Macomb—Chandler, W. S. Jones.
Murphysboro—Pilot, George E Crain.
Milledgeville—Dort, E. C. Miller.
Moline—Moline-Knight, Moline Automobile Co.
Morton—Moline-Knight, H. F. Zelle.
New Boston—Moline-Knight, D. S. Prentiss.
Peoria—Inter-State, Rudolph Isch.
Moline-Knight, J. E. Whitten.
Ransom—Moline-Knight, Richards & Weber.
Rock Island—Moline-Knight, Sauermann Motor Co.
Saxon, John Dee.
St. Jacobs—Interstate, Jacob Fehmel.
Springfield—Moline-Knight, Seider & Keener.
Tuscola—Pilot, Frank Wilson.
Wyoming—Moline-Knight, Sol. Wilkinson.

INDIANA.

Booneville—Buick, W. P. Zint.
Carthage—Chandler, S. L. Newson.
Saxon, S. L. Newson.
Columbus—*Koehler, Williams Garage.
Connersville—*Koehler, George R. Beeson.
Corydon—Studebaker, J. W. Grable.
Crow Point—Chandler, H. Bloede.
Dunkirk—Inter-State, W. L. Skinner.
Elkart—Chevrolet, W. H. Keeth, Jr.
Evansville—Buick, Protsman & O'Neal.
Chevrolet, Fuchs & Angermier.
Fort Wayne—Oakland, Shyrock Auto Co.
Oldsmobile, Shyrock Auto Co.
White, Shyrock Auto Co.
†Detroit, Shyrock Auto Co
Green Field—*Koehler, Coffey & Irwin.
Hartford City—Oldsmobile, A. W. Tindall.
Huntington—Pilot, D. E. Lauferty.
Indianapolis—Inter-State, Kanouse Auto Co.
Jeffersonville—Mitchell, G. W. Patton.
La Porte—Maxwell, Coliseum Garage.
Logansport—Pilot, J. I. Barnes.
Marion—Chevrolet, J. V. Shugart.
Monon—Pilot, H. B. Tull.
North Vernon—Pilot, Litchfield Bros.
Princeton—Saxon, A. A. Seinhart & Son.
Richmond—Saxon, Irwin Reed & Son.
Salem—Mitchell, G. W. Patton.
Seymour—Oldsmobile, Herman Chambers.
Terre Haute—Oldsmobile, Miller & Stein.
Saxon, M. A. Steele.
Tifton—Pilot, F. U. Campbell.
Vevay—Buick, Con & Mahan.
Vincennes—Franklin, D. D. Aldrich.
Pilot, J. C. Hellert.

IOWA.

Adel—Moon, Alkire Auto Co.
Avoca—Moline-Knight, William Pratt.
Bodurant—Moon, Bodurant Garage.
Carroll—Cartercar, Carroll Motor Co.
Enger, Carroll Motor Co.
Cedar Rapids—Chandler, S. E. Hoagian.
Moline-Knight, J. A. Wicke.
Cherokee—Moline-Knight, Lamont Bros.
Clarinda—Metz, J. P. Brown.
Clinton—Moline-Knight, Model Auto Co.
Columbus City—Chandler, Columbus City Auto Co.
Council Bluffs—Enger, Francis-Cullis Auto Co.
Westcott, L. P. Madsen.
Decorah—Moon, Kyome & Lynne.
Des Moines—Chevrolet, Oldfield Motor Car Co.
Inter-State, Iowa Motor Sales Co.
Monroe, Oldfield Motor Car Co.
Durant—Moline-Knight, A. F. Schiele.
Dysart—Moline-Knight, Dysart Motor Sales Co.
Fort Dodge—Dort, Hansen & Tyler Auto Co.
King, Tremain & Rankin.
Fort Madison—Chandler, A. W. Sallender.
Hull—KisselKar, Spencer Investment Co.
Iowa Falls—Moon, Babcock Auto Co.
Kalona—Moline-Knight, Louck & Boehme.
Keosauqua—Moon, E. W. Peacock.
Leon—Metz, C. Snyder.
Manning—Moline-Knight, Herman Gotch.
Mason City—Dort, Synder & McCall.
Modale—KisselKar, Leavitt & Reiley.
Metz, Southside Garage.
Sioux City—Grant, J. W. Ohlman.
Tampa—Dort, Grau & McKeen Co.
Moline-Knight, Grau & McKeen Co.
Tifton—Chandler, H. C. Monahan.
Moline-Knight, Barclay & Smith.
Van Horn—Moline-Knight, E. J. Woltersdorf.
Villisca—Haynes, H. C. Evans.
Washington—Pilot, John E. Griffith.
Waterloo—Dort, Burd Auto & Supply Co.
Moline-Knight, Charles Bixler.
Wellsburg—Moon, D. J. Riekna.

KANSAS.

Concordia—Oldsmobile, H. L. Austin.
Ford—Oldsmobile, D. C. Cook.
Garden Plain—Case, Wulf Bros.
Holyrood—Moon, G. L. Baker.
Sylvia—King, McPherson Auto & Sup. Co.
Wichita—King, King Motor Sales Co.

KENTUCKY.

Barbourville—Buick, A. D. Smith.
Campellsellsville—Hudson, Buchanan-Lyons Co.
Danville—Buick, Elmer Day.
Dawson Springs—Hudson, T. E. Lutz.
Dixon—Hudson, R. L. Jackson.
Duckers Station—Pilot, J. D. Smith.
Elizabethtown—Studebaker, A. H. Douglas.
Frankfort—Hudson, Frankfort Motor Car Co.
Fulton—Buick, J. E. Browder.
Glasgow—Buick, Bradford Bros.
Studebaker, Glasgow Motor Car Co.
Kevil—Buick, Viles & Halley.
Lawrenceburg—Buick, Strange, Hawkins & Witherspoon.
Hudson, Varnsdale-Cole-Marrs Veh. Co.
Lebanon—Buick, W. B. Samuels.
Hudson, Lewis & Drye.
Studebaker, T. M. Estes
*Koehler, Lewis & Drye.
Louisville—Argo, Argo Motor Agency.
Chandler, Louisville Motor Co.
King, Van Patton Motor Car Co
*Service, J. Webers Sons.
*Vim, P. M. Androit & Sons.
Middleboro—Buick, Brashear & Brummett.
Mitton—Buick, D. T. Volers.
Morganfield—Buick, H. C. Davis.
Mt. Sterling—Buick, Stone & Flora.
Owensboro—Buick, Barnes Auto Co.
Hudson, Central Motors Co.
Paducah—Buick, Kentucky Auto Mch. Co.
Shelbyville—Buick, Turner Wilkinson.
Oldsmobile, S. Hopkins.
Studebaker, E. R. Wilson.
Somerset—Buick, Dr. J. M. Owens.
Springfield—Studebaker, McClure & Maya.
Sturgis—Buick, J. O. McCauley.
Williamstown—Buick, Williamstown Motor Car Co.
Winchester—Buick, Winchester Gar. Co.

LOUISIANA.

New Orleans—King, Canal Auto Co.
Oakland, Canal Auto Co.
Shreveport—King, Louisiana Gar. Co.

MAINE.

Caribou—Pilot, Pitche & Briggs.
Portland—Scripps-Booth, Franklin Motor Car Co.
Washburn—Saxon, Ragley & Cheney.

MARYLAND.

Baltimore—*Koehler, L. M. Vordenberge.
Cumberland—King, Motor Car Sales Co.
Frederick—Cadillac, Ideal Garage.

MASSACHUSETTS.

Beverly—*Denby, E. F. Sullivan.
*Koehler, John W. Elliott.
Boston—Inter State, Charles Motor Co.
Moline-Knight, Harrison Turner.
Pilot, Johnson-Hayes Co.
*Koehler, Adalian Bros.
*Rowe, E. F. Bunker.
Falmouth—*Koehler, Crocker Garage.
Haverhill—Moline-Knight, Benton Motor Car Co.
Littleton Common—Pilot, Thomas Moore.
New Bedford—Saxon, S. T. Lee.
Pittsfield—Ford, F. A. Minkler.
Saxon, Henrick & Johnson.
Somerville—Pilot, E. O. Hayes.
Springfield—Reo, Reo Springfield Co.
Waltham—Metz, Metz Automobile Co.
Worcester—*Dart, Madert Sales Co.

MICHIGAN.

Blissfield—Dort, Hass & Hill.
Cadillac—Chandler, Michigan Motor Sales Co.
Cedar Springs—Chandler, J. A. Skinner.
Clare—Chevrolet, J. T. Brown & Son.
Coldwater—King, John Stahlnecker.
Crosswell—Saxon, Fred A. Moore.
Davison—Dort, Downer & Fairchild.
Detroit—Chandler, Gordon Auto Sales Co.
Detroiter, Standard Auto Co.
Ross, McKenny-Devlin Co.
Scripps-Booth, Standard Auto Co.
*Denby, Transportation Engineering Co.
Evart—Dort, Sanberg & Allison.
Fenton—Dort, J. H. Cox.
Flint—Chevrolet, Flint Pattern Fdy. Co.
Grand Rapids—Grant, Glenn W. Downes.
Greenville—Maxwell, Hansen & Lyman.
Houghton—Pilot, Edward Mill.
Jackson—King, Brady & Sons.
Kalkaska—Chandler, A. B. Cornell.
Lennon—Dort, W. L. Cozadd & Co.
Manistee—Chandler, W. H. Kinsley.
Chevrolet, National Gar. & Sales Co.
Marcellus—Dort, King & Goodee.
Milford—Chevrolet, T. H. Padley.
North Star—Dort, F. N. Selby.
Ovid—Saxon, A. Squier.
Pittsfield—Saxon, Herrick & Jackson.
Portland—Dort, Barton Bros.
Redford—Dort, H. A. and G. A. Miller.
Saginaw—Grant, S. D. Bolton, 224 N. Franklin St.
Stockbridge—Dodge, W. Ostrander and C. Glenn.
Washington—Chevrolet, Wright & Haughton.
Williamston—Dort, G. W. Akers.

MINNESOTA.

Duluth—Chandler, Duluth Imp. Co.
Elbow Lake—Dodge, J. O. Smith.
Fairbault—Chandler, Central Auto Co.
Janesville—Chandler, W. W. Savage.
Minneapolis—Auburn, F. R. Corcoran, 517 2nd Ave.
Chevrolet, Minnesota Motor Car Co.
Dort, La Crosse Implement Co.
*Flint, La Crosse Implement Co.
Imperial, La Crosse Implement Co.
Inter-State, Tri-State Automobile Co.
New Germany—Chandler, New Germany Auto Co.
Stillwater—Oldsmobile, L. C. Kriesel.

MISSOURI.

Carthage—King, C. T. Hall.
Kansas City—Chevrolet, W. S. Hathaway Motor Co.
Inter-State, Western Motor Co.
King, Karshner Motor Car Co.

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Regal, Myers-Ebersole Motors Co.
†Milburn, Electric Car Sales Co.
Lexington—Moon, E. F. Cox.
Moberly—King, King Motor Sales Co.
Nevada—Pilot, W. F. Norman.
Springfield—Chevrolet, Yandell Motor Co.
St. Louis—Inter-State, Donovan Automobile Co.
*Signal, Best Service Truck Co.
*U. S., Auto Exchange.
*Wilcox, Sullivan Mfg. Co.
†Argo, Weber Imp. & Auto Co.

MONTANA.

Billings—King, C. E. Lyons.
Bozeman—King, Story Motor Sales Co.
Hamilton—King, Regal Clothing Co.

NEBRASKA.

Albian—Haynes, J. H. Moore.
Alliance—Haynes, H. J. Ellis.
Ashland—Metz, W. A. Fowler.
Bancroft—Metz, H. J. Munderloh.
Bartley—Grant, Leon A. Russell.
Beatrice—Moon, Kline Mercantile Co.
*Koehler, J. L. Schick.
Callaway—Metz, Henry Ridder.
Cherokee—KisselKar, S. Swanson.
David City—Grant, E. D. Cuckler.
Fremont—Grant, Zapp Auto Co.
Grand Island—Grant, J. P. Dugan.
Hastings—Grant, Stephen Schultz.
Haynes, W. J. Swanson.
Holdiege—Grant, Lyle & Young.
Humphrey—Grant, H. J. Bruenig.
Lincoln—Grant, P. W. Rathbun.
Louisville—Cartercar, R. A. Stauder.
Merna—Cartercar, Charles Hipsley.
Norfolk—Auburn, Paswalk Co.
Metz, Wilson Bull Tractor Co.
North Platte—Chandler, J. E. Davis Auto Co.
Omaha—Chandler, R. E. Davis.
King, Lininger Imp. Co.
Moline-Knight, Moline Auto Co.
Ord—Grant, Frank Beran.
Osceola—Grant, Charles E. Hansen.
Palmer—Haynes, John Kruse.
Paxton—Cartercar, F. L. Bent.
Metz, F. L. Bent.
Plymouth—Metz, A. W. Welchel.
Polk—Grant, R. H. Fhesing.
Prague—Grant, John Pablan.
Ravenna—Grant, Roy Harrington.
Raymond—Ford, F. D. Clymer.
Rulo—Metz, Ben Buxton.
Seward—Metz, H. A. Hershberger.
Stamford—Grant, David Elder.
South Omaha—*Koehler, Holmes, Adkin & Co.
Stanton—Grant, G. Lund.
Moline-Knight, J. R. Stucker.
Swedeburg—Grant, A. J. Olson.
Trenton—Grant, A. H. French.

NEVADA.

Reno—Pilot, Charles P. Burns.

NEW HAMPSHIRE.

Manchester—Stutz, Eugene Reed.
Nashua—Pilot, F. A. Littlefield.
Newport—Ford, Kidder Garage Co.

NEW JERSEY.

Bell Mead—Saxon, R. I. Cruser.
Blairstrom—Saxon, Messler & Smith.
Califon—Saxon, Lyons & Hoffman.
Collingswood—Pilot, John T. Monaghan.
Dover—Saxon, James Gardner & Son.
High Bridge—King, G. A. Cramer.
Jamesburg—*Koehler, Joseph Nodocker & Bro.
Jersey City—King, W. H. Dykeman.
Millville—Inter-State, Lewis Steelman.
Morristown—Saxon, W. H. Dutton & Co.
*Koehler, McElwee & Marshall.
Newark—King, Stutz Motor Car Co., Inc.
Newton—*Koehler, William Iliff.
Paterson—*Koehler, G. and A. Bell.
Perth Amboy—King, Perth Amboy Hdw. Co.
Plainfield—Saxon, Stryker Motor Car Co.
Red Bank—*Koehler, Edward Von Kattengell.
Trenton—King, J. R. McCardell & Co.
Westcreek—KisselKar, Benjamin S. Cox.
Westfield—King, Abrams & Shield.

NEW MEXICO.

Roswell—King, H. T. Bailey Auto Co.
Santa Fe—Pilot, Nathan Salmon.

NEW YORK.

Auburn—Reo, Auburn Reo Sales Co.
Avon—KisselKar, H. E. Longfellow.
Bay Port—Saxon, Bay Port Garage.
Binghamton—Grant, S. H. Lewis.
Brooklyn—Pilot, J. S. Frazee.
Buffalo—Inter-State, Peppenberg Motor Car Co.
Westcott, Simcott Motor Sales Co.
Canajoharie—Pilot, W. J. Roser.
Catskill—Saxon, Amost Post Garage.
Dobbs Ferry—Pilot, P. J. Carpenter, Jr.
Elmira—King, Frisbee Bros.
Elmont—King, Hoeffner's Garage.
Far Rockaway—Dort, J. M. J. Garage, Inc.
Ferndale—Pilot, M. M. Schulz.
Flushing—King, J. H. Seager.
Glens Falls—Moon, D. J. Finn.
Hamburg—*Denby, D. W. Broadbeck.
Ithaca—Reo, A. H. Boyce Co.
Katohah—King, Dickinson's Garage.
La Grangeville—Pilot, William J. Northrup, Jr.
Little Falls—Moon, G. W. Noriss.
Livingston Manor—Saxon, Manion's Garage.
Mexico—Reo, Oswego County Auto Co.
New York—Pilot, J. E. Kunkely.
Westcott, Loewus Motor Sales Co.
*Denby, Denby Motor Truck Sales Co.
*Denby, Markt & Hammacher.
*Denby, Thomson & Co.
*Denby, Walter Stevens & Co.
Northport—Saxon, J. E. Merrihew.
Olean—Dort, Mazza & Questa.
Plattsburg—Pilot, James A. Lynch.
Poughkeepsie—King, S. Sague & Son.
Quogue—King, Louis Muley.
Rochester—Moline-Knight, C. H. Washburne.
Pilot, Almy Auto Co.
*Denby, J. Cunningham.
Saranac Lake—King, Shelley Tool Co.
Schenectady—King, L. A. Cunningham.
Seneca Falls—Reo, Adrian H. Boyce.
Shelter Islands—King, G. B. Wells.
Syracuse—Inter-State, Service Boat & Eng. Co.
*Denby, Syracuse-Buick Sales Co.
Tarrytown—King, Koenig Bros.
Troy—King, W. S. Wagner.
Pilot, John J. O'Hare.
Utica—Saxon, Utica Mitchell Motor Co.
Watertown—Reo, W. D. Nellis.
Saxon, W. D. Nellis.
Westbury—*Koehler, M. J. Kniffing.
Whitesboro—Pilot, John H. Owens & Son.
White Plains—Pilot, Frank H. Briggs.

NORTH CAROLINA.

Charlotte—Saxon, Barrington Garage Co.
New Bern—*Koehler, D. H. Gaskine.
Salisbury—Briscoe, Rowan Motor Co.
Chandler, Rowan Motor Co.
Chevrolet, Rowan Motor Co.
Statesville—*Koehler, N. W. Fox.
Wilmington—*Koehler, Ford Auto Co.

NORTH DAKOTA.

Bismarck—Oakland, H. P. Goddard.
Cando—Franklin, Bonawitz & Tallman.
Kenmore—Ford, Kenmore National Bank.
New Salem—King, Schultze & Toppins.

OHIO.

Akron—Chandler, W. E. Benyon.
Davis, L. P. Putt.
Pilot, O. B. France.
Ashtabula—Buick, Kain & Brockway.
Chandler, G. H. Fassett.
Pilot, George H. Smith.
Saxon, Brockway & Callender.
Caldwell—Buick, George Radcliff & Son.
Oldsmobile, Norval Robey.
Cambridge—Buick, Arnold & Urban.
Camden—Davis, J. E. Sizelove.
Canal Dover—Buick, Haas & Campbell.
Canton—Chandler, Monnot & Sacher.
Cincinnati—Chandler, Fulton Colwell Co.
Davis, Bente & Ricke.
KisselKar, Harold Auto Co.
Lewis, Kenton Motor Co.
Mitchell, Kruse Motor Car Co.
Cleveland—Chalmers, J. H. Greenwald, 2106 Euclid Ave.
Cole, Richardson Motor Car Co.
Inter-State, Forest City Garage.
Krit, Forest City Garage.
Ohio, H. D. Haupt.
Columbus—Chandler, Twyman Motor Car Co.
Inter-State, Twyman Motor Car Co.
Pilot, Pilot Auto Sales Co.
Coshocton—Buick, Standard Auto Co.
Covington—Davis, J. B. Kindell & Co.
Cumberland—Buick, Petty & Keys.
Cuyahoga Falls—Buick, F. E. Fox.
Danville—Saxon, Ross, Nyhard & White.
Dayton—Davis, McCain Realty Co.
Ford, Dayton & Troy Automobile Co.
King, W. C. Wampler & Co.
KisselKar, Miami Motor Co.
Westcott, H. M. Grosse.
Delaware—Dodge, Griffith & Cone.
Oldsmobile, L. H. Carpenter.
Regal, Griffith & Cone.
Delphos—Oldsmobile, Mox Motor Co.
Dennison—Haynes, City Auto Co.
East Palestine—Oldsmobile, M. E. Newbauer.
Elyria—Haynes, Elyria Garage Co.
Findlay—Haynes, Castles Garage.
Fredericktown—Chandler, C. E. Denman.
Fremont—Overland, Palace Garage.
Greencamp—Regal, R. C. McCelland.
Greenville—Davis, J. M. Warner.
Grove City—Regal, E. Emmelheinze.
Hamilton—KisselKar, West Side Motor Co.
Hartville—Buick, H. Carper.
Huron—Dort, G. E. Rhinemiller.
Ironton—Saxon, Jones' Automobile Livery.
Jeffersonville—Regal, Guy Carr.
Jeromeville—Buick, Carl Hdw. Co.
Kent—Buick, J. B. Hannan.
Lake—Oldsmobile, Windermere-Euclid Garage Co.
La Rue—Buick, Sutton & Kniffin.
Leipsic—Westcott, Dallas Kirk.
Lima—Haynes, Shappell Bros.
Logan—Haynes, J. S. Case.
London—Davis, Herbert Harper.
Regal, A. O. Hicks.
Lynchburg—Regal, A. R. Pratt.
Mansfield—Buick, Richland Motor Car Co.
Chandler, P. Gaton & Son.
Inter-State, I. F. Newcomer.
Pullman, Pullman Sales Co., 30 3rd St.
Marion—Regal, U. G. Lawrence & Son.
Massillon—Haynes, Motor Car Sales Co.
Oldsmobile, Miller Garage.
Millersburg—Buick, George Hardman.
Newark—KisselKar, W. B. Nye.
Regal, J. E. Owens.
New Carlisle—Pilot, W. W. Morris.
New Lexington—Chandler, C. Flowers.
New Philadelphia—Pilot, S. S. Urfer.
North Bloomfield—Saxon, B. A. Russell.
North Fairfield—Chandler, C. B. Irwin.
Painesville—Buick, F. S. Tier.
Ravenna—Buick, Auto Shop.
Roseville—Buick, C. W. Ballow.
Seville—Haynes, I. M. Overholt.
King, Bostwick & Sons.
Sidney—Regal, B. D. Heck.
Springfield—Regal, B. H. Brunton.
St. Marys—Chandler, C. Wirtz Auto Co.
Toledo—Chevrolet, Bunnell Auto Sales Co.
Cole, Bunnell Auto Sales Co.
Dart, Francke Motor Sales Co.
Inter-State, Cornelius-Browning Auto Co.
KisselKar, Bunnell Auto Sales Co.
Mercer, Toledo-Mercer Co.
Oldsmobile, Bunnell Auto Sales Co.
*Federal, Bunnell Auto Sales Co.
†Argo, H. Francke.
Uniontown—Oldsmobile, C. A. Bodemer.
Van Wert—Saxon, W. G. Campbell.
Wapakoneta—Ohio, F. M. Bowers.
Overland, J. W. Ellicott.
Waynesville—Davis, Rogers & Son.
West Jefferson—Regal, W. A. Pence.
West Lafayette—Buick, Henry Rehard.
Williamsport—Haynes, J. Schleick.
Winesburg—Buick, Daniel Kinsley.

OKLAHOMA.

El Reno—Pilot, Hal Townsend.
Tulsa—Ohio, New State Auto & Sup. Co.

OREGON.

North Bend—Pilot, W. A. Davenport.

PENNSYLVANIA.

Allentown—Detroiter, I. N. Miller.
Ford, Charles Stager, S. 8th St.
Imperial, V. H. Steckel.
Pilot, M. H. Kemmerer.
Altoona—King, R. E. Bell.
Bethlehem—Westcott, O. C. Snyder.
Blossburg—Saxon, Howard H. Roberts Trading Co.
Bradford—Pilot, J. Rogerson.
Clement—Detroiter, J. M. Dunsmore.
Climer—Lewis, C. A. Hamilton.
Coatesville—Pilot, Young Bros.
Columbia—Overland, F. S. Schlotthauer.
Corry—Pilot, W. E. Marsh.
Dubois—Pilot, E. S. Crist.
Dunmore—Lewis, P. J. Horan.
Easton—Pilot, M. H. King.
Erie—*Denby, A. H. Murphy.
Greensburg—Davis, Penn Motor Sales Co.
Indiana—Pilot, J. L. Culp.
Jersey Shore—Pilot, R. M. Sallada.
Johnstown—Inter-State, J. H. Berlin.
Kane—Chandler, R. K. Russell.
Pilot, G. E. Glatt.
*Denby, Hudson-Bender Motor Car Co.
Lancaster—Chandler, Frank Sprecher.
Masontown—Pilot, Masontown Motor Car Co.
McKean—King, F. X. Bowman.
McKeesport—Pilot, T. J. Ardinger.
Meadville—*Koehler, W. L. Krider.
Minersville—Pilot, Ike Cohen.
New Bedford—Pilot, F. X. Turgeon.
Philadelphia—Davis, W. W. Gawthrop.
King, Philadelphia Agency.
Lewis, Walnut St. Garage Motor Sales Co.
Pilot, Pratt & Moser.
Simplex, Thornton-Fuller Auto Co.
Pittsburg—Davis, Kossler Motor Sales Co.
Lewis, Lewis Motor Co.
Pilot, Pilot Motor Car Co. of Pittsburg.
Simplex, T. M. Pepperday Co.
*Denby, Andrew Bonson Co.
*Signal, Andrew Bonson Co.
Plymouth—Saxon, S. C. Hartman.
Portland—Pilot, E. P. Bogert.
Reading—Dort, George F. Lance.
Rimersburg—Davis, J. I. Randolph.
Sharon—Chandler, W. C. DeForeest & Son.
Shippensville—Davis, J. M. McLaughlin.
State College—Pilot, M. B. Meyer.
Tarentum—Saxon, Artman & Mozena.
Washington—Dort, Wylie Avenue Auto Co.
Waynesboro—Hudson, Robert Smith.
Republic, Robert Smith.
West Newton—Davis, West Newton Garage Co.
Wilkes Barre—Overland, Dietrick Motor Car Agency.
York—Chandler, T. S. Pfeifer.

RHODE ISLAND.

Providence—Moline-Knight, G. F. Cook.

TENNESSEE.

Knoxville—King, King Motor Sales Co.
Memphis—King, C. L. Sloan Auto. & Mch. Shop.
Ohio, H. A. White Auto Co.

TEXAS.

Dallas—King, R. L. Cameron Auto Co.
El Paso—King, Pioneer Motor Co.
Fort Worth—Oldsmobile, Oldsmobile Sales Co.
Galveston—King, Taylor Motors Co.
Houston—King, Young & Dwire.
Lubbock—Oldsmobile, W. G. Sherrod.
San Antonio—King, Guarantee Motor Car Co
Lewis, Lawton Motor Co.

UTAH.

Salt Lake City—Chandler, C. A. Quigley.

VERMONT.

East Burke—Detroiter, F. M. Davis.

VIRGINIA.

Chilhowie—Oldsmobile, J. L. Vance & Co.
Cumberland—Case, Cumberland Garage.
Eastville—Chandler, Eastville Auto Co.
Norfolk—Moon, Norfolk Gar. & Mch. Co.
*Koehler, City Garage.
North Emporia—Case, R. T. Taylor.
Richmond—Imperial, Alsop Motor Car. Co.
Suffolk—Dort, G. R. Edgerton & Co.

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CONTEMPLATED NEW BUILDING OPERATIONS.

PLANS AND SPECIFICATIONS.

HILLCREST BUILDING COMPANY, NEW YORK CITY, 950 Ogden avenue; one-story garage, 185x94, $9000.

H. L. BELL, BAYSIDE, L. I.; one-story garage, 30x60, $2000.

EDWARD ROCHE, FAR ROCKAWAY, L. I.; one-story garage, 61x204, $14,000.

W. S. WETMORE, PORT CHESTER, N. Y.; one-story garage, 25x50, $3000.

GEORGE TAIT, GLEN FALLS, N. Y., 336 Glen street; two-story garage, 22x52.

A. H. BOYCE, SENECA FALLS, N. Y.; two-story garage, 32x108.

ROBERT ROBSON, SALEM, MASS., 39 New street; one and two-story garage, 50x120.

R. W. FOOTE, NEW HAVEN, CONN., 185 Church street; one and two-story public garage, 46x52 and 84x225.

SOUTHERN NORTHEAST TELEPHONE COMPANY, NEW HAVEN, CONN., 126 Court street; 1½-story garage, 50x105, $10,000.

S. MONICA, ORANGE, N. J., 5 Hurlon street; 1½-story garage, 47x53, $5000.

WALTER L. HENRY, LEBANON, PENN.; one-story garage, 35x45.

GEORGE C. ALBERT, DAYTON, O., 134 West Forest avenue; one-story garage, 16x29.

WELD & LOOMIS, AKRON, O., 94 East Market street; one-story garage, 55x193, $12,000.

GRAY ESTATE, DETROIT, MICH.; two-story garage, 57x202.

V. A. SIEBERT, MILWAUKEE, 557 Twelfth street; one-story garage, 50x60.

H. L. SCHAEFER, ST. PAUL, MINN., 653 Aurora avenue; commercial garage, 50x150, $25,000.

WILLIAM PRINDLE & CO., DULUTH, MINN., Lonsdale building; two-story garage, 50x115, $20,000.

R. S. DUFFUELD, MASON CITY, IA., 107 South Main street; one-story garage, 75x44.

E. SNECKLOTH, CORRECTIONVILLE, IA.; one-story garage, 50x120, $6000.

GORDON FIREPROOF WAREHOUSE AND VAN COMPANY, OMAHA, NEB., 219 North 11th street; one-story garage, 50x132.

WILLIS G. HEIM, SAVANNAH, MO.; one-story garage, 40x120, $5000.

J. J. BRENNAN, FT. DODGE, IA., 560 Wird avenue; three-story garage, 64x140.

PATERSON & FINCH, KEARNEY, NEB.; one-story garage, $12,000.

P. S. TROTTER, CARROLTON, MO.; one-story garage, 50x80, $9000.

EDWIN W. SHIELDS, KANSAS CITY, MO., 119 Board of Trade building; six-story garage and display room 50x115, $100,000. Lessee, Studebaker Motor Company.

HARRY W. KEEP, ST. PAUL, MINN., 428 Selby avenue; one-story commercial garage, 73x92, $10,000.

LEO M. GURDA, MILWAUKEE, 478 Mitchell street; two-story garage, 22x20.

P. E. BLAUET, PAINESVILLE, O.; one-story garage, 24x14.

MAX LOESCHER, MUSKEGON, MICH.; two-story garage, 26x30, $2500.

J. J. ALTHOUSE, READING, PENN., 738 North Front street; two-story garage, 15x16.

JOHN FREED, COLLEGEVILLE, PENN.; one-story garage, 10x15.

E. W. NEWTON, SOMERVILLE, MASS.; one-story garage, 13x21.

SELTZER & LEVINE, HARTFORD, CONN., 64 Winthrop street; one-story garage, 45x105.

CARPENTER & HILL, SPRINGFIELD, MASS., 33 Wainer street; one-story garage, 65x100.

MRS. BEATRICE DE MILLO, ROCKAWAY BEACH, L. I.; 1½-story garage, 20x20, $1400.

WILLIAM S. O'BRIEN, NEW YORK, 310 West 42nd street; one-story garage, 32x120, $12,000.

E. J. BLOOM, CHICAGO, ILL., 5133 Ellis avenue; one-story garage, 106x221.

HENRY RENLING, PEORIA, ILL.; one-story garage; 50x75.

W. E. DORAN, BRISTOL, PENN.; one-story brick garage, 29x82.

J. W. SMITH, ELYRIA, O.; one- story garage. 60x120, $10,000.

HARRY SPRAGUE, UNIONVILLE, O.; one-story garage, 26x32.

REES B. PRICE, CINCINNATI, O., 6842 Lower River road; one-story garage, 50x100, $10,000.

AUGUST RICHTER, CINCINNATI, O., 1249 West 7th street; one-story garage, 20x65.

FANNIE BRISHMAN, BALTIMORE, MD., 1012 West Lexington street; one-story garage, 49x131, $5000.

AUBREY L. CLARKE, WASHINGTON, D. C.; one-story garage, 21x24, $1000.

MERRICK LUMBER COMPANY, HOLYOKE, MASS.; two-story garage, 29x32.

JOHN W. PATTER, WATERBURY, CONN., 115 Woodside avenue; one-story garage, 10x20, $800.

ANTHONY LINK, ROCHESTER, N. Y.; one-story garage, 51x85, $18,000.

E. C. ROPER, AUBURN, N. Y.; two-story garage, 91x33, $15,000.

COOK ESTATE, MEDINA, N. Y.; one-story garage, 30x60. Lessee, Medina Electric Light Company.

R. P. FRYE, MARLBORO, MASS.; one-story public garage, 20x23.

MARY McCAFFREY, ALBANY, N. Y., 646 Central avenue; one-story garage, 20x50, $2000.

FREDERICK OPLINSKY, BROOKLYN, N. Y., 112 Vernon avenue; one-story garage, 22x20.

EARL GOODWIN, HOOPESTON, ILL.; one-story garage, $1600.

JOHN FISHER, PEKIN, ILL.; one-story garage, 57x80.

HENRY A. LOUGHLIN, PITTSBURG, PENN.; two-story brick, concrete and terra cotta auto service building, 100x131.

CONTRACTS AWARDED.

GEORGE H. STORY, CHESTER, PENN.; one-story stone, concrete and steel garage, 19x22, $450, for Anna E. Feltig, to be erected at 59th and Hunter streets, Philadelphia, Penn.

FLYNT BUILDING AND CONSTRUCTION COMPANY, PALMER, MASS.; one-story garage, 42x42, for Woodmont Garage Company.

VUONO CONSTRUCTION COMPANY, STAMFORD, CONN.; one-story garage, 52x103, $8000, for C. O. Miller.

NANTICOKE CONSTRUCTION COMPANY, NANTICOKE, PENN.; one-story garage, 40x150, $5000, for Oscar Morgan, 158 West Green street.

ANDERS CONSTRUCTION COMPANY, CLEVELAND, O., 413 Champlain avenue; one-story garage, 30x25, $1000, for C. R. Hildebrandt, 3106 Clark avenue.

OHIO BUILDING AND CONSTRUCTION COMPANY, CINCINNATI, O., 1431 Main street; one-story garage, 50x100, $10,000, for Rees B. Price, 6842 Lower River road.

GARAGES AND REPAIR SHOPS.

PAUL & ROSENBERG, COLFAX, WIS., is to erect a garage at Pine and River streets, 60 feet square and of reinforced concrete construction.

THE LOUCKS MOTOR COMPANY, SCOTTDALE, PENN., is to erect a large commercial garage in South Broadway.

TIMOTHY SULLIVAN, PALMER, MASS., is erecting a new garage.

KEYSTONE REPAIR AND SERVICE COMPANY, FRANKFORD, PENN., is to erect a garage 60 by 150 feet in Frankford avenue. The company is to operate a motor 'bus line between Frankford and Langhorne.

A. M. GOGIN, RED GRANITE, WIS., is preparing to erect a modern fireproof garage which is to be 30 by 90 feet in size.

THE FAIRMOUNT GARAGE COMPANY, FAIRMOUNT, W. VA., is erecting a garage 65 by 42 feet. It is to be two stories high.

E. H. RAMM, NEW LONDON, WIS., is to erect a large fireproof garage. It is to be two stories in height and is to measure 46 by 81 feet.

FRED HUSSEY, SALEM, MASS., is erecting an up-to-date garage at a cost of $20,000.

THE MOUND CITY AUTO COMPANY, MOUNDSVILLE, W. VA., is erecting a garage on Tolinson avenue, 40 by 100 feet.

WALTER I. SMITH, FAIRHAVEN, VT., is to erect a brick garage, two stories in height and of fireproof construction. It is to be 40 by 85 feet and when completed is to be modernly equipped.

W. R. ODELL, BROOKLYN, N. Y., is erecting a one-story garage on Ralph avenue, costing approximately $6000.

THE KEYSTONE AUTO SALES COMPANY, NEWCASTLE, PENN., has purchased property on Croton avenue and is to erect an up-to-date two-stroy garage, 48 by 150 feet.

THE IRONTON GARAGE COMPANY, IRONTON, O., is to erect a modern three-story garage, 88 by 212 feet.

MARTIN BROS., ENDEAVOR, WIS., is making plans for the erection of a modern garage. It is to be fully equipped, including a new outfit of tools and machinery. A modern repair shop is also to be maintained.

FRANK MEYERS, DOWAGIAC, MICH., is planning the erection of a garage on Main street. The building is to be 65 by 50 feet in size.

HENRY A. STRAIN, ST. LOUIS, MO., is to occupy a garage 50 by 150 feet, which is being erected at 6131-33 Delmar boulevard.

A. H. BOYCE, SENECA FALLS, N. Y., is erecting a garage 50 by 100 feet on Fall street.

WALTER HAETEL, DUNDEE, ILL., is erecting a garage costing $7000.

ALFRED BRONSON, AUBURN, N. Y., has erected a garage 65 by 95 feet on Garden street.

E. P. FARLEY, MINNEAPOLIS, MINN., is enlarging his vulcanizing shop at 1113 Hennepin avenue.

EDWARD GRAY, DALLAS, TEX., has rebuilt a garage recently destroyed by fire at Third and Throckmorton streets.

J. W. FARMER, PRATT, KAN., is erecting a garage 50 by 142 feet on Jackson street, which is to have the capacity for storing 120 cars.

WHITE MOTOR SALES COMPANY, AKRON, O., is to occupy the garage which is being erected on East Market street.

WALTER SCOTT, BALTIMORE, MD., has built a garage on St. Paul street at a cost of $30,000.

RED ARROW AUTOMOBILE COMPANY, ORANGE, MASS., has erected a factory building on East River street.

WILLIAM G. SCARLETT, BALTIMORE, MD., has erected a garage in Guilford.

HARRY M. PAGE, WILLIAMSPORT, IA., has erected a garage at 120 North Willow street.

EDWARD RICHARDS, WORCESTER, MASS., has erected a garage on Beach street.

NOBLE & OCHENRLETER, RICHMOND, CAL., has erected a garage, costing $3000, at Seventh and Barrett avenues.

GEORGE WESTPHAL, FRANCESVILLE, IND., has erected a garage which cost $3000.

L. B. REAKIRT, CINCINNATI, O., has built a garage on Fifth and Sycamore streets.

J. J. STUART, JOHNSBURY, VT., has erected a garage at Beacham street.

STARNELL BROTHERS, FOREST JUNCTION, WIS., has built a garage.

GUS OLSON, BURLINGAME, KAN., has erected a building.

ELDER STANGLER, HAZELTON, PENN., has erected a garage on the corner of Garfield street and will conduct an auto repair business.

SHANNON TRANSFER AND STORAGE COMPANY, PITTSBURG, has erected a garage on Magee street at a cost of $20,000.

JULIA E. SHUSTER, BUFFALO, N. Y., has erected a garage at 896 Jefferson street.

THE EDISON MOTOR CAR COMPANY, BETHANY, MO., is contemplating a new brick garage, 90 by 120 feet.

L. E. GRAY, CONCORD, N. H., has erected a garage on the corner of North Main street.

ELECTRIC GARAGE AND SERVICE COMPANY, ST. LOUIS, MO., has erected a garage 60 by 115 feet on Grand avenue and is to use this place as its South Side branch.

WESTERN MOTOR CAR COMPANY, SPRINGFIELD, MO., is to occupy the building which is being erected on Jefferson street.

R. E. ZEAK MOTOR CAR COMPANY, ALTOONA, PENN., has erected a garage on 310 4th street.

WILLIAMS, POWELL & McCOSH, MOUNDSVILLE, W. VA., has erected a garage on Seventh street.

JENSEN & FLACK, LAKE GENEVA, WIS., has started the construction work on a new garage and machine shop building. The structure is to be of fireproof construction, two stories, 50 by 100 feet.

HERMAN BABCOCK, WEBSTER, WIS., is contemplating the erection of a garage in Grantsburg, Wis.

J. HAMACHECK & SON, TWO RIVERS, WIS., are taking bids for the erection of a new garage and repair shop building to be of fireproof construction, 60 by 120 feet and one story high, and is to cost about $10,000.

THE REPUBLIC RUBBER COMPANY will open a factory branch at Grand Rapids, Mich., under the management of Glenn P. Thayer. The new branch is to be located at 44 Division avenue, north.

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OTTO SCHNEIDER, WATERLOO, NEB., will open a garage there.

C. A. ADDINGTON, MONTROSE, CAL., is fitting up a portion of his big livery barn for a garage, having purchased the business and equipment of C. S. Wortian.

THE FULTON-COLWELL COMPANY, CINCINNATI, O., has taken a lease on the property at 1011-15 Plum street. It is to handle the Chandler car and supplies for the Stevens-Duryea cars.

ROSS SADLER, BURLINGTON, IA., has bought the Rees building from the Farmers' and Traders' State Bank and is to remodel and equip it for a garage.

E. L. STANLEY & SON, SEBRING, O., is soon to erect a garage.

THE SWANEY AUTO COMPANY, CARROLL, IA., has begun work on the erection of an addition to its garage. It is to be at the north end of the vacant lots at the corner of Carroll and Sixth streets.

H. R. VOGEL, WHITEHALL, WIS., has leased the Gomoke building and is to fit it up for a garage.

PECK & ARNOLD, ROCHESTER, N. Y., is erecting a new garage.

CHARLES HANLON, SAN FRANCISCO, CAL., has erected a garage on northwest corner of St. George alley and Bush street, at a cost of $25,000.

MARTIN'S FERRY GARAGE, MARTIN'S FERRY, O., has erected a garage on North Sixth street.

B. H. DRAPER, MILFORD, MASS., has erected a garage costing $16,000.

D. M. HANCOCK, OLEAN, N. Y., has erected a garage on North Union street.

FRANK A. KUNTZ, DECORAH, IA., has erected a garage on Main street.

THE FORD GARAGE COMPANY, MACOMB, ILL., has erected a garage on West Jackson and McArthur streets. R. T. Phillips is proprietor. The garage is 60 by 80 feet.

O. L. & JESSIE SHAFER, OSSIAN, IND., has erected a garage which is to be substation of the Bluffton agency.

INTERSTATE AUTO COMPANY, YOUNGSTOWN, O., has erected a four-story building, 130 by 60 feet, costing $50,000. The building is to be ready for occupancy July 1.

GERHARDT & KOLB, BIGSTONE CITY, S. D., has erected a garage.

IDAHO AUTO COMPANY, POCATELLO, IDA., has erected a modern garage, 75 by 140 feet, on South Main street.

FRANK JOHNSON, GROTON, CONN., has erected a garage on School street.

H. A. GABEL, ROCKFORD, ILL., has erected a garage at 221 North Church street. He is an agent for Hudson cars.

L. P. HALLADAY & W. H. LUKINS, STREATOR, ILL., has erected a garage 53 by 140 feet.

GEORGE C. NESBIT, NEW HAVEN, CONN., has erected a garage 20 by 61 feet at 272 Crown street.

GEORGE M. MOORE, THOMPSONVILLE, CONN., has erected a garage on Pearl street, 120 by 60 feet.

C. A. QUIGLEY, SALT LAKE CITY, UTAH, has erected a garage on Cactus street.

MODEL GARAGE, ERIE, PENN., Regal distributors, has erected a new building on West Seventh street at a cost of $10,000.

LOUIS PIETSCHER, PRINCETON, IA., has erected a garage.

R. R. GENTES, PEORIA, ILL., has erected a $6000 garage.

HENRY LAUGHLIN, PITTSBURG, has erected a salesroom on the corner of Pennsylvania avenue.

F. J. HEATON, BROOKS, IA., has erected a garage.

THE LAVIER & LONG ELECTRIC COMPANY, DETROIT, MICH., is operating a garage at 18 Bagg street and has fitted up a service station for Hellos batteries.

BRAYTON & STEWART, HUNTINGTON, IND., is planning to open an automobile service station in the Crites room on Jefferson street. It is to specialize in tire work and accessories.

BERT MAUDLIN, RIPON, WIS., has leased quarters and is to erect a permanent garage of fireproof construction at once. It is to be two stories, 44 by 46 feet. A motor livery will be conducted.

WATERS & MILLER, KENDALL, WIS., are planning to erect a garage.

H. A. MARTIN & G. G. EDDY, LODA, ILL., has leased the Moffett building on West Pells street and will conduct a garage therein.

THE JONES AUTO COMPANY, AKRON, O., has started excavation for an extensive addition to its garage.

E. C. BOLT, BANCROFT, MICH., is to open a garage and harness store.

BERT MAANROES, HAMBURG, IA., has commenced the erection of a new garage.

HEASTON BROTHERS, LINCOLN, NEB., is to engage in the automobile business.

JOHN DILLER & W. D. GALBRAITH, HEBRON, NEB., has taken a lease on the brick barn now occupied by Al Lamm and will convert it into a garage. It is located on Fourth street.

TERRACE CITY MOTOR CAR COMPANY, INC., YONKERS, N. Y., is building a modern and up-to-date sales, service, supply and storage building at 350 South Broadway. The company announces that it will seek the agency of several gasoline cars and also accessories and supplies of every description at a later date.

ADDITIONS AND IMPROVEMENTS.

W. E. CLEVELAND, RHINELANDER, WIS., is to erect a large shop addition for garage and repair shop purposes. He is owner of the Oneida Boat Company, manufacturer of boats and engines.

THE DELEVAN LAKE BOAT AND ENGINE COMPANY, DELEVAN, WIS., which established a garage some time ago, is to build an addition, 50 by 60 feet, to its garage for live storage and is to conduct a repair shop.

THE HOOVER STEEL BALL COMPANY, ANN HARBOR, MICH., is building an addition, 60 by 256 feet in size, to take care of its steadily increasing business. D. F. Zimmerman is secretary and general manager of the company.

BOULEVARD GARAGE, WATERBURY, CONN., has built an addition to the garage, 55 by 80 feet.

HOWARD & DEEMS COMPANY, MUSCATINE, IA., has rented the building at Third and Walnut streets. The building is being remodelled into a garage.

SLAUGHTER & ALBRO, EL PASO, TEX., has remodelled the auditorium on Mill street into a garage.

PAUL RHOTEN, ROXFORD, KAN., has improved his garage.

CHARLES D. TYLER, BROCKTON, MASS., has remodelled the stable property on Temple street into a garage.

MILL STREET GARAGE, BELOIT, KAN., has been remodelled.

THE UNITED STATES TIRE COMPANY, PORTLAND, ME., has opened a new branch office at 16 Forest avenue. This branch is to serve the entire State of Maine, as well as Essex county, Vt., and Coos county, N. H. It is to make adjustments and deliveries on all United States tires.

NEW LOCATIONS AND REMOVALS.

THE VALVOLINE OIL AND REFINING COMPANY, SAN FRANCISCO, has entered the new auto row on Van Ness avenue. T. J. Finch is the manager.

BUTZER BROS., LANCASTER, PENN., dealer in Studebaker cars, has moved to their new home, which cost $30,000.

JAMES WELLS, AKRON, O., and J. P. Loomis, have leased a 55-foot frontage on East Market street, and are to provide a large garage for the White Motor Sales Company.

THE COPPER CITY SALES COMPANY, DOUGLAS, ARIZ., has removed to new and larger quarters at 1109 G avenue.

THE GUARANTEE TIRE AND RUBBER COMPANY, INDIANAPOLIS, has taken additional quarters at 211-213 South Illinois street.

THE ONEIDA GARAGE COMPANY, RHINELANDER, WIS., has leased the building adjoining its present quarters, which is to increase the floor space and make room for parts and accessories. Overland and Ford cars are represented.

W. F. GOWAN, PIGGOTT, ARK., has completed a new garage and is to locate in it. He represents the Studebaker car.

O. C. CHILDRESS, SUPERIOR, NEB., has leased the repair department of Dahlgren's Garage and is to carry on work there.

THE WADDELL-BUICK COMPANY, ANDERSON, IND., has leased the property at 109 East Ninth street and opened a display and salesroom and a service station for Buick cars. E. S. Waddell is the manager.

THE GRAND ISLAND TIRE AND VULCANIZING COMPANY, GRAND ISLAND, NEB., has moved to the small building east of Brandes Garage. Permanent quarters are shortly to be taken in a new building which is being erected for that company.

THE A. L. M. MOTOR SALES COMPANY, INC., NEW YORK CITY, Metropolitan distributor of the Westcott car, is now located at 1677 Broadway.

THE MILLER STORAGE BATTERY COMPANY, TOLEDO, O., has moved into larger show rooms at 807 Nicholas avenue. The company was formerly located at 212 Michigan street for a period of eight years. Increasing business necessitated this move.

THE BROADWAY GARAGE, BROADVIEW, ILL., is now located in new quarters at Broadway and Lake street.

HENRY F. HINE, ST. PAUL, MINN., has leased the store at 401 Main avenue and is to handle the Federal tire and carry a complete line of automobile accessories and supplies.

THE B. F. GOODRICH COMPANY'S branch at Syracuse, N. Y., has been removed to 115 West Taylor street. The company was formerly located at 423 South Clinton street.

THE CHICAGO AUTOMOBILE SUPPLY HOUSE, CHICAGO is now located at 1349-53 Michigan boulevard. Increased business necessitated the change.

EARL LAMB, HUNTINGTON BEACH, CAL., has leased the Swift Garage. Floyd Jones is associated with him in the project.

THE NATIONAL UNITED SERVICE COMPANY, DETROIT, MICH., has moved its offices from the Ford building to 1106-1107 Kresge building. H. F. Voorhamp is general manager of the business.

THE MOTOR SALES AGENCIES OF THE ORANGES, ORANGE, N. J., has moved to the new sales and service building at Main and Clinton streets. H. F. Herdman is manager.

KEY CITY MOTOR COMPANY, DUBUQUE, IA., has taken possession of their new quarters at 990 Clay street. The company has arranged to give a day and night service to Buick owners only.

S. W. ROTHENBERG, MINNEAPOLIS, MINN., has moved his automobile and repair business to 93-95 Eleventh street, south.

F. B. O'BRIEN, DES MOINES, IA., has moved his salesrooms from 12th street to 1016 Locust street, where more space is afforded. He is manager of the Alter Automobile Company.

C. W. COLLINS, HARTFORD, CONN., has moved to his new show rooms in the Capitol City Auto Company's building at Allyn and High streets. He is agent for Davis cars.

BYERLY-HOOLE TIRE AND RUBBER COMPANY, KANSAS CITY, MO., has moved to 2214 McGee street.

METZ CAR COMPANY, UTICA, N. Y., has moved from John street to Cooper street.

J. H. & G. L. ATWOOD, BOSTON, MASS., accessory dealer, has moved to 184 Friend street.

GEORGE OSTENDORF, UTICA, N. Y., has moved from 623 Main street to 1221 Main street. He is the western New York district agency for the Franklin cars.

MERZ MOTOR COMPANY, INDIANAPOLIS, IND., has moved to 134 East New York street.

PORTLANCE-OVERLAND COMPANY, BAY CITY, MICH., has moved to 608-10 Saginaw street.

PIONEER TIRE AND REPAIR COMPANY, INDIANAPOLIS, IND., has removed from 98 11th street to Hennepin and 14th streets.

STEWART WARNER, LYNN, MASS., has moved to the Oxford Garage. He is the Kissel and Jackson agent.

GOODYEAR TIRE AND RUBBER COMPANY, SPOKANE, WASH., has moved from West 1310 Railroad avenue to West 1405 First avenue.

H. H. KELLY, SANTA ANA, CAL., has moved to Main street. He is agent for the Cadillac and Paige cars.

WESTINGHOUSE ELECTRIC COMPANY, DETROIT, MICH., has moved its office to 1211-15 Woodward avenue. M. B. Hawxhurst is manager of the Detroit branch.

THE AUTO SPRAY COMPANY, DETROIT, MICH., has moved its offices and salesrooms to 1231-1235 Woodward avenue. Formerly it was located at 86 Lafayette boulevard, West.

THE PAIGE DETROIT COMPANY, NEW YORK CITY, has recently opened a Broadway salesroom at the corner of 63rd and Broadway.

A. L. SCHAVIOR COMPANY, BRIDGEPORT, CONN., has moved to 322 Fairfield avenue.

THOMPSON BROTHERS, PINE BLUFF, ARK., has moved from 306 State street to North Main street.

BOICE-PERRINE COMPANY, BOSTON, MASS., has moved to Brookline and Lansdowne streets.

PYRENE MANUFACTURING COMPANY, NEW YORK CITY, has moved to the Vanderbilt Concourse building, 52 Vanderbilt avenue, corner East 45th street.

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PRACTICAL SUGGESTIONS FOR REPAIRMEN.

FITTING CLUTCH STOPS.

Many machines are fitted with clutch brakes which are intended to reduce the speed of the clutch so that the gears of the transmission gearset may be changed without clashing, for unless the pinions to be engaged are revolving at approximately the same speed they will clash. Gear clashing is noisy, but this is not the real objection to it, for attempts to mesh two gears moving at different speeds is certain to be destructive.

Good engineering does not approve braking on the chamfered edges of the gears. As the clutch is disengaged it will run free, and until this movement has diminished the gears ought not to be changed. The clutch brake will prevent spinning, but without a brake clutch stops are practical and may be installed at very small expense. The stop shown at Fig. 5 A is adapted for a chassis with a cross frame member that will permit it being mounted. A section of half-inch round steel rod is threaded at one end and fitted with a wooden block carrying a leather pad at the other end. A "T" piece of steel is bolted to the frame member. In this is a half-inch hole that is threaded to take the rod end, lock nuts holding it securely. The rod can be adjusted in this "T" piece so that when the clutch is withdrawn it will so contact with the leather faced block that it will be quickly stopped.

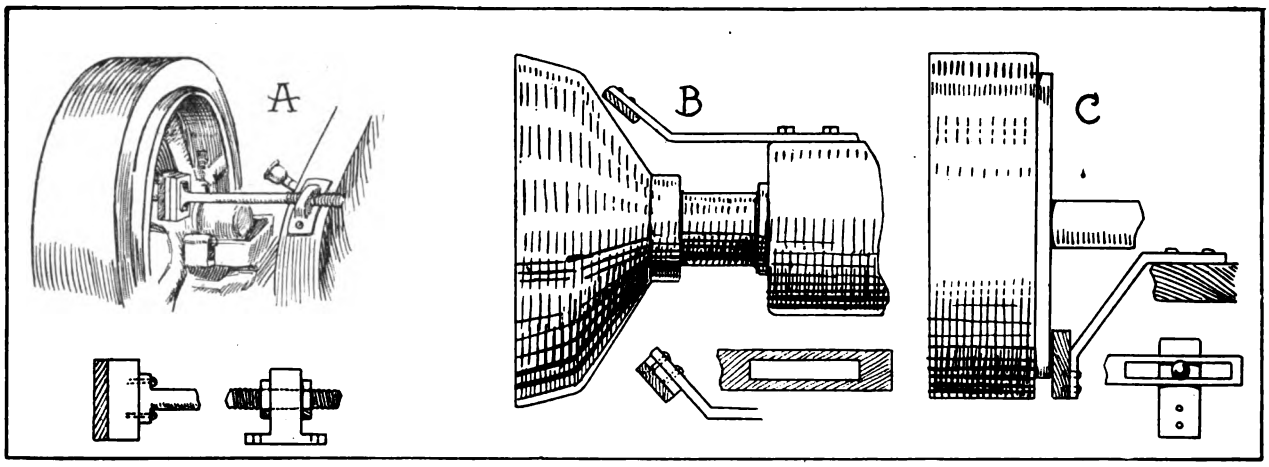

Fig. 5—A, Clutch Stop Fitted to Frame Cross Member; B, Clutch Stop Installed on Gearset Case; C, Clutch Stop Located on Sub-Frame.

Another form of stop is shown at Fig. 5 B, this being a piece of spring steel that is slotted at one end, the other end being bent at an angle, and to this end a solid leather pad is riveted. The piece of steel is secured to the case of the gearset by the studs and the slot will afford any adjustment that is desired. The spring will yield when the clutch is drawn against it and the action is less harsh and is more satisfactory than the other. A third form is seen at Fig. 5 C, which is intended to be installed on the sub-frame, this being adapted for chassis where the others cannot be used. A plate that is drilled to take two bolts is bolted to the frame. The stop is a section of spring steel on which is riveted a leather pad. The stop shank is slotted, as stated of type B, and is adjusted on the plate and firmly bolted. The design is that the pad will contact with the periphery of the clutch female member as it is withdrawn from the flywheel.

Old type machines that are in every way serviceable are seldom fitted with clutch brakes, a condition that is certain to cause noisy operation and wear of the gears that will necessarily add to expense of maintenance. Owners are not often inclined to spend much money for improvements, but are generally willing to economize.

REMOVING A FLYWHEEL.

Flywheels are usually keyed to a shaft end, often with a gib, which is driven in until the wheel is firmly locked. This form of retention is also used for gears. When a gib is used a tool of the type that is shown at Fig. 6-A can be used advantageously. This tool is of steel, with curved or hooked ends, and the point of the end is placed under the lip of the gib and the back set against the hub of the flywheel or gear. The hand leverage alone will not be sufficient to start the gib, but a series of sharp blows with a hammer will usually loosen it. The size tool will depend upon the proportions of the work that it is used upon, but several of different lengths will be found very useful in a shop.

The shut off cock in the fuel supply line is not always located so that it can be conveniently reached. Shutting off the gasoline at night or when leaving the car for a time is an insurance against loss of fuel by leakage, and by the carburetor flooding, and it is very frequently a prevention of theft, because men who might endeavor to steal a machine would of necessity have to search for the reason why it could not be started, and would require time at least to learn the cause of the failure of the motor to start.

The illustration at Fig. 6-B shows how an in-

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genious driver cut the metal skirt between the running board and chassis frame of his car and fitted into it a door with hinges and a catch, so that almost instantly he could reach the petcock, which was close to the frame. The petcock was practically inaccessible before the change.

FITTING PISTON PINS.

When a piston and the connecting rod has been removed from the cylinder for any reason the condition of the bearing should be learned. There are different ways of retaining the wristpin, one being that where the wristpin is clamped in the split end of the connecting rod, with the ends oscillating in the bearings in the bosses of the pistons, or sometimes with a ring around the bosses to prevent the ends of the pin touching and scoring the walls of the cylinder and another is with the wristpins fixed in the pistons by pins or set screws. The latter method is seen at Fig. 6-C. When the wristpins are driven out blocks of wood should be used, to prevent damage, and care should be taken to avoid breaking the pistons. When worn the bushings, either in the pistons or the connecting rods, should be renewed. When reassembled the bearings should be snug, but not too tight, else the edges of the pistons will knock against the cylinder walls. Care should be taken to well lubricate the bearings before the motor is started.

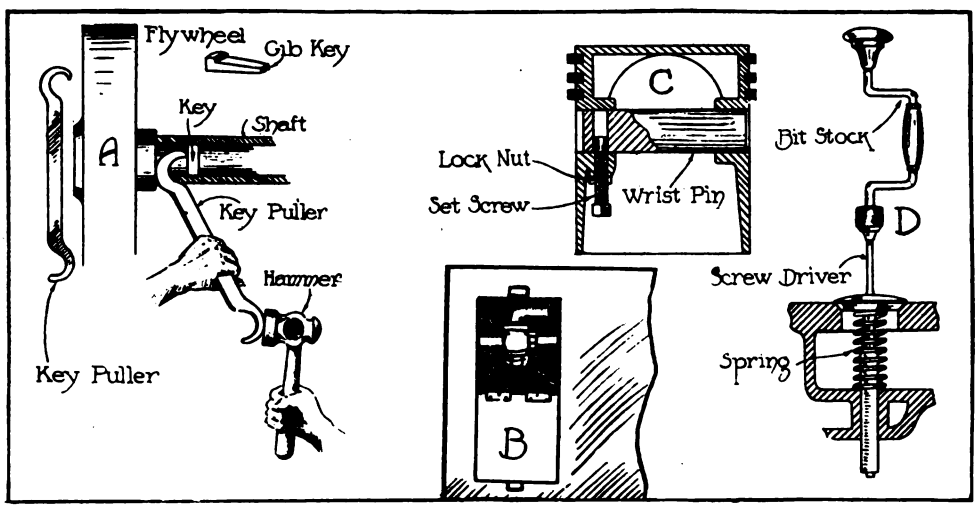

Fig. 6—A, Convenient Tool for Removing Fly wheel; B, Making Fuel Cock Accessible; C, One Means of Retaining Wristpins in Pistons; D, Handy Assembly for Grinding Valves.

Valve grinding is tedious work, even with the best of tools, because when a job is well done the metal should have a glass finish, which can only be obtained by patience. The metal will vary, so that a condition that may require an hour's work on one seat may not be obtained with three times the labor on another. Hand work is slower, but is also the best, and with a common bit stock and a screw driver blade a good workman will be able to perfectly grind a set of valve ports. The most convenient manner of doing the work with a motor with valve pockets is to fit a spring as shown in the sketch at Fig. 6D. which will raise the valve whenever the pressure is relieved. The abrasive, either powdered glass or emery and oil, should be applied frequently and in small quantities, and only on the bevelled edge of the valve. The valve and the seat should be wiped clean from time to time. The valve should be swung about 90 degrees, or a quarter turn, and comparatively slight pressure should be exerted upon the bit stock. When the valve and seat have been ground with the coarse abrasive, the fine or finishing compound should be used. After the grinding the valves and seats should be thoroughly washed with gasoline.

SILENCING NOISY TAPPETS.

Valve tappets that are noisy may not be sufficiently worn to justify replacing with new, and these can be effectually silenced by the use of fiber inserts that can be placed in the heads of the adjusting screws, if the tappet be of an adjustable type. Exact measurement must be made of the clearance between the valve stem ends and the tappets, with the adjusting screws turned into the tappet rods as far as possible. This had best be done with the engine warm, and always with the valves seated. The tappet rods are removed and each marked so that it may be replaced in the original guide.

French fiber is preferable if the mechanic has a choice of materials. A piece about ¾ inch thickness should be selected for each insert, slightly larger than the head of the adjusting screw. The screws are removed from the rods, the temper is drawn, and they are placed in a lathe and bottomed holes ⅜ inch diameter, and of such depth that they will retain the inserts, are drilled in the heads. The holes are centered. The fiber pieces are then turned in a lathe until one end of each is a diameter slightly in excess of the ⅜ inch holes, and this boss is the depth of the hole in length. The fiber is then driven into the hole in the adjusting screw, and when firmly seated all around the remainder of the insert is turned in a lathe to the diameter of the head of the adjusting screw. This process is repeated with all the tappet rods. The screw heads, if battered, by the valve stem ends, can be smoothed with a file. The form of the inset is shown at Fig. 7-A.

At Fig. 7-B is shown a method for fitting non-adjusting tappets with screws so that they may be adjusted. If the tappet guides are high they can be cut off so there will be sufficient space for fitting the screws and nuts, but if there is not the

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desired clearance, which must be determined by measuring the screws and the space between the tappet guides and the valve stem ends, then the

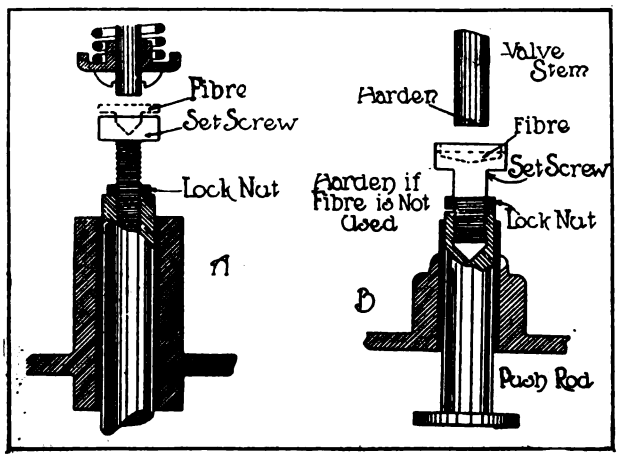

Fig. 7—A, Means of Quieting Noisy Adjustable Tappet Rod by Fiber Insert in Adjusting Screw; B, Non-Adjustable Tappet Converted to Adjusting Type and Silenced by Inset of Fiber.

valve stems and the springs must be shortened. If the clearance will permit, the tappet guides and tappets can be cut off. In such an event the valves need not be removed.

For cutting the tappets the temper must be reduced by heating. After the annealing and cutting the tappets are drilled with holes 5-16, 3/8 or even half inch diameter, which are sufficient depth so that, when tapped, the adjusting screws may be turned in the full length. The heads of the screws are then turned out, as indicated by the dotted lines, and fiber pieces turned that can be seated firmly when driven into the holes. If no fiber is used the screw heads should be hardened, and if the valve stems are cut these should also be hardened. When the adjustments of the tappets are made the clearance between the screws and valve stems should be approximately the thickness of a business card, but the only safe timing is by the indicating marks placed on the face of the flywheel.

INGENIOUS WATER JACKET REPAIR.

Resourcefulness in repairing not only means economy of time and labor, but at the same time restoration of serviceability to what might otherwise be rejected as useless. A repair that illustrates this is shown at Fig. 8-A, it being on an applied copper water jacket. The water intake manifold was retained by bolts that passed through the manifold and screwed into spiders, as seen at Fig. 8-B. The arms of one spider had corroded so that they broke when the manifold was removed. The owner was about to purchase a new cylinder, for the manifold could not be made tight with cement with the other three bolts drawn up snug. A piece of metal nearly as wide as the diameter of the hole in the cylinder jacket and about a half inch longer than its width, was drilled and tapped to take a bolt threaded its entire length. The plate was inserted in the water jacket through the hole and held until the bolt was screwed through it. The outer end of the bolt was then passed through the manifold, and with an outside nut the manifold was drawn up and seated tightly against the jacket, as is seen at Fig. 8-A. The repair was in every way efficient.

A HOME MADE CHAIN CLAMP.

Those who own or drive motor vehicles that are propelled by chains understand the annoyances incident to removing a link if the chain be worn, or replacing a link in the event of breakage. If the work be necessary in the garage or shop, with tools convenient, it may be quickly done, but without a chain clamp much trouble may be experienced. A very handy chain clamp can be made of two pieces of half-inch steel rod, bent into the form shown at Fig. 8-C, and threaded the greater part of the straight sections, the one left and the other right thread, and a piece of hexagonal steel one inch or 1¼ inches section, drilled through and tapped to take the threaded ends of the rods, as assembled as is seen at Fig. 8-D. With this tool and a wrench that will fit the centre section, a chain can be repaired or adjusted very quickly. It can be quickly separated or made ready for use.

A TIRE CHAIN HINT.

In the spring of the year, when the frost is coming out of the ground, one is liable to encounter mudholes, especially in the country. Even with the usual tire chains the rear wheels may sink deep in a soft surface and the car cannot be moved, although the wheels will spin. In such an emergency the following suggestion may be found useful: If the wheels sink and continue to spin, stop the car and remove the chains. Wrap the chains around the tires so that there are two turns between two spokes and tie the ends firmly. This will fix each chain in one place around the diameter of each tire. Upon applying power with the low speed gear in mesh the machine will pull out of the hole.

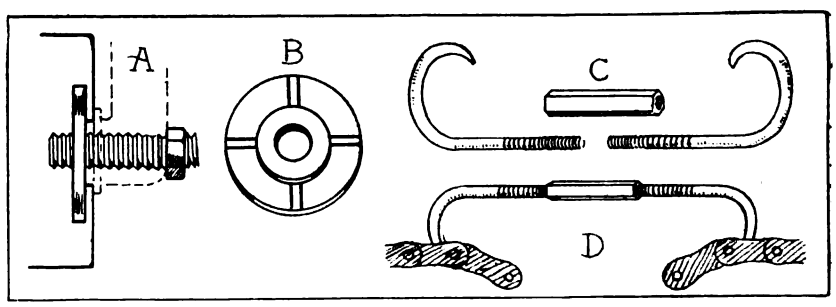

Fig. 8—A, Ingenious Repair of a Water Intake Manifold for Copper Cylinder Jacket; B, the Corroded Jacket Spider That the Threaded Plate Replaced; C, Members of a Practical Chain Clamp; D, the Clamp as Used.

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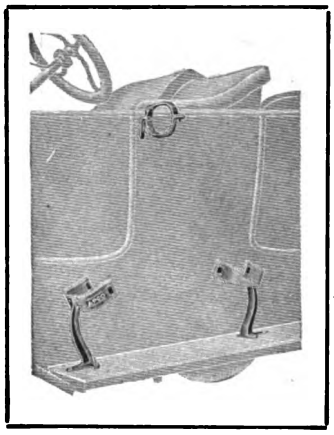
NEW APCO TIRE HOLDER.

Designed to Carry Shoes on the Running Board Where They Are Protected From Heat and Mud.

The Auto Parts Company, Providence, R. I., manufacturer of Apco specialties for Ford cars, is producing several new Apco devices which will recommend themselves to owners and the trade because of their practical qualities and reasonable price. Four of these are shown in the accompanying illustration. The tire holders are designed to be placed on the running board, a location that has advantages for carrying extra tires over the rear of the body, where the shoes may be splashed with mud and subjected to heat of exhaust gases, which destroys the life of rubber. A desirable quality of the Apco tire holders is their light weight, the maker stating that they weigh seven pounds less than the lightest rear holder in the market. The Apco design is very strong and compact. No straps are necessary. The holders were designed to accurately fit the Ford size of tires. They retail for $2 the set.



Apco Side Tire Holders.

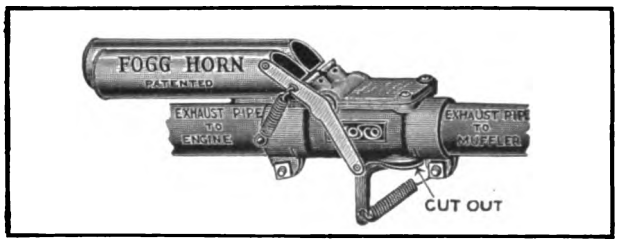
MOSCO FORD SPECIALTIES.

The Motor Specialties Company, Waltham, Mass., Produces a Full Line of Desirable Fittings.

In its 1915 catalogue, which also includes a revised price list that will interest dealers and garage men, the Motor Specialties Company, Waltham, Mass., illustrate and describe a large number of its Ford fittings. The line ranges from the Fogg Horn, shown in an accompanying illustration, to wheel pullers, top bow holders, Bemus Ford timers, Mosco shock absorbers, Mosco power tire pumps, Master vibrators, anti-rattlers for doors, steering and radius rods, Excel jacks, etc. This catalogue is free to dealers and garage men upon request, and by mentioning the Accessory and Garage Journal.

The 1915 model Fogg horn is provided with a cut-out, which is a new feature. The horn is located on the exhaust pipe between the engine and muffler and is controlled by two foot pedals and serves the purposes of two appliances, a muffler and a signal horn. At low engine speeds it delivers a full, mellow signal. One of the pedals is of the locking type to hold open the cut-out when so desired. The horn can also be used on a Metz car.

The horn is sold either with or without the cut-out, selling at $4.50 in the former case, and $5 in the latter combination. It is packed in a carton for shipment and



Fogg Horn With Cut-out.

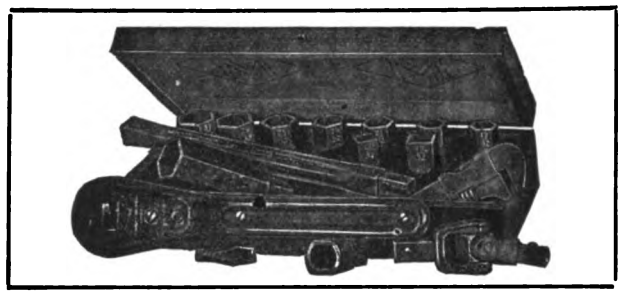
then measures over all 12½ by 4 by 4¾ inches, weighing less than 3¼ pounds. Each appliance is guaranteed for the life of the car.

MOSSBERG MASTER TOOLS.

Ford Car Owners and Dealers Can Obtain a Complete Line of Wrenches for Almost All Purposes.

The Frank Mossberg Company, Attleboro, Mass., makers of the widely known Mossberg wrenches and specialties, is producing a complete line of tools for use upon the Ford car, especially the model T. This car requires many special tools, and the Mossberg specialties are designed to minimize the time and labor in adjustment or repair work on the chassis, etc.

The accompanying illustration shows set No. 15 A, which consists of a special socket wrench set for Ford cars, and sells for $5.50. This set includes a reversible ratchet handle, No. 350, a tubular extension bar, a universal joint, a screw driver bit, a spark plug socket 31-32 of an inch in size, designed to fit Ford plug, and



Mossberg Master Tools.

10 guaranteed sockets. Seven of the sockets are hexagonal and of sizes 17-32, 19-32, 21-32, 23-32, 25-32, 29-32 and 31-32 of an inch. Two are square, made to fit 1915 main bearing bolts, sizes 10-32 and 15-32 of an inch, while one oval socket is provided to fit main bearing bolts designed previous to 1915.

ALBEX FOLDING GOGGLES.

Willson & Co., Making a Self-Adjusting, Perfect Fitting Eye Protection for Motorists.

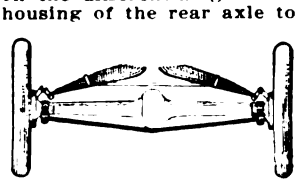
T. A. Willson & Co., Inc., Reading, Penn., is marketing the Albex folding goggles, formerly known as the Zyblex, which is designed to fit any face snugly, and still give perfect ventilation. The self-adjusting bridge, made of strong, silk braid, automatically conforms to any shape of features and clings so closely as to exclude dangerous dust laden air. The folding leather sides are soft and pliable and well ventilated. The temple cables are full and flexible and cannot pull or bind. The goggles are made with flat, ground and polished, optically perfect lenses, and are supplied in either clear white, amber, fleuzal, smoke or amethyst colors, the manufacturer recommending amber or fleuzal. The goggles can be folded and carried in a handsome genuine seal grain leather case, that is included in the price of $2. It is stated that more than 100,000 motorists are now using these goggles. The complete line carried by the Willson company consists of the goggles mentioned, style G 1, the Albex night and day goggles, style G 1½, and the Albex folding goggles for ladies and children, style G 11. Style G 1½ sells for $2.50, and style G 11 for $2. Further particulars can be obtained by addressing the T. A. Willson & Co., Inc., Reading, Penn., and mentioning the Accessory and Garage Journal.

Self-Adjusting Eye Protectors.

FORD REAR AXLE TRUSSES.

Two Types That Are Designed to Increase the Safety and Improve the Operation of Cars.

Many times the continual driving and traction strains on the differential gear and road shocks will force the housing of the rear axle to sag, which necessarily must throw the shafts and gears out of line. This condition will cause abnormal wear on the bearings, cause the rivets and screw holes to wear and open the joints so that the grease may work out. The Sunvold & Larson Manufacturing Company, Minneapolis, Minn., is building trusses that are designed to stiffen and support the differential housing rear axles of model "T" Ford chassis. Two



The S. & L. Single Rear Axle Truss.

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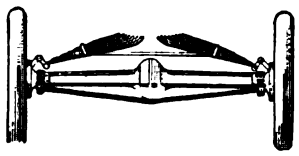
styles are manufactured, one having the single rod that is installed underneath the housing, and the other having twin rods, one underneath and the other at the back, both types of which are shown in accompanying illustrations. These rods are made of steel and are attached to malleable iron collars that clamp around the flange sleeve outside the rivets. Statement is made that the double truss holds the axles in perfect alignment under all conditions, because the upper rod prevents the housing from being forced back and out, while the bottom one prevents sagging. The single truss that runs underneath the housing holds the axle in place by taking the strain that would ordinarily be imposed on the differential housing. The double truss is sold for $2 and the single one for $1.50. The rods can be attached in a few minutes and the tension can be adjusted by the nuts at the end of the rods.

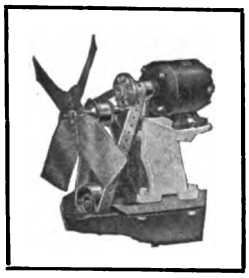


The S. & L. Double Rear Axle Truss.

THE NEW CARLETON GENERATOR.

A Lighting Equipment That Has a Porcupine Drive, Which Prevents Slippage of the Belt.

The Carleton Company, 172 Summer street, Boston, Mass., is building a generator known as No. 68, to supply current for motor car lighting, and which may be utilized with or without a storage battery. A feature of this generator is the porcupine drive, which is claimed will prevent belt slippage and reduces bearing stresses to a minimum. The Carleton generator, adaptable to all machines, lists at $15, and the discounts to the trade are very liberal. No machining or alterations are necessary, and the generator can be installed with a screw driver and a wrench. The construction of this machine is simple and sturdy throughout. Full information as to terms, sales plans and other details will be supplied upon request. For the owner or for the dealer this is a live, efficient system, capable of answering all purposes.

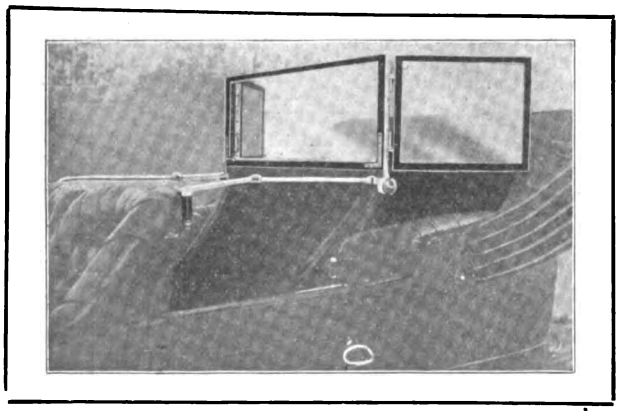


Carleton Generator.

AUSTER TONNEAU SHIELD.

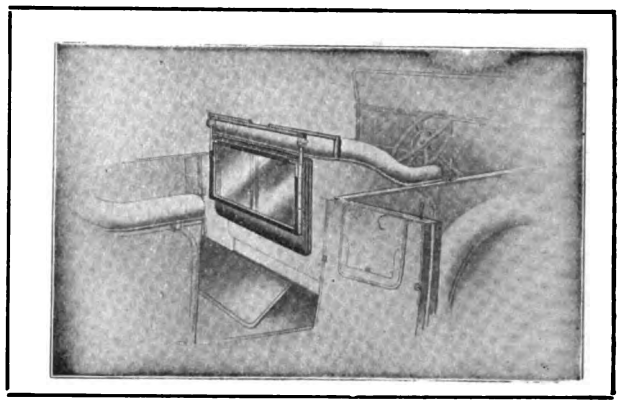
The Fryer-Auster Company, Providence, R. I., Is Marketing an Ideal Summer and Winter Touring Equipment.

A shield that positively protects the tonneau seats from all wind, dust and back draught, is the original and patented English tonneau shield, protected by U. S. patent, that is marketed by the Fryer-Auster Company, Providence, R. I. As is shown in the accompanying illustrations, the shield is adjustable and can be extended from the back of the front seat so as to thoroughly protect the occupants of the tonneau without obstructing their sight. When desired, the shield can be folded flat against the back of the front seat where it is safe from breakage.



Shield Extended to Protect Rear Seats.

It will make any touring car as comfortable and nearly as warm and weather-proof as a machine with an enclosed body. It is a practical, ornamental attachment, finely made and of the best material, and is thoroughly guaranteed as to workmanship and finish and to give protection to passengers in the back seats. It is said that more than 50,000 Auster shields are in use in Europe on all makes and models of cars. It is easily and quickly attached and can be used on any pleasure car. Further particulars can be obtained from the Fryer-Auster Company, 11 Pine street, Providence, R. I.

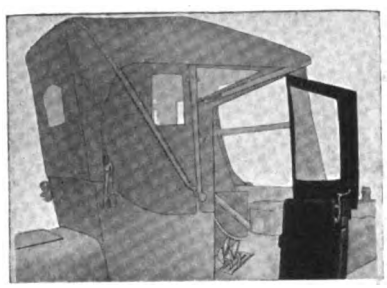


Shield Folded Up—When Not Wanted.

JITNEY CURTAINS FOR ALL CARS.

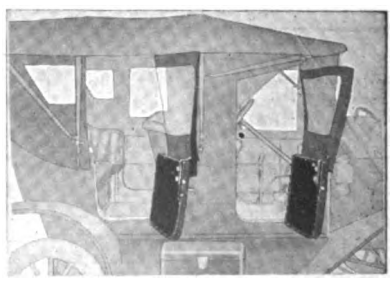
An Equipment That Will Eliminate Buttons and Afford Instant Egress or Ingress by a Door.

The Jitney Curtain Company, 30 N. Ludlow street, Dayton, O., is making curtains that are equipped with the Blackmore curtain opener, that are sold under the trade name of "Jitney Curtains." The company claims that these curtains will afford the greatest convenience to the user, because there are no buttons to be unfastened when one wishes to enter or leave the car. All that is necessary is to open the door and the curtain will swing with it. A bracket supports the curtain at the door edge, so that it can be opened or closed with the door. This makes the open car with top and side curtains as convenient for the passenger as is the limousine. The company states that this curtain opener has been used, because of the many unusual qualities, at an increase in cost, on the 1915 models of Packard, White, Cadillac, Chalmers and Hupmobile cars. The company is confident that many more prominent firms will include them in the equipment of their cars.



Runabout Equipped with Jitney Curtains.

These curtains are especially desirable during the winter months, as they will convert any touring car into a vehicle as comfortable as a limousine, but they also are equally convenient whenever curtains are required. The equipment practically incorporates the curtains into the doors and they are conveniently attachable and detachable. The curtain openers can be adopted to any machine and tops now in use may be converted at a trifling expense by any top maker. They are not unsightly and their utility is such that they are very generally demanded. The equipment is sold at retail for $1.50 a door curtain, and liberal discounts are made to dealers and top makers. Garage men and accessory dealers who are interested in a fast selling equipment should communicate with the company, mention the Accessory and Garage Journal, and obtain literature and information as to prices, etc.



Jitney Curtains as Used on a Touring Car.

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GENERAL MATERIAL MARKET QUOTATIONS.

The tabulation below presents the high and low prices for commodities listed for each week during the past month, as well as the prevailing prices at the beginning and the ending of that period for the purpose of comparison. Antimony shows a slight rise this month, while last month it rose three cents. Southern iron remained stationary, while northern iron dropped $1 a ton, and then advanced $1.50. Steel held firm until the close of the month, when it advanced sharply. Tin showed great activity, finally gaining $3 a ton over its high mark last month. Electrolytic copper rose nearly $2 during the month, while lake copper advanced $1.75. Oils were fairly steady, the greatest change being in cottonseed, which declined 30 cents a barrel.

	March 15		March 22		March 29		April 5		April 12			
	High	Low	High	Low	High	Low	High	Low	High	Low	March 15	April 15
Antimony	21½	21	21½	21½	21½	21½	21½	21½	21½	21½	21	21½
Iron, fdy., S., ton	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25
Iron, fdy., N., ton	12.00	12.00	12.00	11.00	12.50	11.00	12.50	12.50	12.50	12.50	12.00	12.50
Iron, Bessemer, ton	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Steel, Bessemer, ton	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	19.00
Beams and chan., 100 lbs.	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.31
Copper, elec., 100 lbs	14.87½	14.65	15.37½	15.25	15.75	15.37½	16.25	15.75	16.62½	16.12½	14.65	16.62½
Copper, lake, 100 lbs	15.00	14.62½	15.50	15.37½	16.25	15.50	16.25	16.25	16.75	16.25	14.62½	16.75
Lead, 100 lbs	4.10	3.95	4.15	4.10	4.20	4.15	4.20	4.20	4.20	4.17½	3.95	4.20
Tin, 100 lbs	53.50	51.00	53.00	46.00	54.00	48.00	59.00	47.87½	58.00	54.00	51.00	54.00
Petroleum, Kan., cr., bbl.	40	40	40	40	40	40	40	40	40	40	40	40
Petroleum, Penn., cr., bbl.	1.45	1.45	1.40	1.40	1.40	1.35	1.35	1.35	1.35	1.35	1.45	1.35
Linseed oil, raw	62	62	62	62	62	62	62	62	62	62	62	62
Rapeseed oil, refined	75	75	80	75	88	80	88	88	88	88	75	88
Lard oil, prime	92	92	92	92	92	92	92	92	92	92	92	92
Fish oil, Menhaden, br.	41	41	41	41	41	41	41	41	41	41	41	41
Sulphuric acid, 60	90	90	90	90	90	90	90	90	90	90	90	90
Cyanide potash, lb	21	21	21	21	21	21	21	21	21	21	21	21
Cottonseed oil, bbl	7.21	6.50	6.60	6.55	6.65	6.55	6.65	6.55	6.60	6.40	6.70	6.40
Silk, raw, Japan	3.60	3.60	3.60	3.60	3.70	3.70	3.75	3.67½	3.65	3.65	3.60	3.65
Silk, raw, Italy	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90
Rubber, fine up-river Para	59	58	59	58	58	57	59	57	60	59	58	60
Tire, scrap	5	5	5	4¾	4	4¾	4¾	4¾	4¾	4¾	5	4¾
Steel, open hearth, ton	18.50	18.50	18.50	18.50	18.50	18.50	18.50	18.50	19.00	18.50	18.50	19.00

QUOTATIONS ON AUTOMOBILE SECURITIES.

The condition of the stock market as applying to automobile securities during the past month, is indicated by the tabulation below, which shows the high marks reached by the several stocks listed each week. For the most part the market has been fairly steady, although some securities showed marked gains and others declined somewhat.

	March 15		March 22		April 1		April 8	
	Bid	Asked	Bid	Asked	Bid	Asked	Bid	Asked
Ajax-Grieb, com	250	..	285	..	285	..	285	..
Ajax-Grieb, pfd	100	..	100	..	100	..	100	..
Aluminum Cast., pfd	98	100	96	100	98	100	98	100
Borne, Scrymser	250	260	265	270	275	285	280	290
Case, J. I., pfd	72	83¼	..	..	..	..	..	..
Chalmers Motor, com	..	82	..	81	..	80	80	86
Chalmers Motor, pfd	91½	93½	91½	93	90	92½	90	92½
Electric Stor. Bat	48½	49½	49	50	49	50	47¾	48½
Firestone Tire, com	400	405	396	402	398	404	438	445
Firestone Tire, pfd	108	109½	110	112	110	112	110	112
General Motors, com	103⅝	104	118	119	124	126	144	147
General Motors, pfd	99	99½	99½	100	102½	105½	103½	104
Goodrich, B. F., com	36⅞	37	38⅝	38½	42½	43	51⅞	52
Goodrich, B. F., pfd	100	100½	98½	100	99⅞	100	100½	103¾
Goodyear Tire, com	192	194	190	193	195	198	220	225
Goodyear Tire, pfd	104½	105½	104½	105½	103½	104½	102½	104½
Gray & Davis, Inc., pfd	..	..	..	..	..	..	..	..
International Motor, com	..	..	1½	..	8	..	5½	6½
International Motor, pfd	..	..	8	..	22	..	18	22
Kelly-Springfield Tire, com	111	112	111½	112½	117	118	129	131
Kelly-Springfield Tire, 1st pfd	83½	84½	83	85	81	83	83¾	84½
Kelly-Springfield Tire, 2nd pfd	118	125	118	125	123	125	130	131
Maxwell Motor, com	30½	31½	32¾	33¾	37	37½	46	46⅝
Maxwell Motor, 1st pfd	74	75	75	76¼	78	78¼	85	85¼
Maxwell Motor, 2nd pfd	30½	31½	30	31	32⅛	33	39¾	40
Miller Rubber, com	165	170	165	170	165	170	170	176
Miller Rubber, pfd	101	103	101	103	101	103	101	103
New Departure, com	125	126	128	130	134	135	139	144
New Departure, pfd	105½	108	105	108	106	109	105	..
Packard Motor Car, com	..	97½	80	90	80	92	80	92
Packard Motor Car, pfd	94	97	93¾	97½	93¾	97½	93¾	97½
Peerless Motor Car, com	20	21	20	21	20	21	20	21
Peerless Motor Car, pfd	..	55	..	55	..	55	..	55
Portage Rubber, com	34	36	34	36	34	36	34	36
Portage Rubber, pfd	85	95	85	95	85	95	85	95
Reo Motor Car	28¾	29¼	28½	29	28¼	29	30	30½
Reo Motor Truck	11½	12¼	11½	12¼	11½	12	12½	..
Splitdorf Electrical	..	..	..	..	..	..	..	..
Stewart-Warner, com	57	59	56	58	57	59	58½	59½
Stewart-Warner, pfd	101½	..	101½	104	102½	105	102	105
Studebaker, com	47	48	49⅝	49½	57¾	58	67⅞	68½
Studebaker, pfd	94	95	94¼	95¼	97	99½	101½	102½
Swinehart Tire	74½	76	74½	76	74½	76	80	85
Texas Company	132	133½	134	135	142	142⅛	142	148
U. S. Rubber, com	58¾	59	63⅞	64¼	65⅝	66	72⅞	73
U. S. Rubber, 1st pfd	103	103½	105⅛	105¾	105½	106	108½	109
Vacuum Oil	180	183	180	181	..	..	199	201
White Co., pfd	103	108	103	108	103	108	103	108
Willys-Overland, com	109	110	118	120	120½	121½	125	126
Willys-Overland, pfd	99	100	99	101	99	101	100⅝	101½

DOMESTIC CRUDE OIL PRICES.

The prices of crude petroleum at the wells during the middle of the month of March were as follows:

Pennsylvania dark	$1.35	Somerset 32°	$ .80
Second sand	1.35	Ragland	.62
Tiona	1.35	Illinois above 30°	.84
Mercer black	.97	Kan. & Okla.	.40
Cabell	.97	Corsicana light	.45
New Castle	.97	Corsicana heavy	.40
Corning	.83	Electra	.45
Wooster	1.10	Henrietta	.45
North Lima	.86	Caddo, La., 38°	.60
South Lima	.83	Caddo, La., heavy	.35
Indiana	.78	Spindleton	.40
Princeton	.84	Canadian oil	1.32

California.

21 to 23.9 grav	40	29 to 30.9 grav	55
24 to 26.9 grav	42½	31 to 32.9 grav	60
27 to 28.9 grav	45		

Naphtha.

	10-gal. drums. Under 100 cases	100 cases and over	*100-gal. drums
Benzine, 59-60°	23¾	23¼	14¼
Stove	26½	26	17
Auto, 68-72°	29	28½	19½
Naphtha, 73-76°	33	32½	28½

*Drums, extra, $8.50.

	In cans and cases Under 100	100-199	200-299
Benzine, 59-72°	18¾	18½	18¼
75 a 76°	28	28	27½
Stove	21½	21¼	21
Auto, 68-72°	24	23¾	23½

NEW YORK CITY PRICES.

New York City prices for petroleum and its products were:

Petroleum.			
Crude, barrels, a gallon	13½	a	..
Refined, barrels	11	a	..
Tank wagon delivery	..	a	9
Fuel, 31°	8	a	..
Fuel, 34°	9	a	..
Naphtha.			
Auto in wood	..	a	16
Auto in garages, steel bbls	..	a	12
V. M. & P. deod., in steel	..	a	9
V. M. & P. deod., in wood	..	a	11
Gasoline.			
86°	..	a	26
74-76°	22	a	24
67-70°	..	a	22

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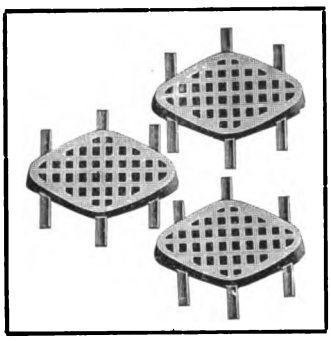
APCO RUBBER PEDAL PADS.

Equipment Specially Designed to Increase the Safety and the Comfort of the Operators of Ford Cars.

Of the many accessories that are supplied for Ford cars by the Auto Parts Company, Providence, R. I., one that will be of practical value to all drivers is the rubber pedal pads, which are adapted to be clamped to the foot pedals. As a Ford car is practically controlled by these foot pedals, it is essential that they be operated with certainty. When the pedals are new they have knurled surfaces, but with use they rapidly wear smooth. If the soles of the shoes are slippery from mud, oil or water, the result can be plainly foreseen. The foot will slip from the pedal and if this should happen when control is urgent, as in congested traffic or on a hill, an accident might be caused. As a precaution and protection the pedal pads are necessary equipment for every car. They are made of pure soft rubber and are extremely durable. When the foot is placed on one of these pads it cannot slip, and soles of the shoes will not wear out as quickly as when placed on the metal pedals. The pads are fitted with six steel strips that are clamped around the pedal. The price is 50 cents a set. They are sold by dealers or direct by the company.



Apco Pedal Pads.

SAMSON TIGER HAND HORN.

An Extremely Efficient Signal That Can Be Adapted to Many Conditions for Convenient Operation.

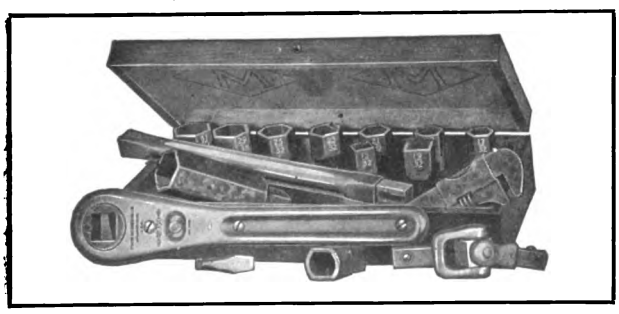
The Puritan Machine Company, 411-417 Lafayette boulevard, Detroit, Mich., sales agent for many well known automobile accessories, has placed in the market a hand operated warning signal which is retailing for $5, and is the Samson Tiger Hand Horn. The horn is operated by a handle which projects from the side, which with a slight turn will produce a loud tone. There are five different positions in which this horn can be mounted, so that the handle can be placed in any desired position. The horn can be operated by the elbow when the handle is located on the inside. The company claims that the wheel operated horn is absolutely reliable, for it cannot be damaged nor can it become jammed or broken.

The horn is fitted with an adjusting screw on the diaphragm plate for regulating the tone. This horn is well adapted for motor boats and if a long blast is desirous the company will supply a special handle, which is six inches longer than the standard for 25c. This horn is made and guaranteed by the American Electric Company, Chicago, Ill., which company will repair it free of cost should it ever become impaired through defect of workmanship or material and has not been tampered with. The horn can be secured in a black and nickel, black and brass or all black finish without extra charge.

MOSSBERG SOCKET WRENCHES.

These Sets Are Made in Different Types and Sizes and Are Especially Saving of Time and Labor.

Every mechanic and owner knows the value of wrenches. They are invaluable when working upon the engine or body and to have the right kind of wrenches at hand is a great convenience. There are many nuts and bolts in a car that should be gone over and tightened at regular intervals. Many of these nuts and bolts are in inaccessible places, and if the right kind of wrenches are not at hand they are frequently neglected or not well adjusted. Loose nuts and bolts create rattles which are very annoying to the occupant and damaging to the car. The Frank Mossberg Company, Attleboro, Mass., is manufacturing socket wrench sets with which an operator can reach nuts and bolts wherever located, no matter how inaccessible to the hands.



Mossberg Socket Wrench Set No. 15.

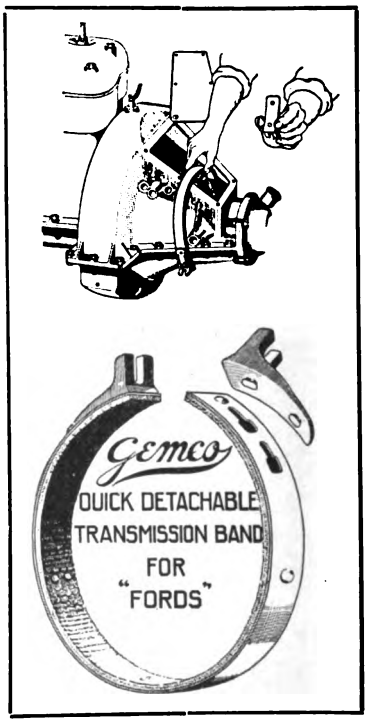
The company produces sets of different types and sizes for automobile work, these including sockets that are adopted for special purposes on different makes of cars. The larger sets are especially adapted for repair shop work where many tools are required. The socket wrenches are kept together in a box with their shank, etc. The dimension is plainly marked on each socket, so no time is lost looking for the right one. Various sets are made to fit Ford models, these ranging from a utility set for ordinary adjusting to one that is suited for overhauling the car. All the wrenches are thoroughly finished and hardened. The Frank Mossberg Company will supply complete details and prices of its products to any inquirer and will advise what will best serve any specific purpose.

The set illustrated on this page is known as No. 15, and sells for $5.50. It contains a reversible ratchet handle, tubular extension bar, universal joint, screw driver bit, spark plug socket to fit Ford plugs, and 10 guaranteed hexagon, square and oval sockets. The hexagon sockets range in size from 17/32 to 31/32 of an inch; square socket sizes are 10/32 and 15/32 to fit 1915 main bearing bolts; oval socket fit previous to 1915 main bearing bolts.

QUICK DETACHABLE TRANSMISSION BAND.

Quick Detachable Transmission Bands for Ford Cars, with Several Exceptional Features.

The transmission of a Ford car is operated by the appliance of bands which pass around the outside of the transmission drums. These bands are subject to wear and in time they will become so worn that it will be found necessary to replace them. The bands commonly used on the Ford are very difficult to detach, it frequently being necessary to dissemble and reassemble the transmission case. This is necessary because the ear of the band catches on the sides of the transmission case. The Garage Equipment Manufacturing Company, Milwaukee, Wis., maker of the well known Gemco specialties for automobiles, is now producing a quick detachable transmission band for Ford cars. A feature of the band is that one of the ears is detachable, which allows of the band being taken out without having to dissemble the case, except to remove the small cover at the top. It is claimed that by this method any one of the bands may be removed and replaced in 10 minutes. The Gemco quick detachable bands are made of heavy spring steel and lined with the best brake lining procurable. There are two drop forged ears, one of which, as already stated, can be detached in less than a minute, while the other car is firmly riveted to the band. The accompanying illustration shows the manner in which the bands can be inserted. It is only necessary to remove the detachable ear and pass that end of the band around the transmission drum and then replace the ear and attach to the car in the usual manner. These bands are generally sold in sets of four, thus giving an extra band for an emergency roadside change. Worm bands can be easily relined. The Gemco quick detachable band with lining attached is retailed at $1.50 each, and for $1 additional the company will supply enough lining and rivets for three bands.



Gemco Quick Detachable Transmission Band.

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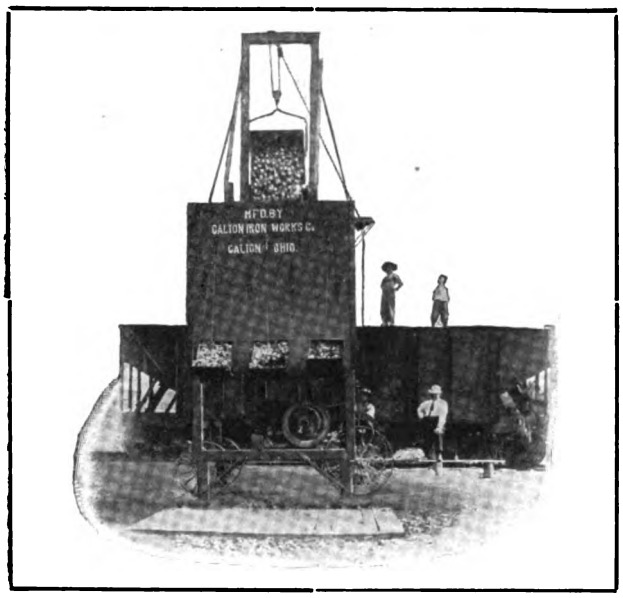
ECLIPSE PORTABLE UNLOADER.

Will Unload a 50-Ton Hopper Car in an Hour.

AS AN adjunct to motor trucks, the Eclipse Portable Unloader, which the Galion Iron Works and Manufacturing Company, Galion, O., is marketing, is stated



Front View of Unloader in Operation.

to be a highly efficient equipment. It greatly economizes the unloading and loading of coal, sand, slag, crushed stone, etc., either at piers or in railroad yards. It is fitted for a wide range of service, and is a great factor in minimizing unloading costs.

The company supplies the unloader in 15 and 50-ton capacities, both sizes being alike in constructional details. Though having all the qualities of a permanent structure when set up for operation, the unloader can be sufficiently dismantled in a few hours for transportation by animal or tractor power, it being mounted on two trucks or axles on which are four wheels with steel spokes and wide rims. It is designed to be worked in conjunction with the hopper bottomed type of railroad car known as the gondola, or with older types which are fitted with bottom slides so that the load can be discharged by gravity. Only one man is required to operate the machinery with which it is equipped, although it may be necessary to have one or two men to trim the railroad car loads.

In operation the unloader is set up at 13 feet from the railroad track. At a distance of about six feet from its base is dug a pit whose dimensions are seven feet depth, six feet width, five feet six inches length, with the farther side 18 inches from the track rail. A box, conforming to the pit sizes, is placed therein. A steel chute is placed in an inclined channel that extends under the near rail to directly under where the car hopper will open. A steel bucket, seen dumping in the illustration, is raised and lowered on an inclined wooden railway that extends from the top of the bin to the bottom of the pit. The bucket is operated by a wire cable that passes through a pulley at the top of the bin tower, thence to another pulley at the front end of the bin, from which it passes through a pipe sheathing in the bin itself and down to the hoisting drum in the rear of the unloader. The hoisting drum is operated by a six-horsepower water cooled gasoline engine, which is controlled by a clutch and lever.

The operation of the unloader is simple. With the bucket at the bottom of the track in the pit the car hopper is opened and the load drops by gravity into the chute and then the bucket. A gate on the chute controls the flow. The operator then starts the hoisting drum in motion by a forward thrust of a long, horizontal wooden lever, which is attached to the upright lever that engages and releases the clutch. When the bucket reaches the top of the bin a trigger trips it and the content is deposited into the bin, from which it descends by gravity into the trucks, the loading chutes being provided with gates operated by cables and counterweights to regulate the flow. These chutes are operated by the drivers of the trucks.

The elevator will handle from 250 to 500 tons of material a day, according to conditions, with one man operating it, the truck loads being trimmed automatically. The company claims that the transfer from railroad car to vehicle will cost less than two cents a cubic yard.

VEHICLE SPEED CONTROLLERS.

Pierce Company Makes Devices That Prevent Overspeed.

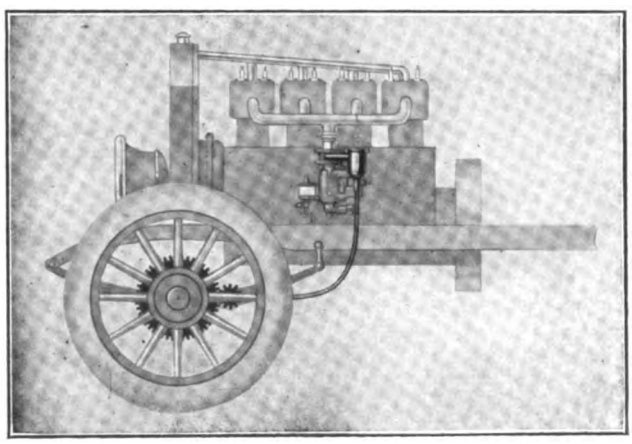
THE Pierce Speed Controller Company, Anderson, Ind., is manufacturing speed controllers that are easily attached to motors and prevent drivers from racing their engines beyond a determined speed. These instruments appeal to all owners who see or understand them, and are widely used throughout the country. They have proven eminently satisfactory in hundreds of service tests made with them, and have shown remarkable savings in fuel and lubricants, and minimized mechanical wear from stresses caused by operation. They are found especially valuable on fire apparatus, ambulances and trucks, but can be used upon any type of motor driven vehicle.

The company produces two different types. One is known as the Pierce governor, which controls the speeds by regulating the fuel supply. The other is the Pierce speed controller, which positively regulates the number of revolutions of an engine, and limits the movement of the vehicle. The principle of operation in both types is an adaptation of the ball governor of the steam engine, in which centrifugal force controls a valve in the intake manifold, varying the volume of fuel supplied the engine.

The controller known as model G is bolted between the carburetor and the intake, where it is firmly secured and cannot be removed surreptitiously. It is driven by a gear that meshes with a pinion on the main shaft of the power transmission system. The actual operation of the controller is as follows: As the movement of the vehicle reaches the speed for which the controller is adjusted, two weights on the controller shaft swing outward as the velocity of the shaft is increased, forcing forward a sleeve that acts upon a slidable shaft which in turn operates the butterfly valve. The valve which normally does not restrict the flow of gas, is so swung as to reduce the volume of fuel that the engine draws. As the speed is reduced, a spring pushes against the sleeve and weights and serves to swing the butterfly valve back into normal position so as to admit a greater fuel supply. The action is positive, simple and practical, and the controller can be finely adjusted and is not subject to great wear. The controller can be adjusted to any speed desired, and is sealed so that it cannot be altered without such tampering being evident at a glance.

The Pierce motor governor, which weighs but nine ounces and is strongly constructed and long enduring, is similar in principle to the speed controller, except that it is independent of the speed of the wheels, acting upon the engine when the predetermined number of revolutions a minute is reached. It is driven usually from the camshaft, which is designed to be driven at half motor speed. It not only limits the speed of the vehicle, but prevents racing the engine.

Another of the company's devices that is designed particularly for vehicles already in service is known as model T, shown on this page. A feature of this device, which drives from the front wheel, as shown, is that it will not operate until the vehicle is moving at speed within a mile an hour of the rate for which it has been set. It can be installed in about three hours. Another feature is that the device can be locked so that a vehi-



Pierce Speed Controller, Driven from the Front Wheel, Which Regulates the Speed in Miles an Hour.

cle cannot be started without the use of the key, and the whole unit so sealed and locked that unauthorized persons are prevented from tampering with it.

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TRADE INFORMATION EXCHANGE.

The Following Requests for Information, Presented by Members of the Trade Information Exchange, Offer Opportunities for Agents to Secure New Lines, for Manufacturers to Extend Their Representation and for Producers to Get in Touch with Those Who Are in the Market for Equipment and Supplies. They Are Published Without Name or Address, Those Interested Desiring the Negotiations to Be Strictly Confidential. Replies Should Be Addressed by the Number Given and Sent to the Exchange with Postage for Forwarding.

Through the Trade Information Exchange, the Accessory and Garage Journal is in a position to supply at request a number of the best pleasure car and power wagon agency propositions that can be secured. These agency openings are for machines of all kinds, makes and prices. When writing, state preference, prices and full details concerning that which is desired. All correspondence will be treated as confidential. No charge will be made for the service rendered.

GASOLINE PLEASURE CAR AGENCIES.

3138—California House is in the market to represent a line of pleasure cars selling from $750 to $2000.

3141—Montana Company is interested in gasoline pleasure cars selling from $1295 up.

3142—Virginia House wants information regarding a second-hand car, one that could be stripped and made into a "Scooter."

3145—New Jersey Firm is interested in gasoline pleasure cars selling from $7500 up.

3147—Michigan House wants information regarding gasoline cars selling from $800 to $2000.

3149—North Carolina Firm is in the market to represent a line of pleasure cars selling from $600 to $900.

3151—Pennsylvania House wants information regarding gasoline pleasure cars selling from $600 to $1500.

3153—Wisconsin Firm is in the market to represent a line of pleasure cars selling from $750 to $1050.

3155—New York Firm is interested in gasoline and pleasure cars selling from $700 up.

COMMERCIAL CAR AGENCIES.

6194—Montana Firm would consider the agency of motor trucks selling from $1500 up.

6196—Pennsylvania House is in the market to secure the agency for a line of commercial vehicles selling from $700 to $1800.

6199—Michigan Firm would like to secure the agency for a line of commercial vehicles selling from $800 to $1500.

6201—North Carolina Firm would consider the agency for a line of commercial vehicles selling from $800 to $2000.

6204—Pennsylvania House is in the market for gasoline commercial vehicles selling from $1000 to $2500.

6206—New York House is in the market for the agency for commercial vehicles selling from $500 to $4000.

6208—Virginia Firm is interested in commercial vehicles selling from $500 to $1500.

6210—Wyoming House in the market for commercial vehicles selling from $600 to $2000.

6212—New York firm is interested in gasoline commercial vehicles selling from $440 to $600.

ELECTRIC PLEASURE CAR AGENCIES.

541—California Concern is interested in electric pleasure vehicles selling from $1500 to $3500.

MOTORCYCLE AGENCIES.

153—Pennsylvania Firm is anxious to secure the agency for a line of motorcycles selling from $230 to $325.

155—Wyoming House is interested in motorcycles selling from $150 to $350.

ACCESSORIES, EQUIPMENT AND SUPPLIES.

834—Rotterdam (Holland) Company will be pleased to hear from American makers of aluminum and brass running board strips fluted, also of aluminum matting, pyramid type, for motor cars.

836—Pennsylvania House wants batteries, bearings, bulbs, carburetors, castings, engines, gaskets, hose, ignition supplies, magnetos, mechanical starters, carbon removers, shock absorbers, speedometers, starters, tire accessories, tires, tools, tops and parts, waste and wrenches.

839—California Concern wants information relative to air compressors, batteries, bodies, charging apparatus, cloth, drills, horns, lathes, machinery, mechanical starters, rectifiers and wrenches.

841—New York Company is anxious to secure air pumps, batteries, bolts, bulbs, bumpers, cements, chains, oil, greases, fire extinguishers, gaskets, gasoline, gears, goggles, graphite, guns, headlights, heaters, horns, hose, ignition supplies, indicators, jacks, lamps, locks, lubricators, magnetos, maps, meters, measuring instruments, nuts, patches, pins, plugs, polishes, pullers, pumps, reflectors, carbon removers, scrapers, screws, seats, shims, shock absorbers, soaps, speedometers, springs, storage systems, tanks, terminals, testers, tire accessories, tires, tools, tubing, vises, voltmeters, whistles, windshields, wire and wrenches. The above products are to be used for garage and sales.

844—Ohio Firm is in the market for air compressors, air pumps, cements, oils, air gauges, jacks, motors, plugs, rubber, patches, tire accessories, tires, tools, valves, vulcanizers and wrenches. The above products are to be used for retail trade and repair shops.

848—Iowa House wants arbor pressers, cabinets, charging apparatus, dynamos, elevators, fire extinguishers, furnaces, paints, radiators, storage systems, switchboards, switches and voltmeters. The above products to be used for garage use.

850—Texas Company wants information relative to a differential assembly for E M F 30, 1910 model; also anti-rattlers, batteries, bulbs, burners, carbide, water hose, mechanical starters, primers, reflectors, tape, testers, transmissions, waste and a second-hand Ford touring body.

852—Iowa Concern is in the market for an automobile turn table; one that could be permanently placed in a cement or wood floor.

854—Wisconsin House wants information pertaining to anti-rattlers, batteries, bodies, carbide, cements, chains, coils, commutators, curtains, doors, drills, fenders, fire extinguishers, gaskets, grinders, hose, hydrometers, magnetos, mechanical starters, paints, platinum, carbon removers, rims, shock absorbers, solder, steering wheels, tanks, tires, tools, varnishes, vulcanizers, waste, wearing apparel and wheels.

857—Pennsylvania Dealer is interested in anti-rattlers, axles, batteries, belts, bodies, bumpers, camshafts, carbide, carburetors, charging apparatus, clutches, coils, commutators, cones, oils, greases, cylinders, dashes, dimmers, engines, fans, fenders, fire extinguishers, gasoline, gears, goggles, graphite, guards, headlights, horns, jacks, lamps, leather, mechanical starters, radiators, carbon removers, shock absorbers, speedometers, starters, tire accessories, tires, tools, tops and parts, vulcanizers, windshields and special bodies for pleasure and commercial cars. The goods are to be used in the stock and trade.

859—Georgia House wants oils, greases, soaps, tire accessories and tires.

860—Indiana House wants information relative to axles, batteries, bearings, bumpers, carburetors, dimmers, gears, ignition, magnetos, mechanical starters, primers, starters, storage systems. They are to be used on all makes of cars.

862—Iowa Firm is interested in air compressors, air pumps, anti-rattlers, anvils, asbestos, autogenous welding equipment, axles, banding, batteries, bearings, belts, bodies, bolts, brakes, bulbs, bumpers, cable, carburetors, chains, charging apparatus, clutches, coils, oils, greases, dashes, doors, emblems, fenders, gaskets, gauges, generators, goggles, graphite, grinders, hammers, horns, hose, hubs, hydrometers, ignition supplies, jack lamps, recording time clocks, locks, lubricators, magnetos, mechanical starters, mufflers, nuts, packing, patches, pedals, pinions, pistons, platinum, plugs, polishes, presses, primers, radiators, ratchet drills, reamers, rectifiers, reflectors, carbon removers, rheostats, shock absorbers, solder, speedometers, springs, starters, steering wheels, storage systems, switchboards, switches, tanks, tape, testers, timers, tire accessories, tires, tools, tops and parts, vises, voltmeters, vulcanizers, waste, wheels, windshields, wrenches and special bodies for commercial cars. The products are to be used in jobbing.

864—Michigan Firm wants air compressors, air pumps, batteries, bearings, bumpers, cabinets, cans, caps, carburetors, chains, chemical tanks, oils, greases, engines, gasoline, generators, goggles, graphite, headlights, horns, jacks, joints, lamps, recording time clock locks, lubricators, magnetos, mechanical starters, motors, mufflers, paints, pans, patches, plugs, polishes, printed matter, pumps, punches, searchlights, shock absorbers, soaps, speedometers, starters, steering wheels, tanks, testers, timers, tire accessories, tires, tools, transmissions, varnishes, vulcanizers, waste, wearing apparel, wheels, whistles, windshields, wrenches.

866—Ontario Concern is desirous of securing air compressors, air pumps, anti-rattlers, anvils, arbor presses, asbestos, autogenous welding equipment, axles, banding, batteries, bearings, belts, bodies, boilers, bolts, brakes, brushes, bulbs, bumpers, cabinets, cable, cans, carburetors, castings, chains, charging apparatus, chemical tanks, clamps, clips, cloth, clutches, coils, cranes, cushions, oils, greases, drills, drums, dynamometers, dynamos, fans, fenders, fire extinguishers, frames, gaskets, gears, hammers, headlights, holders, horns, injectors, jacks, lamps, lathes, leather, recording time clocks, machinery, metal parts, motor controllers, motors, mufflers, nuts, odometers, packing, paints, pins, pistons, plugs, primers, printed matter, pulleys, radiators, reamers, shock absorbers, sockets, solder, speedometers, starters, steel, steering wheels, steps, switches, tanks, tape, terminals, timers, tire accessories, tires, tools, transmissions, trimmings, upholstry, valves, vises, wheels, windshields, wire, wrenches and bodies for pleasure and commercial cars.

869—Pennsylvania Firm is in the market for lathes, leather, plugs, tires, tools, turntables.

870—Michigan House is anxious to secure mechanical starters, plugs, starters.

872—Ohio Dealer wants information relative to batteries, bodies, celluloid, cranes, fire extinguishers, headlights, lamps, locks, vulcanizers.

875—Nebraska Firm is anxious to secure air compressors, air pumps, tires. The goods are for garage and selling; also special bodies for Fords.

877—Missouri Company is interested in air compressors, air pumps, anti-rattlers, axles, bearings, burners, carburetors, dashes, fenders, gaskets, joints, magnetos, motors, pistons, plugs, pumps, radiators, rectifiers, reflectors, rims, shock absorbers, speedometers, tape, wheels, windshields. The goods are to be used for building catalogue.

879—Wyoming Concern is anxious to secure anti-rattlers, asbestos, axles, batteries, bearings, bodies, bolts, brakes, bulbs, camshafts, cans, carburetors, cases, celluloid, cements, chains, clamps, clips, cloth, commutators, cups, curtains, cushions, dashes, dimmers, doors, fasteners, fenders, gaskets, gauges, gears, goggles, glass, headlights, horns, hose, jacks, lamps, leather, locks, magnetos, maps, mechanical starters, motor controllers, mufflers, nuts, packing, pinions, pins, pistons, platinum, printed matter, pulleys, pumps, punches, radiators, reamers, rims, rods, rubber, screws, searchlights, seats, shock absorbers, speedometers, spokes, stampings, starters, steel steering wheels, steps, storage systems, switches, tanks, timers, tire accessories, tires, tools, tops and parts, transmissions, trunks, tubing, turntables, upholstery, valves, varnishes, vulcanizers, washers, washstands, waste, wheels, whistles, windshields, wire, wrenches, recording time clocks and special bodies for pleasure and commercial cars.

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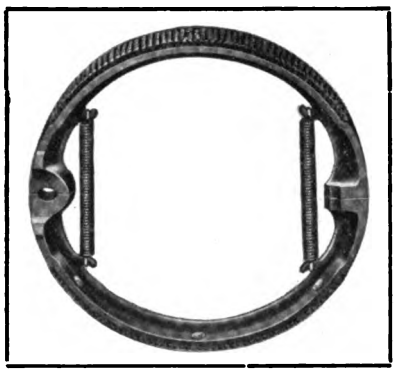
JENSEN TIRE PUMP.

Illinois Concern Manufactures a Folding Tire Pump More Effective Than Power Driven Pumps.

The W. H. Howell Company, Geneva, Ill., is manufacturing and securing distribution in all parts of the country for the Jensen Tire Pump, a hand pump which is said to be much more easily operated than the ordinary vertical type and so effective that many points of superiority over the engine driven or spark plug types are claimed.

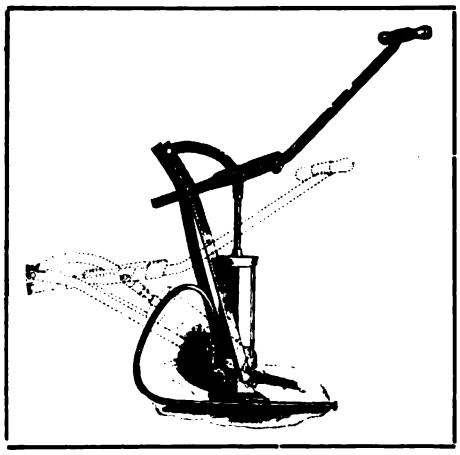


Howell Emergency Brake Shoe.

It is a folding device built on the fulcrum principle, so that the whole movement of the body may be used in pumping. While the motion is similar to that by which an ordinary type of hand water pump is used, the design gives decided advantages over usual lever pump. The air is handled only once, on the down stroke. This makes the pump operate very much more easily than the ordinary pump and usually arouses great enthusiasm on the first trial of the device. Instead of having the lever pivoted in two places on bolts or pins, the lower end of the Jensen lever slides in a bridle. At the beginning of the stroke the fulcrum is about 6½ inches, and as the plunger proceeds downward the end of the lever slides through the bridle until at the finish of the stroke the fulcrum is only about three inches, thereby doubling the leverage. In this manner twice the power is produced that can be secured with the ordinary lever pump.

The cylinder is made of seamless brass tubing, and the side parts are of steel, producing both lightness and strength. The plunger rod is cold rolled steel, and the cup leather is of the best leather obtainable and will last indefinitely, at least three times as long as the cup leathers of the compound pump. It is manufactured throughout for durability.

With the Jensen pump it is said to be as easy to pump against 90 pounds pressure as it is to pump against 65 with the ordinary hand pump. The air capacity is larger, so that a tire may be inflated in about one-fourth of the time. A boy or woman can operate it. When folded the pump will fit any tool box. It is very simple and very seldom gets out of order, being superior in that respect to the mechanical pumps, its makers declare. Garage men all over the country have recognized the great possibilities of this specialty and have taken up its distribution. The price is $5.



Jensen Tire Pump.

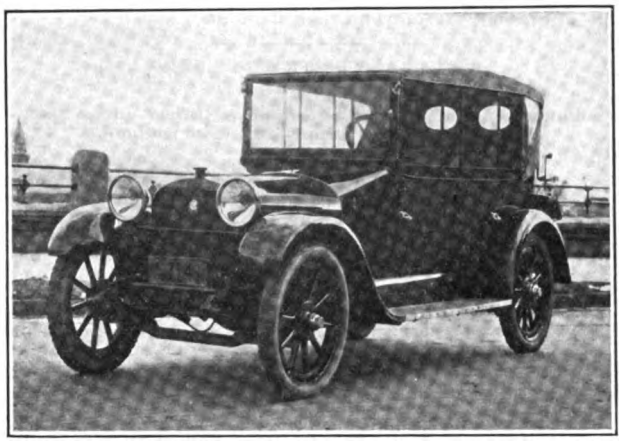
Another fast selling product of the Howell company is an emergency brake shoe for Ford cars, which is fitted with a regular brake lining. This is a great improvement over the unlined shoes that have usually been used on Ford cars. It is much more durable and produces a more efficient and reliable brake. The price is $1.75 the pair.

H-W ALL-WEATHER TOP.

Equipment with Which an Open Car Can Be Quickly Converted to Afford Limousine Comfort.

The Hammond-Williams Convertible Top Company, Inc., 529 Marbridge building, Broadway and 34th street, New York City, is manufacturing a type of automobile top which will afford the fullest pleasure for the motorist in sunshine or rainy or cold weather. This is known as the H-W All-Weather Convertible Top. It attaches to the body in the same manner as any ordinary one-man top and can be folded when an open car is desired.

The car is easily converted to have the protection of a limousine by inserting handsome French plate glass windows into the brass channels of the top. The windows are held firmly at the bottom by aluminum brackets. When all the windows are placed in position the car is absolutely weather proof. These windows can be installed in about three minutes without the use of tools and without aid. This equipment for converting a car



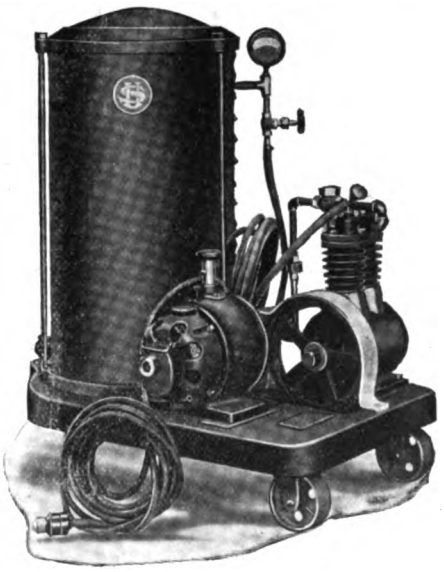
Touring Car Equipped with an H-W All-Weather Top.

makes motoring a pleasure, especially in the evening, when a limousine is very desirable. No awkward movements are necessary on entering or leaving, as the windows swing with the door. When the windows are not in use they are carried in a neat, narrow box, placed behind the front seat. The price of this top ranges from $150 to $300, depending on the size and make of the car.

U. S. PORTABLE AIR COMPRESSOR.

Practical Outfit, Operated by Electric Power, Adapted for Service in Garages and Repair Shops.

The United States Electrical Tool Company, Cincinnati, O., is manufacturing an electrically driven air pump which should be equally as useful in private garages as in public service stations. The pump is mounted on a platform which is fitted with three wheels and is movable to any part of the garage where it may be needed. Many garages are equipped with stationary air pumps, with which the car must be brought to the air connection. This may necessitate partial inflating of a tire by a hand pump or running the car on the flat tire, which is bad practise, as the pressure of the rim of the wheel may cut holes in the tire tube.



The U. S. Portable Electric Air Compressor.

The United States Electrical Tool Company has placed an electric motor driven one-cylinder air pump on a platform, which compresses the air into a tank, located at its side. The air is then forced into the tire by pressure from the tank. The pump cylinder is cooled by air and receives lubricant for the piston from a grease cup fitted on the top. The tank is six inches diameter and 12 inches length. It is fitted with a petcock at the bottom, so that the condensation may be blown out. All danger of oil being carried into the tire is eliminated when the air is first pumped into the tank.

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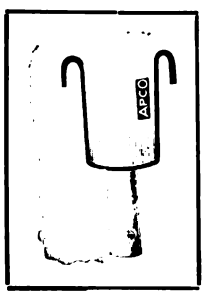
The motor is rated at a half horsepower and is made for use with direct current of 110 or 220 volts, or alternating current, 110 or 220 volts, 60-cycle, single-phase. With this motor outfit one can inflate a 35 by four-inch tire from flat to 70 pounds pressure in 1½ minutes. The cable to the motor is fitted with a connection that can be attached to a lamp socket. The air tank is fitted with a gauge so that the number of pounds pressure carried in the tank may be learned at a glance. Eight feet of half-inch rubber hose is attached to the tank and is used to connect it with the tire. A gauge is attached to this hose, which shows the pressure of air in the tire. A long handle is attached to the front castor, by which the outfit may be moved when desired.

APCO VALVE STEM PACKING.

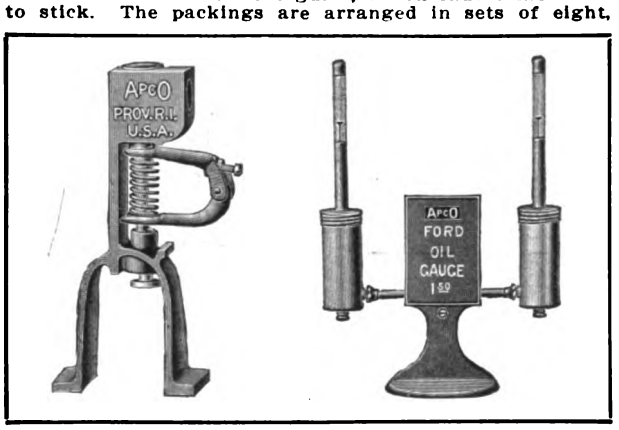
Providence Apco Specialties Company Offers Valve Packing and Display Stands for Its Products.

The Auto Parts Company, Providence, R. I., manufacturer of the well known line of Apco specialties for Ford cars, is producing a device that prevents the entrance of air between the valve stem and guide when these members become worn. It is an established fact that an extra supply of air will weaken the fuel mixture and decrease the power of the motor. This is very noticeable at low throttle, when a rich mixture is necessary for the smooth running of the engine. When the mixture becomes weak the motor will miss, and at low throttle the motor may stop entirely.



Valve Stem Packing.

The Apco valve stem packing consists of a special steel stamping which carries a felt washer. The device is held against the bottom of the valve guide and around the valve stem by the valve spring, as shown in the accompanying illustration. The maker states that the felt washer is well oiled and will therefore keep the valve stem and guide well lubricated. Another advantage which the maker points out is that the device will prevent the entrance of dust and other abrasive elements into the guide, which causes the valve to stick. The packings are arranged in sets of eight,



Apco Display Stands Showing Valve Remover and Oil Gauge.

and are sold for 50 cents per set. Four of these packings should be used for the exhaust guides to overcome the hissing noise of hot gases. These packings are just as necessary on new cars as they are on old cars; they prevent wear on the valve stem and guide and therefore insure a good mixture to the cylinders at all times. The installation of these packings requires but a few minutes and without the use of tools.

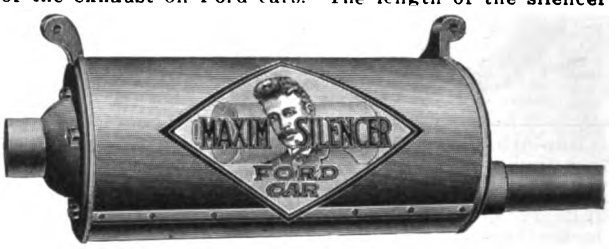
Apco Anti-Rattler Stand.

The Auto Parts Company is also supplying the dealer, through the jobber, with demonstrating stands for displaying the Apco valve spring remover, dash oil gauge and anti-rattlers. The first named displays the valve remover in operation. A valve, spring, valve guide, tappet and tappet guide are fitted to the stand and the valve remover is shown compressing the spring. The oil gauge stand displays two oil gauges mounted in an upright position. These gauges are attached to the end of two arms, which extend from the centre of the stand. In the centre is a neat sign, which designates the purpose for which the article is used and also the price. The Ford anti-rattler stand displays four different types of anti-rattlers and is especially attractive. They are mounted at various angles on the sides of the stand. The name of the product, as well as that of the maker is displayed in the centre of the stand. A set of these stands should be of much service to the dealer in arranging his window display, as well as in disposing of his stock, as they are dumb salesmen, always demonstrating to the customer how he may better equip his car. A letter to the Auto Parts Company will bring the required information as to where and how these stands may be obtained.

MAXIM SILENCER FOR FORDS.

New Type of Muffler That Minimizes Back Pressure and Largely Economizes Fuel and Oil.

The Maxim Silencer Company, manufacturer of many kinds of silencers, are making a device for the muffling of the exhaust on Ford cars. The length of the silencer



The Maxim Silencer for Ford Cars.

is the same as the regular muffler and the diameter a trifle larger, it being 5¾ inches. When the exhaust gases enter the muffler they immediately expand into the expansion chamber in such a manner that they are given a cushion effect. When they reach this chamber they have a spiral motion, a characteristic of all Maxim silencers. The spirals are so arranged that the charge is evenly divided throughout the chamber, thus reducing the back pressure on the engine.

The company claims that much of the skipping at low throttle on Ford cars is caused by the excess of back pressure in the cylinders, which causes the fresh gas to become adulterated. By the installation of the Maxim muffler, the company claims the fresh gas will have greater inflammability, which will afford a greater power from a smaller charge of gas. The tail pipe is made a part of the silencer and it is so arranged that it clears the rear cross spring. The device is warranted not to burst from back fire explosions and is sold for $6 complete with all attachments. The silencer may be procured from most of the best dealers in automobile supplies.

YANKEE FOLDING TIRE PUMP.

A Convenient and Strong Pneumatic Tire Pump Which Can Be Folded Into Compact Unit.

The Eugene Atkins Company, Inc., Elkhart, Ind., manufactures a hand pump, named the Yankee folding pump, which is claimed to make the inflation of pneumatic tires a simple and easy operation. The principal feature of this pump is that it can be clamped on the running board of a car, and as the piston works horizontally, it can be operated while in that position, as is shown in the accompanying illustration, it not being necessary for the operator to stoop. This is claimed to be a great advantage over most hand pumps, which usually require the use of both hands and feet and also much energy. The outfit comes complete with eight feet of air hose, with necessary connections, for $6 f. o. b. the factory. An additional charge of $1 is made if a pressure gauge is desired. Inquirers who write and mention the Accessory and Garage Journal will be furnished with complete data, etc.

The Yankee Folding Pump.

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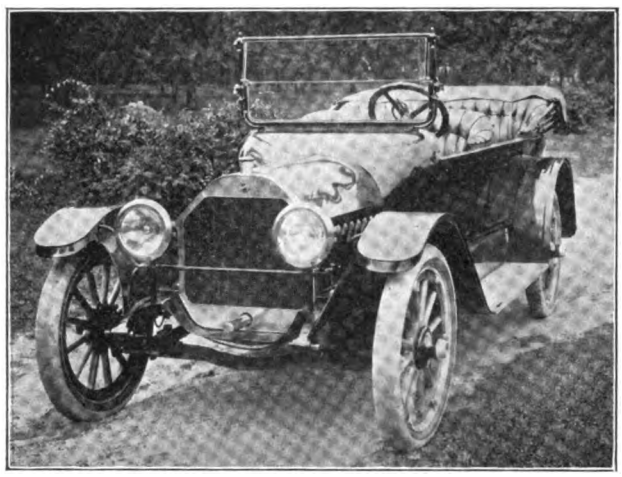
NEW OLDSMOBILE FOUR.

Known as Model "42", Sells at Less Than $1300.

AS A CONTINUATION of its light four-cylinder motor type, the Olds Motor Works, Lansing, Mich., has added its model "42." It has been perfected mechanically,



View of the New Oldsmobile Model 42.

and its body equipment is practically that which has been one of the features of the Oldsmobile six-cylinder car. The chassis is not only greatly improved, but the body is handsome in design, is well built and capitally finished, and it has every convenience that will contribute to the comfort and pleasure of the passengers.

The chassis has wheelbase of 112 inches and tread of 56. It has a unit power plant that includes a four-cylinder, four-cycle, water cooled, I head motor, a clutch and gearset, that is mounted on a sub-frame. The cylinders are cast en bloc, with the head separate, the two castings having the water jackets integral. The cylinder casting includes the upper half of the crankcase, which carries the main and the crankshaft bearings, the lower half of the case being aluminum, with the oil reservoir integral. The cylinder head block contains the intake manifold, which is water jacketed, this being on the right side of the motor, and the valves, which are located on top of the head, are actuated by long push rods that extend through passages cast in the head and protected against high temperatures by the water jackets. The head is secured to the cylinder casting by a series of bolts and is seated against a water, oil and gas tight gasket.

The motor is stated to have unusual efficiency from a given volume of fuel. The cooling is by water circulated by a centrifugal pump through a honeycomb radiator, and by a large fan driven by a flat belt that is adjustable for tension. The lubrication is by oil forced by a pump from a reservoir on the motor case through a sight feed gauge on the dash, and fed by gravity to the crankshaft and the camshaft bearings and to the individual splash troughs under the connecting rod big ends, where it is distributed by splash to the cams, valve tappets, wristpins, pistons and cylinders. The distribution of oil is so thorough that this splash will fully lubricate the valve push rods and rocker arms. The Delco system for ignition, lighting and starting is used, this including a motor generator with a distributor in unit. The generator supplies electric current for a storage battery, from which energy for ignition, lighting and starting is drawn, pressing a pedal engaging the pinion and gear by which the engine is started by the motor. The generator will begin charging when the speed of the car is approximately 15 miles an hour.

The clutch is a cone 12½ inches diameter and 2½ inches face, and the selective sliding gearset has three forward speed ratios and reverse. The gears and shafts are large and hardened, and the shafts are mounted in liberal annular ball bearings. The driving shaft is enclosed in a large torsion tube, with a universal joint at the forward end, and the rear end carries the pinion that meshes with the master gear of the differential assembly in the three-quarters floating rear axle.

HERFF-BROOKS MODEL "25".

Refined Touring Car Selling for $765 Completely Equipped.

THE sum of $765 is the price that the Herff-Brooks Corporation, Indianapolis, Ind., has set for its four-cylinder, five-passenger light model "25." This price includes the full equipment necessary for a touring model, and is believed to be an exceptionally low sum for the values received.

A feature of the new model is that, unlike a majority of other low-priced cars, the gasoline tank is carried in the rear, fuel supply being by a patent vacuum feed. Another quality is that the weight of the car is about 1500 pounds, giving with the high-speed, 25-horsepower motor, a horsepower to weight ratio of 60 pounds. It is intended that the new car will have high operating efficiency and a large gasoline mileage, and be extremely economical of tires. The company states that in cross-country tests an average mileage of 29 miles to a gallon of fuel has been attained.

The unit power plant, which is a Perkins design, includes the motor, clutch and transmission gearset. It is an L head, four-cylinder, water cooled type, the cylinders having bore of 3¼ inches and stroke of 4½ inches cast en bloc. By the S. A. E. formula the motor has a rating of 16.9 horsepower, but the manufacturer claims that this is very largely exceeded. The cylinders are cast with the water jackets integral, and with large passages to afford a free circulation of the water. The water jacket head is a large plate with the water manifold outlet integral, this construction permitting thorough cleaning of the cores and insuring a free movement of the water. The plate is secured to the cylinder block by a series of cap screws.

The valves are at the left side of the block and they are enclosed, studs and winged nuts retaining the cover plates. The fuel intake and the exhaust manifold are cast in one unit, this insuring the heating of the gas as it is drawn from the carburetor and affording thorough carburetion. The crankcase is a barrel type with an oil reservoir at the base, and the forward extension houses the timing gear and the rear bell housing encloses the flywheel and the clutch.

The motor is cooled by a thermo-syphon circulation of water through a tubular radiator. The lubrication of the motor is by a splash system. The carburetor is an automatic float feed type, and while on the valve side of the engine it is extremely accessible. The ignition is by the Disco system, which also includes the engine starter and the lighting of the car.

The clutch is a leather faced cone, which has engaging springs underneath the leather facing, and the selective sliding gearset has three speeds forward and reverse.

The rear springs are installed to a cantilever principle, they being shackled to the frame at the forward end, and pivoted at the centre and at the rear axle. The front springs are semi-elliptic. The wheels are artillery type and are furnished in the natural wood, and are equipped with demountable rims and 30 by 3½-inch Goodyear tires.

The steering column, which is equipped with a 17-inch wheel, is at the left side, the control for motor starting, clutch and service brake, being by the usual foot pedals. The throttle lever is mounted on top of the wheel, while the gear shifting and emergency brake levers are in the centre of the footboard. Both the service and emergency brakes operate upon the rear wheel drums, the former being external contracting bands and the latter internal expanding shoes.

Herff Brooks Model "25" Four-Cylinder, Five-Passenger Car, the Company's Latest Production.

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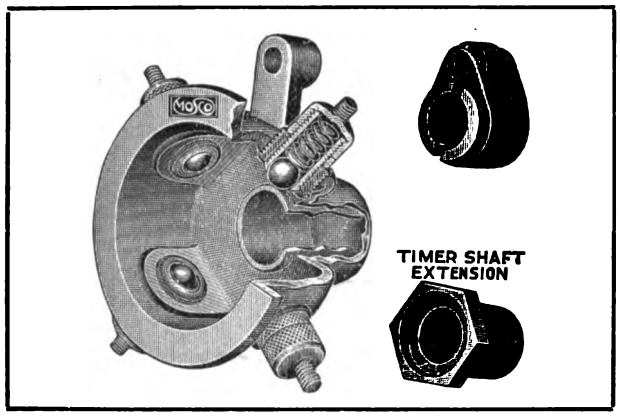
BEMUS TIMERS FOR FORD CARS.

A Practical Equipment That Will Increase the Efficiency of the Ignition System and Will Long Endure.

The Motor Specialties Company, Waltham, Mass., distributor of accessories and equipment for automobiles,



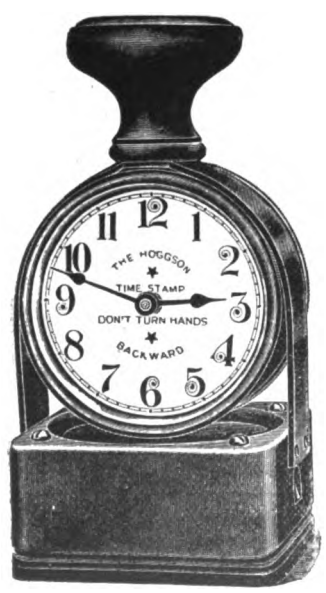
Bemus Timer for Ford Cars.

is selling a timer for Ford cars which will, the company claims, minimize, if it does not eliminate, practically all igniton trouble, if installed. This is the Bemus timer, which is favorably known to motorists. The timer is simple in design, but rugged in construction. The inner wall of the timer is a fibre ring and the contacts, which are a ball type, are inset in the fibre ring. The balls are retained by contact plates, against which they are seated by helical springs. Each contact is always securely seated and the connection with the terminal is certain. One feature that should not be overlooked in this timer is that the parts are practically free from wear. On many distributors the contacts are set permanently in the ring of fibre, and as the cam or arm continually strikes them, the contacts and the ring will wear. In the Bemus timer the spherical surfaces of the balls resist wear and the springs will keep them in at exact height. To further insure long service, the distributing arm is fitted with a roll at the point where the contact is made. A good contact is assured at each revolution of the arm, by the meeting of the roll and the roller. When good contacts are made the motor will generally start easily. The price of the Bemus timer is $2.25.

HOGGSON POCKET TIME STAMPS.

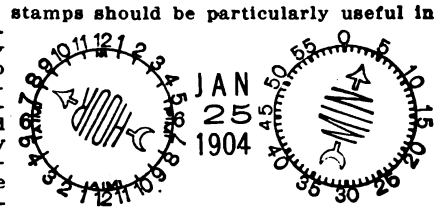
Recorders That Can Be Used in Garages and Service Stations with Large Economies.

Since the days of the Hinchman patents, which were known favorably in 1873, many time stamps have been produced which have not been entirely satisfactory, because of complicated construction, or because of faulty design or workmanship. S. H. Hoggson Company, Thames building, Thames and Greenwich streets, New York City, is the manufacturer of time stamps which are claimed will meet all requirements and endure in all services. S. H. Hoggson invented these stamps. He worked in his father's factory and in 1889 began the manufacture of electric time stamps in St. Louis. At the world's fair in Chicago he was awarded a diploma and medal, the judges making a special classification for him. After experimenting for many years, in 1897 he built a time stamp that could be carried in the pocket and yet have a capacity of several thousand impressions in a day. Since then these little stamps have been used in many classes of business with much success. It will be noted that Mr. Hoggson has had an extensive experience in the making of stamps.



Model D Hoggson Time Stamp.

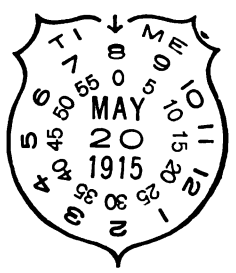
The Hoggson stamps should be particularly useful in garages and repair shops. They can be used to record the arrival or departure of cars and persons. They are equally useful to record the time of workmen; the time telephone calls are made, and invoices may be stamped, so that the exact hour of their receipt is always known. There are many other uses for which the time stamp can be made useful. The Hoggson stamps are made in three types, that are known as Model D, Model S and Model Shield. Model D, which is shown in an accompanying illustration, is 3½ inches in height and shows the face of the clock. By pressing on the knob at the top, an impression of two dials is made, which indicates the time and the date between them. The left dial is divided into 24 hours and the right dial into 60 minutes. An illustration shows an impression made by this clock, which reads 8.03 P. M., Jan. 25, 1904.



Impression of Model D Hoggson Time Stamp.

Model Shield Hoggson Time Stamp.

Model S is the same design as the Model D, but it prints the date and time within an inch circle, surrounded by a shield. This stamp is spaced for 12 hours and should be sufficient for the average working day. The shield stamp and its impression are also shown. The model shield prints the same as the Model S, but is much smaller and does not show the clock dial, as the time can be readily read from the shield at the bottom. In instances where it is desirable, decimal minute dials will be furnished for the stamps, so that the fractions of an hour may be computed mentally and instantly. The price of the Model D is $15 complete, with set of dates and ink pad, with any desired inscription on the die plate. The shield stamp complete, with set of dates and ink pad, either plain or inscribed, is sold for $5. If special inscriptions are required there is an extra charge of $1.

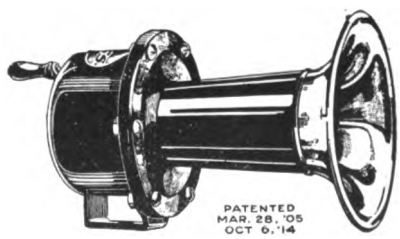


Impression of Model Shield Hoggson Time Stamp.

SEISS MECHANICAL HORN.

A Hand Operating Warning Signal That Is Guaranteed by the Manufacturer for 10 Years' Service.

The Seiss Manufacturing Company, Toledo, O., is manufacturing the Seiss Model A Horn, which is shown in an accompanying illustration, which does not require batteries and needs no adjustments. The maker lays emphasis on the fact that a subdued or loud tone can be produced as desired.



The Seiss Model A Mechanical Horn.

The horn is manually operated by turning a handle that is located at the back. It is double-acting and the continuous tone may be produced by turning the handle either to the right or left. No springs are used in the construction of the horn. The sounding diaphragm is made of vanadium steel, the small gears are machine cut and the contact point and toothed wheel are tempered.

Statement is made that Seiss Horns will endure indefinitely, as the material and workmanship are the best that can be procured. The Seiss Manufacturing Company warrants this horn to give satisfactory service for 10 years and will replace any defective parts free of charge if these are returned to the factory.

The horn is finished in black enamel that is baked to 300 degrees Fahrenheit with a highly polished nickel bell or brass bell, or it can be procured entirely in black. The price of this device is $4.

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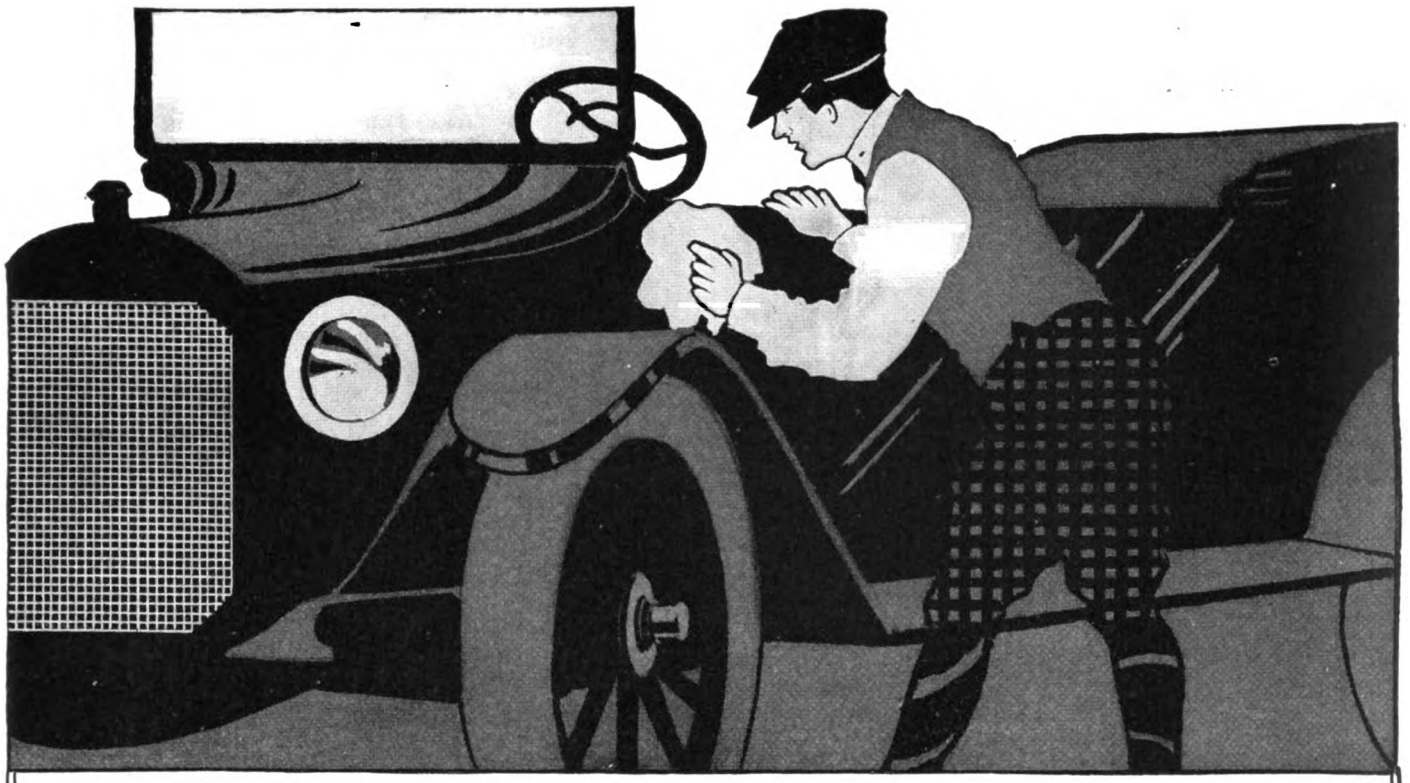

DO YOU KNOW THAT

JOHNSON'S PREPARED WAX

Is the Best Automobile Body Polish on the Market

—and that it is being very extensively advertised? Our ads are appearing in every issue of the leading motor trade papers—among them being:-

Automobile Dealer & Repairer
American Motorist
The Automobile
Horseless Age
Motor Print
Motor Age
Motor
etc.

We are also running a lot of advertisements on Johnson's Prepared Wax in all the best known magazines and weeklies—a few of them are:-

Saturday Evening Post
Collier's Weekly
Literary Digest
Cosmopolitan
Mc Clures
Munsey
Life
etc.

It Does Not Gather Dust

Johnson's Prepared Wax imparts a perfectly hard, dry, glasslike polish which will not collect dust—It preserves the varnish and protects it from the weather—greatly prolonging its life.

It prevents cracking and checking. It will make old cars look as well as a new coat of paint and varnish. It covers up small scratches—is clean and easy to use—and

"Sheds Water Like a Duck's Back"

Let us send you a dozen lithographed 4 oz. cans of Johnson's Prepared Wax packed in a beautifully colored display carton. Each can sells for 25c—your price is $2.00 per dozen, direct from Racine or through your jobber. Johnson's Prepared Wax will sell itself—order today by coupon.

S. C. JOHNSON & SON
"The Wood Finishing Authorities"
RACINE, WIS., U. S. A.

S. C. JOHNSON & SON, Racine, Wis. AGJ4

Please send me by parcel post your new carton containing one dozen Automobile Size packages of Johnson's Prepared Wax to retail at $3.00 to be billed me at $2.00. Include *hangers* and *printed matter* with the shipment.

My jobber is _____

Name _____

Address _____

City and State _____

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HYATT QUIET SERVICE

HY-FLEX-ROL

Hyatt Quiet Bearings are used in the majority of American made automobiles

Bearings required for motor car repairs may be obtained on short notice at any of the service branches indicated.

HYATT SERVICE STATIONS

Atlanta, Ga. Detroit, Mich.
Boston, Mass. Los Angeles, Cal.
Chicago, Ill. New York, (Harrison, N. J.)

SERVICE AGENTS

High Wycombe, Broom & Wade England

HYATT ROLLER BEARING CO.
DETROIT, NEWARK, N. J. CHICAGO

FOR MOTOR BEARING WORK

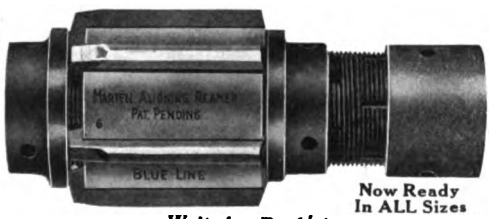
Standard Set, No. 1.
For sizes 1 5-8" to 2 1-4".

Special Set, No. 2.
For sizes 1 1-4" to approximately 1 5-8".

Owing to the great demand for our Reamer for small bearing work we have added special set No. 2 to our line.

Immediate delivery on all orders.

THE MARTELL ALIGNING REAMER



Now Ready In ALL Sizes

Write for Booklet

The Cutting and Burnishing Tool for Factory Production as well as Repair Work

This will bore out and burnish a set of crank-shaft bearings to exact size and at the same time leave all burnished surfaces in perfect alignment.

It will enable you to do many times as much work and to acquire a thoroughly satisfied and steadily increasing number of customers.

HARDING DISTRIBUTING CO., 40 Court St., (Scollay Bldg.,) BOSTON, MASS., U. S. A.

HOUK

DETACHABLE

Wire Wheels

Made by the largest wire wheel manufacturer in America

HOUK MFG. COMPANY
1709 Elmwood Ave. BUFFALO, N. Y.

New Carleton No. 68 Generator

48 watt Direct Current. Steady Light either with or without Storage Batteries.

COMPLETE ELECTRIC LIGHTING EQUIPMENT FOR USED OR NEW CARS

MOST EFFICIENT LOWEST PRICED

Simple and positive drive, easy to install, and its output is guaranteed to meet all requirements.

SPECIAL EQUIPMENT FOR FORD CARS is shown in illustration

No machining or alterations are necessary. It can be installed with a screw driver and a wrench.

OUR NEW PORCUPINE DRIVE Operates All Generators. No Slipping of Belt, No Unnecessary Wear on Bearings.

The Carleton No. 68 Generator Lists at $15.

Automatic Cut Outs, Ammeters, Storage Batteries, etc.

Patent Applied For

DEALERS' DISCOUNTS WILL INTEREST THE TRADE

The Carleton Company *172 Summer St., Boston, Mass.*

American Made for American Trade
New Departure Ball Bearings
THE NEW DEPARTURE MFG. COMPANY, BRISTOL, CONN.

DEALERS! WE SAVE YOU MONEY

NEW ERA TORICLE GOGGLES ARE BEST — WRITE FOR 1915 CATALOG — WE ARE HDQTRS. FOR AUTO GOGGLES

NEW ERA OPTICAL CO. 123 W. MADISON ST.
MFGRS. OF GOGGLES CHICAGO, ILL.

MAKES OLD TOPS NEW

$3 to $5 will waterproof the outside and re-dye the lining, making any auto top good as new. Send for information.

RUB-ON MANUFACTURING COMPANY
93 Brayton Street Buffalo, N. Y.

REAR AXLE GEARS FOR CHALMERS 1911 CARS AT $15 PER SET

for Model M---ratio 53 to 14. Can also be used on Bergdoll 1911 Cars. Sent anywhere C. O. D. Special quotation will be made for large quantities.

O. MASON, 1227 Spring Garden St. PHILADELPHIA, - - PENN.

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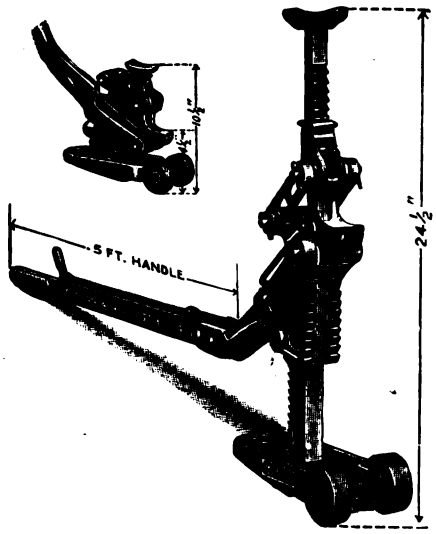
EXCEL GARAGE JACK



A Heavy, Powerful Tool for Rapid and Easy Handling of Large or Small Cars

The only jack in the world suitable for the work of Garages, Service Stations, Repair Shops, Tire Agencies, etc. This Jack weighs 50 pounds, has five-foot handle with enormous leverage, and will raise either end of the heaviest touring car 4½ inches with a single stroke of the handle. Range five inches to 26 inches from the floor.
Liberal Discount to Garages and Dealers.

Price, East Mississippi River, $16.00
Price, West Mississippi River, $18.00

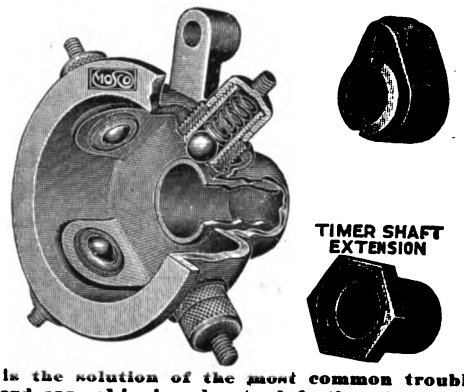
Patented
Sept. 24, 1907.
Dec. 17, 1907.
Feb. 16, 1915.

BEMUS

Ball Contact Timer

OTHER PATENTS PENDING

FORD CAR TYPE



Here is the solution of the most common trouble on the Ford car—skipping due to defective timing. This Timer with its rapid, snappy action on the ball contact principle is just what the Ford engine needs. Thousands of users are telling us this. The Bemus has made a hit with repair men and Ford owners all over the country. Send for full descriptive matter or order a Timer for trial. We are still making prompt deliveries, so now is the time to act.

Price $2.25

MOTOR SPECIALTIES COMPANY

WALTHAM MANUFACTURERS **MASSACHUSETTS**

You can make anywhere from $1500 to $3000 a year above expenses. Your investment to start is small, returns are quick and income cash. Profits are large on every job. The Tire repair business is growing every year. Every city and town offers opportunity for you. Buy only an

AKRON-WILLIAMS TIRE REPAIR EQUIPMENT

The better your equipment, the better your work and the greater your volume of business. Start right. Use equipment which is

Endorsed by 30 Leading Tire Manufacturers We are making an unusual offer to everybody who buys our equipment. You can become a tire repair expert by our plan.

SEND FOR OUR 30 DAY SCHOOL PLAN

You start right. No experimenting. No failures. You become a practical, first-class repair man.

SEND FOR CATALOG NO. 12

WILLIAMS FOUNDRY & MACHINE COMPANY

ASH STREET. AKRON, OHIO

WATERHOUSE & LESTER CO.
Exclusive California Distributors, San Francisco and Los Angeles

Trade Subscription Offer

Including three motoring magazines—one given over to the pleasure car field—another to commercial vehicles and the third to industrial interests. Each magazine distinct.

The lowest rate ever made for leading motoring papers. Write for details.

ACCESSORY & GARAGE JOURNAL
Times Building Pawtucket, R. I.

SELL SULLIVAN TRUCKS

One of the few staple and practical trucks on the market.

Our selling policy and proposition is the most liberal ever offered to the trade.

One Model, 3,000 Lbs. Capacity
Chassis Price, $1,600

Write for complete details

SULLIVAN MOTOR CAR CO.
Rochester, New York

BOSTON STARTER FOR FORD CARS

The One Practical Mechanical Starter for Ford Machines.

WE WANT DEALERS AND HAVE THE MOST ATTRACTIVE SELLING PLAN EVER MADE TO THE TRADE.

Learn the Number of Ford Machines in Your Territory. Then Write

AUTOMATIC APPLIANCE CO.
172 Columbus Avenue Boston, Mass.

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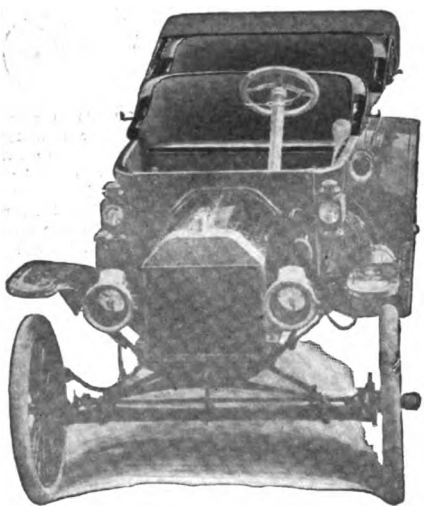
Satisfied Customers are the best advertisers—you will make every buyer a satisfied customer if you give him—

BADGER
SEAT COVERS



Live dealers, in every state, sell the Badger line exclusively. Past experience has proven to them that it is more profitable and satisfactory than any other.

We offer a greater selection of materials—the fit and workmanship are superior—and our prices are surprisingly low.

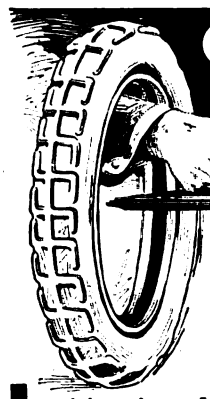
Let us convince you that the Badger line is the one you should represent. Send today for our Catalogue of samples and prices.

Wisconsin Auto Top Co.

Dept. 7

Racine **Wisconsin**

World's largest makers of Seat Covers



GETTING THE MONEY

REPAIRING TIRES

The biggest money making field in the Automobile Industry today is in **repairing tires.** It is an enormous field and growing larger every year. Locations for good tire repair shops are open in every city and town in the country. You can make

$1500 TO $5000 A YEAR

if you learn by our system of instruction. We teach you every phase of **TIRE REPAIRING and TIRE CONSTRUCTION** by practical demonstration, in a school equipped with every necessary appliance. This is not a correspondence course. You get your training by actually using equipment and repair material. That's the only way.

WE TEACH YOU BUSINESS METHODS

Instruct you how to open your shop. How to take care of sales. How to retain your trade. How to make your shop pay.

WHAT OUR STUDENTS SAY

O. E. Bonnell writes, "I did a $15,000 business last season." **A. A. Robinson,** "Have been in business 30 days. More than doubling expenses. Did not know money could be made so easily." **C. E. Kurtz** says, "We are crowded with work." **G. M. Marsh,** "Business coming too strong, and I have not advertised a bit" Hundreds of others tell of similar success.

SEND FOR OUR FREE BOOKLET D

It tells all about our school, about our methods of teaching, what our students have accomplished Be first to enter into this big paying business in your town.

CLOUSE TIRE REPAIR SCHOOL

Euclid Avenue and 90th Street, Cleveland, Ohio

Vulcanizing Is Simple and Inexpensive with Superior Vulcanizers

For Garages and Owners

For Casings and Tubes

Write now for full descriptions and prices

LEE C. MAPES Dept. G 16 Fulton Ave. Rochester, N. Y.

Time Savers

For Charging Storage Batteries

Universal Test Clips

MADE of copper—lead plated—indestructible—may be used over and over again—will carry 15 amperes without heating—the jaws have a wide spread—the spring is strong.

To charge batteries in series, provide a number of pieces of lamp cord 15 to 20 inches long and equip with clips on each end. Connect the batteries by snapping the clips over the lugs.

Your money back without quibble if not entirely satisfied.

Single Lots - -	Each 15c.
Lots of 10 - -	Each 12 1-2c.
Lots of 100 - -	Each 10c.

R. S. MUELLER & CO., 431 High Ave., S. E., CLEVELAND, OHIO

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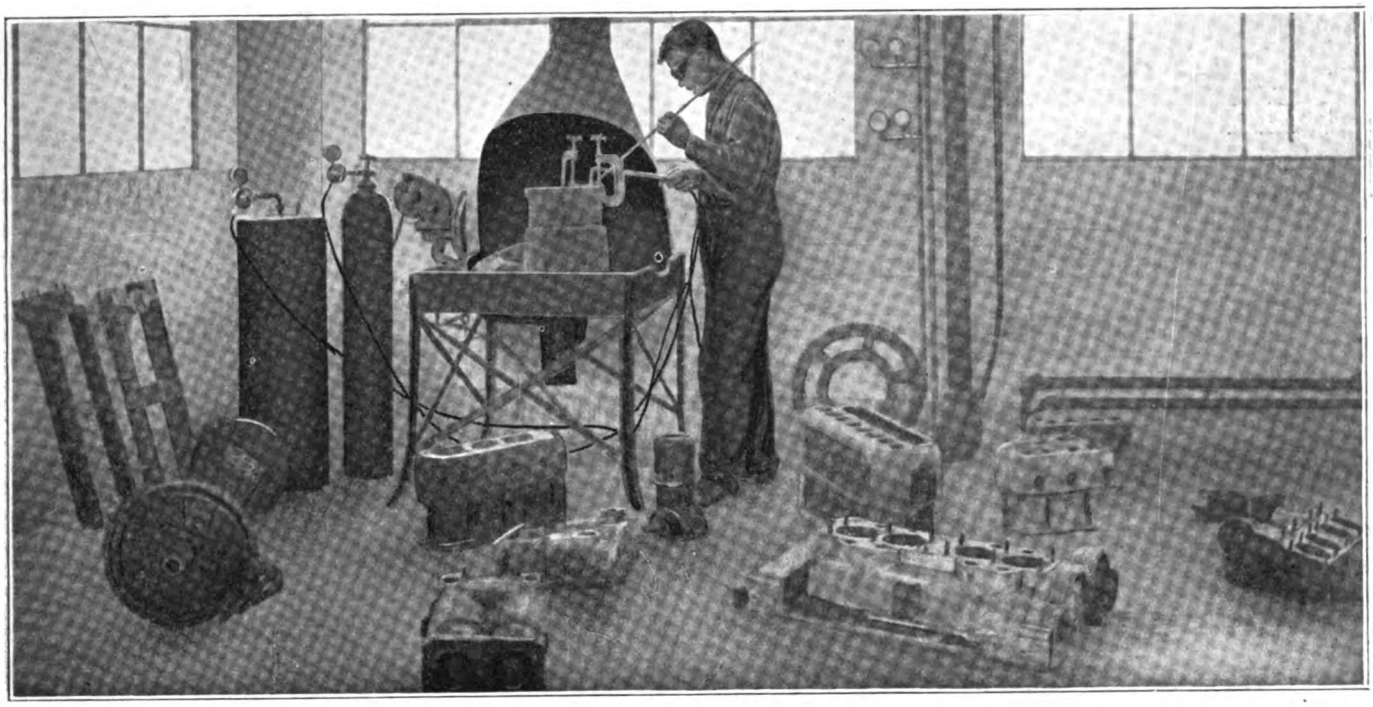


35.00

STYLE D WELDING OUTFIT ON THE JOB

Complete with carbon remover, all necessary fittings and supplies. Be not deceived by the low price. This outfit has just as wide a range as those selling for several times as much. Guaranteed suitable for any welding work that is practicable. Shipped subject to examination if desired.

Write for prices on apparatus and welding materials.

The DYER APPARATUS CO., 155 Brookline Street, CAMBRIDGE, MASS.

Tuthill Titanic Unbreakable Spring

Big stock unnecessary

The object of our Quick Service Department is to make it unnecessary for you to carry an overstock.

Regular orders shipped same day received—any special orders within 48 hours—enabling you to do a profitable replacement business on a small investment.

Just write or wire your jobber—or send to us direct. No matter what make or model—there's a Tuthill Unbreakable Titanic for every car.

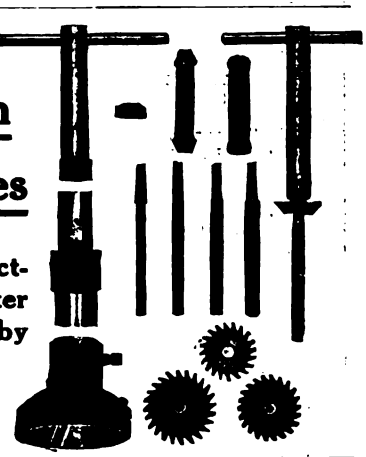
Tuthill Spring Company

776 Polk St., Chicago, U. S. A.

Absolutely guaranteed against center breakage

Strongest where the strain is greatest

Anyone Can Reseat Valves



—do the work perfectly—and in one-quarter the time required by hand—with the

FOSNACHT VALVE RESEATER

Nothing to get out of order. Simple to operate—no emery required—no tearing down of engine needed. Enables owner to handle four times the volume of work now cared for. A real business builder for every garage. It brings customers and keeps them.

Send for free book **to-day** fully describing the FOSNACHT. It will pay you well. Address

H. C. Paro Suite 732, Michigan Boulevard Bldg. CHICAGO, ILL.

(When Writing to Advertisers, Please Mention the Accessory and Garage Journal.)

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"NORMA"

BALL BEARINGS

"NORMA"

In overhauling the magnetos, lighting generators, and starting motors that come to you for repair—have you noticed how well the "NORMA" Bearings in them have stood up under long service? And have you noticed that "NORMA" Bearings are used exclusively in most of the better grades of electrical accessories? That means that they're the best bearings for you to use.

Ball, Roller, Thrust, and Combination Bearings.

THE NORMA COMPANY OF AMERICA

1790 BROADWAY NEW YORK

Stop the Blinding Headlight Glare!

The law says it must be done—blinding glare is a menace to public safety. Screens simply interpose an obstacle between the light and the street—the user pays for the full power of his headlights and gets half power. The logical solution of the problem is the

Chaney Automobile Headlight Dimmer

It enables the driver to graduate the intensity of the light. It can be changed from high to low as you would turn down an oil lamp. Operated by moving the dimmer handle, it gives complete control of the headlights from the seat. In city driving the light is kept low with small current consumption—in the country where full power is needed a touch of the handle brings back the full searchlight efficiency.

This device is practical, dependable and efficient, costs little to buy and is readily installed on any car. The average car owner can place it on his car.

Dealers: At $3.50 the Chaney Dimmer is the best value in the accessory field and a fast seller. Our liberal trade terms make your margin of profit generous. You can clean up in your territory, for the dimmer is a legal necessity, and the Chaney is the best of all dimmers, and the only one sold under a ten year guarantee.

Write now for full details and Dealer's Proposition

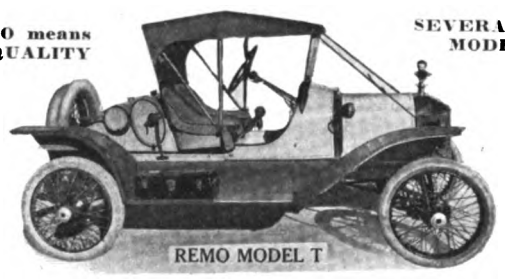
THE L. F. CHANEY CO., SPRINGFIELD, OHIO

REMO RACEABOUT BODIES

AND BUCKET SEATS FOR THE FORD

REMO means QUALITY

SEVERAL MODELS



Write for illustrated circular showing various models and prices. REMO products manufactured by

Auto Remodeling Co., 1503 Michigan Ave., CHICAGO

Century Automobile Cigar Lighter. Complete $1.00 Each, F. O. B. Indianapolis.

Mabey's Trouble Lamp Complete with Lamp $1.25 F. O. B. Indianapolis.

Mabey's Electric Patching Tool for Vulcanizing cuts and holes in tires. Works on your lighting circuit. Price complete $2.75, F. O. B. Indianapolis.

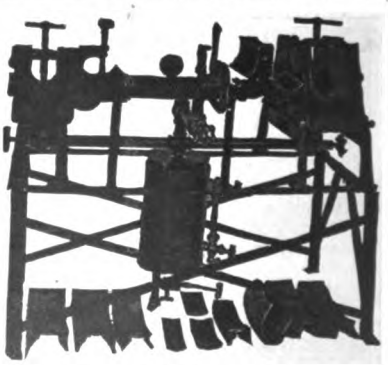
Mabey's Electric & Mfg. Company

940 N. Pennsylvania Street. Indianapolis, Ind.

THERE IS MONEY IN IT

IF YOU USE A VANDERPOOL SHOP VULCANIZING OUTFIT

The only practical equipment for a public service station or repair shop. With the two cavity outfit any work on tubes or casings can be done with minimum labor and time. No expense after the initial investment. The cost is reasonable and every sale is made with an absolute guarantee of material and workmanship. Make the profit on the work you now send to others. It is UP TO YOU.



Catalogues and Full Information Sent You at Request.

VANDERPOOL COMPANY - - - - - Springfield, Ohio.

Earl Grey, Saskatchewan, Canada, August 24, 1914.

Vanderpool Co.

Vulcanizer is working fine.

R. R. Clarke.

Winkleman, Ariz., September 9, 1914.

Vanderpool Co.

Gents:—The Vulcanizer does very nice work. Am very well pleased with it. Yours very truly,

J. F. Merino.

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1915
Catalogue Now Ready

If you have not received it we will appreciate your writing us for it. Mailed to the Trade Only.

Our Special Brands
M. C. S.
Most Complete Service

UN X LD

In Fact As Well As In Name

We carry in stock at all times a most complete line of Automobile Supplies, Machinists Supplies, Motorcycle and Bicycle Supplies.

Motor Car Supply Company
of Chicago

1451-55 Michigan Ave.
Chicago, Ill.

Still Another Great Failure!

KRIT MOTOR CO. SOLD AT AUCTION
We Bought Parts and Supplies

Paper Covers for 5-passenger cars	Each	$.80
Stromberg Carburetors, 1¼"	Each	11.00
Hand Air Pumps for gas tanks	Each	.90
Krit Radiators	Each	15.00
Mufflers	Each	1.50
Gasoline Tanks, 10x30 round	Each	4.00
Gasoline Tanks, 29x13x8	Each	2.00
Sight Feed Oilers	Each	.50
Wheels, 32x3½, wood, complete with hubs and drums	Each	4.00
Wire Wheels, 32x3½, with hubs and drums	Each	5.00
Baker or Firestone Rim Lugs	Each	.05

Our 1915 Catalogue Is Now Ready—Send for One.

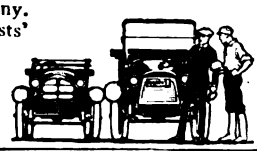
AUTO PARTS COMPANY
Dept. T
737-739 W. Jackson Blvd. Chicago Ill.

HAVOLINE OIL
"It Makes a Difference"

Motorist:—"I want you always to use HAVOLINE OIL in my car. *It makes a difference.*"

Garageman:—"Yes sir! and it is easy to sell. It is the best advertised oil on the market. You can't imagine the new business we have gotten here through the sales helps furnished by the Indian Refining Company. A very large percentage of our tourists' trade call for HAVOLINE OIL."

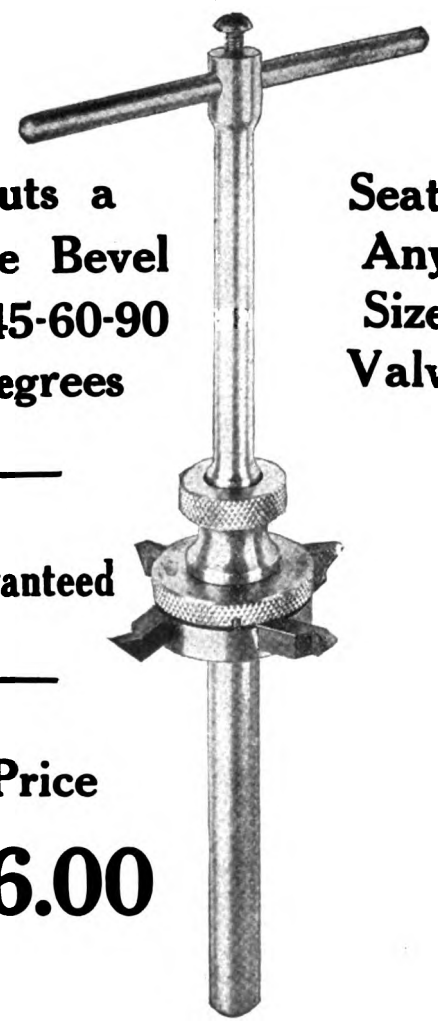
Be sure you sell the oil in the Blue-and-White Can with the inner seal. We offer the garagemen the best packaged goods proposition on the market. Write for our Representative or for full information. Be sure and write for the "Sales Oiler."



INDIAN REFINING COMPANY
17 Battery Pl. Dept. M New York

The AMERICAN VALVE SEATING TOOL

Instantly Adjustable
Motorcycle to Truck



Cuts a True Bevel 30-45-60-90 Degrees

Seats Any Size Valve

Guaranteed

Price

$6.00

Write for particulars and descriptive circular

American Valve Tool Co.
589 Hudson Street
NEW YORK

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Does Your Ford Hold the Road?

"An ounce of prevention is worth a pound of cure."

The L-A Steady Steerer eliminates the side-sway of the body in the spring shackles of a Ford car, thereby preventing the dangers that threaten the Ford owner when travelling at a high rate of speed or driving over rough roads.

LA Steady Steerer FOR FORD CARS

It is a simple inconspicuous strut or radius rod which keeps the body and axle in perfect alignment under all driving conditions. Can be installed by any one in 15 minutes and lasts a life time. Makes your Ford steer and hold the road like a Packard.

Type "R" fits any standard Ford Car.....Price **$2.00**
Type "S" for use with Ford cars equipped with shock absorbers.
Price ... **$2.50**

Either of the above types will be sent prepaid with directions for installing if unobtainable at your dealers.

Dealers — Write for prices at once and be prepared to supply an immediate demand. Every Ford owner wants one.

LOCKWOOD-ASH MOTOR CO.
511 Horton St.
Jackson, Mich.

The Oil That Wears

To stand repeated use, the oil you put in your lubricating system must have marked wearing qualities. That is why leading automobile manufacturers use and endorse

MONOGRAM OIL

NEW YORK LUBRICATING OIL CO.,
Consolidated with Columbia Lubricants Co. of N. Y.
116 Broad Street NEW YORK CITY

THE JITNEY BUS

has established a new industry involving millons of dollars and furnishing employment to tens of thousands of men. The industry is new, crude and unorganized but growing by leaps and bounds. The jitney bus is solving some transportation problems and revolutionizing others.

MILLIONS OF DOLLARS

will be made in the jitney bus business. Here is a new industry that is growing faster than the automobile business or moving picture business did at a like age Get posted and take advantage of this new live opportunity.

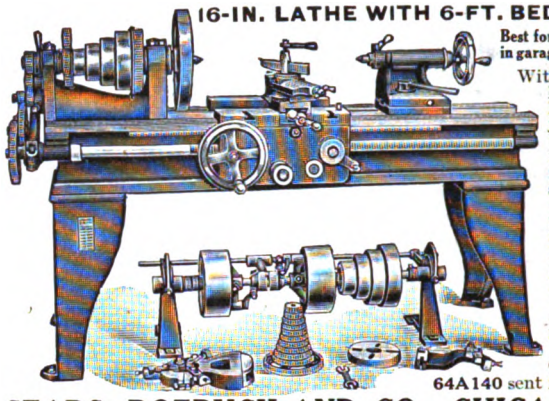
THE NATIONAL JITNEY

a weekly newspaper published every Saturday will tell you all about the jitney bus business and what it is doing all over the world. If you drive a jitney, if you want to buy or sell an automobile, if you want to make money in this new industry of the hour send two dollars for one year's subscription or one dollar for six month's. Anyway write today enclosing ten cents coin or stamps for sample copies.

THE NATIONAL JITNEY 1201 Phelan Building San Francisco, Cal.

OUR BIGGEST LATHE VALUE

16-IN. LATHE WITH 6-FT. BED, $252.00.



Best for all around work in garage and repair shop.

With one of these lathes you can handle repair jobs that carry bigger profits—make more money. Other sizes at proportionately low prices. Every Sears-Roebuck lathe is a guaranteed lathe. Buy *your* lathe from us and save $50.00 or more.

Machinery Catalog No. 64A140 sent free on request.

SEARS, ROEBUCK AND CO., CHICAGO, ILL.

Bunting Bearing Bronze IN Cored Bars

BUNTING BEARING BRONZE B.B.B.CO.

Bunting Bearing Metal is standard today with both Manufacturer and Repairman.

Is for sale by most any Jobber or can be purchased direct from us.

STOCK SIZES

PIECE NO.	Outside Diameter	Inside Diameter	Length	Approximate weight
A	1	⅛	12	2
B	1¼	⅛	12	3½
C	1½	¾	12	5
D	1¾	¾	12	7
E	2	1	12	8½
F	2¼	1¼	12	10
G	2½	1½	12	11½
H	2¾	1¾	12	13¾
I	3	2	12	13¾
J	3¼	2¼	12	15½
K	3½	2½	12	17
L	4	3	12	20
M	4¼	3¼	12	21

The Bunting Brass & Bronze Co.
727 Spencer Street Tolodo, Ohio

You Can Secure Prompt Delivery of the Famous

Engine Driven KELLOGG TIRE PUMP

Garage Pumps and Other Specialties from the Following Distributors:

W. J. Connell Co., Boston, Mass.
R. W. Norris & Sons, Baltimore, Md.
Coughlin & Davis, Cincinnati, Ohio.
Penna. Rubber & Supply Co., Cleveland, Ohio.
Ferris-Dunlap Auto. Supply Co., Dallas, Texas.
G. W. Shroyer & Co., Dayton, Ohio.
Reinhard Brothers Co., Minneapolis, Minn.
Chas. S. Monson, Detroit, Mich.
Motor Car Equipment Co., New York City.
Powell Supply Co., Omaha, Neb.
A. H. Coates, San Francisco, Cal.
J. H. McCullough & Son, Philadelphia, Pa.
Dyke Motor Supply Co., Pittsburgh, Pa.
Phoenix Auto Supply Co., St. Louis, Mo.
Am. Supply Co., Tampa, Fla.
Chas. Rubel & Co., Washington, D. C.
Kellogg Mfg. Co., Chicago, Ill.

KELLOGG MFG. CO., 272 Circle St., Rochester, N. Y.

HOGGSON TIME STAMPS

Time Every Act, Operation or Transaction.

Arrival and departure of cars or persons, work being done, etc:

PRICE $5.00, $10.00, $15.00 Guaranteed

S. H. HOGGSON & CO.
Thames Building, NEW YORK

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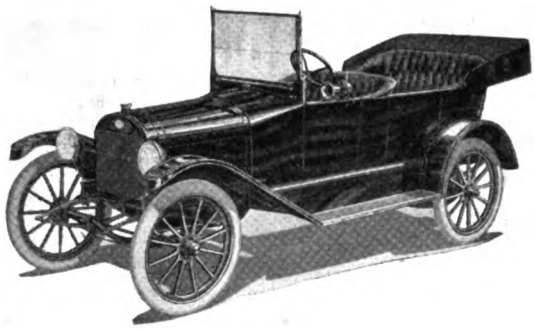


THE more a prospective purchaser knows about automobiles, the easier it is to sell him a METZ. If he is well informed he is familiar with all of the little points, as well as the big features, that enter into the make-up of a strictly first-class car; and when you show him the

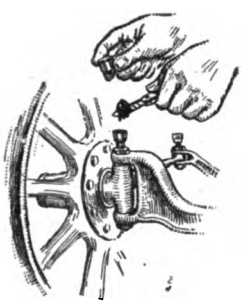
METZ "25"

The Quality Car

and he finds that ALL of these good points, and ALL of these up-to-date features are embodied in this new Touring Model, at $600 equipped complete, he knows he has found the car he wants. Gray & Davis electric starter and lights, one man top, heavy tufted upholstery and deep cushions, 32" wheels, 3 1-2" Goodrich clincher tires, Bosch magneto, Hyatt roller bearings, speedometer, gasoline gauge, etc.

DEALERS—Write for new catalogue "F."

METZ COMPANY, Waltham, Mass.



What, where and how to lubricate grease cups, wheel spindles and universal joints and

DIXON'S Graphite Cup Greases

which do not vary under the widest natural temperatures, are subjects that relate to the economical and efficient operation of your car and discussed in the new Dixon Automobile Lubricant booklet No. 49-G.

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE CO.

Established 1827.

This Fan Belt Ends the Terrors of Hot Weather Driving

THIS is the famous Campbell Latigo Fan Belt, for Ford cars. It is the best insurance against overheating you can buy. Made of the strongest leather known, it is impervious to heat, oil and water. Will neither stretch nor slip. 15,000 sold at the New York Show.

Put a Campbell Latigo Fan Belt on your Ford this summer, and forget about the heat. Price 50c. Sent prepaid on receipt of price if your dealer cannot supply you. Look for the name "Campbell" on every belt.

CAMPBELL GUARANTEED SPECIALTIES FOR FORD CARS

Write for our catalog showing dozens of inexpensive comfort adding accessories for your Ford, including Special Seat Covers—$9.75 touring car, $6.75 runabout, including Dust Hood; Upholstovers, the new detachable upholstery, the last word in luxury; One-Man-One-Hand Top; Percama, the cleaner for tops, etc.; shock eliminators; crank and steering knuckle boots; cut-outs; windshield ventilators; foot accelerators; and many others. Buy from Campbell, the company that "makes sure you're satisfied."

THE PERKINS-CAMPBELL CO.

603 Broadway
Cincinnati, Ohio.

New York Office
89 Chambers St.

CATALOG ON REQUEST

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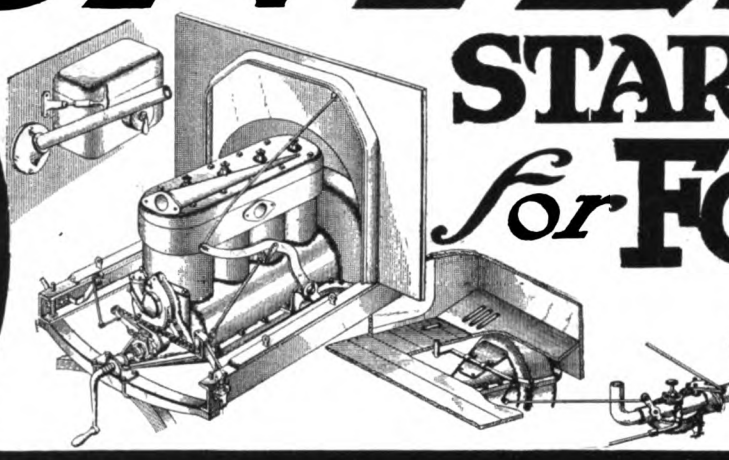
HUNTER



$10 STARTER for FORD CARS

F.O.B. CHICAGO

Makes Every Ford An Ideal Car For Every Purpose

A Positive Mechanical Starter That Can Be Operated From the Seat By a Woman or Child.

An equipment that will make a Ford the equal of any car for convenience and motoring satisfaction, and sold at a price within the reach of every Ford owner.

Simple in construction, every part of great strength and always fully accessible, it requires no adjusting or attention after installation and connection. Starting the motor is by simply drawing a handle from the dash toward the seat, then releasing it to be withdrawn by spring pressure. Compound leverage insures a start with a slight effort.

With an attachment to close the air intake of the carburetor by foot pedal when ready, the engine can be started in lowest temperature. This efficiency is guaranteed.

OWNER CAN INSTALL IT

The Hunter starter can be installed by an owner in an hour's time. Replacing four bolts with other bolts supplied with the starter and placing the nickel plated bracket and handle on the dash. One hole to be bored in the dash and the bracket attached by screws. The starting crank is retained and the entire system is under the hood.

Dealers: **At $10. a guaranteed Starter should go on a big percentage of cars in your territory. Write us.**

HUNTER AUTO SUPPLY CO.

Office and Factory, 4101-05 Ravenswood Ave., CHICAGO

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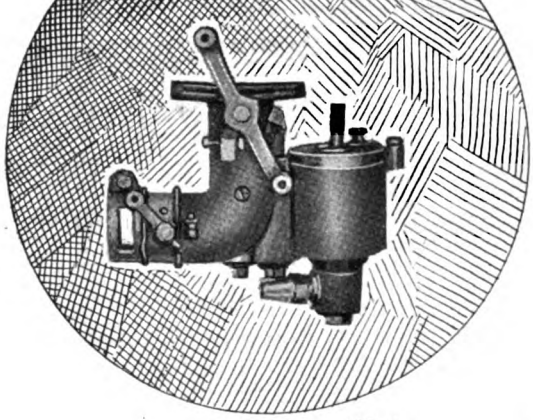
$20.

ZENITH



Ford Carburetors

Every Other Car Is A Customer For You

TOOL PROOF —— FRIEND PROOF

Because

THE ZENITH CARBURETOR ADJUSTS ITSELF

Now offered to the Ford Owner for the first time, there is nothing to be tinkered, tampered, worn or adjusted out of order.

The Compound Nozzle does it. Always a **PERFECT MIXTURE** for every range of speed from low to high, with guaranteed infallible precision, thus adapting itself to every condition, at every impulse of the engine.

Over 600,000 Fords are in daily use in the United States alone. Every Ford Owner is interested in the Zenith.

Here is a carburetor backed by more clean, common sense selling facts than all other carburetors combined. Not a screw, spring, valve or clapper to adjust. No moving parts. Gives everlasting wear.

Every Other Car is a Customer For You.

We are the sole distributors for the Zenith Ford Carburetor. Write for detailed description, proof of claims and trade terms.

MOTOR PARTS COMPANY

818 NO. BROAD ST., PHILADELPHIA, PA.

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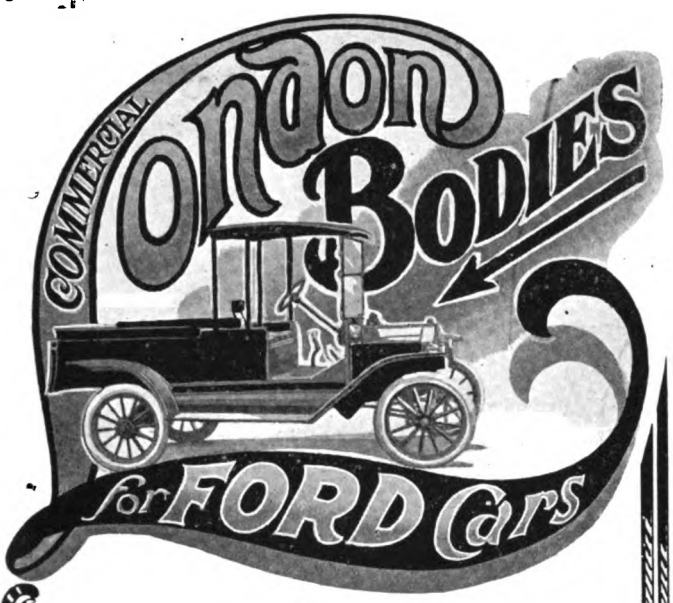


Are You a Salesman?

THE opportunity of any salesman is selling what the people want. Thousands of business men are buying delivery wagon bodies for Ford chassis each day. They are just realizing the possibilities for light delivery---how much they can develop their business with adequate equipment.

Any LONDON COMMERCIAL BODY Agent can go to business men with a business proposition. He can show a standard type for every practical purpose. He can build to specifications better than a local body builder. He can sell bodies that are the best that can be produced—in design, construction and material—and sell with a guarantee of satisfaction.

LONDON bodies of standard type can be shipped the day the order is received. They are received ready for installation. Any owner can install a body with ordinary hand tools. All LONDON bodies are interchangeable and can be used on several Ford Model T chassis if desired.

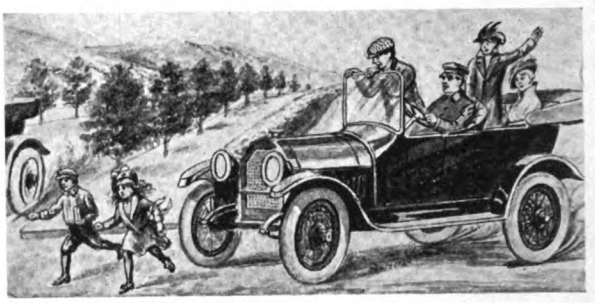
DEALERS: The LONDON selling plan is such you can do any volume of business without investment of capital. You have all the resources of our factory and organization at your command.

Write today for detail of selling proposition aud catalogues.

London Auto Supply Co.

2540 Wabash Avenue, CHICAGO, ILL.

Dept. B.

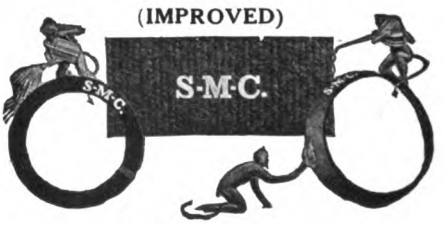


"Don't Gamble With Safety"

Life and Property are protected by brakes wherever motor vehicles are operated. The Owners who neglect their brakes are jeopardizing their own lives and properties to the same extent they jeopardize the lives and properties of others.

When Ordering Specify

(IMPROVED)



The Improved S-M-C brake lining is sold by the trade with the strongest guarantee that a manufacturer can give—service to the satisfaction of the customer, or a refund of the purchase price.

The customer is the judge of quality

NEW UNIVERSAL Ford Transmission Lining

A special quality for lining the transmission bands, that has extreme endurance, and obviates all transmission trouble. Sold, with rivets, ready for installation. A special price will be given the trade and Ford owners for the next 30 days. Write today.

"SOMETHING MOR'N COTTON."

STAYBESTOS MFG. CO.

Germantown, Philadelphia, Pa.

Makers of

Asbestos and Rubber Packings, Gaskets and Radiator Hose

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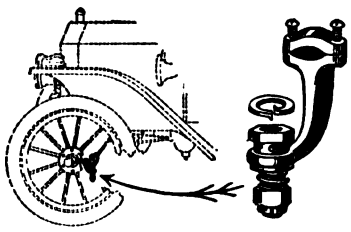
FOR FORD CARS

King Spindle-Joint Anti-Rattler



A Finishing Touch to Auto Perfection

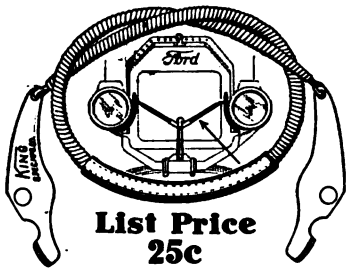
Permanently chokes that rattle emitting from the spindle joints. Can be attached quickly with little effort.

When once in place it requires no further attention.

A "Stitch in Time" device which checks that perpetual slap felt at the steering wheel.

List Price $1.00 Per Set *Dealers: Write for particulars*

KING CRANK HOLDER



List Price 25c

A Quick Seller to A Big Market

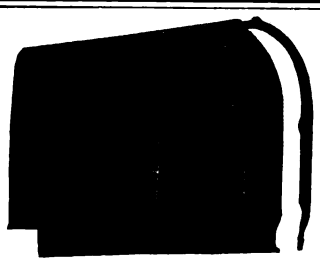
A nerve saver for every auto owner.

Fastens the starting crank upright with a vice-like grip. Eliminates that constant rattle. Attaches to headlights, preventing vibration or breaking bulbs. Keeps crank out of the mud. Saves wear and tear on all crank parts.

Adds to the appearance of car.

Dealers: Write for particulars

KING SPECIALTY MFG. COMPANY - - - - BROOKLINE, MASS.



"Superior" Streamline Ford Hoods

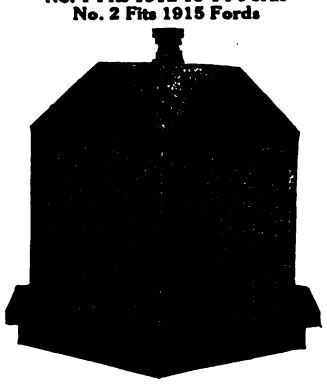
Finished in hard, black, baked enamel. Cannot be compared with light metal hoods, which are just merely painted, and chip off easily.

"Superior" Hoods are protected under patent rights pending.

$8.00 Complete

Superior Radiator and Hood Combination——Complete $42.70

TWO MODELS
No. 1 Fits 1912-13-14 Fords
No. 2 Fits 1915 Fords



Send for Radiator and Lamp Catalogue No. 3

"SUPERIOR" V-TYPE HONEYCOMB RADIATORS

Stamped out of extra heavy steel, with 14 ventilators—a smooth streamline hood that adds longer lines to the Ford—some beauty!!

The Only Radiator That Really Cools.

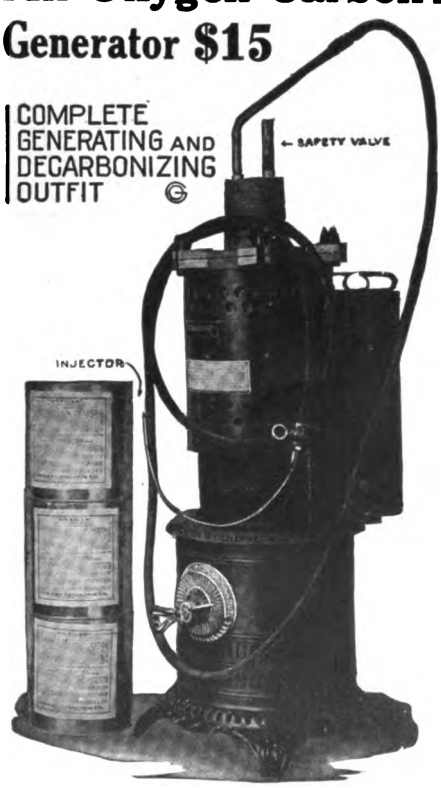
Guaranteed One Year For Any Defect.

Price—Brass **$34.70** German Silver **$38.00**

GET OUR PROPOSITION WRITE TODAY!

SUPERIOR LAMP MFG. CO., 136 W. 52d St. NEW YORK, U. S. A.

An Oxygen Carbon Remover and Generator $15



A generator not too large for a small garage or shop, but with capacity great enough for the largest.

Sold with complete equipment, extremely economical to operate and guaranteed in every particular.

No tanks to bother with, no delay in securing material. A practical equipment that can be operated by any one.

Carbon can be removed from any cylinder in three minutes.

Oxygen can be generated in three minutes.

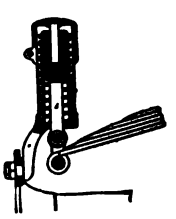
It is a time, money and labor saver.

$9 A SET OF 4 FORD "O-G" SHOCK ABSORBERS $9

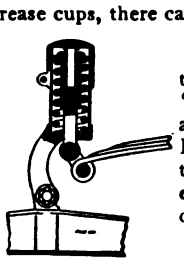
For Ford Delivery, Touring Cars and Runabouts

Adjustable when placed on the car, and automatically adjusted in service. Can be attached in fifteen minutes.

Sold with a guarantee that covers workmanship, material, finish and satisfactory service during the use of car.



The above illustration shows method of attaching to rear of Ford car. Bearings of fine material, lubricated grease cups, there can be no rattle or squeaks.



This illustration makes clear the method of attaching the front "O-G" and shows the large amount of spring action possible. By twisting the cap, the spring in the absorber is tightened or loosened, giving the necessary increase in spring tension.

Immediate refund if the "O-G" Shock Absorbers do not prove to be entirely satisfactory.

Our Jobbers and Dealers discount sheets and special circulars at request. Write today.

OXYGEN GENERATOR CO., 301 RIVER STREET, TROY, N. Y.

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HIGHLAND

COMMERCIAL BODIES for FORD CARS

Motor Vehicle Dealers!

ADD A BIG DEPARTMENT TO YOUR BUSINESS!

Without investment of capital, or increase of facilities, you can represent the largest commercial body building concern in the world and fill any order for any type of service body that can be installed on a Ford chassis from a stock that is superior to any line produced in America.

HIGHLAND BODY DESIGNS ARE STANDARDIZED

And the bodies are constructed of high-grade material, handsomely finished and trimmed, and are built to endure. They are interchangeable with any chassis. They are suited for any purpose. Manufactured in quantity they are sold cheaper, quality considered, than any other similar equipment.

YOU FILL ORDERS FROM THE FACTORY STOCK

Shipment can be made at an hour's notice to meet any demand. Single bodies when built to order cost more money, require time for building and cannot be better utilized.

FORD CARS ARE USED UNIVERSALLY FOR BUSINESS

With Highland Bodies you can supply any requirement, whenever required, and at the right price. This is a big propositon for a live dealer. Write for catalogue 15 A, prices, etc.

HIGHLAND BODY MFG. CO. - - - Cincinnati, O.

MORE SPEED FOR THE FORD

EVERY FORD OWNER desires maximum efficiency.

HE WANTS MORE SPEED with increased power, and at a decreased cost in fuel consumption. This result can be obtained by using any one of our "More Speed" gear sets, because they prevent the "Racing of the Motor," which is common with the regular ratio 3.63-1 to make time.

FOR THE RACEY TYPE or FAST Roadster, we furnish either 2 4/7-1 or 2¾-1 ratios. We have statements from users of better than 60 miles an hour.

THE FORD ENGINE has sufficient power to take care of these higher gears under regular conditions.

FOR GENERAL DRIVING in roadsters and touring cars, we recommend the 3-1 ratio.

SPECIAL ANNOUNCEMENT

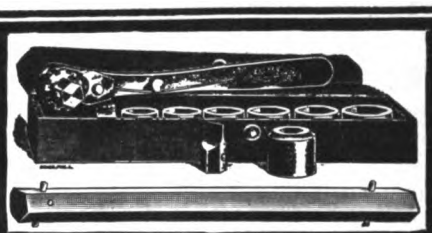
FOR LIGHT DELIVERY FORDS and for exceptionally hilly or sandy countries we supply a 4-1 ratio.

NICKEL STEEL GEAR STOCK, hardened by a special process is used in the manufacture of our gears.

VERY LITTLE TIME is required to install our gear sets, as they are interchangeable with regular ratio.

WE GUARANTEE all our gears for one year against imperfect material or workmanship. See your nearest dealer or garage man or write us direct.

THE DETROIT RADIATOR & SPECIALTY CO.
957 Woodward Avenue, Detroit, Mich.



DON'T USE A COLD CHISEL

USE THE LANE UNIQUE RATCHET WRENCH

FOR CLOSE AND DIFFICULT WORK

IT TURNS NUTS VERY CLOSE TO THE WALL.

is easily and quickly reversed, sockets will not break or split and fits three standards and automobile nuts.

MADE FOR HEAVY SERVICE

Wrench is machine made. Sockets are turned from steel bars, cold broached and case hardened. Fully warranted. Every repairman should have a UNIQUE RATCHET WRENCH SET.

SPECIAL SET FOR FORD CARS

Dealers, Jobbers and Garagemen, Write for Trade Discounts

STANDARD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
7 Sockets to fit semi-finished hex. nuts as follows:
U. S. Standards from 1-4 in. to 1-2 in.
A. L. A. M. Standards from 5-16 in. to 11-16 in.
Cap screw heads from 5-16 in. to 5-8 in.
Price in leather case, $2.50.

THE FORD SET Contains:
1 Handle 7 inches in length.
2 Screw-driver bits.
1 Extension bar 7 inches in length.
SIX SOCKETS to fit all nuts and bolt heads on Ford car, including the cylinder head.
Price in leather case, $3.00.
Sold by dealers everywhere.

WILL B. LANE. Manufacturer, 180 N. Dearborn Street, Chicago, Ill.

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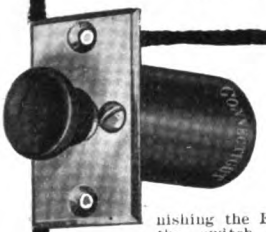
CONNECTICUT

Easy to install and guaranteed to give satisfaction.

The most compact instrument of its kind on the market



THE LIGHTING SWITCH

Identically the same as we are furnishing the Ford Motor Co.—the switch which has the approval of Ford engineers. Designed to harmonize with the standard Ford dash equipment, strong, well made and easy to install. The control button is large enough to be operated by a gloved hand.

Price, $.50 each.

Standard packages of 24 for the trade.

THE CONNECTICUT MASTER VIBRATOR FOR FORD CARS

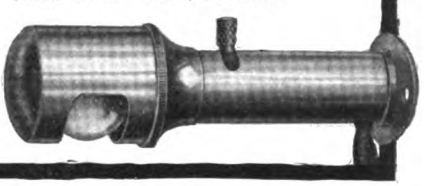
Delivers a hot, fat spark accurately timed for every explosion, insures more power and greater flexibility, works with dry cells or in conjunction with the Ford flywheel magneto. Its single adjustment seldom requires attention.

The only Master Vibrator which may be installed on either the dash or footboard without cluttering up the driver's compartment. Nothing shows except the switch lever and that, being removable, affords an effective method of locking the car.

Connecticut Telephone & Electric Co., Inc.
Meriden, Conn.

DASH LAMP

Affords easy reading of the speedometer and when installed above that instrument gives ample light for all parts of the dash as well. A feature of this lamp is its on-and-off control lever located on the lamp itself. Its installation requires only the simplest kind of wiring connections. Standard finish, polished brass. **Price, $1 each.**



Arbor Presses!

The NEW GREENERD No. 15 Arbor Press is the one practical equipment for the average Garage, Repair and Machine Shop.

Meet competition—do the "big jobs". The NEW GREENERD in construction, price and efficiency is not equalled.

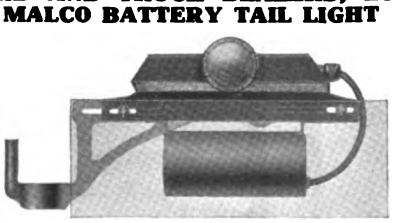
READY FOR IMMEDIATE DELIVERY

EDWIN E. BARTLETT

322 A Street **BOSTON, MASS.**

FORD AND TRUCK DEALERS, LOOK!
MALCO BATTERY TAIL LIGHT

List $3.50 Complete



List $2.75 Tail Light Only

AT LAST an ELECTRIC TAIL LIGHT without a storage battery. Gives 95 hours light (equal to 5 weeks) service on 2 dry cells.

NO	BUT	POSITIVELY
KEROSENE	ELECTRIC LIGHT	WATER PROOF
BOTHER	ALWAYS READY	RATTLE
MATCHES	SIMPLE SWITCH	DUST
RISK	SAFETY	FOOL
FINES	CAN'T JAR OUT	TROUBLE

Dealers—The sale of these lights is limited only by the number of FORDS and TRUCKS in your district. Get our proposition.

MALTON SPECIALTY CO., 755 Boylston St., BOSTON, MASS.

The Live Dealer's Opportunity

Gemco MILWAUKEE "THE SIGN OF SATISFACTION"

Popular FORD Specialties

The Most Complete Line on the Market

Starters	Accelerators	Mud Hooks
Shock Absorbers	Cutout Outfits	Chain Grips
Tire Holders	Horn Outfits	Chain Locks
Bumpers	License Brackets	Radiator Caps
Steering Wheels	Jacks	Radius Rods
Mufflers	Rails	Truss Rods
Lamps	Spark Plugs	Gasoline Reserve Valves
Wind Shields	Wrenches	Radiator Caps
Ventilators	Valve Releases	Radiator Cradles

Anti-Rattlers, standard nuts and bolts, etc.

THEY ARE ALL BUSINESS BRINGERS

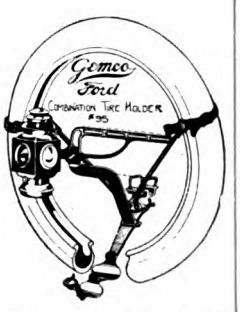
Here is the line for you to specialize on for 1915. Many new accessories—reduced prices—all live sellers. Leading distributers throughout the country stock and recommend the "Gemco" Line.

GEMCO MFG. CO., 743 So. Pierce St., Milwaukee, Wis.
The largest manufacturers of general accessories in the World.

Something New—Gemco Quick Detachable Transmission Band For Fords—Attaches in 20 minutes. Get Details.

17" Tilting Steering Wheel for Ford Cars

Two of the Big Sellers



PRICE.
Plain Rim.....$4.50
Corrugated Rim.....5.50

Price, complete...$3.95

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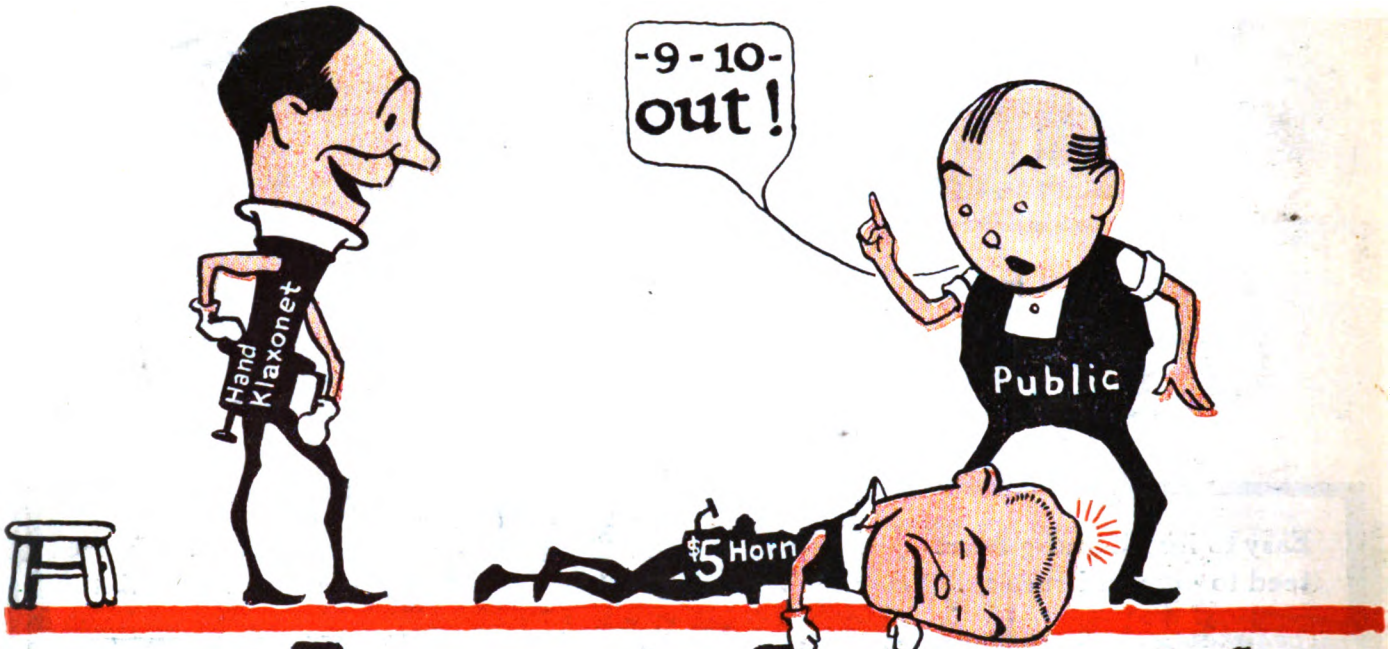
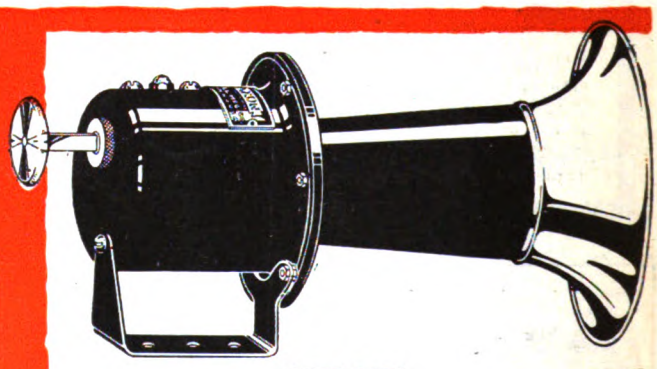


a knockout!

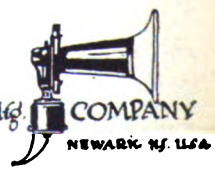
$4



The Hand Klaxonet

Operates on an entirely new principle. The short-stroke plunger produces a long, loud note. The slightest touch gets immediate response—never catches nor sticks. Projector is brass (not steel); bell is oval, not round. Klaxon quality is built into it; Klaxon reputation is behind it; guaranteed *permanently*.

Deliveries May 1st.



LOVELL McCONNELL MFG. COMPANY
NEWARK N.J. U.S.A.

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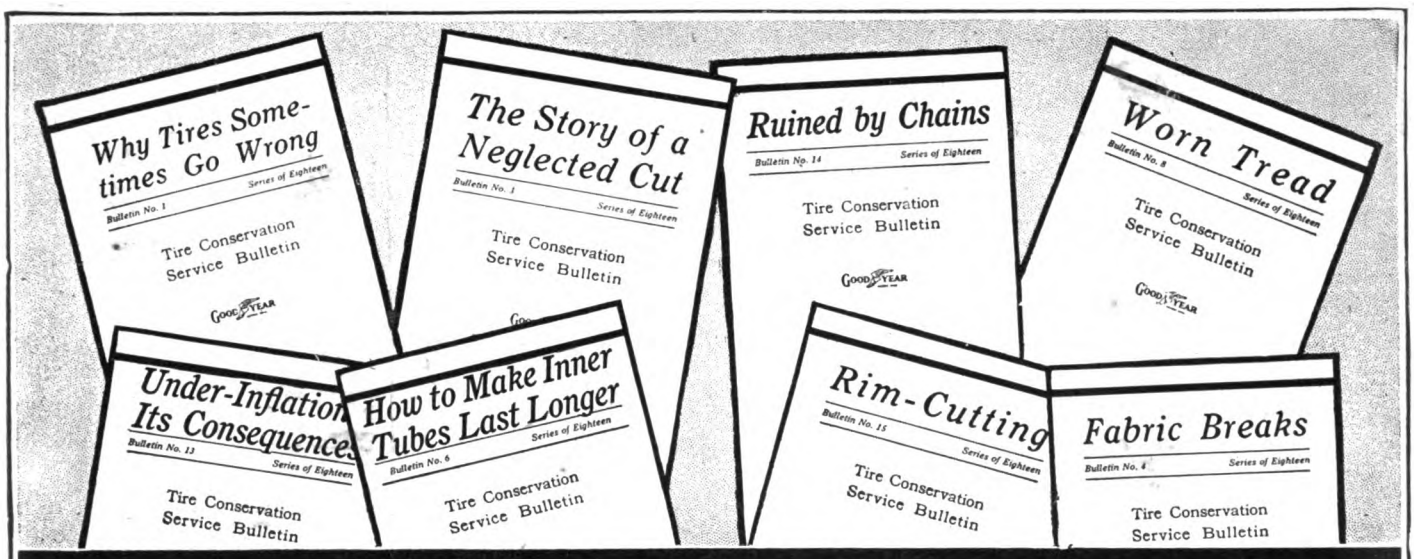

Get these Tire Saver Bulletins Today

They Win You Customers—We Give Them Free

Goodyear value does not end with the purchase of a Goodyear tire. It *begins* there.

Automobile tires have countless foes. Goodyear experts have studied these destructive forces, and now they offer a remedy. These men have prepared a series of bulletins which explain how your customer can overcome his tire troubles.

Some of the "Tire Saver" Bulletins are pictured here. All of them are listed below. They tell in detail just why tires are ruined and how they can be saved for extra mileage.

3000 or 9000 Tire Mileage—Which?

Many motorists get 6000 to 9000 miles from their tires. Others get only 3000.

Few of your customers realize that neglect and abuse will quickly ruin the best automobile tire in the world.

They do not stop to think, as you do, that a good automobile tire is like the human body. It does a magnificent service if treated fairly. If abused, it wears out long before its allotted time.

Apply a Goodyear Tire Saver to that cut or hole. It takes only a few minutes. It will give you miles of extra service.

GOODYEAR
AKRON, OHIO
Accessories

The Goodyear Tire & Rubber Co., Akron, O.
Makers of Goodyear Automobile Tires

Big Sales in Goodyear Accessories

Thousands of dealers now sell Goodyear accessories. They push themselves. Just give your customers one of these Goodyear Bulletins. They interest car owners tremendously, for they save in tires and trouble.

TIRE CONSERVATION SERVICE BULLETINS

No. 1—"Why Tires Sometimes Go Wrong."
No. 2—"Under Inflation; Its Consequences."
No. 3—"The Story of a Neglected Cut."
No. 4—"Fabric Breaks."
No. 5—"Scraped Treads, Due to Sudden Stops, Quick Starts, Skidding."
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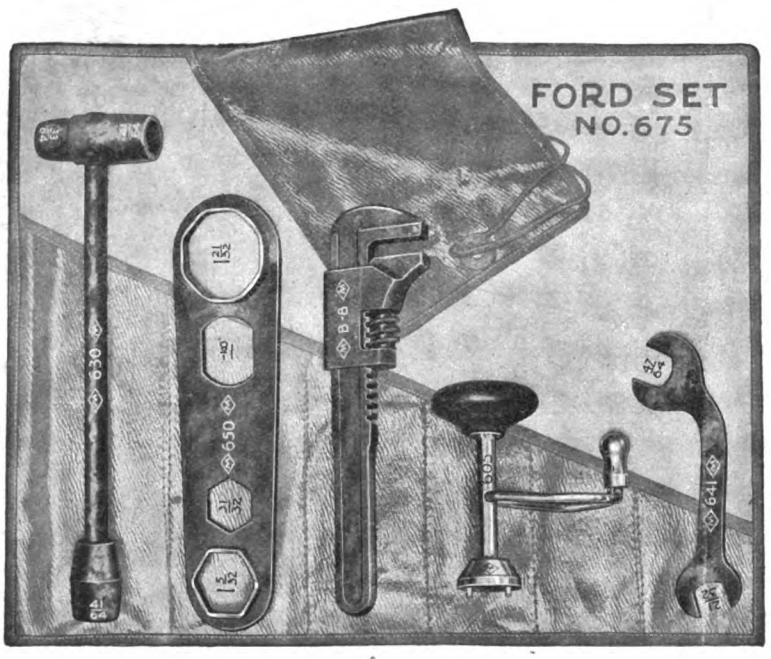

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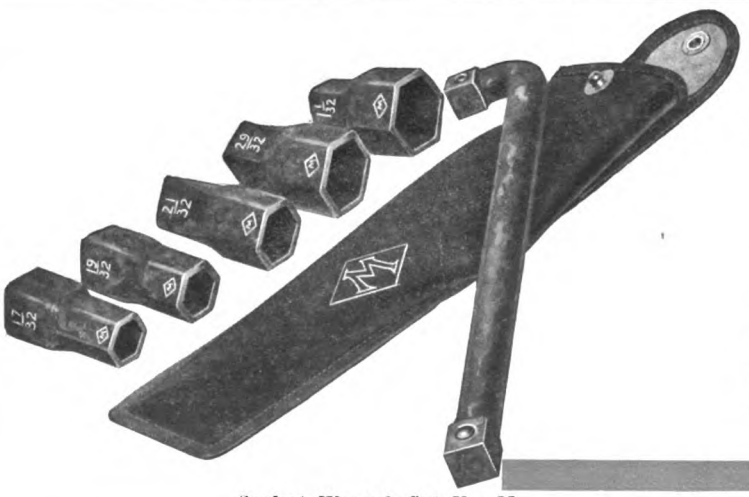

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Socket Set No. 33

For FORD Road Work

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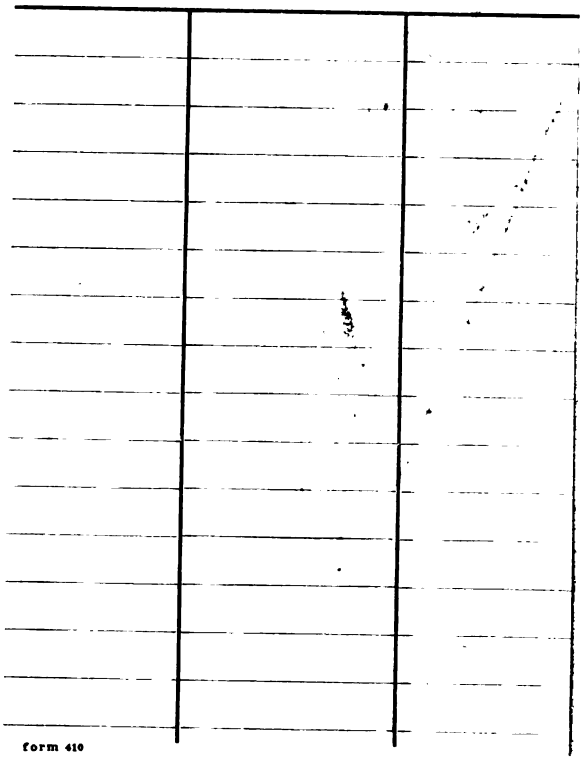

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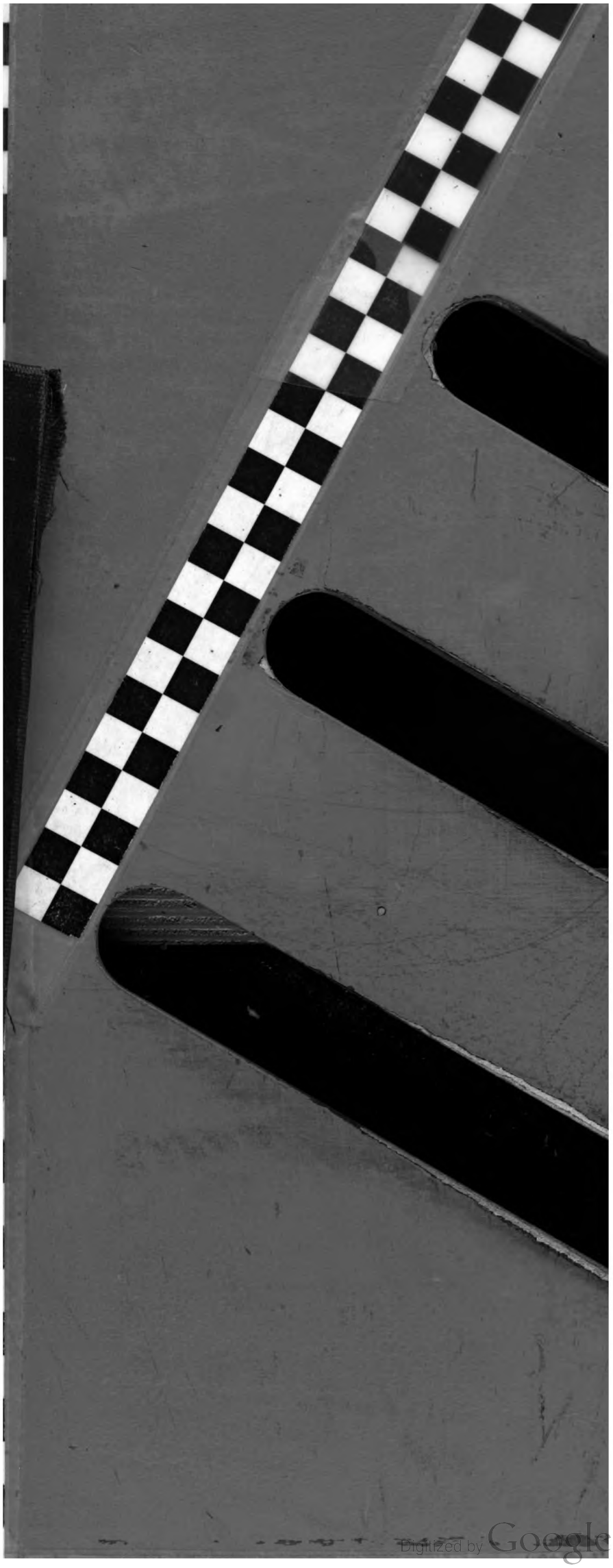

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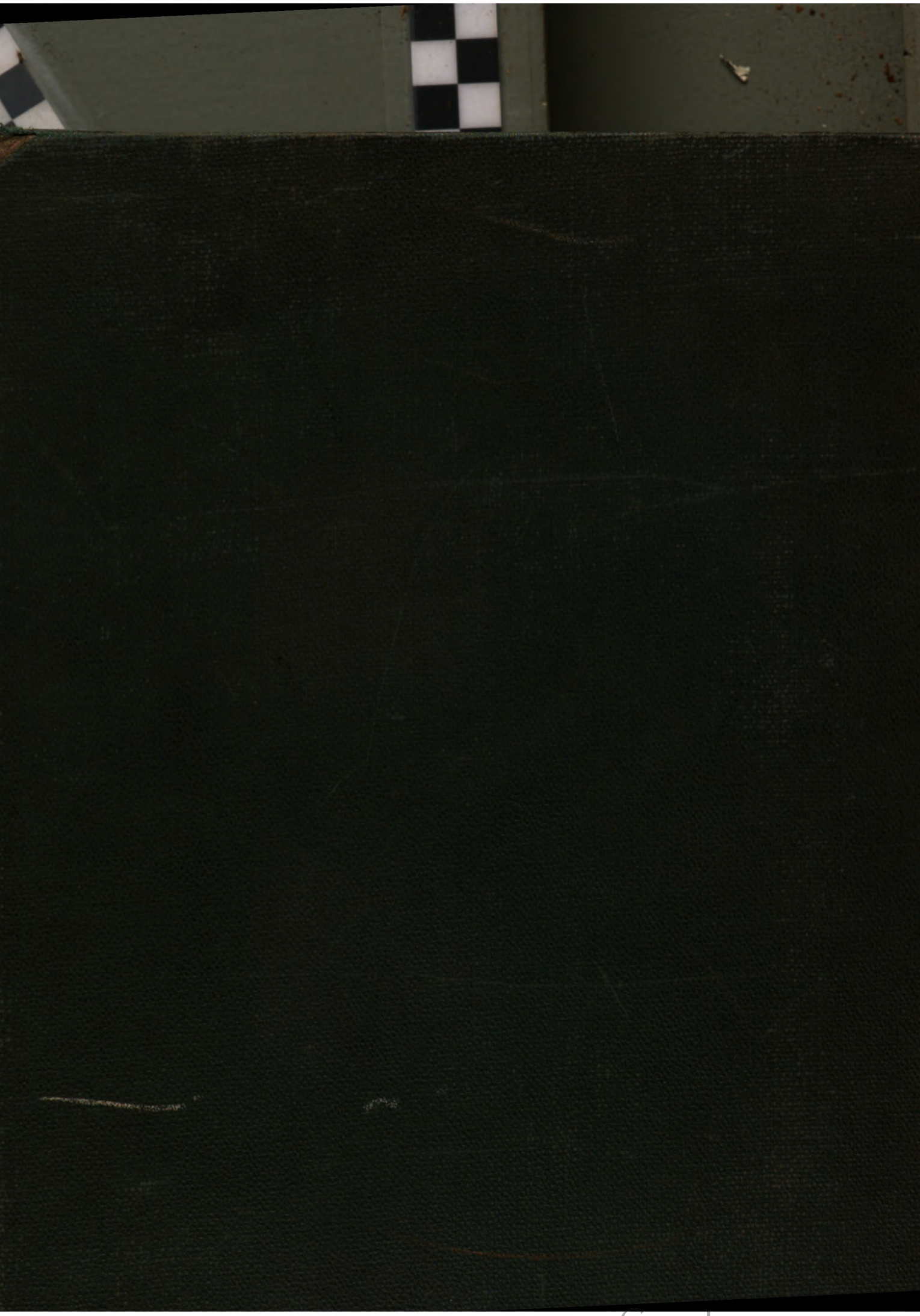

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